# AUSTIN FIRE FIGHTERS
# RELIEF AND RETIREMENT FUND

# 2021 ANNUAL REPORT


*"OUR MISSION IS TO SAFEGUARD AND MANAGE THE FUND IN THE SOLE INTEREST OF THE PLAN PARTICIPANTS AND THEIR BENEFICIARIES."*

**Austin Fire Fighters**
**Relief and Retirement Fund (AFRRF)**

**4101 Parkstone Heights Drive**
**Suite 270**
**Austin, TX 78746**

**Email: staff@afrs.org**
**Tel: 512-454-9567**
**[www.afrs.org](http://www.afrs.org)**

**Anumeha Kumar**, Executive Director

Cover photo credit: © Austin Fire Department/Chris Wilkinson

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# INTRODUCTORY SECTION

**Austin Fire Fighters Relief and Retirement Fund**
4101 Parkstone Heights Drive, Suite 270
Austin, TX 78746
Telephone: (512) 454-9567

July 29, 2022

Dear Members,

The Board of Trustees and staff of the Austin Fire Fighters Relief and Retirement Fund ("AFRRF" or the "Fund") are pleased to present the Annual Report for the fiscal year ended December 31, 2021. We hope this Report will provide important information to help you stay abreast of AFRRF's finances, including investment performance, funding health, operation, and management of the Fund. The Annual Report is divided into the following four sections:

- Introductory Section – This section contains information on administrative organization and investment performance provided by the Fund's general investment consultant.
- Financial Section – This section contains the Independent Auditor's report, Management's Discussion and Analysis (MD&A), basic financial statements, and certain required supplementary information.
- Actuarial Section – This section contains the Actuary's Certification letter and the Annual Actuarial Valuation Report.
- Plan Provision Section – This section contains historical information on plan provision changes, including any COLAs granted, and a summary of the benefit guide.

This past year, the financial markets recovered strongly from the volatility caused by the economic impact of the coronavirus pandemic with AFRRF producing a positive investment return of 17.5%. The Fund outperformed both its policy benchmarks, and exceeded its actuarial return. Along with a strong investment performance, the funded status of AFRRF remained strong at 89.6% with an amortization period of 17.5 years. The Fund also ended 2021 with nearly $1.3 billion in investment assets.

To provide reprieve from the surging inflation, effective January 1, 2022, the Board approved a 5.4% cost of living adjustment (COLA) for all eligible retirees and beneficiaries, in accordance with the Fund's COLA adjustment policy. However, the world economies including the United States continue to experience unprecedented inflationary pressure.

The Board remains vigilant of the current economic market volatility and the inflationary environment with the focus on maintaining the long-term funding health of the pension plan. The responsible stewardship of this Board, office staff, and our professional consultants will help us continue to focus on fulfilling our mission to safeguard and manage the Fund in the sole interest of the members and their beneficiaries.

**Austin Fire Fighters Relief and Retirement Fund**
4101 Parkstone Heights Drive, Suite 270
Austin, TX 78746
Telephone: (512) 454-9567

I value and am honored with the opportunity to serve as Mayor of our great city and as Chair of the Austin Fire Fighters Relief and Retirement Fund for the past 8 years. It is my last year on this Board and I have enjoyed my time serving alongside a dedicated group of trustees and appreciate their hard work as well as that of office staff and our advisors to ensure continued successful operation of AFRRF.

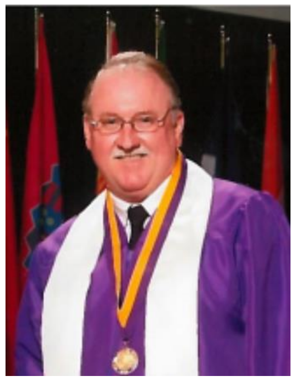
Lastly, I want to extend my appreciation to all of our firefighters, both active and retired, for the courageous and dedicated service you provide or have provided to the residents of Austin.

Sincerely,

Mayor Steve Adler, Chairman
Board of Trustees
Austin Fire Fighters Relief and Retirement Fund

# Board of Trustees

Mayor Steve Adler, Chair
City of Austin Mayor



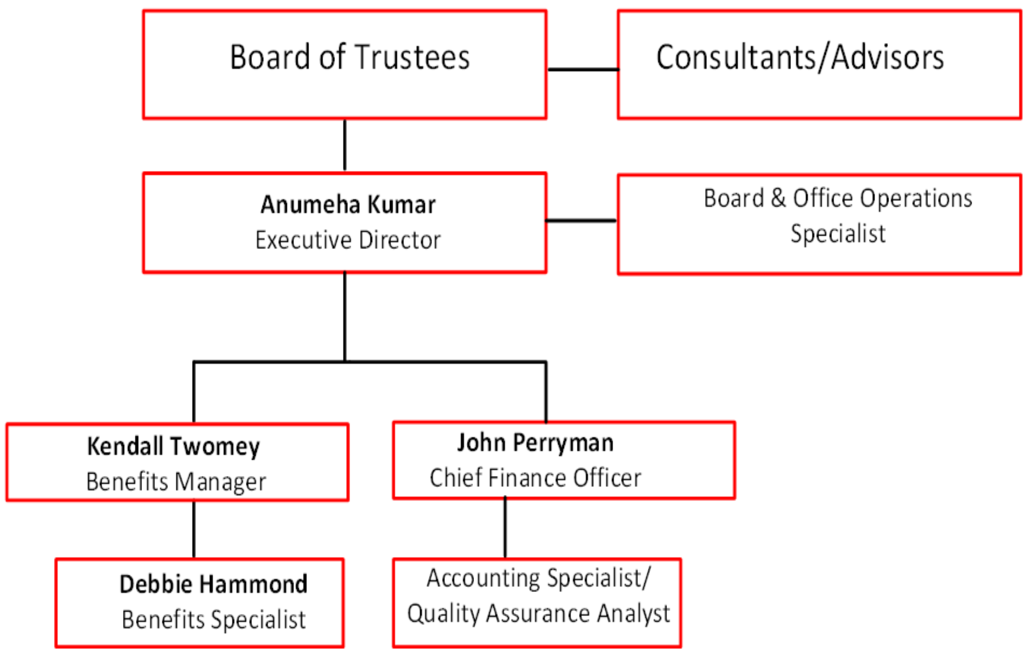
Doug Fowler, Vice Chair
Trustee
Term Expires 12/2023

Belinda Weaver
City of Austin Treasurer

Jeremy Burke
Trustee
Term Expires 12/2022

John Bass
Trustee
Term Expires 12/2024

# Organization Chart



# Consultants/Advisors

**Actuary**
Foster & Foster – Fort Myers, FL

**Custodian Bank**
State Street – Boston, MA

**Investment Consultant**
Meketa Investment Group – Boston, MA

**Auditor**
Montemayor Britton Bender - Austin, TX

**Legal Counsel**
Jackson Walker, LLC – Austin, TX

# Investment Managers

**Domestic Equites**
State Street Global Advisors – Boston, MA
Vaughan Nelson Investment Management – Houston, TX
Westfield Capital Management – Boston, MA
Westwood Holding Group, Inc. – Dallas, TX

**Fixed Income Securities**
Aberdeen Asset Management, Inc. – Philadelphia, PA
Aberdeen Flag Capital – Stamford, CT
Loomis Sayles – Boston, MA
Pacific Asset Management – Newport Beach, CA
Pyramis Global Advisors – Smithfield, RI
State Street Global Advisors – Boston, MA

**International Equities**
Baillie Gifford – Edinburgh, Scotland
Deutshe Alternative Asset Management – London, England
Highclere International – London, England
Sanderson Asset Management – Chicago, IL
State Street Global Advisors – Boston, MA
TT International – Dublin, Ireland

**Real Asset**
Aether Investment Partners – Denver, CO

**Private Equity**
57 Stars Investor Services – Washington D.C.
Arcmont Lending – London, England
Constitution Capital Partners – Andover, MA
Cross Creek Capital Partners – Salt Lake City, UT
DWS Alternatives Global Limited – London, England
Dimensional Fund Advisors – Austin, TX
Greenspring Associates – Owings Mills, MD
HarbourVest – Boston, MA
LGT Capital Partners Inc. – New York, NY
Partner Group Inc. – New York, NY
Private Advisors – Richmond, VA
Private Equity Investors – New York, NY
Silicon Valley Bank – San Francisco, CA

**Real Estate**
Clarion Partner – Auburn, CA
Metropolitan Real Estate Management – Boston, MA
Partner Group Inc. – New York, NY
Portfolio Advisors LLC – Darien, CT

# Investment Overview

MEKETA
INVESTMENT GROUP

5200 Blue Lagoon Drive
Suite 120
Miami, FL 33126

305.341.2900
Meketa.com

## MEMORANDUM

**TO:** **BOARD OF TRUSTEES, AUSTIN FIRE FIGHTERS' RELIEF AND RETIREMENT FUND**
**FROM:** Leo Festino, Aaron Lally, Colin Kowalski, Meketa Investment Group
**DATE:** July 19, 2022
**RE:** Investment Consultant's Statement for Annual Financial Report

This letter reviews the global capital markets in 2021 and the investment performance of the Austin Fire Fighters' Relief and Retirement Fund (the "Fund" or "Austin Fire") for the year ending December 31, 2021.

Austin Fire produced a positive return of 17.5% in the calendar year, outperforming both its policy benchmarks, and exceeding its actuarial return. The Fund ranked in the top 10th percentile of its peer group[1].

The Fund rates of return are represented using a net-of–fees time-weighted methodology based upon monthly market values and cash flows. Consistent with industry best practices, Austin Fire's private market valuations are included on a one-quarter lag, cash flow adjusted basis, to account for the typical 60-90 day delayed reporting cycle for most private market investments. Data was provided by State Street Bank, Austin Fire's custodian, and investment manager valuation statements.

Meketa Investment Group, Austin Fire's general investment consultant, works with the Board of Trustees and Staff, to assist with performance evaluation, asset allocation, manager selection, governance, and other industry best practices.

### 2021 Capital Markets Year in Review

We entered calendar year 2021 reflecting on the prior year where the global population had their lives disrupted because of COVID-19. The year included global lockdowns, supply chain disruptions and declines in global economic growth. However, we entered calendar year 2021 with approved vaccines, inoculations that were developed in record time with considerable global cooperation. The combination of past negative economic growth, substantial global fiscal and monetary stimulus, and the first rounds of vaccine distribution, led to optimism around the globe for capital markets that were sure to have a better year than the first year of this pandemic.

As the year progressed, there was increased focus on ramping up production and distribution of vaccines on a global basis. High transmission rates in many highly populated, less inoculated countries, gave rise to variants of the original virus strain. These



[1] InvMetrics Public DB >$1 bb net.

variants of concern, named Beta, Delta and eventually Omicron, reminded global economies that the pandemic would continue, lockdowns would come and go and supply chain issues would not resolve as quickly as originally anticipated.

Over the full year, US stocks outperformed other regions, with the S&P 500 returning 28.7% for the year, compared to the MSCI EAFE at 11.3%, and a decline of -2.5% for the MSCI EM index. Within fixed income, higher inflation led the Bloomberg TIPS index to increase 6.0% over the full year, while the Bloomberg Aggregate index declined by -1.5% on higher rates.

Economic growth in the US registered at levels not seen in over 40 years at 5.7% over the year. Inflation remained stubbornly high, with CPI increasing 7.0% in the US over the year, the highest reading since 1981.

## Austin Fire's 2021 Performance Commentary

Austin Fire ended 2021 with nearly $1.3 billion in investment assets. All asset classes produced positive returns with most producing double-digit returns. Private equity was the strongest performing asset class for the Fund, generating a net return of 56.5%. In public market investments, seven of thirteen active public managers beat respective benchmarks.

| | Calendar Year 2021 Return |
|---|---|
| **Austin Fire (net of fees)** | **17.5%** |
| Static Benchmark[2] | 14.4% |
| Dynamic Benchmark[3] | 14.9% |
| Peer Median Return[4] | 14.2% |

***Returns are time-weighted, net of fees. Austin Fire's private market valuations are included on a one-quarter lag, cash flow adjusted basis, to account for the typical 60-90 day delayed reporting cycle for most private market investments.*

Austin Fire's longer-term net returns (3-year, 5-year, and 10-year) all exceeded both benchmarks and actuarial target. Strong manager selection, stable asset allocation, and sizable allocation to private markets have been the biggest drivers of long-term performance.

## 2022 Capital Markets Year to Date Through 6/30/22

The first half of 2022 was a challenging environment for investors. Both the equity market and bond market had top 10 worst starts to a calendar year. Persistent inflation has been one of the biggest headwinds year-to-date, driven by supply chain issues, strong demand

[2] Policy target weights multiplied by each respective asset class's benchmark

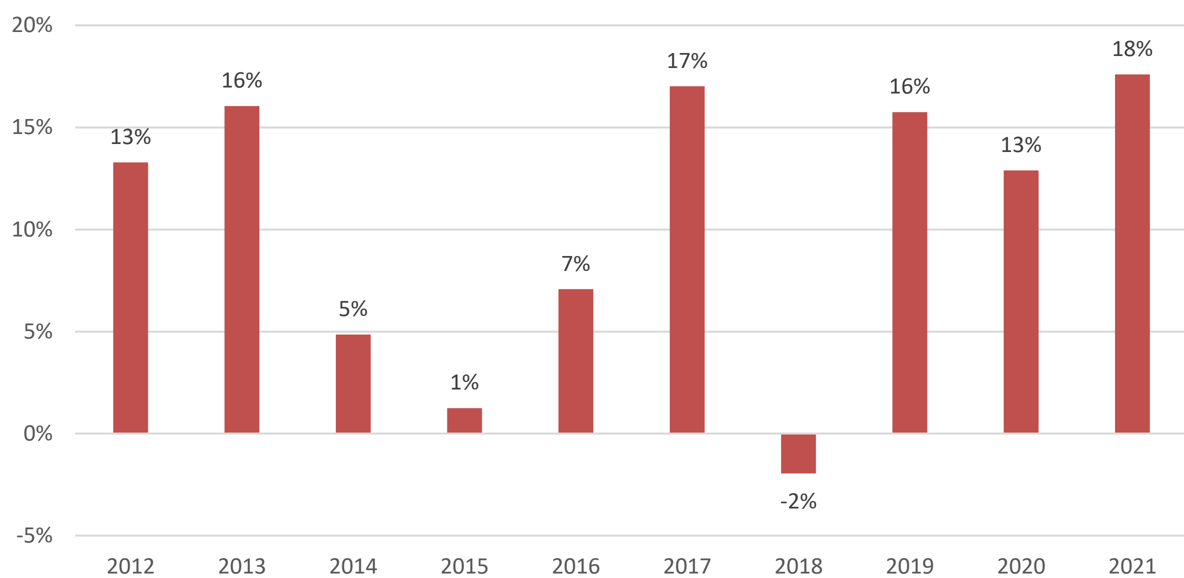
[3] Actual asset class weight (each prior month end) multiplied by each respective asset class's benchmark

[4] InvMetrics Public DB >$1 bb net.

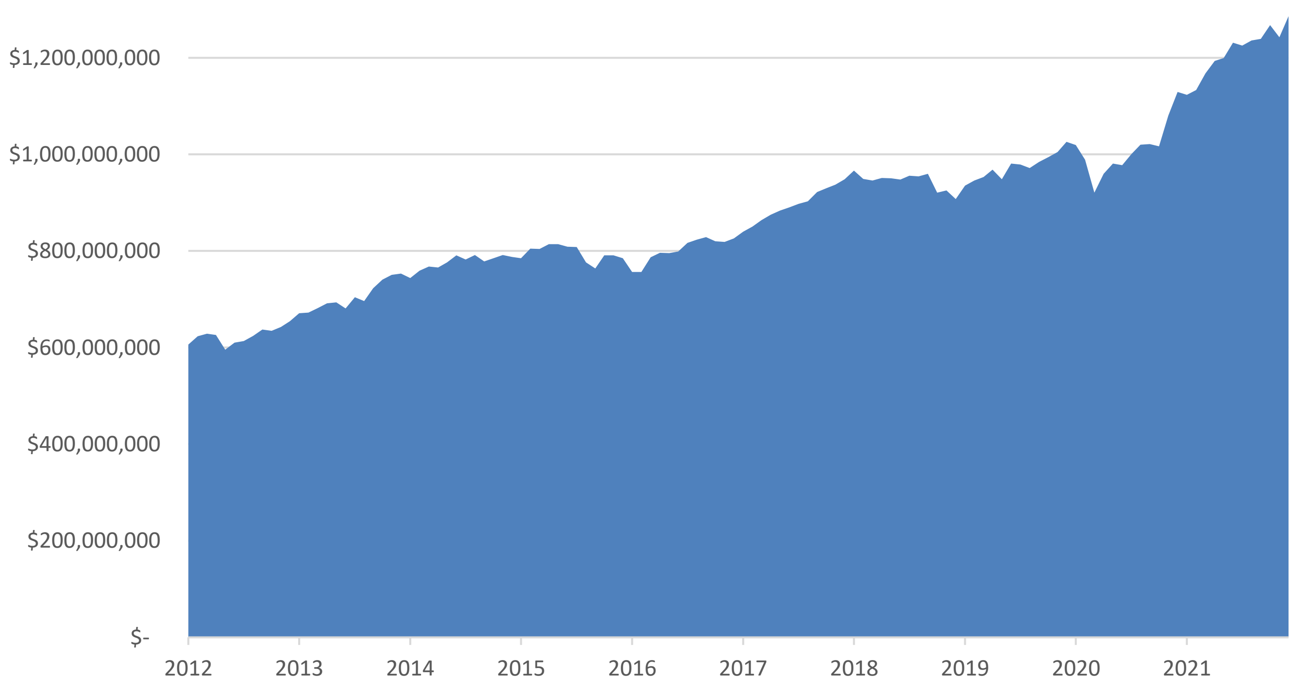
from consumers for many goods and services and high energy costs due to the war in Ukraine-Russia. Meketa, Staff and the Board of Trustees continue to diligently monitor the macro environment and its impact on the Fund.

| | | |
|---|---|---|
| Leandro Festino, CFA, CAIA | Aaron Lally, CFA, CAIA | Colin Kowalski |
| Managing Principal | Managing Principal | Investment Analyst |

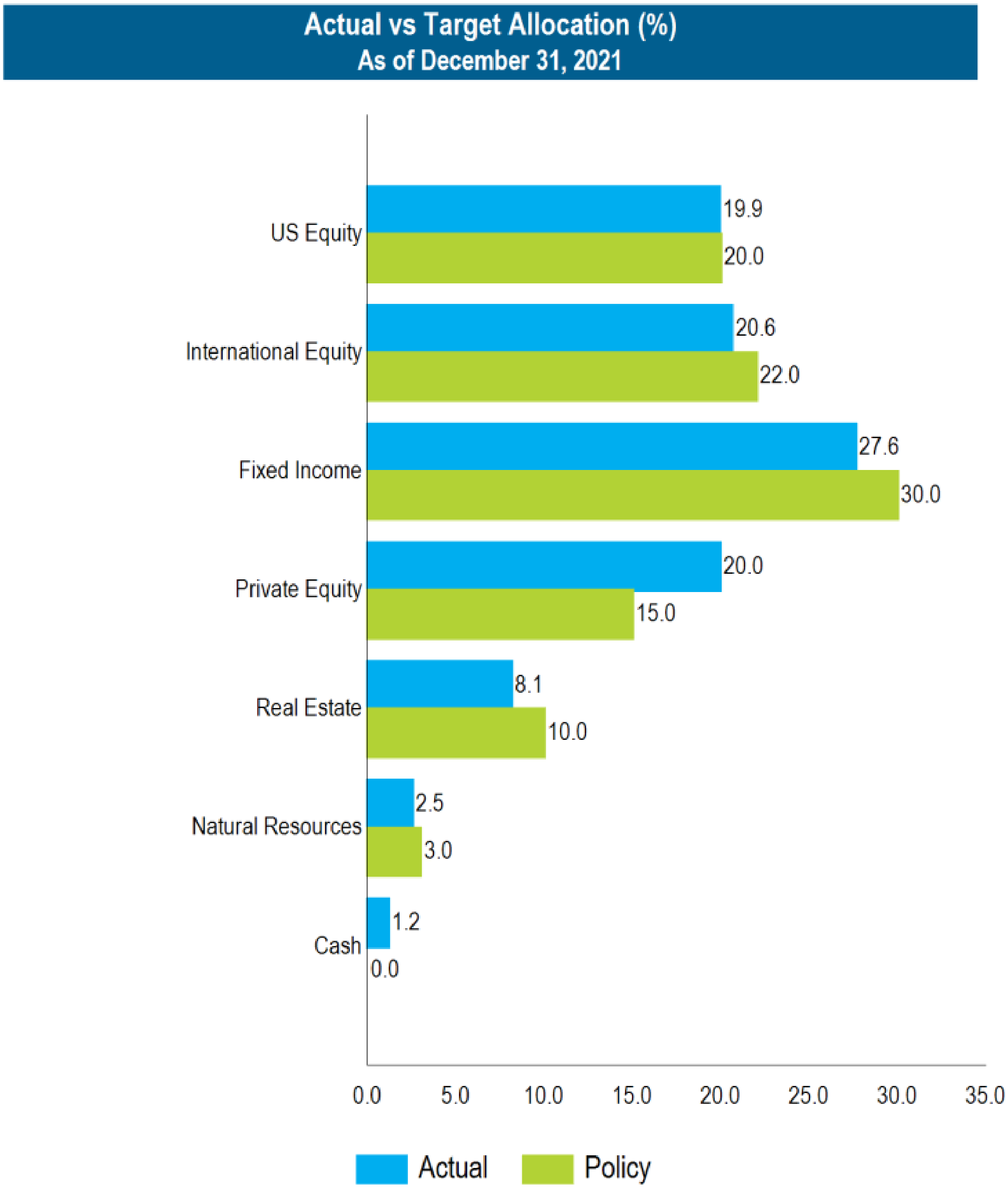
## Annual Returns 2012-2021




## Asset Growth 2012-2021



## Asset Allocation vs. Target as of December 31, 2021



# FINANCIAL SECTION

Montemayor Britton Bender PC
CERTIFIED PUBLIC ACCOUNTANTS

Board of Trustees
Austin Fire Fighters Relief and Retirement Fund

INDEPENDENT AUDITOR'S REPORT

Opinion

We have audited the accompanying statement of fiduciary net position of the Austin Fire Fighters Relief and Retirement Fund (the Fund) as of 31 December 2021, the related statement of changes in fiduciary net position for the year then ended, which collectively comprise the Fund's financial statements, and the related notes to the financial statements.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial status of the Fund as of 31 December 2021, and the changes in its financial status for the year then ended, in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Fund and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

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; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Fund's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that main raise substantial doubt shortly thereafter.

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Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards will always detect a material misstatement when it exists. The risk of not detecting material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misinterpretations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing our audit in accordance with generally accepted auditing standards, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion of the effectiveness of the Fund's internal control. Accordingly, no such opinion is expressed.

- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.

- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Fund's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that are identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 4 through 7 and the supplemental schedules on pages 19 through 23 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, 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 basic financial statements, and other knowledge we obtained during our audit of the 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.

Montemayor Britton Bender PC

19 July 2022
Austin, Texas

Our discussion and analysis of the Austin Fire Fighters Relief and Retirement Fund's (the Fund) financial performance provides an overview of the Fund's activities for the calendar years 2021 and 2020. This information is provided in conjunction with our financial statements that follow.

**FINANCIAL HIGHLIGHTS**

- Fiduciary net position of the Fund increased by $141,520,832 or 12.18% in 2021 and increased by $121,834,272 or 11.71% in 2020. The increase in 2021 and 2020 was due to positive financial market returns, as well as continued contributions to the Fund.

- Total contributions by the members and the City of Austin increased by 3.44% in 2021 and 1.20% in 2020. The increase for 2021 over 2020 reflects the increase in the participant wages.

- The amount of benefits paid directly to retired members and their beneficiaries and contribution refunds increased by $6,699,243 in 2021 and by $4,659,257 in 2020. The number of pension recipients and lump sum distributions increased for both years.

- The funding objective of the Fund is to meet long-term benefit obligations through contributions by the members and the City of Austin as well as from the investment income. As of 31 December 2021, the most recent actuarial measurement date, the Fund's actuarial funded ratio of actuarial assets as a percentage of actuarial liabilities was 89.6%, compared to 87.5% as of 31 December 2020.

**OVERVIEW OF THE FINANCIAL STATEMENTS**

The Fund's financial statements consist of the Statement of Fiduciary Net Position and the Statement of Changes in Fiduciary Net Position, with accompanying Notes to the Financial Statements. The information available in each is summarized below:

The Statement of Fiduciary Net Position presents the Fund's assets and liabilities and the resulting net position, which are held in trust for pension benefits. This statement provides a snapshot as of year-end of the Fund's investments, stated at fair value, along with cash and short-term investments, receivables, and other assets and liabilities. Over time, increases or decreases in Fund net position may serve as a useful indicator of whether the financial position of the Fund is improving or deteriorating.

The Statement of Changes in Fiduciary Net Position presents information showing additions to and deductions from the Fund during a twelve-month period, using the accrual basis of accounting. Thus, additions are reported when earned and deductions when incurred, regardless of when cash is received or paid.

The Notes to the Financial Statements provide additional information that is essential to a full understanding of the data provided in the financial statements.

## FINANCIAL ANALYSIS

Our analysis below focuses on the fiduciary net position and changes in fiduciary net position of the Fund.

Summary of Fiduciary Net Position

31 December 2021, 2020 and 2019

| | 2021 | 2020 | 2019 |
|---|---|---|---|
| Cash and receivables | $24,361,041 | $10,916,112 | $14,157,528 |
| Investments | 1,280,210,826 | 1,151,057,947 | 1,026,415,651 |
| Other assets | 0 | 49,614 | 0 |
| Total assets | 1,304,571,867 | 1,162,023,673 | 1,040,573,179 |
| Total liabilities | 1,027,362 | 0 | 383,778 |
| Fiduciary net position for pension benefits | $1,303,544,505 | $1,162,023,673 | $1,040,189,401 |

Net position: The net position of the Fund increased by $141,520,832 in 2021 and increased by $121,834,272 in 2020. The increase between both 2021 and 2020 over prior years reflects positive investment returns due to stronger financial markets, as well as continued contributions to the Fund.

Liabilities: The Fund’s liabilities increased by $1,027,362 in 2021 due to larger accounts payable balance to the investment managers for their investment fees. The Fund’s liabilities decreased by $383,778 in 2020 due to a smaller accounts payable balance to the investment managers for their investment fees.

Summary of Changes in Fiduciary Net Position

31 December 2021, 2020 and 2019

| | 2021 | 2020 | 2019 |
|---|---|---|---|
| Additions: | | | |
| Contributions | $40,738,694 | $39,384,313 | $38,916,162 |
| Investment income (loss) | 171,861,712 | 146,906,009 | 151,743,660 |
| Other income | 74,049 | 119,898 | 88,367 |
| Total additions | 212,674,455 | 186,410,220 | 190,748,189 |
| Deductions: | | | |
| Benefit payments and contribution refunds | 70,182,892 | 63,483,649 | 58,824,392 |
| Administrative expenses | 970,731 | 1,092,299 | 852,192 |
| Total deductions | 71,153,623 | 64,575,948 | 59,676,584 |
| Net increase (decrease) | 141,520,832 | 121,834,272 | 131,071,605 |
| Fiduciary net position for pension benefits | | | |
| Beginning of year | 1,162,023,673 | 1,040,189,401 | 909,117,796 |
| End of year | $1,303,544,505 | $1,162,023,673 | $1,040,189,401 |

Additions: Total contributions by the members and City of Austin for 2021 and 2020 were $40,738,694 and $39,384,313, respectively. The increase of $1,354,381 in contributions for 2021 represents a 3.44% increase from 2020. The increase of $468,151 in contributions for 2020 represents a 1.20% increase from 2019. The net investment income/(loss) was approximately $172 million for 2021 and $147 million for 2020.

Deductions: The expenses paid by the pension plan include the benefit payments, refunds of member contributions, administrative and other expenses. Benefits paid directly to retired members and their beneficiaries and contribution refunds in 2021 were $70,182,892 compared to $63,483,649 in 2020. The amount of benefits paid increased by $6,699,243 in 2021 from 2020 and increased by $4,659,257 in 2020 from 2019. The increases in both 2021 and 2020 over prior years were due to the increases in the both number of retirees receiving benefits and in amount of lump sum distributions.

Overall Analysis: As of 31 December 2021, fiduciary net position increased by $141,520,832 or 10.86% over the prior year. As of 31 December 2020, fiduciary net position increased by $121,834,272 or 11.71% over the prior year. The most recent actuarial measurement date of 31 December 2021 shows the Fund's actuarial funded ratio to be 89.6% compared to 87.5% from prior year. The 31 December 2021 valuation shows the Fund continues to be actuarially sound and has taken positive steps to continue that course.

**REQUEST FOR INFORMATION**

This financial report is intended to provide a general overview of the Fund's finances and to demonstrate the Fund's accountability for the money it receives. Any questions regarding this report may be addressed to the fund administration at: 4101 Parkstone Heights Dr., Suite 270, Austin, TX 78746.

## STATEMENT OF FIDUCIARY NET POSITION

### 31 DECEMBER 2021

| | |
|---|---|
| ASSETS | |
| Cash and cash equivalents | $23,333,740 |
| Investments at fair value: | |
| Public domestic equities | 255,991,895 |
| Public international equities | 265,520,653 |
| Private equity fund investments | 264,312,984 |
| Public fixed income investments | 355,108,683 |
| Real estate fund investments | 105,885,100 |
| Private natural resources fund investments | 33,391,511 |
| | 1,280,210,826 |
| Due from broker | 928,313 |
| Interest and dividends receivable | 98,988 |
| | 1,304,571,867 |
| LIABILITIES | |
| Due to broker | 1,027,362 |
| FIDUCIARY NET POSITION RESTRICTED FOR PENSION BENEFITS | $1,303,544,505 |

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

YEAR ENDED 31 DECEMBER 2021

| | |
|---|---|
| ADDITIONS TO FIDUCIARY NET POSITION | |
| Contributions: | |
| Fire fighter contributions | $18,697,102 |
| City of Austin contributions | 22,041,592 |
| | 40,738,694 |
| Net investment income: | |
| Net increase/(decrease) in the fair value of investments | 76,875,881 |
| Interest and dividends | 13,096,610 |
| Net gain on sale of investments | 84,857,527 |
| Investment expenses | (2,968,306) |
| | 171,861,712 |
| Other | 74,049 |
| | 212,674,455 |
| DEDUCTIONS FROM FIDUCIARY NET POSITION | |
| Retirement benefit payments | 70,182,892 |
| General and administrative expenses | 970,731 |
| | 71,153,623 |
| NET INCREASE (DECREASE) IN FIDUCIARY NET POSITION | 141,520,832 |
| BEGINNING OF YEAR FIDUCIARY NET POSITION | 1,162,023,673 |
| END OF YEAR FIDUCIARY NET POSITION | $1,303,544,505 |

## NOTE 1: ORGANIZATION

### A. FUND DESCRIPTION

The Board of Trustees of the Austin Fire Fighters Relief and Retirement Fund (the Fund) is the administrator of a single-employer defined benefit pension plan covering fire fighters employed by the City of Austin, Texas. The Fund is open solely to active fire fighters in the City of Austin (the City). The Fund is considered a part of the City of Austin's financial reporting entity and is included in the City's financial statements as a pension fund trust. The Fund was originally established, and may be amended, by acts of the Texas Legislature. The current governing statute is Article 6243e.1, Vernon's Texas Civil Statutes. The Fund is governed by a Board of Trustees, which is composed of five members: the mayor of the municipality; the City's treasurer or, if there is no treasurer, a person who by law, charter provision, or ordinance performs the duty of the City Treasurer, and three active members of the retirement Fund elected by vote of the fire fighters and retirees.

The table below summarizes the membership of the Fund as of 31 December 2021:

| | |
|---|---|
| Retirees and Beneficiaries Currently Receiving Benefits | 924 |
| Terminated Members Entitled to Benefits but Not Yet Receiving Them | 29 |
| Active Participants (Vested and Nonvested) | 1175 |
| | 2,128 |

The Fund provides service retirement, death, disability, and termination benefits. When a member has completed ten years of credited service after entrance into the Fund, the member's account becomes vested and non-forfeitable. Under the terms of the Fund agreement, members or their beneficiaries are eligible for distributions of benefits upon attaining a normal retirement age of 50 with ten years of service, or upon completing 25 years of service regardless of age. In addition, members are eligible for early retirement benefits upon reaching age 45 with at least ten years of service or twenty years of creditable service, regardless of age. Distributions to members or their beneficiaries are also available in the event of total and permanent disability or upon death including survivor (spousal) benefits at 75% of retiree benefits. Members are eligible to enter the Deferred Retirement Option Plan (DROP) upon satisfaction of normal retirement eligibility, not to exceed seven years. DROP provides eligible participants the ability to designate benefits to be disbursed in a single payment or not more than four payments upon leaving active service.

The term of benefit payments are determined by the member's level of earnings and length of service. With the exception of payments under the DROP feature, distributions of payments are made in a series of equal installments over a period of time. Payments to members or their beneficiaries may be increased annually by the amount of increase in the Consumer Price index. Cost-of-living increases must be approved by the Board of Trustees and actuary of the Fund. There was a cost-of-living adjustment (COLA) of 1.4% put into effect for the year ending 31 December 2021. The contribution refunds are paid with 5% interest.

## NOTE 1: ORGANIZATION

### B. FUNDING POLICY

The contribution provision of this Fund is authorized by Article 6243e.1, Vernon's Texas Civil Statutes, which provides the authority and procedure to change the amount of contributions determined as a percentage of pay by each member and a percentage of payroll by the City.

The Fund is maintained by biweekly contributions from the earnings of fire fighters and from the City. For the year ended 31 December 2021, the City's contribution rate was 22.05% and fire fighters contribution rate was 18.70% of their earnings excluding overtime, educational incentive pay, assignment pay, and temporary pay in higher classifications.

While the contribution requirements are not actuarially determined, state law requires that each plan of benefits adopted by the Fund be approved by a qualified actuary. The actuary must certify that the contribution commitment by fire fighters and the City provides an adequate financing arrangement.

### C. NET PENSION LIABLITY

The Fund's net pension liability measured as of 31 December 2021 was as follows:

| | |
|---|---|
| Total pension liability | $1,315,376,810 |
| Plan fiduciary net position | (1,303,544,505) |
| Net pension liability | $ 11,832,305 |
| Plan fiduciary net position as a percentage of the total pension liability | 99.10% |

1. Actuarial Assumptions

The total pension liability in the 31 December 2020 actuarial valuation, measured as of 31 December 2021, was determined using the following actuarial assumptions, applied to all periods included in the measurement:

| | |
|---|---|
| Inflation | 2.50% |
| General Wage Inflation | 3.00% |
| Salary increases | Service based |
| Discount rate | 7.30% |
| Investment rate of return | 7.30%, net of pension plan investment expense, including inflation |

**NOTE 1: ORGANIZATION**

C. NET PENSION LIABLITY

Mortality rates were based on the PubS-2010(A) Mortality Tables.

Mortality rates disabled lives: PubS-2010(A) Mortality Table for Disabled Retirees.

The most recent experience study used to review the other significant assumptions was dated 21 April 2020.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expenses and inflation) are developed for each major asset class.

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.

The expected arithmetic net real rates of return for each major asset class are summarized in the following table:

| Asset Class | Long-Term Expected Net Real Rate of Return |
|---|---|
| Public domestic equity | 4.7% |
| Public foreign equity | 5.5% |
| Private equity fund of funds | 5.9% |
| Investment grade bonds | -0.3% |
| TIPS | -0.3% |
| High yield/bank loans | 2.0% |
| Emerging market debt | 1.7% |
| Core real estate | 3.4% |
| Value-add real estate | 5.6% |
| Private natural resources | 6.2% |

2. Discount Rate

The discount rate used to measure the total pension liability was 7.30%. For purposes of this valuation, the expected rate of return on pension plan investments is 7.30%; the municipal bond rate is 2.25% (based on the weekly rate closest to but not later than the measurement date of the S&P Municipal Bond 20 Year High Grade Rate Index); and the resulting single discount rate is 7.30%. The projection of cash flows used to determine the discount rate assumed that Fund member contributions will be made at the current contribution rate and that the City

**NOTE 1: ORGANIZATION**

C. NET PENSION LIABLITY

contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the Fund's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on Fund investments was applied to all periods of projected benefit payments to determine the total pension liability.

3. Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the Fund, calculated using the discount rate of 7.30%, as well as what the Fund's net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.30%) or one percentage point higher (8.30%) than the current rate:

| | 1% Decrease (6.30%) | Current Discount Rate (7.30%) | 1% Increase (8.30%) |
|---|---|---|---|
| Fund's net pension liability | $135,569,756 | $11,832,305 | ($92,721,805) |

**NOTE 2: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

BASIS OF ACCOUNTING

The Fund's financial statements are prepared using the accrual basis of accounting under which expenses are recorded when the liability is incurred, revenues are recorded in the accounting period in which they are earned and become measurable, and investment purchases and sales are recorded as of their trade date. Fire fighter and City contributions are recognized as revenues in the period which the related employees' payroll is earned. Benefits are recognized when the employee becomes eligible for retirement and elects to retire under the system and is paid a benefit. Employee contribution refunds are recognized when the employee leaves the City and elects to withdraw a contribution.

METHOD USED TO VALUE INVESTMENTS

Cash and short-term investments include deposits in a custodian-managed investment pool from which the Fund may make deposits and withdrawals at any time without prior notice or penalty. The market value of such deposits is equal to cost. The Board of Trustees has adopted a Statement of Investment Policies and Objectives (Investment Policy) to set forth factors involved in the management of investment assets for the Fund. By statute, the Board of Trustees in its sole discretion may invest, reinvest, or change the assets of the Fund.

**NOTE 2: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

METHOD USED TO VALUE INVESTMENTS

The Board of Trustees shall invest in funds in whatever instruments or investments are considered prudent. In making investments for the Fund, the Board of Trustees shall discharge its duties with care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a similar capacity and familiar with such matters would use in the conduct of an enterprise of a similar character and with similar aims. Investments are reported at fair value. Securities traded on a national or international exchanges are valued at the last reported sales price at current exchange rates. Investments that do not have an established market are reported at estimated fair value. Realized and unrealized gains and losses as well as other investment adjustments are reported as net appreciation (depreciation) in the fair value of investments.

ESTIMATES

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions to the net position restricted for pension benefits during the reporting period. Actual results could differ from those estimates.

FUND EXPENSES

All Fund administrative costs are the responsibility of the Fund and are financed through investment earnings.

SUBSEQUENT EVENTS

Management has evaluated subsequent events through the date of the Independent Auditor's Report, the date the financial statements were available to be issued.

BUDGET

The Fund is not legally required to adopt a budget.

**NOTE 3: FEDERAL INCOME TAXES**

The Fund is a Public Employee Retirement Fund and is exempt from Federal income taxes and the provisions of the Employee Retirement Income Security Act of 1974.

## NOTE 4: DEPOSIT AND INVESTMENT RISK

CUSTODIAL CREDIT RISK

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, the Fund will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party. Deposits are exposed to custodial credit risk if they are uninsured and unsecured. As of 31 December 2021, the Fund's cash deposits in excess of FDIC coverage totaled $6,492,664, these deposits were collateralized by securities held by the pledging financial institution.

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, the Fund will not be able to recover the value of investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the Fund and are held by either the counterparty or the counterparty's trust department or agent but not in the Fund's name. As of 31 December 2021, the Fund's investment securities are not exposed to custodial credit risk because all securities are held by the Fund's custodial bank in the Fund's name.

CONCENTRATION OF CREDIT RISK

Concentration of credit risk is the risk of loss attributed to the magnitude of the Fund's investment in a single issuer. As of year end, the Fund had no investments with a single issuer that exceeded 5% of the Fund's net position. The Fund's investment policy established asset allocation targets for major classes of invested assets as listed below. The Fund is authorized to invest in the following:

| Class | Target Range |
|---|---|
| Equity | 30-55% |
| Fixed Income Investments | 20-40% |
| Alternatives | 10-40% |

INTEREST RATE RISK

Interest rate risk is the risk that changes in interest rates will adversely affect an investment's fair value. Although the Fund does have a formal investment policy, it does not specifically limit investment maturities as a means of managing its exposure to potential fair value losses from future changes in interest rates.

CREDIT RISK

Credit risk is the risk that an issuer or other counter party to an investment will not fulfill its obligations to the Fund. It is the Fund's policy to maintain fixed income securities within its portfolio at an average credit rating of investment grade or better.

**NOTE 4: DEPOSIT AND INVESTMENT RISK**

As of 31 December 2021, the Fund had the following investments subject to interest rate risk and credit risk:

| Investment | Weighted Average Maturity | Weighted Average Credit Rating | Fair Value |
|---|---|---|---|
| SSgA Bond Fund | 8.6 years | AA | $95,906,849 |
| Loomis Sayles Core Plus Fixed Income | 7.8 years | BBB | $60,684,499 |
| Aberdeen Emerging Markets Bond Fund | 12.1 years | BB | $78,002,609 |
| SSGA TIPS | 8.0 years | AAA | $61,999,875 |
| Pyramis Tactical Bond Fund | 10.0 years | BBB | $38,465,272 |
| Pacific Asset Management Bank Loans | 4.8 years | B | $20,151,741 |

FOREIGN CURRENCY RISK

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or deposit. Although the Fund does have a formal investment policy, it does not specifically address the Fund's exposure related to foreign currency risk. The Fund had the following exposure to foreign currency risk as of 31 December 2021:

| Denomination by Investment Type | Market Value (USD) |
|---|---|
| Private Equity Fund Investments | |
| Euro | $ 5,535,157 |
| Real Estate Fund Investments | |
| Euro | 1,241,182 |
| Public Fixed Income Investments | |
| Brazilian Real | 38,065,330 |
| Chilean Peso | 7,561,764 |
| Euro | 66,622,502 |
| Indian Rupee | 11,091,587 |
| Russian Ruble | 19,824,827 |
| South African Rand | 7,231,555 |
| Uraguay Peso | 9,385,551 |
| | 159,783,116 |
| | $166,559,455 |

## NOTE 5: SCHEDULE OF INVESTMENT RETURNS

The money-weighted rate of return expresses investment performance, net of investment expenses, that reflects the estimated effect of the contributions received and the benefits paid during the year.

| Fiscal Year | Annual Money-Weighted Net Real Rate of Return |
|---|---|
| 31 December 2021 | 18.00% |

## NOTE 6: FAIR VALUE MEASUREMENT

| | Quoted Prices In Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
|---|---|---|---|
| Public domestic equities | $255,991,895 | $0 | $0 |
| Public international equities | $265,520,653 | $0 | $0 |
| Private equity fund investments | $0 | $0 | $264,312,984 |
| Public fixed income investments | $0 | $355,108,683 | $0 |
| Real estate fund investments | $0 | $0 | $105,885,100 |
| Private natural resources fund | $0 | $0 | $33,391,511 |

Level 2 investments are valued based on quoted market prices in active markets as well as market valuation methodologies using discounted cash flows and observable credit ratings. Level 3 investments include investments in a group of non-registered private equity investment partnerships, private equity real estate, and private natural resources funds. Fair value determinations by the underlying funds take into consideration the operating results, financial conditions, real estate appraisals, and recent sales prices of issuers' securities.

## NOTE 7: SECURITIES LENDING

The Fund is authorized under its investment policy to participate in securities lending programs through State Street Bank and Trust Company (State Street) under which, for an agreed-upon fee, investments owned by the Fund are loaned to a borrowing financial institution. Under this agreement, when the loan closes, the borrowed securities are returned to the Fund and the collateral is returned to the borrower. During the fiscal year, State Street lent, on behalf of the Fund, certain US Equity securities of the Fund held by State Street as custodian and received cash or other collateral including securities issued or guaranteed by the United States government (USD collateral). State Street does not have the ability to pledge or sell collateral securities delivered absent a borrower default.

## NOTE 7: SECURITIES LENDING

The lending agreement requires securities to be collateralized by cash, US government securities or irrevocable letters of credit with a total market value of at least 100% of the market value of the loaned securities.

Pursuant to the Securities Lending Authorization Agreement, State Street had an obligation to indemnify the Fund in the event of default by a borrower. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year that resulted in a declaration or notice of default of the Borrower. During the fiscal year, the Fund and the borrowers maintained the right to terminate securities lending transactions upon notice. There is no formal limit on the amount of loans that can be made, however the securities lending program shall in no way inhibit the trading activities of the Fund's investment managers. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders, in a collective investment fund comprised of a liquidity pool and a duration pool. As of 31 December 2021 the liquidity pool had an average duration of 11.24 days and an average weighted final maturity of 107.98 days for USD collateral. As of this date, the duration pool had an average duration of 21.92 days and an average weighted final maturity of 956.00 days for USD collateral.

Because the securities lending transactions were terminable at will, their duration did not generally match the duration of the investments made with the cash collateral received from the borrower. On 31 December 2021 the Fund had no credit risk exposure to borrowers. The market values of collateral held and the market value (USD) of securities on loan for the Fund as of 31 December 2021 were $4,814,019 and $4,687,710 respectively.

## NOTE 8: COMMITMENTS AND CONTINGENCIES

The Fund's investments include investment in partnership interests, which are closed end private markets strategies. In connection with those investments, the Fund still has remaining commitments as of 31 December 2021 of $67.2 million pursuant to the terms of the respective interest.

At 31 December 2021, the total accumulated lump sum benefit due to DROP participants was $148,686,615.

## AUSTIN FIRE FIGHTERS RELIEF AND RETIREMENT FUND

### Schedule of Changes in Net Pension Liability and Related Ratios

### Last Ten Years (1)

| Total Pension Liability | Year ending 12/31/13 | Year ending 12/31/2014 | Year ending 12/31/2015 | Year ending 12/31/2016 | Year ending 12/31/2017 | Year ending 12/31/2018 | Year ending 12/31/2019 | Year ending 12/31/2020 | Year ending 12/31/2021 |
|---|---|---|---|---|---|---|---|---|---|
| Service Cost | $ 23,497,407 | $ 25,318,456 | $ 23,309,543 | $ 24,322,417 | $ 23,830,495 | $ 25,130,502 | $ 26,191,723 | $ 26,169,522 | $ 28,111,860 |
| Interest | 59,249,151 | 62,976,839 | 66,404,730 | 70,892,708 | 75,812,099 | 80,552,018 | 84,547,315 | 86,820,853 | 91,654,965 |
| Changes of Benefit Terms | 0 | 0 | 0 | 5,491,908 | 8,963,689 | 10,188,417 | 8,058,934 | 7,158,834 | 30,096,465 |
| Differences between Expected and Actual Experience | 0 | 0 | 7,192,645 | 8,893,371 | 4,360,239 | (735,314) | (9,834,830) | (1,670,701) | 3,265,825 |
| Changes of assumptions | 0 | 4,883,207 | 0 | 0 | 0 | (4,778,539) | 12,707,469 | 21,410,890 | 0 |
| Benefit Payments, including Refunds of Employee Contributions | (34,943,917) | (37,992,903) | (44,756,847) | (45,495,681) | (51,888,455) | (55,979,294) | (58,824,392) | (63,483,649) | (70,182,892) |
| Net Change in Total Pension Liability | 47,802,641 | 55,185,599 | 52,150,071 | 64,104,723 | 61,078,067 | 54,377,790 | 62,846,219 | 76,405,749 | 82,946,223 |
| Total Pension Liability-Beginning of year (2) | 758,479,728 | 806,282,369 | 861,467,968 | 913,618,039 | 977,722,762 | 1,038,800,829 | 1,093,178,619 | 1,156,024,838 | 1,232,430,587 |
| Total Pension Liability-Ending (a) | $806,282,369 | $861,467,968 | $913,618,039 | $977,722,762 | $1,038,800,829 | $1,093,178,619 | $1,156,024,838 | $1,232,430,587 | $1,315,376,810 |
| **Plan Fiduciary Net Position** | | | | | | | | | |
| Contributions-Employer | $17,786,494 | $18,669,944 | $19,222,329 | $19,103,891 | $19,242,205 | $20,084,617 | $21,057,765 | $21,311,021 | $22,041,592 |
| Contributions- Employee | 14,000,514 | 14,659,946 | 15,546,979 | 15,884,261 | 16,318,769 | 17,033,213 | 17,858,397 | 18,073,292 | 18,697,102 |
| Net Investment Income | 101,289,167 | 42,005,227 | 6,328,063 | 55,569,165 | 141,915,000 | (25,114,064) | 141,535,432 | 147,025,907 | 171,935,761 |
| Benefit Payments, including Refunds of Employee Contributions | (34,943,917) | (37,992,903) | (44,756,847) | (45,495,681) | (51,888,455) | (55,979,294) | (58,824,392) | (63,483,649) | (70,182,892) |
| Administrative Expenses | (363,050) | (530,816) | (562,687) | (662,501) | (1,399,488) | (704,903) | (852,192) | (1,092,299) | (970,731) |
| Net Change in Plan Fiduciary Net Position | 97,769,208 | 36,811,398 | (4,222,163) | 44,399,135 | 124,188,031 | (44,680,431) | 120,775,010 | 121,834,272 | 141,520,832 |
| Plan Fiduciary Net Position - Beginning | 654,852,618 | 752,621,826 | 789,433,224 | 785,211,061 | 829,610,196 | 953,798,227 | 909,117,796 | 1,029,892,806 | 1,162,023,673 |
| Adjustment to Beginning Net Position | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10,296,595 | 0 |
| Plan Fiduciary Net Position - Ending (b) | $752,621,826 | $789,433,224 | $785,211,061 | $829,610,196 | $953,798,227 | $909,117,796 | $1,029,892,806 | $1,162,023,673 | $1,303,544,505 |
| Net Pension Liability (Asset) - Ending (a) - (b) | $53,660,543 | $72,034,744 | $128,406,978 | $148,112,566 | $85,002,602 | $184,060,823 | $126,132,032 | $70,406,914 | $11,832,305 |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | 93.34% | 91.64% | 85.95% | 84.85% | 91.82% | 83.16% | 89.09% | 94.29% | 99.10% |
| Covered Payroll | $ 83,279,101 | $ 84,670,948 | $ 87,836,040 | $ 86,638,961 | $ 87,266,236 | $ 91,086,698 | $ 95,500,068 | $ 96,648,621 | $ 99,961,868 |
| Net Pension Liability as a Percentage of Covered Payroll | 64.43% | 85.08% | 146.19% | 170.95% | 97.41% | 202.07% | 132.08% | 72.85% | 11.84% |

**AUSTIN FIRE FIGHTERS RELIEF AND RETIREMENT FUND**

**Schedule of Employer Contributions**
Last 10 Years (1)

| Fiscal Year Ended | Actuarially Determined Contribution | Contributions in relation to the Actuarially Determined Contributions | Contribution Deficiency (Excess) | Covered Payroll | Contributions as a percentage of Covered Payroll |
|---|---|---|---|---|---|
| 12/31/2021 | N/A | N/A | N/A | $ 99,961,868 | 22.05% |
| 12/31/2020 | N/A | N/A | N/A | $ 96,648,621 | 22.05% |
| 12/31/2019 | N/A | N/A | N/A | $ 95,500,068 | 22.05% |
| 12/31/2018 | N/A | N/A | N/A | $ 91,086,698 | 22.05% |
| 12/31/2017 | N/A | N/A | N/A | $ 87,266,236 | 22.05% |
| 12/31/2016 | N/A | N/A | N/A | $ 86,638,961 | 22.05% |
| 12/31/2015 | N/A | N/A | N/A | $ 87,836,040 | 21.88% |
| 12/31/2014 | N/A | N/A | N/A | $ 84,670,948 | 22.05% |
| 12/31/2013 | N/A | N/A | N/A | $ 83,279,101 | 21.36% |

**Schedule of Investment Returns**
Last 10 Years (1)

| Fiscal Year Ended | Annual Money- Weighted Rate of Return Net of Investment Expense |
|---|---|
| 12/31/2021 | 18.00% |
| 12/31/2020 | 15.46% |
| 12/31/2019 | 15.75% |
| 12/31/2018 | -2.66% |
| 12/31/2017 | 17.29% |
| 12/31/2016 | 7.13% |
| 12/31/2015 | 0.81% |
| 12/30/2014 | 5.60% |
| 12/31/2013 | 13.30% |

Notes to Schedules:

(1) This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full ten-year trend is compiled, only available information is shown.
(2) Determined from the end of year total pension liability using the roll forward procedure allowed for the initial year of implementation for GASB 67.

Changes of benefit terms:

For measurement date 12/31/2021, amounts reported as changes of benefit terms resulted from a cost-of-living adjustment. Eligible retirees receive a 5.4% cost-of-living adjustment, effective January 1, 2022.
For measurement date 12/31/2020, amounts reported as changes of benefit terms resulted from a cost-of-living adjustment. Eligible retirees receive a 1.7% cost-of-living adjustment, effective January 1, 2021.
For measurement date 12/31/2019, amounts reported as changes of benefit terms resulted from a cost-of-living adjustment. Eligible retirees receive a 1.4% cost-of-living adjustment, effective January 1, 2020.
For measurement date 12/31/2018, amounts reported as changes of benefit terms resulted from a cost-of-living adjustment. Eligible retirees receive a 2.3% cost-of-living adjustment, effective January 1, 2019.
For measurement date 12/31/2017, amounts reported as changes of benefit terms resulted from a cost-of-living adjustment. Eligible retirees receive a 2.2% cost-of-living adjustment, effective January 1, 2018.
For measurement date 12/31/2016, amounts reported as changes of benefit terms resulted from a cost-of-living adjustment. Eligible retirees receive a 1.5% cost-of-living adjustment, effective January 1, 2017.

*Changes of assumptions:*

The 12/31/2021 valuation reflects an update to use the most recently published mortality improvement scale by the Society of Actuaries (MP-2021).
For measurement date 12/31/2020, amounts reported as changes of benefit terms resulted from lowering the investment return from 7.50% to 7.30% per year, compounded annually, net of all expenses. Additionally, the payroll growth rate was increased from 2.00% to 2.50%.

For measurement date 12/31/19, as a result of actuarial experience study dated April 21, 2020, the Board approved the following changes:

- Price Inflation (lowered from 2.75 to 2.5)
- Investment Return (lowered from 7.70% to 7.50%)
- Mortality Rates (MP-2019 improvement scale)
- Salary Increases
- Retirement Rates
- Retro DROP Elections
- Withdrawal Rates
- Disability Rates
-

For measurement date 12/31/2018, amounts reported as changes of assumptions resulted from the following changes:

- The assumed mortality rates were updated to reflect the PubS-2010 (above-median, amount-weighted) tables.
- The price inflation assumption was lowered from 3.50% to 2.75% per year.
-

For measurement date 12/31/2014, amounts reported as changes of assumptions resulted from an actuarial experience study dated June 15, 2015; below is a brief overview of the changes:

• A "fresh-start" on the actuarial asset value has been implemented. For all future valuations, the asset valuation method will utilize a new smoothing technique.
• The investment return assumption has been decreased from 7.75% to 7.70% per year compounded annually, net of all expenses.
• The general wage inflation rate has been decreased from 3.5% to 3.0% per year.

Notes to Schedules:

- The service-based table attributable to merit and longevity salary increases has been amended.
- The retirement rates have been amended.
- The Retro-DROP election assumptions have been amended.
- The withdrawal rates have been amended.
- The assumed spousal age difference has been amended.

**AUSTIN FIRE FIGHTERS RELIEF AND RETIREMENT FUND**

**Schedule of Direct and Indirect Fees and Commissions**

| **ASSET CLASS** | **MANAGEMENT FEES PAID FROM FUND** | **MANAGEMENT FEES REDUCED FROM INVESTMENT** | **TOTAL INVESTMENT MANAGEMENT FEES** (Management Fees Reduced from Investment + Management Fees Paid From Fund) | **BROKERAGE FEES / COMMISSIONS REDUCED FROM INVESTMENT** | **TOTAL DIRECT AND INDIRECT FEES AND COMMISSIONS** (Management Fees + Brokerage Fees/Commissions) |
|---|---|---|---|---|---|
| Public Equity | $929,012 | $1,803,027 | $2,732,039 | $263,890 | $2,995,929 |
| Fixed Income | 644,510 | 115,905 | $760,415 | 0 | $760,415 |
| Real Assets | 0 | 1,210,281 | $1,210,281 | 0 | $1,210,281 |
| Alternative/Other | 0 | 1,880,824 | $1,880,824 | 0 | $1,880,824 |
| TOTAL | $ 1,573,522 | $ 5,010,037 | $ 6,583,559 | $ 263,890 | $ 6,847,449 |

# REQUIRED SUPPLEMENTARY INFORMATION, GASB 67

## GASB 67

# STATEMENT OF FIDUCIARY NET POSITION
## DECEMBER 31, 2021

| ASSETS | MARKET VALUE |
|---|---|
| Cash and Cash Equivalents: | |
| Cash Equivalents | 16,590,657 |
| Cash | 6,743,083 |
| Total Cash and Equivalents | 23,333,740 |
| Receivables: | |
| From Broker for Investments Sold | 928,313 |
| Investment Income | 98,988 |
| Total Receivable | 1,027,301 |
| Investments: | |
| Domestic Equity | 255,991,895 |
| International Equity | 265,520,653 |
| Private Equities | 264,312,984 |
| Fixed Income | 355,108,683 |
| Real Estate Funds | 105,885,100 |
| Natural Resources Funds | 33,391,511 |
| Total Investments | 1,280,210,826 |
| Total Assets | 1,304,571,867 |
| LIABILITIES | |
| Payables: | |
| To Broker for Investments Purchased | 1,027,362 |
| Total Liabilities | 1,027,362 |
| NET POSITION RESTRICTED FOR PENSIONS | 1,303,544,505 |

## GASB 67

# STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
# FOR THE YEAR ENDED DECEMBER 31, 2021

Market Value Basis

| | | |
|---|---|---|
| ADDITIONS | | |
| Contributions: | | |
| Member | 18,697,102 | |
| City | 22,041,592 | |
| Total Contributions | | 40,738,694 |
| Investment Income: | | |
| Net Increase in Fair Value of Investments | 161,765,417 | |
| Interest & Dividends | 13,138,650 | |
| Less Investment Expense[1] | (2,968,306) | |
| Net Investment Income | | 171,935,761 |
| Total Additions | | 212,674,455 |
| DEDUCTIONS | | |
| Distributions to Members: | | |
| Benefit Payments | 55,873,205 | |
| Lump Sum DROP Distributions | 14,185,509 | |
| Refunds of Member Contributions | 124,178 | |
| Total Distributions | | 70,182,892 |
| Administrative Expense | | 970,731 |
| Total Deductions | | 71,153,623 |
| Net Increase in Net Position | | 141,520,832 |
| NET POSITION RESTRICTED FOR PENSIONS | | |
| Beginning of the Year | | 1,162,023,673 |
| End of the Year | | 1,303,544,505 |

[1]Investment related expenses include investment advisory, custodial and performance monitoring fees.

# NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended December 31, 2021)

*Plan Administration*

The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of:

a. The Mayor of the municipality,

b. The city treasurer or, if there is no treasurer, the person who by law, charter provision, or ordinance performs the duty of city treasurer,

c. Three Members of the fund to be selected by vote of the firefighters and retirees.

*Plan Membership as of December 31, 2020:*

| | |
|---|---|
| Inactive Plan Members or Beneficiaries Currently Receiving Benefits | 888 |
| Inactive Plan Members Entitled to But Not Yet Receiving Benefits | 24 |
| Active Plan Members | 1,154 |
| | 2,066 |

*Benefits Provided*

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

The Plan provisions can be found in the December 31, 2020 Actuarial Valuation Report for the Austin Firefighters' Relief and Retirement Fund prepared by Foster & Foster Actuaries and Consultants.

*Contributions*

Member Contributions: 18.70% of Salary.

City Contributions: 22.05% of payroll.

*Investment Policy:*

The following was the Board's adopted asset allocation policy as of December 31, 2021:

| Asset Class | Target Allocation |
|---|---|
| Public Domestic Equity | 20% |
| Public Foreign Equity | 22% |
| Private Equity Fund of Funds | 15% |
| Investment Grade Bonds | 13% |
| TIPS | 5% |
| High Yield/Bank Loans | 5% |
| Emerging Market Debt | 7% |
| Core Real Estate | 5% |
| Value-Add Real Estate | 5% |
| Private Natural Resources | 3% |
| Total | 100% |

*Concentrations:*

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

*Rate of Return:*

For the year ended December 31, 2021, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 18.0 percent.

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

# GASB 67

Deferred Retirement Option Program

*Retroactive DROP*

Eligibility: Satisfaction of Early or Normal Retirement Eligibility.

Participation Period: Upon election to retroactively enter DROP, the Retro DROP period will not exceed 84 months.

Rate of Return: 5.0%, compounded annually, on monthly benefits that would have been deposited into a DROP account and Member contributions deposited into the fund between the effective DROP entry date and the actual date of termination.

The DROP balance as December 31, 2021 is $148,686,615.

## GASB 67

# NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the Sponsor on December 31, 2021 were as follows:

| | |
|---|---|
| Total Pension Liability | $ 1,315,376,810 |
| Plan Fiduciary Net Position | $ (1,303,544,505) |
| Sponsor's Net Pension Liability | $ 11,832,305 |
| Plan Fiduciary Net Position as a percentage of Total Pension Liability | 99.10% |

*Actuarial Assumptions:*
The Total Pension Liability was determined by an actuarial valuation as of December 31, 2020 updated to December 31, 2021 using the following actuarial assumptions:

| | |
|---|---|
| Inflation | 2.50% |
| General Wage Inflation | 3.00% |
| Salary Increases | Service based |
| Discount Rate | 7.30% |
| Investment Rate of Return | 7.30% |

*Mortality Rate Acitve Lives:*
PubS-2010(A) Mortality Table for Employees.
*Mortality Rate Retiree and Vested Terminated Lives:*
PubS-2010(A) Mortality Table for Healthy Retirees.
*Mortality Rate Contingent Survivor Lives* :
PubS-2010(A) Mortality Table for Contingent Survivors.
*Disabled Lives:*
PubS-2010(A) Mortality Table for Disabled Retirees.

The mortality rates for all participants are sex distinct with mortality improvement projected 5 years beyond the valuation date using scale MP-2020 and a base year of 2010. We feel these assumptions sufficiently accommodate anticipated future mortality improvements.

The most recent actuarial experience study used to review the other significant assumptions was dated April 21, 2020.

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

For 2021, the inflation rate assumption of the investment advisor was 2.10%.

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.

## GASB 67

Best estimates of arithmetic real rates of return for each major asset class included in the Pension Plan's target asset allocation as of December 31, 2021 are summarized in the following table:

| Asset Class | Long Term Expected Real Rate of Return[1] |
|---|---|
| Public Domestic Equity | 4.7% |
| Public Foreign Equity | 5.5% |
| Private Equity Fund of Funds | 5.9% |
| Investment Grade Bonds | -0.3% |
| TIPS | -0.3% |
| High Yield/Bank Loans | 2.0% |
| Emerging Market Debt | 1.7% |
| Core Real Estate | 3.4% |
| Value-Add Real Estate | 5.6% |
| Private Natural Resources | 6.2% |

[1] Source: Meketa Investment Group, Inc.
Please note that long term expected return of the total portfolio is greater than simply multiplying each of the above "Long Term Expected Real Rate of Returns" by their target allocation % and adding them together. Not only is the time horizon longer for an actuarial valuation relative to the time horizon over which the above projected returns were generated, but also there is an additional correlation resulting from a diversified portfolio that will provide additional returns.

*Discount Rate:*

The Discount Rate used to measure the Total Pension Liability was 7.30 percent.
The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will continue at the currently negotiated rate of 22.05% of payroll each year. 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. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

For purpose of this valuation, the expected rate of return on pension plan investments is 7.30%; the municipal bond rate is 2.25% (based on the weekly rate closest to but not later than the measurement date of the S&P Municipal Bond 20 Year High Grade Rate Index); and the resulting single discount rate is 7.30%.

| | 1% Decrease 6.30% | Current Discount Rate 7.30% | 1% Increase 8.30% |
|---|---|---|---|
| Sponsor's Net Pension Liability | $ 135,569,756 | $ 11,832,305 | $ (92,721,805) |

## GASB 67

### SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 2 Years

| | 12/31/2021 | 12/31/2020 |
|---|---|---|
| Total Pension Liability | | |
| Service Cost | 28,111,860 | 26,169,522 |
| Interest | 91,654,965 | 86,820,853 |
| Changes of benefit terms | 30,096,465 | 7,158,834 |
| Differences between Expected and Actual Experience | 3,265,825 | (1,670,701) |
| Changes of assumptions | - | 21,410,890 |
| Benefit Payments, including Refunds of Employee Contributions | (70,182,892) | (63,483,649) |
| Net Change in Total Pension Liability | 82,946,223 | 76,405,749 |
| Total Pension Liability - Beginning | 1,232,430,587 | 1,156,024,838 |
| Total Pension Liability - Ending (a) | $1,315,376,810 | $1,232,430,587 |
| | | |
| Plan Fiduciary Net Position | | |
| Contributions - Employer | 22,041,592 | 21,311,021 |
| Contributions - Employee | 18,697,102 | 18,073,292 |
| Net Investment Income | 171,935,761 | 147,025,907 |
| Benefit Payments, including Refunds of Employee Contributions | (70,182,892) | (63,483,649) |
| Administrative Expense | (970,731) | (1,092,299) |
| Net Change in Plan Fiduciary Net Position | 141,520,832 | 121,834,272 |
| Plan Fiduciary Net Position - Beginning | 1,162,023,673 | 1,029,892,806 |
| Adjustment to Beginning of Year Assets | - | 10,296,595 |
| Plan Fiduciary Net Position - Ending (b) | $ 1,303,544,505 | $ 1,162,023,673 |
| | | |
| Net Pension Liability - Ending (a) - (b) | $ 11,832,305 | $ 70,406,914 |
| | | |
| Plan Fiduciary Net Position as a percentage of the Total Pension Liability | 99.10% | 94.29% |
| | | |
| Covered Payroll | $ 99,961,868 | $ 96,648,621 |
| Net Pension Liability as a percentage of Covered Payroll | 11.84% | 72.85% |

**Notes to Schedule of Changes in Net Pension Liability and Related Ratios:**

*Changes of benefit terms:*

For measurement date 12/31/2021, amounts reported as changes of benefit terms resulted from a cost-of-living adjustment. Eligible retirees receive a 5.4% cost-of-living adjustment, effective January 1, 2022.

For measurement date 12/31/2020, amounts reported as changes of benefit terms resulted from a cost-of-living adjustment. Eligible retirees receive a 1.7% cost-of-living adjustment, effective January 1, 2021.

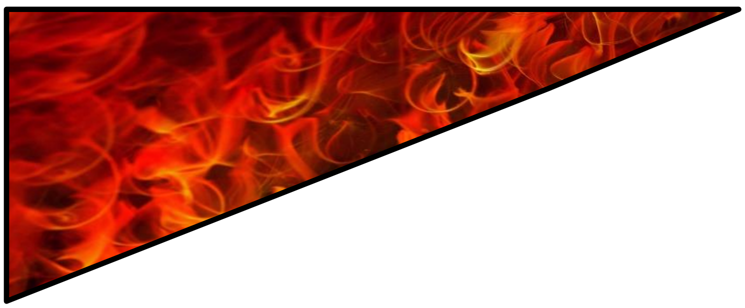
*Changes of assumptions:*

For measurement date 12/31/2020, amounts reported as changes of assumptions resulted from lowering the investment return from 7.50% to 7.30% per year, compounded annually, net of all expenses.

## GASB 67

### SCHEDULE OF CONTRIBUTIONS
Last 2 Years

| Fiscal Year Ended | Actuarially Determined Contribution | Contributions in relation to the Actuarially Determined Contributions | Contribution Deficiency (Excess) | Covered Payroll | Contributions as a percentage of Covered Payroll |
|---|---|---|---|---|---|
| 12/31/2021 | N/A | N/A | N/A | $ 99,961,868 | 22.05% |
| 12/31/2020 | N/A | N/A | N/A | $ 96,648,621 | 22.05% |



# ACTUARIAL SECTION

# AUSTIN FIRE FIGHTERS RELIEF AND RETIREMENT FUND

ACTUARIAL VALUATION
AS OF DECEMBER 31, 2021

FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

July 12, 2022

Board of Trustees Austin Fire Fighters
Relief and Retirement Fund
4101 Parkstone Heights Drive, Suite 270
Austin, TX 78746

Re: Austin Fire Fighters Relief and Retirement Fund

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the Austin Fire Fighters Relief and Retirement Fund (AFRRF). The funding valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the funding period required to amortize any existing Unfunded Actuarial Accrued Liability. Use of the results for other purposes may not be applicable and may produce significantly different results.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the provisions of Article 6243e.1, Vernon's Texas Civil Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience.

The funding percentages and unfunded accrued liability as measured based on the actuarial value of assets will differ from similar measures based on the market value of assets. These measures, as provided, are appropriate for determining the adequacy of future contributions, but may not be appropriate for the purpose of settling a portion or all of its liabilities. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuation, we did not perform an analysis of the potential range of such future measurements.

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

Additionally, we used third-party software to model (calculate) the underlying liabilities and costs. These results are reviewed in the aggregate and for individual sample lives. The output from the software is either used directly or input into internally developed models that apply the funding and accounting rules to generate the results. All internally developed models are reviewed as part of the valuation process. As a result of this review, we believe that the models have produced reasonable results. We do not believe there are any material inconsistencies among assumptions or unreasonable output produced due to the aggregation of assumptions.

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

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

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

Respectfully submitted,

Foster & Foster Inc.

By: ____________________________ ____________________________

Bradley R. Heinrichs, FSA, EA, MAAA Enrolled Actuary #20-6901

Drew D. Ballard, ASA, EA, MAAA Enrolled Actuary #20-8193

SUMMARY OF REPORT

The actuarial valuation of the Austin Fire Fighters Relief and Retirement Fund, performed as of December 31, 2021, has been completed and the results are presented in this Report. The pension costs, compared with those developed in the December 31, 2020 actuarial valuation, are as follows:

| Valuation Date | 12/31/2021 | 12/31/2020 |
|---|---|---|
| Current Normal Cost Rate<br>% of Covered Annual Payroll | 29.61% | 29.64% |
| **Funding Measurements** | | |
| Actuarial Accrued Liability (AAL) | 1,313,297,933 | 1,233,739,575 |
| Actuarial Value of Assets (AVA) | 1,176,967,709 | 1,079,202,794 |
| Unfunded Actuarial Accrued Liability (UAAL = AAL - AVA) | 136,330,224 | 154,536,781 |
| Funded Ratio (AVA / AAL) | 89.6% | 87.5% |
| Amortization Period [1] | 17.5 years | 23.3 years |
| **Contributions** | | |
| Expected City Contribution Rate | 22.05% | 22.05% |
| Expected Member Contribution Rate | 18.70% | 18.70% |
| Total Expected Contribution Rate | 40.75% | 40.75% |
| **Funding Costs** | | |
| City 20-Year Funding Cost | 21.15% | 23.10% |
| City 30-Year Funding Cost [2] | 19.13% | 20.70% |

[1] *If the actuarial smoothing technique was removed and the market value of assets was utilized to determine the amortization period, the result would be 0.8 years as of December 31, 2021.*

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

Plan experience was favorable overall on the basis of the plan's actuarial assumptions. Sources of favorable experience included an investment return of 11.95% (Actuarial Asset Basis) which exceeded the 7.30% assumption and inactive mortality experience. These gains were offset in part by a loss associated with more retirements than expected and the 5.40% COLA granted to eligible retirees effective January 1, 2022.

## CHANGES SINCE PRIOR VALUATION

Benefit/Fund Changes

There have been no changes in benefit provisions or contribution rates since the prior valuation. It is important to point out that eligible retirees received a one-time 5.40% cost-of-living adjustment, effective January 1, 2022, in accordance with the Fund's COLA adjustment policy. An analysis is performed annually to determine if certain criteria set forth in the Fund's COLA adjustment policy is satisfied prior to any COLAs being granted.

Actuarial Assumption/Method Changes

The valuation reflects an update to use the most recently published mortality improvement scale by the Society of Actuaries (MP-2021).

There were no method changes since the prior valuation.

## COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

| | 12/31/2021 | 12/31/2020 |
|---|---|---|
| **A. Participant Data** | | |
| Actives | 1,175 | 1,154 |
| Service Retirees + DROP | 756 | 732 |
| Beneficiaries + Alt Payees | 152 | 139 |
| Disability Retirees | 16 | 17 |
| Terminated Vested | 29 | 24 |
| Total | 2,128 | 2,066 |
| Covered Annual Payroll | 102,887,082 | 98,222,771 |
| Annual Rate of Payments to: | | |
| Service Retirees + DROP | 53,851,627 | 49,263,045 |
| Beneficiaries + Alt Payees | 5,312,534 | 4,541,323 |
| Disability Retirees | 740,398 | 748,037 |
| Terminated Vested | 377,631 | 326,619 |
| **B. Assets** | | |
| Actuarial Value (AVA) | 1,176,967,709 | 1,079,202,794 |
| Market Value (MVA) | 1,303,544,505 | 1,162,023,673 |
| **C. Liabilities** | | |
| Present Value of Benefits | | |
| Actives | | |
| Retirement + Termination Benefits | 806,721,283 | 780,968,197 |
| Death Benefits | 8,759,901 | 8,397,761 |
| Disability Benefits | 7,387,587 | 7,040,515 |
| Service Retirees + DROP | 762,133,987 | 699,304,031 |
| Beneficiaries + Alt Payees | 46,008,096 | 40,008,937 |
| Disability Retirees | 7,426,188 | 7,535,897 |
| Terminated Vested | 3,668,501 | 3,049,869 |
| Total | 1,642,105,543 | 1,546,305,207 |

## GAIN/LOSS ANALYSIS

a. Total (Gain)/Loss

| | |
|---|---|
| 1. Unfunded Actuarial Accrued Liability as of December 31, 2020 | $154,536,781 |
| 2. Normal Cost applicable for 2021 | 28,090,078 |
| 3. Interest on (1) and (2) | 13,331,761 |
| 4. Contributions made during 2021 | 40,738,694 |
| 5. Interest on (4) | 1,486,962 |
| 6. Expected UAAL as of December 31, 2021: (1)+(2)+(3)-(4)-(5) | 153,732,964 |
| 7. Actual UAAL as of December 31, 2021 | 136,330,224 |
| Total Actuarial (Gain)/Loss [1] | (17,402,740) |

b. (Gain)/Loss on Assets

| | |
|---|---|
| 1. Actuarial Value of Assets as of December 31, 2020 | 1,079,202,794 |
| 2. Contributions Less Benefit Payments | (29,444,198) |
| 3. Expected Investment Earnings | 77,707,091 |
| 4. Expected AVA as of December 31, 2021: (1)+(2)+(3) | 1,127,465,687 |
| 5. Actual Actuarial Value of Assets as of December 31, 2021 | 1,176,967,709 |
| (Gain)/Loss on Assets | (49,502,022) |

c. (Gain)/Loss on Liabilities

| | |
|---|---|
| 1. Expected Actuarial Accrued Liability: a(6)+b(4) | 1,281,198,651 |
| 2. Actual Actuarial Accrued Liability | 1,313,297,933 |
| (Gain)/Loss on Liabilities [1] | 32,099,282 |

[1] Includes increase in liabilities associated with the 5.4% cost-of-living adjustment that was granted to eligible retirees, effective January 1, 2022.

## COMPARISON OF CONTRIBUTION RATES TO ACTUARIALLY DETERMINED CONTRIBUTION BENCHMARK

Pursuant to the adopted Funding Policy, an Actuarially Determined Contribution (ADC) benchmark has been created for comparative purposes only and was constructed under the actuarial assumptions and methods identical to those disclosed in this report, except as follows:

*Amortization Period* – The ADC benchmark is determined in conjunction with each actuarial valuation by determining the fixed-rate contribution rates that would result in a 30-year amortization period as of the valuation date.

*Payroll Growth Assumption* – The ADC benchmark is calculated using a payroll growth assumption that is the lesser of 3.0% and the average payroll growth of the Austin Fire Department over the last ten (10) years.

**Determination of ADC Benchmark Payroll Growth Assumption**

| | |
|---|---|
| Covered Payroll as of: | |
| 12/31/2021 | 102,887,082 |
| 12/31/2011 | 76,700,157 |
| (a) Average Annual Rate | 2.98% |
| (b) ADC Assumption | 3.00% |
| **Lesser of (a) and (b)** | **2.98%** |

| *Valuation as of December 31,* | *City of Austin Contribution Rate* | *30-Year ADC Benchmark* | *City Contribution Excess/(Shortfall)* |
|---|---|---|---|
| 2021 | 22.05% | 18.71% | 3.34% |
| 2020 | 22.05% | 21.24% | 0.81% |
| 2019 | 22.05% | 20.42% | 1.63% |

STATEMENT OF FIDUCIARY NET POSITION
DECEMBER 31, 2021

| ASSETS | MARKET VALUE |
|---|---|
| Cash and Cash Equivalents: | |
| Cash Equivalents | 16,590,657 |
| Cash | 6,743,083 |
| Total Cash and Equivalents | 23,333,740 |
| Receivables: | |
| From Broker for Investments Sold | 928,313 |
| Investment Income | 98,988 |
| Total Receivable | 1,027,301 |
| Investments: | |
| Domestic Equity | 255,991,895 |
| International Equity | 265,520,653 |
| Private Equities | 264,312,984 |
| Fixed Income | 355,108,683 |
| Real Estate Funds | 105,885,100 |
| Natural Resources Funds | 33,391,511 |
| Total Investments | 1,280,210,826 |
| Total Assets | 1,304,571,867 |
| LIABILITIES | |
| Payables: | |
| To Broker for Investments Purchased | 1,027,362 |
| Total Liabilities | 1,027,362 |
| NET POSITION RESTRICTED FOR PENSIONS | 1,303,544,505 |

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED DECEMBER 31, 2021
Market Value Basis

| | | | |
|---|---|---|---|
| <u>ADDITIONS</u> | | | |
| Contributions: | | | |
| Member | | 18,697,102 | |
| City | | 22,041,592 | |
| Total Contributions | | | 40,738,694 |
| Investment Income: | | | |
| Miscellaneous Income | 32,009 | | |
| Net Realized Gain (Loss) | 84,857,527 | | |
| Unrealized Gain (Loss) | 76,875,881 | | |
| Net Increase in Fair Value of Investments | | 161,765,417 | |
| Interest & Dividends | | 13,138,650 | |
| Less Investment Expense[1] | | (2,968,306) | |
| Net Investment Income | | | 171,935,761 |
| Total Additions | | | 212,674,455 |
| <u>DEDUCTIONS</u> | | | |
| Distributions to Members: | | | |
| Benefit Payments | | 55,873,205 | |
| Lump Sum DROP Distributions | | 14,185,509 | |
| Refunds of Member Contributions | | 124,178 | |
| Total Distributions | | | 70,182,892 |
| Administrative Expense | | | 970,731 |
| Total Deductions | | | 71,153,623 |
| Net Increase in Net Position | | | 141,520,832 |
| NET POSITION RESTRICTED FOR PENSIONS | | | |
| Beginning of the Year | | | 1,162,023,673 |
| End of the Year | | | 1,303,544,505 |

[1]Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION
December 31, 2021

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

Gains/(Losses) Not Yet Recognized

| Plan Year Ending | Gain/(Loss) | Amounts Not Yet Recognized by Valuation Year 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|---|
| 12/31/2017 | 77,264,135 | 0 | 0 | 0 | 0 | 0 |
| 12/31/2018 | (98,535,264) | (19,707,052) | 0 | 0 | 0 | 0 |
| 12/31/2019 | 71,447,637 | 28,579,056 | 14,289,529 | 0 | 0 | 0 |
| 12/31/2020 | 79,891,968 | 47,935,180 | 31,956,786 | 15,978,392 | 0 | 0 |
| 12/31/2021 | 87,212,015 | 69,769,612 | 52,327,209 | 34,884,806 | 17,442,403 | 0 |
| Total | | 126,576,796 | 98,573,524 | 50,863,198 | 17,442,403 | 0 |

Development of Investment Gain/(Loss)

| | |
|---|---|
| Market Value of Assets, 12/31/2020 | 1,162,023,673 |
| Contributions Less Benefit Payments | (29,444,198) |
| Expected Investment Earnings* | 83,753,015 |
| Actual Net Investment Earnings | 170,965,030 |
| Actuarial Investment Gain/(Loss) | 87,212,015 |

*Expected Investment Earnings = 0.073 * [1,162,023,673 + 0.5 * (29,444,198)]

Development of Actuarial Value of Assets

| | |
|---|---|
| (1) Market Value of Assets, 12/31/2021 | 1,303,544,505 |
| (2) Gains/(Losses) Not Yet Recognized | 126,576,796 |
| (3) Actuarial Value of Assets, 12/31/2021, (1) - (2) | 1,176,967,709 |
| | |
| (A) 12/31/2020 Actuarial Assets: | 1,079,202,794 |
| | |
| (I) Net Investment Income: | |
| 1. Interest and Dividends | 13,170,659 |
| 2. Realized Gains (Losses) | 84,857,527 |
| 3. Unrealized Gains (Losses) | 76,875,881 |
| 4. Change in Actuarial Value | (43,755,917) |
| 5. Investment & Administrative Expenses | (3,939,037) |
| Total | 127,209,113 |
| | |
| (B) 12/31/2021 Actuarial Assets: | 1,176,967,709 |
| | |
| Actuarial Assets Rate of Return = 2I/(A+B-I): | 11.95% |
| Market Value of Assets Rate of Return: | 14.90% |
| | |
| Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis) | 49,502,022 |
| | |
| 12/31/2021 Limited Actuarial Assets: | 1,176,967,709 |

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
DECEMBER 31, 2021
Actuarial Asset Basis

| | | |
|---|---|---|
| REVENUES | | |
| Contributions: | | |
| Member | 18,697,102 | |
| City | 22,041,592 | |
| Total Contributions | | 40,738,694 |
| Earnings from Investments: | | |
| Interest & Dividends | 13,138,650 | |
| Miscellaneous Income | 32,009 | |
| Net Realized Gain (Loss) | 84,857,527 | |
| Unrealized Gain (Loss) | 76,875,881 | |
| Change in Actuarial Value | (43,755,917) | |
| Total Earnings and Investment Gains | | 131,148,150 |
| EXPENDITURES | | |
| Distributions to Members: | | |
| Benefit Payments | 55,873,205 | |
| Lump Sum DROP Distributions | 14,185,509 | |
| Refunds of Member Contributions | 124,178 | |
| Total Distributions | | 70,182,892 |
| Expenses: | | |
| Investment related[1] | 2,968,306 | |
| Administrative | 970,731 | |
| Total Expenses | | 3,939,037 |
| Change in Net Assets for the Year | | 97,764,915 |
| Net Assets Beginning of the Year | | 1,079,202,794 |
| Net Assets End of the Year[2] | | 1,176,967,709 |

[1]Investment related expenses include investment advisory, custodial and performance monitoring fees. [2]Net Assets may be limited for actuarial consideration.

DEFERRED RETIREMENT OPTION PLAN ACTIVITY
January 1, 2021 to December 31, 2021

| | |
|---|---|
| Beginning of the Year Balance | 138,472,896.84 |
| Plus Additions | 16,876,475.34 |
| Interest Credited | 7,522,751.84 |
| Less Distributions | (14,185,509.40) |
| End of the Year Balance | 148,686,614.62 |
| Market Value of Assets | 1,303,544,505 |
| DROP Asset Ratio | 11.4% |

## STATISTICAL DATA

| | 12/31/2018 | 12/31/2019 | 12/31/2020 | 12/31/2021 |
|---|---|---|---|---|
| **Actives** | | | | |
| Number | 1,102 | 1,130 | 1,154 | 1,175 |
| Average Current Age | 41.9 | 41.8 | 41.6 | 41.5 |
| Average Age at Employment | 29.0 | 29.1 | 29.2 | 29.3 |
| Average Past Service | 12.9 | 12.7 | 12.4 | 12.2 |
| Average Annual Salary | $87,933 | $88,328 | $88,469 | $90,940 |
| **Service Retirees + DROP** | | | | |
| Number | 679 | 700 | 732 | 756 |
| Average Current Age | 64.3 | 64.7 | 65.2 | 65.4 |
| Average Annual Benefit | $63,500 | $65,241 | $67,299 | $71,232 |
| **Beneficiaries + Alt Payees** | | | | |
| Number | 125 | 136 | 139 | 152 |
| Average Current Age | 67.4 | 67.6 | 67.9 | 69.0 |
| Average Annual Benefit | $30,462 | $32,144 | $32,671 | $34,951 |
| **Disability Retirees** | | | | |
| Number | 18 | 18 | 17 | 16 |
| Average Current Age | 64.9 | 66.3 | 66.2 | 66.5 |
| Average Annual Benefit | $42,112 | $42,718 | $44,002 | $46,275 |
| **Terminated Vested** | | | | |
| Number | 8 | 10 | 24 | 29 |
| Average Current Age | 42.3 | 41.1 | 38.7 | 38.6 |
| Average Annual Benefit [1] | $31,524 | $32,511 | $36,291 | $34,330 |

[1] Average Annual Benefit for Terminated Vested members reflects the benefit for members entitled to a future annual benefit from the plan.

AGE AND SERVICE DISTRIBUTION

| ATTAINED AGE | PAST SERVICE 0 | 1-4 | 5-9 | 10-19 | 20-24 | 25 | 26 | 27 | 28 | 29 | 30+ | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 - 24 | 7 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| 25 - 34 | 49 | 192 | 34 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 276 |
| 35 - 44 | 12 | 135 | 168 | 123 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 452 |
| 45 - 49 | 0 | 0 | 21 | 94 | 56 | 1 | 4 | 5 | 1 | 0 | 0 | 182 |
| 50 | 0 | 0 | 2 | 12 | 12 | 1 | 4 | 3 | 0 | 0 | 0 | 34 |
| 51 | 0 | 0 | 0 | 17 | 15 | 2 | 5 | 2 | 1 | 0 | 0 | 42 |
| 52 | 0 | 0 | 1 | 10 | 12 | 2 | 2 | 3 | 0 | 0 | 0 | 30 |
| 53 | 0 | 0 | 0 | 8 | 14 | 0 | 6 | 11 | 1 | 1 | 1 | 42 |
| 54 | 0 | 0 | 0 | 6 | 6 | 2 | 4 | 4 | 3 | 1 | 3 | 29 |
| 55 - 59 | 0 | 0 | 0 | 2 | 17 | 3 | 8 | 20 | 7 | 3 | 10 | 70 |
| 60+ | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 4 | 6 |
| TOTAL | 68 | 332 | 226 | 273 | 146 | 12 | 33 | 48 | 13 | 6 | 18 | 1,175 |

# VALUATION PARTICIPANT RECONCILIATION

1. Active lives

| | |
|---|---|
| a. Number in prior valuation 12/31/2020 | 1,154 |
| b. Terminations | |
| i. Vested (partial or full) with deferred benefits | (2) |
| ii. Non-vested, full lump sum distribution received | (2) |
| iii. Non-vested, awaiting refund | (4) |
| c. Deaths | |
| i. Beneficiary receiving benefits | 0 |
| ii. No future benefits payable | (2) |
| d. Disabled | (1) |
| e. Retired | (36) |
| g. Continuing participants | 1,107 |
| h. New entrants | 68 |
| i. Total active life participants in valuation | 1,175 |

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

| | Service Retirees, DROP Receiving Benefits | Receiving Death Benefits | Receiving Disability Benefits | Receiving QDRO Benefits | Vested Deferred | Total |
|---|---|---|---|---|---|---|
| a. Number prior valuation | 732 | 88 | 17 | 51 | 24 | 912 |
| Retired | 37 | 0 | 0 | 0 | (1) | 36 |
| Vested Deferred | 0 | 0 | 0 | 0 | 6 | 6 |
| Death, With Survivor | (11) | 12 | (1) | 0 | 0 | 0 |
| Death, No Survivor | (2) | (1) | (1) | 0 | 0 | (4) |
| Disabled | 0 | 0 | 1 | 0 | 0 | 1 |
| Refund of Contributions | 0 | 0 | 0 | 0 | 0 | 0 |
| Rehires | 0 | 0 | 0 | 0 | 0 | 0 |
| Expired Annuities | 0 | (1) | 0 | 0 | 0 | (1) |
| Data Corrections | 0 | 1 | 0 | 0 | 0 | 1 |
| New QDRO | 0 | 0 | 0 | 2 | 0 | 2 |
| b. Number current valuation | 756 | 99 | 16 | 53 | 29 | 953 |

# ACTUARIAL ASSUMPTIONS AND METHODS
(Effective December 31, 2021)

| | |
|---|---|
| Mortality Rates | *Active Lives:*<br>PubS-2010(A) Mortality Table for Employees.<br><br>*Retiree and Vested Terminated Lives:*<br>PubS-2010(A) Mortality Table for Healthy Retirees.<br><br>*Contingent Survivor Lives:*<br>PubS-2010(A) Mortality Table for Contingent Survivors.<br><br>*Disabled Lives:*<br>PubS-2010(A) Mortality Table for Disabled Retirees.<br><br>The mortality rates for all participants are sex distinct with mortality improvement projected 5 years beyond the valuation date using scale MP-2021 (previously MP-2020) and a base year of 2010. We feel these assumptions sufficiently accommodate anticipated future mortality improvements. |
| Retirement Elections | See tables below. These assumptions were approved in conjunction with an actuarial experience study dated April 21, 2020. |
| Termination Rates | See tables below. These assumptions were approved in conjunction with an actuarial experience study dated April 21, 2020. |
| Disability Rates | See tables below. These assumptions were approved in conjunction with an actuarial experience study dated April 21, 2020. |
| Interest Rate | 7.30% per year, compounded annually, net of all expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class. |
| Salary Increases | See tables below. These assumptions were approved in conjunction with an actuarial experience study dated April 21, 2020. |
| General Wage Inflation | 3.00% per year. This assumption was reviewed in conjunction with an actuarial experience study dated April 21, 2020. |
| Inflation | 2.50% per year. This assumption was approved in conjunction with an actuarial experience study dated April 21, 2020. |

| | |
|---|---|
| Payroll Growth | 2.50% per year for amortization of the Unfunded Actuarial Accrued Liability. We feel this is reasonable based upon long-term historical experience. |
| Asset Valuation Method | All assets are valued at market value with an adjustment to uniformly spread investment gains and losses (as measured by actual market value investment return against expected market value investment return) over a five-year period. |
| Marital Status | 100% of actives are assumed to be married at time of benefit commencement. Females are assumed to be 4 years younger than Males. Additionally, 50% are assumed to have dependent children. The age of the youngest child is assumed to be one year.<br><br>These assumptions were approved in conjunction with an actuarial experience study dated June 15, 2015. |
| Funding Method | Entry Age Normal Actuarial Cost Method. |

Termination Rates

| Years of Service | Termination Probability |
|---|---|
| 0-7 | 1.0% |
| 8-13 | 0.5 |
| 14+ | 0 |

Retirement Rates

| Number of Years After First Eligibility for Early Retirement | Probability of Retirement |
|---|---|
| 0 | 1.5% |
| 1 | 1.5 |
| 2 | 1.5 |
| 3 | 1.5 |
| 4 | 2.0 |
| 5 | 4.0 |
| 6 | 5.0 |
| 7 | 5.0 |
| 8 | 7.5 |
| 9 | 10.0 |
| 10 | 16.7 |
| 11 | 16.7 |
| 12 | 20.0 |
| 13 | 20.0 |
| 14 | 30.0 |
| 15 | 30.0 |
| 16 | 30.0 |
| 17 | 50.0 |
| 18 | 100.0 |

## Retro-DROP Elections

| Number of Years After First Eligibility for Early Retirement | No-DROP Elected | Duration 1 Election | Duration 2 Election |
|---|---|---|---|
| 0 | 75% | 0.5 years (25%) | n/a |
| 1 | 50% | 1 year (50%) | n/a |
| 2 | 50% | 1 year (25%) | 2 years (25%) |
| 3 | 50% | 1 year (40%) | 3 years (10%) |
| 4 | 50% | 1 year (40%) | 3 years (10%) |
| 5 | 20% | 1 year (40%) | 3 years (40%) |
| 6 | 20% | 2 years (50%) | 6 years (30%) |
| 7 | 20% | 2 years (50%) | 6 years (30%) |
| 8 | 20% | 3 years (50%) | 6 years (30%) |
| 9 | 20% | 3 years (50%) | 6 years (30%) |
| 10 | 0% | 3 years (50%) | 7 years (50%) |
| 11 | 0% | 3 years (50%) | 7 years (50%) |
| 12 | 0% | 3 years (50%) | 7 years (50%) |
| 13 | 0% | 3 years (50%) | 7 years (50%) |
| 14 | 0% | 3 years (25%) | 7 years (75%) |
| 15 | 0% | 3 years (25%) | 7 years (75%) |
| 16 | 0% | 3 years (25%) | 7 years (75%) |
| 17 | 0% | 3 years (25%) | 7 years (75%) |
| 18 | 0% | 3 years (25%) | 7 years (75%) |

## Disability Rates

| Age | Probability of Disablement |
|---|---|
| <30 | 0.020% |
| 30-39 | 0.060 |
| 40-49 | 0.100 |
| 50+ | 0.050 |

## % Increase in Salary*

| Years of Service | Increase |
|---|---|
| 0 | 5.50% |
| 1 | 7.00 |
| 2 | 7.00 |
| 3 | 2.50 |
| 4 | 0.50 |
| 5 | 4.00 |
| 10 | 1.00 |
| 15 | 1.00 |
| 20 | 4.50 |
| 21 | 0.50 |
| 22+ | 0.25 |

* Expected increase in salary in addition to general wage inflation assumption.

## SUMMARY OF BENEFIT PROVISIONS

| | |
|---|---|
| Service | Total years and completed months during which a Member makes contributions to the Fund. |
| Average Monthly Compensation | Average Salary for the highest 36 months of service. |
| Member Contributions | 18.70% of Salary. |
| City Contributions | 22.05% or payroll. |
| Normal Retirement | |
| Date | Earlier of age 50 and 10 years of Service, or 25 years of Service, regardless of age. |
| Benefit | 3.30% of Average Monthly Compensation times Service ($1,200 minimum). Effective July 1, 2012, the minimum benefit was increased to $2,000 per month for all retirees and surviving spouses currently receiving normal or disability retirement benefits which commenced prior to January 1, 1994. |
| Form of Benefit | Married: Life Annuity with 75% continued to Surviving Spouse<br><br>Single: Life Annuity with 75% continued to designated beneficiary. |
| Early Retirement | |
| Date | Earlier of age 45 and 10 years of Service, or 20 years of Service, regardless of age. |
| Benefit | Same for Normal Retirement as shown above. Members who retire under Early Retirement are not eligible to receive any COLA adjustments until the date they would have met Normal Retirement eligibility requirements. |

| | |
|---|---|
| <u>Vesting</u> | |
| Schedule | 100% after 10 years of Service. |
| Benefit Amount | Member will receive his (her) accrued benefit payable at age 50 or the date they would have completed 25 years of Service had they remained employed.<br><br>Non-vested members receive a refund of member contributions accumulated with 5.0% interest. |
| <u>Disability</u> | |
| Eligibility | Disability preventing the Member from performing the duties of a firefighter during the two and one-half years after becoming disabled or any employment after the two and one-half years after becoming disabled. |
| Benefit | Accrued benefit at date of disability, but not less than 66% of Average Monthly Compensation. |
| Form of Benefit | <u>Married</u>: Life Annuity with 75% continued to Surviving Spouse<br><br><u>Single</u>: Life Annuity |
| <u>Death Benefits</u> | |
| Surviving Spouse of Member: | 75% of Member's accrued benefit at date of death, but not less than 49.5% of Average Monthly Compensation. |
| Surviving Non-Spousal Beneficiary of Member: | 75% of Member's accrued benefit at date of death, but may be actuarially reduced based on the age difference between the Member and the designated beneficiary. |
| Dependent Children of Member: (with Surviving Spouse) | Each child is entitled to 15% of Member's accrued benefit at date of death, but not less than 9.9% of Average Monthly Compensation. |
| Dependent Children of Member: (with no Surviving Spouse) | 75% of Member's accrued benefit at date of death, but not less than 49.5% of Average Monthly Compensation, split equally among each dependent child. |

Cost of Living Adjustment

| | |
|---|---|
| Eligibility | Normal Retirement. |
| Amount | Determined by the actuary if providing a COLA will not impair financial stability of the Fund. |

Retroactive DROP

| | |
|---|---|
| Eligibility | Satisfaction of Early or Normal Retirement Eligibility. |
| Participation Period | Upon election to retroactively enter DROP, the Retro DROP period will not exceed 84 months. |
| Rate of Return | Fixed interest credited at the end of each calendar month with interest at a rate equal to one-twelfth (1/12) of five percent (5%) on monthly benefits (including any applicable COLAs) that would have been deposited into a DROP account and Member contributions deposited into the fund between the effective DROP entry date and the actual date of termination. |

## DISCUSSION OF RISK

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined under various actuarial assumptions. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. It is possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss impacts the plan's amortization period. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's amortization period. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization period could potentially grow to an unmanageable level.

- <u>Investment Return</u>: When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, amortization periods can vary in the future.

- <u>Salary Increases</u>: When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.

- <u>Payroll Growth</u>: The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization period can increase significantly even if all assumptions other than the payroll growth assumption are realized since anticipated contributions rely upon membership payroll.

- <u>Demographic Assumptions</u>: Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

- DROP Liquidity Risk: This risk results from the provision which allows retired members to continue to accrue a guaranteed rate of interest on their accumulated DROP balances following separation of employment with the City. The ratio of the accumulated DROP balances to the market value of assets as of each valuation date can present potential fund liquidity and actuarial liability risks.
- Amortization Period: Risks associated with the items outlined above will inherently create varying liabilities and assets resulting in volatility in the amortization period. Actuarial losses on assets and liabilities will lead to longer amortization periods, while actuarial gains on assets and liabilities will lead to shorter amortization periods.
- Contribution Risk: This risk results from the potential that the total annual contributions, based on fixed-rates for the City and membership, may deviate from actuarially determined contributions, as illustrated on page 5. The actuarially determined contributions are adjusted in conjunction with each actuarial valuation to take into account the deviation in actual versus expected experience between valuation dates. Fixed-rate contribution structures include the risk that scheduled contributions do not reflect the actual cost of plan benefits, meaning that in order to maintain actuarially sound funding levels, contribution rate increases or benefit reductions may be required.

Impact of Plan Maturity on Risk

For newer pension plans, most of the participants and associated liabilities are related to active members who have not yet reached retirement age. As pension plans continue in operation and active members reach retirement ages, liabilities begin to shift from being primarily related to active members to being shared among active and retired members. Plan maturity is a measure of the extent to which this shift has occurred. It is important to understand that plan maturity can have an impact on the risk characteristics and risk tolerance of the plan. For example, plans with a large amount of liability attributable to retirees have a shorter time horizon to recover from losses (such as investment experience losses due to lower than expected investment returns) than plans where the majority of the liability is attributable to active members. For this reason, highly mature plans with a substantial liability due to retirees and inactive members have less tolerance for risk. Similarly, mature plans paying substantial retirement benefits resulting in a small positive or negative net cash flow can be more sensitive to near term investment volatility, particularly if the size of the fund is shrinking, which can result in less assets being available for investment in the market.

To assist with determining the maturity of the plan and assessing risk, we have provided some relevant metrics in the section titled “Plan Maturity Measures and Other Risk Metrics”. Highlights of this information are discussed below:

- The Support Ratio, determined as the ratio of active to inactive members, has decreased from 132.8% to 123.3% over the last four years.
- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan (inclusive of DROP Balances), to the Total Accrued Liability, has increased from 57.3% to 62.4% over the last four years.
- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, is 89.6% and has stayed about the same over the last four years. If all actuarial assumptions are realized, the funded ratio is expected to increase in the next few years as the most recent investment experience gains are gradually recognized.
- The DROP Asset Ratio, determined as the ratio of the Accumulated DROP Balances to the Market Value of Assets, is 11.4% and has stayed about the same over the last four years.
- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments and administrative expenses) to the Market Value of Assets, is -2.3%. This indicates that contributions are not currently covering the plan’s benefit payments and administrative expenses.

It is important to note that we have identified the risks above as the most significant risks based on the characteristics of the plan and the nature of the actuarial valuation, however, it is not an exhaustive list of potential risks that could be considered. Additional advanced modelling, as well as the identification of additional risks, can be helpful and can be provided upon request of the Board.

PLAN MATURITY MEASURES AND OTHER RISK METRICS

| | 12/31/2018 | 12/31/2019 | 12/31/2020 | 12/31/2021 |
|---|---|---|---|---|
| Support Ratio | | | | |
| Total Actives | 1,102 | 1,130 | 1,154 | 1,175 |
| Total Inactives | 830 | 864 | 912 | 953 |
| Actives / Inactives | 132.8% | 130.8% | 126.5% | 123.3% |
| Accrued Liability (AL) Ratio | | | | |
| Inactive Accrued Liability | 621,279,137 | 677,666,685 | 749,898,734 | 819,236,772 |
| Total Accrued Liability | 1,084,533,608 | 1,154,365,629 | 1,233,739,575 | 1,313,297,933 |
| Inactive AL / Total AL | 57.3% | 58.7% | 60.8% | 62.4% |
| Funded Ratio | | | | |
| Actuarial Value of Assets (AVA) | 954,574,840 | 1,001,980,211 | 1,079,202,794 | 1,176,967,709 |
| Total Accrued Liability | 1,084,533,608 | 1,154,365,629 | 1,233,739,575 | 1,313,297,933 |
| AVA / Total Accrued Liability | 88.0% | 86.8% | 87.5% | 89.6% |
| DROP Asset Ratio | | | | |
| Accumulated DROP Balances | 99,360,841 | 115,350,197 | 138,472,897 | 148,686,615 |
| Market Value of Assets (MVA) | 909,117,796 | 1,029,892,806 | 1,162,023,673 | 1,303,544,505 |
| DROP Balances / MVA | 10.9% | 11.2% | 11.9% | 11.4% |
| Net Cash Flow Ratio | | | | |
| Net Cash Flow [1] | (19,566,367) | (20,760,422) | (25,191,635) | (30,414,929) |
| Market Value of Assets (MVA) | 909,117,796 | 1,029,892,806 | 1,162,023,673 | 1,303,544,505 |
| Ratio | -2.2% | -2.0% | -2.2% | -2.3% |

[1] Determined as total contributions minus benefit payments and administrative expenses.

## VALUATION NOTES

Covered Annual Payroll is the projected rate of pay as of the valuation date of all active participants who are not subject to a 100% probability of retirement in the first year following the valuation date, discounted to take into account the probability of remaining an active participant.

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

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation.

(a) The normal cost accrual rate equals:
   (i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by
   (ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age.

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

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

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

Actuarial Value of Assets is the asset value used in the valuation to determine contribution requirements. It represents the plan's Market Value of Assets (see below), with adjustments according to the plan's Actuarial Asset Method. These adjustments produce a "smoothed" value that is likely to be less volatile from year to year than the Market Value of Assets.

Market Value of Assets is the fair market value of plan assets as of the valuation date. This amount may be adjusted to produce an Actuarial Value of Assets for plan funding purposes.

Unfunded Actuarial Accrued Liability (UAAL) is the difference between the actuarial accrued liability (described above) and the actuarial value of assets.

# PLAN PROVISION CHANGES & BENEFITS SUMMARY SECTION

# Historical Plan Provision Changes

## FUND HISTORY

The Austin Fire Fighters Relief and Retirement Fund (AFRRF or the Fund) was first created in 1937 by an Act of the 45th Legislature under the Texas Local Fire Fighters Retirement Act (Article 6243e, Vernon's Texas Civil Statutes). In 1975, the 64th Legislature enacted Article 6243e.1, to establish the Fund independently in state statute. The AFRRF is a single employer contributory defined benefit pension plan that provides retirement, disability, death, and survivor benefits to approximately 2100 active and retired firefighters of the City of Austin and their beneficiaries.

## Plan Provision Changes

Significant changes in plan provisions including benefit enhancements since 1975 are as follows:

**1975**

- 2.0% COLA approved.
- The retirement calculations changed from using the highest 5 years' average salary to using the highest 3 years' average salary.
- The minimum monthly disability benefit changed from $100 to $200.
- The contribution rate by the firefighters increased from 11.85% to 13.7% of salary.
- State statute Article 6243e.1 is created pertaining only to the Austin Firefighters Pension Fund, allowing the plan to branch away from the former statewide system.

**1976**

- 2.0% COLA approved.

**1977**

- 2.0% COLA approved.

**1978**

- 2.0% COLA approved.
- The retirement multiplier increased from 2.0% to 2.1%

**1979**

- 2.0% COLA approved.
- The minimum monthly spousal benefit increased from $100 to $200.
- The minimum children's benefit increased from $50 to $100.

**1980**

- 2.0% COLA approved.

**1981**

- 2.0% COLA approved.

**1982**

- 2.0% COLA approved.
- The retirement multiplier increased from 2.1% to 2.2%

**1983**

- 2.0% COLA approved.

**1984**

- 2.0% COLA approved.
- The retirement multiplier increased from 2.2% to 2.3%.
- An actuarial study was conducted to adjust and increase retiree benefits to offset the effect or erosion of their benefits due to inflation from the date of their original retirement.

**1985**

- 4.0% COLA approved.
- Early retirement eligibility set at age 50 and 25 years of service. (Normal retirement eligibility remained at age 55 or 35 years of service, regardless of age, which had been in effect for many years.)
- Contribution rate by city increased from 14.0% to 14.05%.
- The retirement multiplier increased from 2.3% to 2.5%
- Employee contributions treated as employer contributions (pre-taxed) for federal income tax purposes. Contributions are paid pre-taxed creating more take home pay.
- A special increase for all current retirees to "catch their benefits up" with inflation from the time of their original retirement. If the resulting monthly benefit was less than $500, then a $500 minimum monthly benefit was approved where applicable.

**1986**

- 3.0% COLA approved.

**1987**

- 1.5% COLA approved.
- The retirement multiplier increased from 2.50% to 2.65%.
- Normal retirement eligibility lowered from age 55 or 35 years of service, regardless of age to age 55 or 30 years of service, regardless of age.

**1988**

- 4.0% COLA approved.
- The retirement multiplier increased from 2.65% to 2.90%.

**1989**

- 4.25% COLA approved.
- The workers' compensation offset for disability benefits was eliminated.
- Actuarially, an assumption adopted that 12% of firefighters were assumed to be single at retirement.

**1990**

- 4.50% COLA approved.

**1991**

- 6.30% COLA approved.
- The minimum monthly pension benefit increased from $500 to $850.
- Normal retirement eligibility reduced from age 55 or 30 years of service, regardless of age to age 53 or 28 years of service, regardless of age.
- Surviving children eligible for full spousal benefits in the event there is no surviving spouse.
- Actuarially, across the board salary increases assumption was decreased from 6.50% to 5.50% annually.

**1992**

- 2.90% COLA approved.
- The minimum monthly pension benefit increased from $850 to $1000.
- Actuarially, a 5% anticipated COLA is extended through 1996.

**1993**

- 3.20% COLA is approved.
- Normal retirement eligibility lowered from age 53 or 28 years of service, regardless of age to age 52 or 27 years of service, regardless of age.
- Early retirement eligibility lowered from age 50 with 25 years of service to age 50 or 25 years of service, regardless of age.
- The survivor (spousal) benefit is changed to a flat 75% of retiree's benefit.
- Contribution refunds are paid with 5% interest.
- Actuarially, growth in payroll no longer assumes 1% growth in membership annually.
- Actuarially, a 5% anticipated COLA is extended through 1998.

**1994**

- 2.80% COLA is approved.
- The minimum monthly pension benefit for eligible retirees and beneficiaries is increased from $1,000 to $1,200.
- City of Austin contributions increased from 14.05% to 16.05% of pay, while the contribution rate by the firefighters remains at 13.70%.

**1995**

- 2.60% COLA is approved.
- Normal retirement eligibility reduced from age 52 to 50 (with at least 10 years of service) or with 25 years of service, regardless of age, down from 27 years of service.
- Early retirement eligibility reduced from age 50 to age 48 (with at least 10 years of service) or with 23 years of service regardless of age, down from 25 years of service.
- The retirement multiplier was increased from 2.90% to 3.0%.
- A deferred retirement option plan (DROP) feature was added allowing up to 2 years of service designated for DROP participation.
- City of Austin contributions increased from 16.05% to 18.05% of pay, while the contribution rate by the firefighters remains at 13.70%.
- Actuarially, a 5% anticipated COLA is extended through 2002.

**1996**

- 2.90% COLA is approved.

**1997**

- 3.0% COLA is approved.
- Early retirement eligibility (unreduced by the retirement multiplier) lowered from age 48 to age 45 (with at least 10 years of service), or with 20 years of service regardless of age, down from 23 years of service.
- COLAs delayed until normal retirement eligibility is met.
- The deferred retirement option plan (DROP) feature is extended from a maximum of 2 years to a maximum of 5 years of service designated for DROP participation.
- Benefits made available to surviving spouses of retirees married after retirement.
- Eliminate the requirement that a spouse's benefit terminate after remarriage.
- Firefighter contributions "bought down" by 2% to 11.70%, while the city contributions increase to 20.05% due to the "meet and confer" agreement. (Firefighters continue to get credit for 13.70% per statute requirements.)
- Actuarially, a 5% anticipated COLA is extended through 2004.

**1998**

- 2.10% COLA is approved.
- Actuarially, the retirement incident rate revised to 100% of the members to retire and elect a 5 year DROP one year following the age first eligible for a 5-year DROP.

**1999**

- 1.50% COLA is approved.
- A 3.33% benefit increase is approved September 1, 1999 to all then current retirees at the time based on the percentage increase of the retirement multiplier from 3.0% to 3.10%.
- The retirement multiplier increased from 3.0% to 3.10%, effective September 1, 1999.
- All DROP calculations including "BACKDROPS" will use a 3.10% multiplier after September 1, 1999, regardless of the DROP date.
- The deferred retirement option plan (DROP) benefits made available to eligible survivors of members who die before retirement but after becoming eligible for a DROP.
- In November 1999, a new "meet and confer" agreement is set whereby firefighters are to receive a 3% salary increase in November 1999 and every six months going forward, beginning in March of 2000 through March 2002.
- After 2004, annual COLAs of 0.5% are provided for retirees and beneficiaries going forward (should inflation be at least 0.5%). This does not limit the COLA to 0.5%, but sets the funding in advance. If the needed adjustment exceeds 0.5%, the Board and actuary must approve the portion above 0.5% based on the current financial status of the fund.
- Actuarially, mortality tables for actives and non-disabled annuitants were updated to the 1994 Group Annuity Mortality tables, reflecting current industry standards.
- Actuarially, a 3.50% anticipated COLA is approved through 2004 (lowered from a 5% anticipated COLA previously assumed, recognizing recent inflation trends.)

**2000**

- 2.60% COLA approved.

**2001**

- 3.40% COLA approved.
- A 6.45% benefit increase is approved September 1, 2001 to all then current retirees at the time based on the percentage increase of the retirement multiplier from 3.10% to 3.30%.
- The retirement multiplier increased from 3.10% to 3.30%.
- All DROP calculations including "BACKDROPS" will use a 3.30% multiplier after September 1, 2001, regardless of the DROP date.
- Effective September 1, 2001, the deferred retirement option plan (DROP) feature is extended from a maximum of 5 years to a maximum of 7 years of service designated for DROP participation.
- A survivor benefit is made available for all unmarried retirees, and for unmarried firefighters who die after becoming eligible to retire, per statute provisions. The percentage will be an actuarial equivalent of 75% of the firefighter's accrued benefit and will be tied to the age difference of the firefighter and the designated beneficiary.

**2002**

- 2.1% COLA approved.

**2003**

- Effective June 1, 2003 the contribution rate by the firefighters increased from 13.70% to 15.70% of pay, while the contribution rate by the City of Austin remains at 18.05%.

**2004**

- No changes

**2005**

- $32.00 per month increase in benefits for all eligible retirees

**2006**

- $100.00 per month increase in benefits for all eligible retirees

**2007**

- No changes

**2008**

- No changes

**2009**

- No changes

**2010**

- As a result of an agreement between the firefighters and the City of Austin, the City's pension contributions will increase from 18.05% to 22.05% in a total of four 1% increments by the year 2013. The firefighters' pension contributions will also increase from 15.70% to 18.70% in a total of six ½% increments by the year 2016.

**2011**

- No changes

**2012**

- No changes
- The minimum monthly pension is increased to $2,000 for all current annuitants who were on the rolls in 1994 when the last adjustment of this type was made.

**2013**

- $93.00 per month increase in benefits for all eligible retirees.

**2014**

- $64.00 per month increase in benefits for all eligible retirees.

**2015**

- 1.3% COLA approved

**2016**

- No COLA approved since the prior year had no inflation based on the CPI-U (all items) index. New fund rules (Section VI of Fund Rules as posted on website) were adopted for both active and retired firefighters regarding survivor and beneficiary designations. New optional forms of benefits (Section X of Fund Rules as posted on website) were adopted which now include the Single Life Annuity (SLA) option.

**2017**

- 1.5% COLA approved. New fund rules (Section VI of Fund Rules as posted on website) were adopted regarding the number of beneficiary designation changes allowed for unmarried retirees. New fund rules (Section XI of Fund Rules as posted on website) were adopted regarding possible retirement benefits and procedures upon indefinite suspension.

**2018**

- 2.2% COLA approved

**2019**

- 2.3% COLA approved

**2020**

- 1.7% COLA approved

**2021**

- 1.4% COLA approved

**2022**

- 5.4% COLA approved

# Summary of Plan Benefits

This section provides a general overview of AFRRF's benefit provisions. If there is any discrepancy between this general overview and state or federal law, those governing statutes will take precedence.

**ELIGIBILITY**
All commissioned civil service and Texas state-certified firefighters with at least six (6) months of service who are employed by the fire department pursuant to the Firemen's and Policemen's Civil Service Statute.

**CONTRIBUTIONS**
As a result of an agreement between the firefighters and the City of Austin, the City's pension contributions increased from 18.05% to 22.05% of salary in a series of four 1% increments which was completed in 2013. The firefighters' pension contributions also increased from 15.70% to 18.70% of salary in a total of six ½% increments by 2016.

**SERVICE CONSIDERED**
The period of time for which a member is required to make and does make prescribed contributions. Military service, only which interrupts fire department service, may also be considered under certain circumstances.

**COMPENSATION CONSIDERED IN DETERMINING AVERAGE SALARY**
Base pay and longevity pay is considered. Overtime, any temporary pay in a higher classification, educational incentive pay, and lump sum payments for accrued sick leave or vacation are not considered. Also excluded is any Christmas Day bonus pay, and pay for automobile and clothing allowances.

**RETIREMENT BENEFIT**
A firefighter is eligible for a normal service retirement benefit once he/she either attains age fifty (50) or accrues twenty-five (25) years of service, regardless of age. The monthly annuity, payable for life, is 3.30% of salary multiplied by years of service considered. Average salary is the monthly average of the firefighter's salary for the highest thirty-six (36) months during his/her period of service, excluding overtime pay, any temporary pay in higher classifications, educational incentive pay, Christmas Day bonus pay, automobile and clothing allowances.

**EARLY RETIREMENT BENEFIT**
A firefighter is eligible for an early retirement benefit at age forty-five (45), with at least (10) years of service, <u>or</u> twenty (20) years of service regardless of age. The early retirement benefit does <u>not</u> include a reduction in the factor. However, firefighters who retire early or who participate in a deferred retirement option plan (DROP), do not become eligible for cost-of-living adjustments (COLA's) until reaching normal service retirement eligibility (age fifty (50) with at least ten (10) years of service, or twenty-five (25) years of service credit regardless of age; whichever comes first.)

**DEFERRED RETIREMENT OPTION PLAN**

Under this program a member eligible for service retirement may elect to continue in active service as a firefighter but have the fund begin crediting "payments" to a deferred retirement option plan (DROP) account in the member's name as of their eligible retirement (DROP) date. The monthly "payments" would be an amount equal to what the member's monthly annuity would have been if the member had actually retired as of that eligible DROP date. Any eligible cost-of-living adjustments (COLAS) would be applied to the monthly annuity during this DROP period. In addition, during the DROP period, the member would have all of their appropriate pension contributions and applicable annual interest of 5% compounded monthly credited to their account during the DROP period as well. When the member actually retires, by terminating their active service in the fire department, an accumulated lump sum balance may be available to be distributed to the member from the DROP account if the retiree is eligible for such direct distribution by meeting age requirements according to pension Board policy. Certain penalties could apply for "early distributions," so the pension Board encourages seeking tax advisement when in doubt. The DROP account lump sum may also be "rolled over" into a qualified Individual Retirement Account (IRA) which is typically the option chosen by most firefighters. A third option is for the DROP account lump sum to remain in the fund in the member's name continuing to draw 5% interest compounded monthly until the retiree is ready to have the funds moved elsewhere. At this time of termination for retirement, the member will then begin receiving their ongoing monthly pension benefit payments from the fund as well.

A member who has remained in active service after becoming eligible for service retirement can retroactively establish such a DROP account. That is, in lieu of electing to participate in the DROP

Before actual retirement, a member who is eligible for normal service retirement may elect to terminate active service as a firefighter and establish the DROP account at termination. This is commonly referred to as a "BACK DROP," whereby the firefighter's DROP account reflects the accrual from the actual termination date back to a date upon or after which they become eligible for normal service retirement. The maximum period under which a firefighter can participate in a DROP is 7 years. A firefighter may elect to establish a DROP account after reaching normal <u>or</u> early service retirement eligibility.

Effective September 1, 2001, all DROP calculations, including "BACK DROP" calculations, use a 3.30% factor regardless of the actual DROP date. Any firefighter eligible for a DROP who dies before retirement, and who is survived by a spouse, shall have such DROP options extended to their surviving spouse.

**DISABILITY BENEFIT**
A firefighter is eligible for a disability retirement benefit during the first thirty (30) months of his/her disability if he/she is unable to perform the duties of his/her occupation as a firefighter. After this initial thirty (30) month period, a disability retirement benefit may be continued, reduced, or discontinued according to criteria as established by the American Medical Association and as adopted by the pension Board. The annuity is equal to the firefighter's accrued unreduced pension based on the greater of (1) his/her service at time of disability, or (2) twenty (20) years of service.

It is the policy of the Board that no disability retirement benefit shall commence retroactively more than ninety (90) days prior to the date on which the application is filed with the fund.

**DEATH BENEFIT**
If a firefighter dies either before or after retirement, the firefighter's surviving spouse shall receive seventy-five (75) percent of the member's accrued unreduced pension based on the greater of (1) his/her service at time of death, or (2) twenty (20) years of service. If the member's employment is terminated by death before retirement and he/she leaves no surviving beneficiary entitled to pension benefits, then the member's estate shall receive their contributions with interest. Any lump sum payments to the member's estate will include 5% interest based on a method of application approved by the Board.

**VESTED BENEFIT**
If the member has at least ten (10) years of service and terminated his/her employment with the fire department, he/she may elect to leave his/her accumulated deposits in the fund. He/She will be entitled to a vested benefit commencing at the earliest of age fifty (50) or at the age which the firefighter would have completed twenty-five (25) years of service regardless of age, whichever occurs first.

**SEVERANCE**
The severance benefit of a firefighter who subsequently terminates his/her employment before he/she is eligible for retirement shall be an amount equal to the sum total of his/her pension contributions, with interest, which were made while a participating member of the fund.

Severance benefits for such terminating members will include their contributions along with 5% interest and will be based on a method of application approved by the Board.

**COST-OF-LIVING ADJUSTMENTS**
Eligible pension recipients are entitled to annual cost-of-living adjustments (COLA's) when deemed affordable. COLA's are to be based on the annual percentage increase in the Consumer Price Index which measures inflation.

COLA's may not be approved unless the fund's actuary has advised the Board that the adjustment would not impair the financial stability of the fund. Striving to provide COLA's, when affordable, remains a top priority of the Board.

**SURVIVORS BENEFIT**

Benefits are available to eligible dependents of all plan participants should such participant die before or after retirement. Eligible dependents include:

- Spouse, if married to you at time of retirement.
- Spouse, if married to you after retirement and you remained married for at least 24 consecutive months prior to your death.
- Spouse, if married to you at time of your death; and you die before retirement.
- All unmarried children under age twenty-two (22), unless the Board determines to the contrary.
- Dependent parent, if no surviving spouse or children are eligible.
- Designated surviving beneficiaries other than a spouse, child, or dependent parent as explained below.

Since September 1, 1997, eligible spousal benefits are paid for life even after remarriage. Also since September 1, 1997, as mentioned above, spousal benefits apply to those who become married to the retiree after such retiree's retirement and remain married to such retiree at least 24 consecutive months prior to the retiree's death.

After all payments cease any remaining balance of the member's total contributions including interest at the date of the member's death, which exceeds any retirement and death benefits paid, shall go to the member's estate.