COMPREHENSIVE ANNUAL FINANCIAL REPORT

FISCAL YEARS ENDED DECEMBER 31, 2020 & 2019

2020

EMPLOYEES' RETIREMENT FUND
OF THE CITY OF DALLAS

DALLAS, TX

2020 AT – A – GLANCE

(unaudited)

($ in thousands)

Active Members	7,244
Benefit Recipients	7,552
Inactive Members	1,710
Fund Net Position	$3,706,753
Benefits Paid	$287,465
Refunds	$6,857
Member Contributions	$58,358
City Contributions	$61,615
Investment Rate of Return	5.8%

The Employees' Retirement Fund provides retirement, disability and death benefits to permanent civilian employees of the City of Dallas.

COMPREHENSIVE ANNUAL FINANCIAL REPORT 2020

FISCAL YEARS ENDED DECEMBER 31, 2020 AND 2019

Prepared by the Staff of The Employees' Retirement Fund

CHERYL D. ALSTON
EXECUTIVE DIRECTOR

Employees' Retirement Fund of the City of Dallas

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INTRODUCTORY SECTION

Employees' Retirement Fund of the City of DALLAS ®

LETTER OF TRANSMITTAL

July 30, 2021

Board of Trustees
Employees' Retirement Fund of the City of Dallas
1920 McKinney Avenue - 10th Floor
Dallas, Texas 75201

Dear Board Members:

The Comprehensive Annual Financial Report ("Annual Report") of the Employees' Retirement Fund of the City of Dallas ("ERF" or "Plan") for the fiscal years ended December 31, 2020 and 2019 is submitted herewith. Our mission is to provide retirement benefits and superior service to advance the financial security of our members. The management of ERF assumes full responsibility for both the accuracy of the data and the completeness and fairness of the presentation based upon a comprehensive framework of internal control that it has established for this purpose. Because the cost of internal control should not exceed anticipated benefits, the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements.

Weaver and Tidwell, L.L.P. have issued an unmodified ("clean") opinion on the financial statements for the year ended December 31, 2020. The independent auditor's report is located at the front of the financial section of this report.

Management's discussion and analysis (MD&A) immediately follows the independent auditor's report and provides a narrative introduction, overview, and analysis of the basic financial statements. MD&A complements this letter of transmittal and should be read in conjunction with it.

Plan Overview

ERF was established by ordinance in November 1943 and became effective in January 1944 after ratification by the voters of the City of Dallas. ERF is a single-employer defined benefit pension plan sponsored by the City of Dallas, Texas (the "City"), and it provides retirement, disability, and death benefits to its members. All employees of the City are members except police officers, firefighters, elected officers, non-salaried appointee members of administrative boards or commissions, temporary employees, individuals working under contract, and individuals whose salaries are paid in part by another government agency. Members are entitled to retirement benefits at the date of eligibility for retirement or disability or to survivor benefits after two years of service.

Investments

The Board of Trustees oversees ERF's portfolio, managers, and performance, as well as reviews and approves potential investment opportunities, with input from the investment consultant and staff. The Board follows the "prudent person rule" which states that fiduciaries shall discharge their duties solely in the interest of ERF and its participants and beneficiaries with the degree of diligence, care and skill which prudent men and women would ordinarily exercise under similar circumstances in such a position.

An integral part of the overall investment policy is the strategic asset allocation policy. This policy is designed to provide an optimal diversification to reduce risk and maximize the total rate of return relative to risk. This emphasizes

Employees' Retirement Fund of the City of DALLAS ®

a maximum diversification of the portfolio that protects ERF from declines that a particular asset class may experience in a given period. The Plan had a return of 5.8% for 2020, 17.6% for 2019, and -4.4% for 2018. The Plan expects and assumes an investment rate of 7.25% over the long term, which encompasses many years in the future.

Additions to Plan Net Position

The collection of employer and member contributions, as well as income from investments, is intended to provide the reserves needed to finance retirement benefits. Contribution and net investment income, including unrealized gains and losses, for 2020 total $349.1 million.

City and member contributions for the fiscal year were $119.9 million, a decrease of $518 thousand from the prior year. This decrease is primarily attributable to the City of Dallas ("the City") furlough due to the Covid-19 pandemic. The City did not rehire the furloughed employees. There were 472 furloughed employees. The City's net contribution rate toward the pension plan was 14.14% in 2020. The City's total contribution rate was 22.68%, of which 8.54% was for debt service payments on pension obligation bonds. The members' contribution rate remained unchanged in 2020. The City's contributions received in 2020 were $61.6 million and members' contributions were $58.4 million.

Deductions to Plan Net Position

The principal purpose for which ERF was established is to provide retirement benefits, survivor benefits, and total and permanent disability benefits to qualified members and their beneficiaries. The cost of such programs includes recurring benefit payments, refund of contributions to terminated employees, and the cost of administering ERF.

Deductions for fiscal year 2020 totaled $300.4 million, an increase of 1.5% over 2019. This increase was due to the increased average number of retirees/beneficiaries, and the cost of living adjustment of 1.34%, and higher average benefit payment for new retirees vs retirees who passed. Administrative expenses, which are controlled by a budget approved by the Board of Trustees, decreased from the prior year by $1.8 million.

Accounting System and Internal Controls

This Annual Report was prepared to conform with Generally Accepted Accounting Principles ("GAAP") generally accepted in the United States of America that apply to government accounting for fiduciary funds. The accompanying financial statements are prepared using the accrual basis of accounting. Member and employer contributions are recognized in the period in which employee services are performed. Expenses are recorded when the corresponding liabilities are incurred, regardless of when payment is made.

The statistical section presents detailed information, typically in ten-year trends, that assists users in utilizing the basic financial statements, notes to basic financial statements, and required supplementary information to assess the economic condition of a government. The statistical section is a required part of an Annual Report.

In developing and evaluating ERF's accounting system, it was determined that internal controls adequately safeguard assets and provide reasonable assurance of proper recording of financial transactions.

Employees' Retirement Fund
of the City of DALLAS ®

Funding

A pension fund is well funded when it is receiving enough money to meet all expected future obligations to its participants. ERF's funding objective is to meet long-term benefit payments through contributions that remain approximately level as a percent of member payroll. The actuarial accrued liability and actuarial value of assets of ERF as of December 31, 2020 amounted to $4.933 billion and $3.747 billion, respectively. A detailed discussion of funding is provided in the Actuarial Section of this report.

Professional Services

Consultants are appointed by the Board of Trustees to perform professional services that are essential to the effective and efficient operation of ERF. An opinion from the certified public accounting firm of Weaver and Tidwell, L.L.P., the actuarial report from Gabriel, Roeder, Smith & Company, and the investment consultant letter from Wilshire Associates Inc. are included in this report. The consultants appointed by the Board of Trustees are listed in the Introductory Section.

Awards and Acknowledgments

The Government Finance Officers Association of the United States and Canada ("GFOA") awarded a Certificate of Achievement for Excellence in Financial Reporting to the Employees' Retirement Fund of the City of Dallas for its Annual Report for the fiscal year ended December 31, 2019. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of state and local government financial reports. This was the fourth consecutive year that ERF had achieved this prestigious award. To be awarded a Certificate of Achievement, the ERF had to publish an easily readable and efficiently organized Annual Report that satisfied both GAAP and applicable program requirements.

A Certificate of Achievement is valid for a period of one year. We believe our current report continues to conform to the Certificate of Achievement Program requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

The compilation of this report reflects the combined effort of the staff under the leadership of the Board of Trustees. It is intended to provide complete and reliable information as a basis for making management decisions, as a means of determining compliance with legal provisions, and as a means of determining responsible stewardship of the funds of ERF. The report is available to all members of ERF.

We would like to express our gratitude to the staff, the advisors, and others who have worked so diligently to assure the successful operation of ERF.

Respectfully submitted,

Cheryl D. Alston	Edward R. Scott
Executive Director	Chief Financial Officer

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Employees' Retirement Fund of the City of Dallas
Texas

For its Comprehensive Annual
Financial Report
For the Fiscal Year Ended

December 31, 2019

Christopher P. Morrill

Executive Director/CEO

BOARD OF TRUSTEES

ADMINISTRATIVE STAFF

As of December 31, 2020

Cheryl D. Alston
Executive Director/Chief Investment Officer

David K. Etheridge
Deputy Director

Edward Scott, CPA
Chief Financial Officer

Natalie Jenkins Sorrell
Deputy Chief Investment Officer

Duc Lam
Chief Technology Officer

Melissa Harris
Chief of Communications

C. Kay Watson
Chief Compliance Officer

Juan Carlos Ayala
Benefit Counselor

Andrew Barker, CPA
Controller

Joshua Berman
Investment Analyst

Ruby Castelano
Senior Office Assistant

Anita Gage
Senior Pension Specialist

Micaela Galicia
Pension System Specialist

Yvonne Garcia
Administrative Specialist II

Re'Gine Green
Pension Officer

Todd Green
Pension Officer

Andrea Houston
Pension Officer

Patricia Jack
Pension Officer

Jessie Jayakumar
System Analyst

Kaleb Jones
Pension Officer

Naveed Khan
Senior Accounting Specialist

Margaret Lara
Administrative Specialist II

Susan Oakey
Compliance Officer

Aditi Patel
Communications Specialist

Al Perez
Pension Officer

Phong Pham
Cyber Security Administrator

Diann Salone
Pension Payroll Manager

Kate Shaw
Brand Manager

Jaladhi Shukla
Investment Analyst

Nicole Spencer-Berry
Senior Pension Specialist

Jody Thigpen
Senior Web Developer

Jason Thompson
System Administrator

Trevor Thompson
Desktop Support Engineer

Mubina Tukulic
Communications Specialist

Saki Vimal
Financial Planning & Analysis Manager

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PROFESSIONAL SERVICE PROVIDERS

As of December 31, 2020

MASTER CUSTODIAN
The Northern Trust Company

CONSULTING ACTUARY
Gabriel, Roeder, Smith & Company

INVESTMENT CONSULTANT
Wilshire Associates

INVESTMENT ACCOUNTING FIRM
STP Investment Services

AUDITOR
Weaver and Tidwell, L.L.P.

LEGAL ADVISORS
Foster Garvey PC
Locke Lord LLP

The Schedule of Investment Management Fees can be found on page 78.

PLAN SUMMARY

Summary of Key Provisions
Employees' Retirement Fund of the City of Dallas
As of December 31, 2020

Membership

An employee becomes a member upon permanent employment and contributes to the Plan. Tier A members were hired prior to January 1, 2017. An amendment to the governing documents passed by voters on November 8, 2016 created a new tier of benefits, Tier B, for members hired on or after January 1, 2017.

Contributions

Member: 37% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.

City: 63% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.

Definitions
Final Average Salary

Tier A
Average monthly salary over the member's highest three years of service.

Tier B
Average monthly salary over the member's highest five years of service.

Credited Service:
Length of time as an employee of the City of Dallas and while making contributions to the Plan.

Retirement
Pension Eligibility

Tier A

a. Attainment of age 60; or
b. Attainment of age 55 (if credited service began before May 9, 1972); or
c. At any age after completion of 30 years of credited service with a reduced benefit before age 50; or
d. Attainment of age 50, if the sum of an active member's age and credited service is at least equal to 78.

Tier B

a. Attainment of age 65 and 5 years of service; or
b. At any age after completion of 40 years of credited service; or
c. At any age if the sum of an active member's age and credited service is at least equal to 80. Under this eligibility rule, the member's pension will be actuarially reduced for each year prior to the age of 65 that the member retires.
d. Restricted prior service credit only applies to eligibility.

Retirement Benefits

Tier A

The retirement benefit equals 2-3/4% multiplied by average monthly salary multiplied by credited service limited to a maximum of 36.3636 years plus a monthly $125 health supplement (prorated for service less than 5 years).

Tier B

The retirement benefit equals 2-1/2% multiplied by average monthly salary multiplied by credited service limited to a maximum of 40 years (no monthly health supplement).

Form of Payment

Tier A

An unreduced pension benefit under a joint and one-half survivor option with 10 years guaranteed or a ten-year certain and life option. An actuarially equivalent joint and full survivor option is also available after 15 years of service.

Tier B

An unreduced pension payable for life with 10 years guaranteed. Actuarially equivalent joint and survivor options (50% and 100%) are also available.

Deferred Retirement

Eligibility:

Deferred retirement pension benefit commencing at age 60 for Tier A members or at age 65 for Tier B members with at least five (5) years of credited service if accumulated contributions are left on deposit with the Fund.

Monthly Benefit:

The deferred retirement benefit is equal to the retirement pension based on earnings and credited service at the time of termination.

Disability Retirement Pension

Non-Service Disability:

Eligibility:

Five (5) years of service if active or ten (10) years of service if deferred vested and totally and permanently incapacitated for duty.

Monthly Benefit:

Computed based on average monthly earnings and credited service at time of disability but not less than 10 times the percentage multiplied by the average monthly earning.

Service Disability:

Eligibility:

Totally and permanently incapacitated from the further performance of duty as a result of injury while in the course of employment for the City.

Monthly Benefit:

Calculated as a non-service disability pension but not less than $1,000 per month.

Death Benefits

Form:
Benefit paid in accordance with the option on file; or the eligible option; or, if no eligible beneficiary, a lump sum equivalent of 10 years of benefit payments to the member's or designee's estate.

Monthly Benefit:
Based on average monthly earnings and credited service at death but not less than 10 times the percentage multiplier multiplied by the average monthly earnings.

Minimum Service Death Benefit:
Not less than $1,000 per month if death resulted from a service-related injury.

Return of Accumulated Contributions

A member at the time of termination is entitled to be paid accumulated member contributions without interest.

Cost-of-Living Adjustment

An annual cost-of-living adjustment to the base pension benefit shall be made based on the greater of:

a. The percentage of change in the price index for October of the current year over October of the previous year, up to 5% for Tier A and 3% for Tier B or
b. The percentage of annual average change in the price index for the 12-month period ending with the effective date of the adjustment, up to 5% for Tier A and 3% for Tier B.

FINANCIAL SECTION

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

FINANCIAL STATEMENTS

As of December 31, 2020 and 2019
With Independent Certified Public Accountant's Report Thereon

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weaver
Assurance • Tax • Advisory

Independent Auditor's Report

To the Board of Trustees of the
Employees' Retirement Fund of the City of Dallas

Report on the Financial Statements

We have audited the accompanying financial statements of the Employees' Retirement Fund of the City of Dallas (the Plan), which comprise the statements of fiduciary net position as of December 31, 2020, and the related statements of changes in fiduciary net position for the year then ended and notes to the financial statements.

Management's Responsibility for the Financial Statements

The Plan's 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.

Auditor's Responsibility

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

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Plan as of December 31, 2020, and the respective changes in financial position for the fiscal years then ended in accordance with accounting principles generally accepted in the United States of America.

Weaver and Tidwell, L.L.P.
2300 North Field Street, Suite 1000 | Dallas, Texas 75201
Main: 972.490.1970

CPAs AND ADVISORS | WEAVER.COM

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The Board of Trustees of the
Employees' Retirement Fund of the City of Dallas

Other Matters

Prior Year Auditor
The financial statements of the Plan as of December 31, 2019 were audited by another auditor, who expressed an unmodified opinion on those statements on July 8, 2020.

Required Supplementary Information
Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis, the Schedules of Changes in Net Pension Liability and Related Ratios, the Schedule of Money-Weighted Rates of Return, the Schedule of the Net Pension Liability, and the Schedule of Contributions be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplemental 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 financial statements, and other knowledge we obtained during our audits of the 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.

Supplementary Information
Our audits were conducted for the purpose of forming an opinion on the financial statements as a whole. The Schedule of Administrative Expenses, Schedule of Investment Expenses, and Schedule of Payments for Professional Services are presented for purposes of additional analysis and are not a required part of the financial statements. Such supplementary information is the responsibility of the Plan's management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplementary information is fairly stated in all material respects in relation to the financial statements as a whole.

Other Information

Our audits were conducted for the purpose of forming an opinion on the financial statements as a whole. The introductory, investment, actuarial, and statistical sections are presented for purposes of additional analysis and are not a required part of the financial statements. Such information has not been subjected to the auditing procedures applied in the audits of the financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

Weaver and Tidwell, L.L.P.

WEAVER AND TIDWELL, L.L.P.

Dallas, Texas
July 30, 2021

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MANAGEMENT'S DISCUSSION AND ANALYSIS

Required Supplementary Information

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MANAGEMENT'S DISCUSSION AND ANALYSIS (unaudited)

The Management's Discussion and Analysis of the Employees' Retirement Fund of the City of Dallas ("ERF" or "the Plan") financial performance provides an overview of the financial activities and funding conditions for the fiscal years ended December 31, 2020, 2019, and 2018. The intent of this discussion and analysis is to give a narrative overview and analysis of the Plan's financial performance as a whole. For more detailed information regarding performance, readers should also review the Financial Statements, Notes to the Financial Statements, and Required Supplementary Information in order to enhance their understanding of the Plan's financial performance.

FINANCIAL STATEMENTS

The Plan is a defined benefit plan that provides retirement, disability, and death benefits to permanent full-time and part-time civilian employees of the City of Dallas ("the City"). The Plan has two basic Financial Statements:

- A Statement of Fiduciary Net Position that provides information about the fair value and composition of plan assets, plan liabilities, and fiduciary net position; and
- A Statement of Changes in Fiduciary Net Position that provides information about the year-to-year Changes in Fiduciary Net Position.

There are also notes to the Financial Statements that include a brief Plan description, a summary of significant accounting policies, and information about contributions, legally required reserves, investment concentrations, and the net pension liability. The report also contains required supplementary information in addition to the basic financial statements. Collectively, this information presents the Net Position Restricted for pension benefits and summarizes the changes in net position for those benefits.

FINANCIAL HIGHLIGHTS

Fiscal year 2020 experienced an increase in investments. The Plan's Financial Highlights for fiscal year ended December 31, 2020 are as follows:

- The Plan had a return of 5.8% for the year, a 5-year return of 8% and a 10-year return of 7.6%.
- The Net Position Restricted for Pension Benefits was $3.7 billion as of December 31, 2020. This amount reflects an increase of $49 million from last year. This growth is primarily the result of net increases in investments.
- Total contributions for fiscal year 2020 were $119.9 million, a decrease of approximately $518 thousand from last fiscal year. This is primarily attributed to furloughs and a decrease in number of employees hired due to the Covid-19 pandemic.
- Pension benefits paid to retirees and beneficiaries increased $9.4 million in 2020 compared to 2019, bringing the total benefit payments to $287 million. Refunds of contributions paid to former members after termination of employment were $7 million for 2020 and $10 million for 2019.
- Net Investment Income (net appreciation/(depreciation) in the fair value of investments, plus interest and dividend income, less investment expenses) decreased $322 million compared to last fiscal year.
- Administrative Expenses of $5.7 million in 2020 were lower than 2019 by $1.8 million due primarily to a reduction in legal fees.

CONDENSED FINANCIAL INFORMATION

($ in thousands)

As of and for the FY Ended December 31,	2020	2019	2018
Fiduciary Net Position			
Assets	$4,376,675	$4,325,968	$4,120,996
Liabilities	669,922	667,880	838,683
Fiduciary Net Position Restricted for Pension Benefits	$3,706,753	$3,658,088	$3,282,313
Changes in Fiduciary Net Position			
Additions:			
Employer contributions	$61,615	$62,177	$60,924
Employee contributions	58,358	58,314	56,772
Investment & other income/(loss), net	229,105	551,243	(167,662)
Deductions:			
Benefit payments	$287,465	$278,007	$263,981
Refund of contributions	6,857	10,436	8,515
Administrative expenses	5,699	7,513	7,484
Depreciation expense	392	3	1
Change in Fiduciary Net Position Restricted for Pension Benefits	$48,665	$375,775	($329,947)
Net Position Restricted for Pension Benefits:			
Beginning of Year	3,658,088	3,282,313	3,612,260
End of Year	$3,706,753	$3,658,088	$3,282,313

FINANCIAL POSITION AND RESULTS OF OPERATIONS

The Plan’s total investment return for fiscal year 2020 was 5.8% as compared to 17.6% in 2019 and -4.4% in 2018. The one-year return was below the policy benchmark of 7.5%. The Plan has performed well over longer time periods. The Plan’s 5-year return is 8% which is below the policy benchmark of 8.5%. The 10-year return is 7.6%, which is above the policy benchmark of 7.5%.

The best performing asset class in 2020 was Domestic Equity. Dallas ERF’s Domestic Equity portfolio earned 16.4%. Both Global Equity and International Equity had a return of 16.1% and 15.6%, respectively in 2020. Global Low Volatility Equity had a return of -0.05%, lagging the benchmark MSCI ACWI Minimum Volatility Index of 2.7%.

The Plan’s Fiduciary Net Position increased from $3.658 billion in fiscal year 2019 to $3.707 billion in 2020, an increase of approximately $49 million. This growth is primarily due to an increase in the fair value of equity investments, specifically Domestic, International, and Global Equity. Changes to the Plan’s Fiduciary Net Position consist of employer and employee contributions and investment income. For fiscal year 2020, changes to Fiduciary Net Position reflect a decrease of $323 million, in comparison to 2019. City and employee contributions for fiscal year 2020 were $62 million and $58 million, respectively. Total contributions for 2020 were $120 million compared to $120 million in 2019 and $118 million in 2018.

Net investment income/(loss) is presented net of investment expenses and is comprised of interest, dividend income, gains/(losses) from the sale of investments, net unrealized appreciation/(depreciation) in the fair value of investments, and net income from securities lending activities. For fiscal year 2020, the Plan had a net investment income of $229 million, (excluding non-investment other income of $84 thousand) compared to a net investment income of $551 million in fiscal year 2019 and a net investment loss of $168 million in 2018.

Fiscal year 2020 liabilities of $670 million showed an increase of .3% from fiscal year 2019 liabilities of $668 million. Liabilities for 2019 decreased by $218 million or 20.4% over 2018. The increase in 2020 was primarily due to an increase in securities lending collateral, and the increased use of currency contracts by the managers to hedge against changes in foreign currency rates in accordance with the managers' investment strategies and goals. Year-end balances for securities purchased were $11 million in 2020, $15 million in 2019 and $9 million in 2018. Foreign currency contracts at year-end were $406 million in 2020, $433 million in 2019 and $548 million in 2018. The changes were due to investment managers' portfolio management.

Deductions from fiduciary net position are largely from benefit payments. During fiscal year 2020, the increase in deductions is attributable to new retirements, as was the increase between 2018 and 2019.

New retirements were 309, 376 and 314, respectively, for fiscal years 2020, 2019 and 2018. Cost of Living Adjustments ("COLA") were 1.6% in 2020, 2.7% in 2019 and 2.1% in 2018. A COLA is granted effective January 1 of each year if there is an increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers ("CPI-W") based on the greater of either a) the change from October of the prior year to October of the current year; b) the monthly average change; or c) zero. During fiscal year 2020, refunds of contributions amounted to $6.9 million (456 refunds), compared to 2019 refunds of $10.4 million (726 refunds) and 2018 refunds of $8.5 million (626 refunds). The fiscal year 2020 refund amount reflects a decrease in the number of members requesting refunds as compared to fiscal year 2019. Administrative expenses of approximately $5.7 million represent approximately 1.9% of total deductions for the year.

CAPITAL ASSETS

The Plan's investment in capital assets as of December 31, 2020, amounts to approximately $7.4 million (net of accumulated depreciation). This investment in capital assets includes $11 thousand in furniture and fixtures, and $7.4 million in intangible assets. The total increase in capital assets for the current fiscal year was 36.1%, consisting of the implementation of new computer software.

Additional information on the Plan's capital assets can be found in Note 9 of this report.

CURRENT ENVIRONMENT

Plan membership for active members decreased during fiscal year 2020 from 7,427 to 7,244 members, a decrease of 2.5%. For 2020, the number of new retirements was 309 compared to 376 in 2019. The trend of benefit payments continues to increase. Similar to most mature plans, benefit payments exceed the level of contribution revenue received, and cash generated from investments is needed in order to meet benefit payments.

An actuarial valuation of the Plan's assets and benefit obligations is performed annually by an independent firm, Gabriel, Roeder, Smith & Company ("GRS"). Based on the actuarial value of assets, the funded ratio of the Plan increased from 75.7% in 2019 to 75.9% in 2020 primarily due to actuarial experience gain. The Unfunded Actuarial Accrued Liability ("UAAL") increased from $1,180 million as of December 31, 2019 to $1,188 million as of December 31, 2020. Based on Generally Accepted Accounting Principles ("GAAP") generally accepted in the United States of America, the Plan Fiduciary Net Position as a percentage of the Total Pension Liability was 59.69% in 2020 as compared to 64.65% in 2019 and 59.16% in 2018. This is due to a blended discount rate of 5.27% in 2020. See Note 10 (c) for more information regarding the discount rate.

CONTACTING THE PLAN'S FINANCIAL MANAGEMENT

This financial report is designed to provide a general overview of the Plan's finances. Questions and requests for additional information should be addressed to the Employees' Retirement Fund of the City of Dallas, 1920 McKinney Avenue, 10th Floor, Dallas, 75201.

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EMPLOYEES' RETIREMENT FUND OF
THE CITY OF DALLAS

Statements of Fiduciary Net Position
December 31, 2020 and 2019
($ in thousands)

	2020	2019
ASSETS:		
Cash and short-term investments	$ 89,190	$ 111,496
Collateral on loaned securities	239,533	208,368
	328,723	319,864
Capital Assets:		
Construction in Progress	-	5,431
Intangible Assets, net	7,403	-
Furniture and Fixtures, net	11	14
Total capital assets (net)	7,414	5,445
Receivables:		
Currency contracts	406,360	433,426
Accrued dividends	5,006	4,586
Accrued interest	8,761	9,293
Accrued real estate income	1,158	588
Accrued securities lending	46	82
Securities sold	6,142	4,161
Employer contributions	466	2,307
Employee contributions	439	2,164
Total receivables	428,378	456,607
Investments, at fair value:		
Commingled index funds	208,318	176,734
Domestic equities	1,419,539	1,361,555
United States and foreign government fixed income securities	204,816	199,586
Domestic corporate fixed-income securities	772,004	797,531
International equities	468,520	511,041
Private equities	316,237	267,422
Real estate	222,726	230,183
Total investments	3,612,160	3,544,052
Total assets	4,376,675	4,325,968
LIABILITIES:		
Accounts payable	8,482	7,267
Payable for securities purchased	11,421	14,884
Investment fees payable	3,515	3,563
Currency contracts	406,360	433,426
Currency contract losses	611	372
Securities lending collateral	239,533	208,368
Total liabilities	669,922	667,880
NET POSITION		
Net Investment in capital assets	7,414	5,445
Unrestricted	3,699,339	3,652,643
Net position RESTRICTED for PENSION benefits	$ 3,706,753	$ 3,658,088

(A Schedule of Changes in Net Pension Liability is presented in the Required Supplementary Information)

The accompanying Notes are an integral part of these financial statements

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Statements of Changes in Fiduciary Net Position
December 31, 2020 and 2019
($ in thousands)

	2020	2019
Additions:		
Contributions:		
Employer	$ 61,615	$ 62,177
Employee	58,358	58,314
Total contributions	119,973	120,491
Net investment income:		
Dividends	45,461	59,827
Interest	41,006	47,373
Real estate dividend income	5,316	6,622
Net appreciation/(depreciation) in fair value of investments	153,972	453,838
Securities lending rebates paid by borrowers	(480)	(5,972)
Securities lending income	1,661	7,383
Total investment income/(loss)	246,936	569,071
Less investment expenses:		
Investment management fees	(16,971)	(17,270)
Custody fees	(125)	(125)
Consultant fees	(583)	(452)
Securities lending management fees	(236)	(282)
Total investment expenses	(17,915)	(18,129)
Net investment income/(loss)	229,021	550,942
Other income	84	301
Total additions	349,078	671,734
Deductions:		
Benefit payments	287,465	278,007
Refund of contributions	6,857	10,436
Administrative expenses	5,699	7,513
Depreciation expense	392	3
Total deductions	300,413	295,959
Net increase/(decrease) in net position restricted for pension benefits	48,665	375,775
Net position RESTRICTED FOR PENSION benefits		
Beginning of year	3,658,088	3,282,313
End of year	$ 3,706,753	$ 3,658,088

The accompanying Notes are an integral part of these financial statements

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

1) Description of the Plan

General

a) The Employees' Retirement Fund of the City of Dallas ("ERF" or the "Plan") is a single-employer defined benefit pension plan that provides retirement, disability, and death benefits to its members, and is sponsored by the City of Dallas, Texas (the "City"). All employees of the City are members in the Plan, except police officers, firefighters, elected officers, non-salaried appointee members of administrative boards or commissions, part-time employees working less than one-half time, temporary employees, individuals working under contract, and individuals whose salaries are paid in part by another government agency. Members are entitled to retirement benefits after five years of service and to survivor benefits after two years of service or at the date of eligibility for retirement. The Plan was established and derives its authority to continue in operation from Chapter 40A of the Dallas City Code ("Chapter 40A"). The description of the Plan provisions in this report is for financial disclosure only. It is not intended to create or reduce legal rights. The rights and responsibilities of the Board of Trustees, the Plan, the members and the retirees are governed by the Plan as set forth in Chapter 40A. As of December 31, 2020 and 2019, the Plan's membership consisted of:

	2020	**2019**
Retirees and beneficiaries currently receiving benefits and inactive members entitled to benefits but not yet receiving them	9,262	9,071
Current members:		
Vested	4,340	4,302
Non-vested	2,904	3,125
Total current members	7,244	7,427
Total membership	16,506	16,498

Plan Administration

b) The Plan is governed by seven Board members, consisting of three members appointed by the City Council who may be Council members, three employee members of the Plan (elected by the membership) and the City Auditor (serving ex officio). The Board has general powers and duties to administer the Plan, including appointing an administrator to carry out the business of the Board, investing the assets of the Plan, making expenditures from the Plan, and determining members' eligibility for benefits.

Based on a Plan amendment passed by the voters of the City of Dallas in November 2004, the Board annually increases or decreases contribution rates in a ratio where the City pays 63% and the employee pays 37% of the contribution rate as determined by the actuarial valuation. The Plan requires notice to the City of the contribution rates and provides procedures by which the City may review and challenge those rates; codifying the Board's policies and procedures relating to the Plan's

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

actuarial process and the City's participation in the selection of an actuarial firm to perform a peer review/audit; increasing the Board from five members to seven by adding another employee-elected representative and another council-appointed representative effective March 1, 2005; increasing from three to four the number of Board members required to constitute a quorum; increasing the terms of the employee-elected representatives from two to three years; requiring Council approval before the Board may grant temporary or permanent discretionary adjustments to retirement benefits over and above the regular cost-of-living increases; correcting section references to the term "qualified recipient"; and authorizing either the Council or the Board to propose amendments to Chapter 40A, subject to approval by the Board, the Council, and the voters of the City.

Based on a Plan amendment passed by the voters of the City of Dallas in November 2016, a new tier of benefits was added to the Plan (Tier B), effective January 1, 2017. Benefits provided to each tier of membership are outlined below.

The Plan may be terminated only by ordinance recommended by the Board, adopted by the City Council, and approved by a majority of the voters of the City voting in a general or special election. The Plan does not address allocation of the net position in the event of termination.

c) Pension Benefits

Tier A

Members of the Plan hired before January 1, 2017, are entitled to pension benefits equal to 2.75% of the average monthly earnings for each year of credited service. Average monthly earnings are based on the most beneficial to the member and are determined based on the member's earnings for the highest three calendars years, last 6,240 hours of credited services, or the length of credited service if less than three years. Normal retirement age is 55 if credited service began before May 9, 1972 or age 60.

Tier A members are also eligible to retire at age 50 if the sum of the member's age and credited service is equal to or greater than 78. Members who have completed 30 years of credited service may alternatively elect retirement before age 50; however, the pension benefits will be actuarially reduced based on the member's age at retirement.

Tier B

Members of the Plan hired on or after January 1, 2017 are entitled to pension benefits equal to 2.5% of the average monthly earnings of the member for each year of credited service. Average monthly earnings are based on the most beneficial to the member and are determined based on the member's earnings for the five highest calendar years, last 10,400 hours of credited service, or the length of credited service if less than five years. Normal retirement age is 65 with five years of credited service.

Tier B members who have completed 40 years of credited service may elect retirement at any age and are entitled to full pension benefits. Members who elect retirement before age 65 are entitled to an actuarially reduced pension benefits depending upon the age of the member. Active members may also elect to retire with actuarially reduced benefit once a combination of their age and years of credited service equal at least 80.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

d) Cost of Living Adjustments

Cost of living adjustments for retirees are made each year on the first of January by adjusting the pension base by the percentage change of the Consumer Price Index ("CPI"), not to exceed 5% for Tier A and 3% for Tier B members. The cost of living adjustment effective January 2020 was 1.64% and 2.69% effective January 2019.

e) Disability and Death Benefits

Members who become totally and permanently disabled may qualify for a service-connected disability with no minimum service requirement, or a non-service connected disability with five or more years of credited service. Non-service connected benefits are based on actual credited service or a minimum of 10 years. Service-connected benefits are equal to normal retirement benefits or a minimum of $1,000.

Upon the death of an active married member with less than 15 years of service, the joint and one-half survivor option is the automatic death benefit.

If an active married member has at least 15 years of service and is eligible to retire or has reached normal retirement age, the member may elect the joint and full survivor option. Under this option, the member receives a reduced base pension payment which is actuarially computed based on the member's age, average monthly earnings, years of credited service at retirement, and the relative age of the spouse. Upon the death of the member, this option pays the full amount of the member's pension payment to the surviving spouse for life.

Upon the death of a member before retirement, death benefits equal to the normal retirement benefit will be paid to a qualified recipient: surviving spouse, minor child under age 18, a disabled child who became disabled before age 18, a dependent parent, or a parent over age 65. Death benefits vary depending on the beneficiary. The surviving spouse, the disabled child, or the dependent parent will receive a lifetime benefit unless the ten-year option is taken. The minor child under age 18 will receive the normal retirement benefit for ten years or until reaching age 18. If the member has less than two years of credited service, the member's contributions will be refunded.

Upon the death of a retired member, a death benefit is paid in accordance with the option selected by the member at retirement. If there are no qualified recipients at the time of death and benefits have not been paid for ten years, death benefits are paid to the designee (an estate, a person or an entity) named by the member. The designee will receive a lump-sum payment based on ten years of benefit payments when the member's death occurs before retirement. If death occurs after retirement, the designee will receive a commuted lump-sum payment representing the balance of a guaranteed ten-year period starting from the date of retirement.

If a member does not have an eligible beneficiary, death benefits will be paid to the designee or member's estate in one commuted value payment. Benefit payments will vary depending on whether death occurred before or after retirement. Upon the death of a member before retirement, the designee or member's estate will receive a lump-sum payment based on ten years of benefit payments. Upon the death of a retired member, the designee or estate will receive a commuted value lump-sum payment representing the balance of a guaranteed ten-year period starting from the date of retirement.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

f) Contributions

If employment ends before attaining five years of service and before attaining eligibility for retirement, the member's contributions will be refunded upon written request to the Plan.

If a member's employment is terminated after five years of service, the member may elect a refund of contributions upon a written request, or the member may elect to receive pension benefits at normal retirement age equal to the amount accrued to the date of termination.

Based on the authorization in the Plan, the annual actuarial valuation will establish any new contribution rates for employees and the City. The new rates, which became effective October 1, 2020, are 13.32% for employees and a combined rate of 22.68% of pay for the City. The City's 22.68% is divided into 14.14% to the Plan and 8.54% for debt service payments on the pension obligation bonds. The former rates, effective October 1, 2019, were 13.32% of pay for employees and a combined rate of 22.68% of pay for the City.

The percent contributed may vary from the legally required rate as the annual required contribution is based upon covered payroll as of the actuarial valuation date, December 31, whereas contributions are calculated and paid based upon actual payrolls throughout the year. Certain factors, such as changes in benefit provisions, the size or composition of the population covered by the Plan or the actuarial assumptions used, may significantly affect the identification of trends in the amounts reported in the Schedule of Net Pension Liability and Schedule of Changes in Net Pension Liability located in the Required Supplementary Information section.

2) Summary of Significant Accounting Policies

a) Basis of Accounting

The accompanying financial statements are prepared on the economic resources measurement focus and accrual basis of accounting. Accordingly, interest earned but not received and dividends declared but not received as of the Plan's fiscal year end are recorded as accrued interest and dividends receivable, respectively. Contributions owed but not received as of the Plan's fiscal year end are recorded as contributions receivable. Benefits and refunds are recorded when paid. In addition, unsettled investment purchases and sales are accrued.

b) Administrative Expenses

Administrative expenses are paid from the Plan's contributions. The contribution rates calculated by the actuary take into consideration the expected administrative expenses.

c) Use of Estimates

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

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

d) Investments and Investment Income

The Plan's investment policy requires that investments comply at all times with applicable local, state and federal regulations. The Plan's investment policy is based upon an asset allocation study that considers the current and expected condition of the Plan, the expected long-term capital market outlook and the Plan's risk tolerance. Unless specifically permitted in the investment manager guidelines or other governing document, the investment policy prohibits the purchase of non-negotiable securities, short sales, selling on margin, puts, calls, straddles, options, or "letter" (restricted) stock. Also, unless specifically authorized in a manager's individual guidelines, the investment policy prohibits the use of derivatives (See derivatives disclosure in footnote 3).

Marketable Securities are valued at fair value based on quoted market prices, where available. Purchases and sales of securities and any resulting gain or loss are recorded on a trade-date basis. Net appreciation/(depreciation) include the Plan's gains and losses on investments bought and sold as well as held during the year. In November 2019, the Plan modified the asset allocation. At December 31, 2020, the Plan was in the process of adjusting its portfolio to align with the new asset allocation. The Plan's asset allocation is shown in the following table.

Asset Class	Allocation Percentage
US Equity	
Domestic Equity	12.5
Real Assets	12.5
REITs	2.5
Private Equity	7.5
Marketable Alternatives	2.5
Total US Equity	**37.5**
Non-US Equity	
International	12.5
Global	7.5
Global Low Volatility	12.5
Total Non-US Equity	**32.5**
Total Equity	**70.0**
Fixed Income	
Credit Opportunities	5.0
Global Investment Grade	15.0
High Yield	10.0
Total Fixed Income	**30.0**
Total Fund Allocation	**100.0**

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

e) Private Equity

To enhance the potential for earning higher rates of return relative to its other asset classes and to provide for broader portfolio diversification, the Plan allocates 7.5% of its total Plan portfolio to Private Equity. Recognizing that Private Equity investments have higher risk levels, this target of 7.5% is to be allocated within an acceptable range of 5.0% to 10.0% of private equity-oriented investments. Funding of committed capital in the Private Equity portfolio can occur over an extended time period and may take several years before the total allocation is fully invested. In order to reach the allocation target, a "committed" allocation up to 1.5 times the allocation is authorized. The Plan had three Private Equity managers at December 31, 2020.

Investments in these funds as a limited partner are carried at net asset value. Net asset values of investments in private limited partnerships are determined by the fund managers or general partner based on the latest investee information available, including audited financial statements and other similar data necessary to the valuation process. The Private Equity value at December 31, 2020 and December 31, 2019 was $316 million and $267 million, respectively.

f) Real Assets

The Plan is authorized to allocate 12.5% of its portfolio to Real Assets. The Plan has two managers that manage Real Assets for a total value of $223 million at December 31, 2020 and $230 million at December 31, 2019. The Plan invests in Heitman's core real estate fund, Invesco's core fund, and in Invesco II which manages 1900 McKinney, LLC.

Net asset values of investments are determined by the fund managers based on their best estimates using fair value estimation techniques substantiated, in part, by their audited financial statements and supported by the due diligence of the Plan investment staff.

g) Real Estate Investment Trust (REIT)

The Plan is authorized to allocate 2.5% of its portfolio to REITs. The plan has two managers within this category: Adelante and Centersquare. Investments are listed at net asset value.

h) Foreign Currency Transactions

The Plan may enter into forward foreign currency exchange contracts for the purchase or sale of a specific foreign currency at a fixed price on a future date as a hedge against specific transactions or to position the portfolio to protect the Plan against adverse currency movements. Entering into these arrangements involves the risk of dealing with counterparties and their ability to meet the terms of the contracts. These contracts are valued at fair value at the financial statement date, and any realized and unrealized gains and losses are recorded when they are incurred.

Investments denominated in foreign currencies at December 31, 2020 and 2019 were converted to U.S. dollars at the foreign exchange rates quoted at December 31, 2020 and 2019. These foreign exchange gains and losses are included in net appreciation/(depreciation) in fair value of investments in the accompanying Statements of Changes in Fiduciary Net Position.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

i) Securities Lending

The Board has authorized the Plan to enter into an agreement with The Northern Trust Company ("Northern Trust") for the lending of certain of the Plan's securities (the "Securities Lending Program" or "Program") including, but not limited to, stocks and bonds to counterparty brokers and banks ("borrowers") for a predetermined period of time and fee.

In 2009, the Board capped the securities lending exposure at $538.2 million.

j) Rate of Return

For the year ended December 31, 2020, the annual money-weighted rate of return on pension plan investment, net of investment fees, was 5.75%. The money-weighted rate of return expresses investment performance, net of investment expenses, adjusted for the changing amounts actually invested.

Schedule of Money-Weighted Investment Returns

For Year Ended December 31	Annual Investment Returns*
2014	6.52%
2015	-1.92%
2016	8.88%
2017	13.08%
2018	-4.99%
2019	17.33%
2020	5.75%

* This schedule is intended to include information for ten years. Additional years will be included as they become available.

k) Capital Assets

Capital Assets, which include furniture, fixture, and software, are reported in the Plan's Financial Statements. Capital Assets are defined by the Plan as assets with an initial, individual cost of more than $5,000 and an estimated useful life in excess of two years. As the Plan constructs or develops additional Capital Assets each period, they are capitalized and reported at historical cost. The reported value excludes normal maintenance and repairs which are essentially amounts spent in relation to capital assets that do not increase the capacity or efficiency of the item or increase its estimated useful life.

Furniture and fixtures are depreciated using the straight line method over an estimated useful life of 5-20 years. Intangible Assets are depreciated using the straight-line method over an estimated useful life of 5-15 years. Construction in progress is not depreciated.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

3) Derivatives

Derivatives are generally defined as contracts whose values depend on, or are derived from, the value of an underlying asset, reference rate, or index. The Plan has classified the following as derivatives:

a) Currency Forward Contracts

A Currency Forward is a contractual agreement between two parties to pay or receive specific amounts of foreign currency at a future date in exchange for another currency at an agreed upon exchange rate. Forward commitments are not standardized and carry credit risk due to the possible nonperformance by one of the counterparties. The maximum potential loss is the aggregate face value in U.S. dollars at the time the contract was opened; however, the likelihood of such loss is remote. No such losses occurred during fiscal years 2020 and 2019. Currency Forwards are usually traded over-the-counter. These transactions are entered into in order to hedge risks from exposure to foreign currency rate fluctuation and to facilitate trade settlement of foreign security transactions. Currency Forwards carry market risk resulting from adverse fluctuations in foreign exchange rates. Recognition of realized gain or loss depends on whether the currency exchange rate has moved favorably or unfavorably to the contract holder upon termination of the contract. Prior to termination of the contract, the Plan records the unrealized currency translation gain or loss based on the applicable exchange rates.

The Plan recognized a net realized loss on Currency Forward Contracts of $737 thousand as of December 31, 2020 and a net realized gain of $2.6 million as of December 31, 2019. As of December 31, 2020, the Plan had a net unrealized loss on Currency Forward contracts of $591 thousand and a net unrealized gain of $159 thousand at December 31, 2019. These gains and losses are included in net appreciation/(depreciation) in fair value of investments in the accompanying Statements of Changes in Fiduciary Net Position.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

Currency Forward Contracts outstanding at December 31, 2020 and 2019 were approximately $401 million and $433 million, respectively, with a fair value of $406 million and $433 million, respectively ($ in thousands).

Currency	2020 Currency Forward Contracts Outstanding	2019 Currency Forward Contracts Outstanding
Australian Dollar	$19,445	$26,396
Brazilian Real	5,196	5,318
Canadian Dollar	17,950	21,157
Chile Peso	3,003	2,619
Columbian Peso	1,414	4,814
Czech Koruna	641	1,494
Denmark Krone	257	97
Euro	15,200	21,973
Hong Kong Dollars	5,298	5,540
Hungary Forint	1,437	671
Indonesia-Rupiahs	105	899
Indian Rupee	8,126	10,483
Israel Shekel	1,185	5
Japanese Yen	34,756	22,748
Mexican Peso	7,361	17,233
New Zealand Dollar	16,439	6,200
Norwegian Krone	9,517	19,361
Peruvian Nuevo Sol	8	0
Philippine Peso	72	4,153
Poland Zloty	2,033	2,021
Russia Ruble	5,125	6,445
Saudi Riyal	1,045	1,546
Singapore Dollar	560	1,671
South Africa Rand	3,498	6,193
South Korea Won	5,731	3,300
Swedish Krona	6,666	7,303
Switzerland Franc	8,849	2,200
Thailand Baht	226	166
Turkey Lira	1,659	963
Taiwan New Dollar	2,454	1,038
UK Pound	10,534	15,635
U.S. Dollar	205,551	213,784
Totals	$401,341	$433,426

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

b) Other Forward Contracts

Forward Contracts other than Currency Forward Contracts include rights and warrants and various other contractual agreements between two parties to buy or sell an asset at a specified price on a certain future date. Forward Contracts carry credit risk due to the possible nonperformance by one of the counterparties. The maximum potential loss is the aggregate face value in U.S. dollars at the time the contract was opened; however, the likelihood of such loss is remote. No such losses occurred during fiscal years 2020 and 2019. Forward Contracts are usually traded over-the-counter. These transactions are entered into in order to hedge risks from exposure to fluctuations in prices in securities, commodities, or other financial instruments. Forward Contracts carry market risk resulting from adverse fluctuations in price. Recognition of realized gain or loss depends on whether the price of the asset has moved favorably or unfavorably to the contract holder upon termination of the contract. Prior to termination of the contract, the Plan records the unrealized gain or loss based on the applicable rates.

The Plan recognized a net realized gain on Other Forward Contracts of $2 million as of December 31, 2020. As of December 31, 2020, the Plan had a net unrealized loss on Forward Contracts of $223 thousand. The gains and losses are included in net appreciation/(depreciation) in fair value of investments in the accompanying Statements of Changes in Fiduciary Net Position.

c) Swaps

A Swap is an agreement between two or more parties to exchange a sequence of cash flows over a period of time in the future. No principal is exchanged at the beginning of the Swap. The cash flows that the counterparties exchange are tied to a "notional" amount. The agreements provide, at predetermined future dates, the Plan pays interest based upon a notional principal amount and receives a return based upon the underlying instrument. Notional amounts represent the volume of outstanding transactions and do not represent the potential gain or loss associated with market risk or credit risk of such instruments. Risk associated with Swaps includes adverse movements in the underlying instrument.

The Plan recognized a net realized loss on Swaps of $103 thousand. As of December 31, 2020, the Plan had a net unrealized gain on Swaps of $163 thousand. The gains and losses are included in net appreciation/(depreciation) in fair value of investments in the accompanying Statements of Changes in Fiduciary Net Position.

d) Futures

Financial Futures are agreements to purchase or sell a specific amount of an asset at a specified delivery or maturity date for an agreed upon price. These derivative securities are used to improve yield, adjust the duration of the Fixed Income portfolio, circumvent changes in interest rates, or to replicate an index. Futures Contracts are standardized and traded on organized exchanges, thereby minimizing the Plan's risk. There were no outstanding Futures Contracts at December 31, 2020 and December 31, 2019.

The Plan recognized a net realized loss of $149 thousand. The loss is included in net appreciation/(depreciation) in fair value of investments in the accompanying Statements of Changes in Fiduciary Net Position.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

As of December 31, 2020 and 2019 open derivatives contracts values were as follows ($ in thousands):

	12/31/2020		12/31/2019	
Derivative Type	**Total Notional Value**	**Total Fair Value**	**Total Notional Value**	**Total Fair Value**
Forward Contracts	$401,341	($582)	$433,426	($159)
Other Forwards	51,038	(223)	56,523	306
Swap Agreements	-	163	-	27
Totals	$452,379	($642)	$489,949	$174

4) Deposit and Investment Risk Disclosures

Deposits and investments of state and local governments are exposed to risks that have the potential to result in losses. The common deposit and investment risks include custodial credit risk, credit risk, concentration of credit risk, foreign currency risk and interest rate risk. The required disclosures related to these risks and the Plan's exposures to these risks are disclosed in the following sections.

a) Custodial Credit Risk

In the event of a failure of the counterparty, custodial credit risk is the risk that the Plan will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. The Plan's custodial credit risk policy is set forth in Chapter 40A of the Dallas City Code and in the master custody agreement which includes the Securities Lending Program. All investments are registered in the name of Employees' Retirement Fund of the City of Dallas or in the name of the Plan's custodian established through a master trust custodial agreement. The securities are held by the custodian in the name of the Plan.

As of December 31, 2020, the Plan had $3.6 million or 0.1% of its approximate $3.6 billion total investments (excluding short-term investments) exposed to custodial credit risk. The custodial credit risk exposure at December 31, 2019 was $3.6 million or 0.1% of total investments (excluding short-term investments) of approximately $3.6 billion. These exposures were uninsured and uncollateralized deposits held by custodian banks outside of the United States. The Plan has experienced no losses on these deposits during the year.

b) Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of an investment in a single issuer. A concentration of investments in any one single issuer of debt securities presents a greater risk for loss in the event that the issuer fails on its obligations.

The Board has contracted with third party investment managers to manage the investment portfolio of the Plan, subject to the policies and guidelines established by the Board. The Plan's Concentration of Credit Risk Policy is communicated to individual managers in their guidelines through limitations or restrictions to securities, sectors, debt ratings, and other factors that may be applicable to a particular manager. As the Plan's custodian bank, Northern Trust has responsibility for the safekeeping of certain investments, handling of transactions based on the instructions of investment managers, and recordkeeping for the investment transactions.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

The Plan had no investments that individually represent 5% or more of the net position available for Plan benefits at December 31, 2020.

c) Credit Risk

Credit Risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Credit quality ratings for the Plan's investments in Fixed Income securities as of December 31, 2020 and 2019 are included in the following schedule. Securities are rated using Standard and Poor's quality ratings as presented following in the rating scale.

The Plan's strategic Fixed Income Investment Policy allocates 30% of the total assets to Fixed Income. The Plan's Investment Policy provides for investment of up to 15% of the Fixed Income allocation in Investment Grade assets, up to 10% of the Fixed Income allocation in High Yield (below Investment Grade) assets, and up to 5% for Opportunistic Credit. The Investment Grade allocation also allows selected managers to invest in non-U.S. dollar issues on an opportunistic basis up to 20% of their portfolio assets.

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EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

Long term bond ratings as of December 31, 2020 and 2019 are as follows ($ in thousands)

	2020		2019	
Quality Rating	Fair Value	Percentage of Bond Portfolio	Fair Value	Percentage of Bond Portfolio
AAA	$42,907	4.39%	$36,777	3.69%
AA+	41,513	4.25%	158,783	15.92
AA	875	0.09%	3,490	0.35
AA-	948	0.10%	7,134	0.72
A+	4,894	0.50%	4,221	0.42
A	7,087	0.73%	11,090	1.11
A-	18,178	1.86%	27,103	2.72
BBB+	18,999	1.93%	23,644	2.37
BBB	13,434	1.38%	17,590	1.76
BBB-	5,902	0.60%	17,343	1.74
BB+	24,763	2.54%	21,242	2.13
BB	37,445	3.83%	51,300	5.15
BB-	51,547	5.28%	57,767	5.79
B+	50,102	5.13%	53,685	5.39
B	37,104	3.80%	33,181	3.33
B-	35,989	3.68%	32,453	3.26
CCC+	22,082	2.26%	10,898	1.09
CCC	7,517	0.77%	2,488	0.25
CCC-	947	0.10%	187	0.02
D	1,333	0.14%	482	0.05
Not rated (NR)*	436,667	44.70%	234,837	23.55
U.S. Government fixed income securities (NR)**	116,587	11.93%	191,422	19.20
Total	$976,820	100.00%	$997,117	100.00%

* NR-Investments that are not rated.

** NR-U.S. Treasury Bonds and Notes are obligations of the U.S. government or explicitly guaranteed by the U.S. government and therefore are not considered to have a credit risk.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

d) 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. The Plan's Foreign Currency Risk policy is communicated to those managers who are authorized to hedge currencies in their guidelines and sets specific parameters for each manager individually.

The Plan's investment policies limit the aggregate amount that can be invested in each class of investments. The Plan's General Investment Policy sets an allocation of 12.5% of assets to International Equity, 7.5% of assets to Global Equity and 12.5% to Global Low Volatility Equity.

The Plan's positions in International Equity securities, directly and through commingled funds, were 12.97% and 14.47% of invested assets at December 31, 2020 and 2019, respectively. The Plan's position in Global Equity securities was 7.32% and 7.03% of invested assets at December 31, 2020 and 2019, respectively. The Plan's position in Global Low Volatility Equity was 12.18% at December 31, 2020 and 10.58% at 2019. The Plan's positions in Global Fixed Income assets were 27.04% and 28.24% of invested assets at December 31, 2020 and 2019, respectively.

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EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

Non-U.S. Dollar denominated investments at December 31, 2020 and 2019 were as follows ($ in thousands):

	2020 U.S. Dollars Balance of Investments			2019 U.S. Dollars Balance of Investments		
Currency	Equities	Fixed	Currency Forward Contracts	Equities	Fixed	Currency Forward Contracts
Australian Dollar	$27,747	$455	$19,445	$21,768	$-	$26,396
Brazil Real	10,951	-	5,196	12,848	-	5,318
British Pound Sterling	56,181	856	10,534	72,815	-	15,635
Canadian Dollar	37,476	10,277	17,950	37,723	6,510	21,157
Chile Peso	-	-	3,003	1,202	-	2,619
Columbia Peso	-	-	1,414	-	-	4,814
Czech Republic-Koruna	514	-	641	2,200	-	1,494
Denmark Krone	9,596	-	257	8,493	-	97
Euro	144,990	6,191	15,200	143,099	-	21,973
Hong Kong Dollars	59,299	-	5,298	51,616	-	5,540
Hungary-Forint	1,008	-	1,437	1,408	-	671
Indian Rupee	9,485	-	8,126	7,129	-	10,483
Indonesia-Rupiahs	1,919	-	105	2,442	-	899
Israel Shekel	2,981	-	1,185	5,108	-	5
Japanese Yen	108,376	-	34,756	124,027	-	22,748
Malaysia Ringgit	1,208	-	-	1,826	-	-
Mexican Peso	6,084	-	7,361	2,363	2,257	17,233
New Zealand Dollar	4,147	2,201	16,439	4,391	-	6,200
Norwegian Krone	6,603	-	9,517	6,671	-	19,361
Offshore-Chinese-Renminbi	12,516	-	-	6,192	--	--
Peruvian Nuevo Sol	-	-	8	-	-	-
Philippines-Pesos	737	-	72	1,015	-	4,153
Poland-Zloty	1,032	-	2,033	1,012	-	2,021
Qatar-Riyal	154	-	-	804	-	-
Russian Ruble	-	-	5,125	-	-	6,445
Saudi Riyal	-	-	1,045	-	-	1,546
Singapore Dollar	5,075	-	560	5,156	-	1,671
South Africa Rand	3,847	-	3,498	4,178	-	6,193
South Korea-Won	28,153	-	5,731	24,200	-	3,300
Swedish Krona	13,749	-	6,666	11,800	-	7,303
Swiss Franc	37,530	-	8,849	44,710	-	2,200
Taiwan New Dollar	6,313	-	2,454	8,626	-	1,038
Thailand Baht	3,686	-	226	7,587	-	166
Turkish Lira	3,771	-	1,659	2,682	-	963
United Arab-Dirham	116	-	-	163	-	-
Total	$605,244	$19,980	$195,790	$625,254	$8,767	$ 219,642

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

e) Interest Rate Risk

Interest rate risk is the risk that future changes in prevailing market rates of interest will have an adverse effect on the fair value of debt investments. The fair value of securities with long terms to maturity may be highly sensitive to interest rate changes.

As of December 31, 2020 and 2019 the weighted-average maturity of the bonds by bond type are as follows ($ in thousands):

	2020		2019	
Bond Category	Fair Value 12/31/2020	Weighted Average Maturity (years)	Fair Value 12/31/2019	Weighted Average Maturity (years)
Asset Backed Securities	$48,999	11.72	$35,985	11.89
Bank Loans	22,427	4.55	22,159	4.88
Commercial Mortgage-Backed	35,580	25.27	32,264	28.21
Corporate Bonds	555,303	8.80	545,278	7.61
Government Agencies	99,636	29.96	99,371	37.01
Government Bonds	103,743	10.55	133,870	8.76
Government Mortgage-Backed Securities	52,652	17.51	72,918	21.40
Index Linked Government Bonds	875	29.15	1,062	29.15
Municipal/ Provincial Bonds	24,504	19.36	22,071	19.71
Non-Government Backed CMOs	33,101	23.14	32,139	22.89
Total	$976,820		$997,117	
Portfolio weighted average maturity		12.09		11.74

Government Mortgage Backed Securities are most sensitive to changes in interest rates as their prepayments can vary significantly with interest rate changes. This change in prepayments will generally cause the duration, or Interest Rate Risk, of these securities to increase when interest rates rise and decrease when interest rates fall. These securities represent 5.4% and 7.3% of the total Fixed Income portfolio for 2020 and 2019 at year end. Their fair values at year end 2020 and 2019 were $52,652 million and $72,918 million, respectively. The Plan's Interest Rate Risk policy is communicated to the Fixed Income managers through the Fixed Income Asset Policy and each manager's guidelines.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

5) Appreciation or (Depreciation) of Investments

In 2020 and 2019, the Plan's investments, including investments bought, sold, and held during the year, appreciated (depreciated) in value as follows ($ in thousands):

	2020	2019
Investments, at fair value:		
Commingled index funds	$22,646	$28,549
Domestic equities	23,452	194,224
United States and foreign government fixed income securities	15,411	10,777
Domestic corporate fixed income securities	14,914	52,599
International equities	41,441	125,399
Short-term investments	(15,591)	430
Currency contracts	2,800	(510)
Real Assets	(3,708)	$8,091
Private Equity	52,607	34,279
	$153,972	$453,838

6) Fair Value Measurement

The Plan's investments are measured and categorized according to fair value hierarchy guidelines established by GAAP.

The definition of fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

These guidelines recognize a three-tiered fair value hierarchy, as follows:

- *Level 1:* Quoted prices for identical investments in active markets;
- *Level 2:* Observable inputs other than quoted market prices in active market; and,
- *Level 3:* Significant unobservable inputs.

At December 31, 2020, the Plan had the following recurring fair value measurements ($ in thousands)

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

	Total	Fair Value Measurements Using		
	12/31/2020	Level 1	Level 2	Level 3
Investments by Fair Value Level				
Cash and Short Term Investment:				
Short-Term Investment Fund	$ 89,190	$ 89,190	$ -	$ -
Total Cash and Short Term Investment	89,190	89,190	-	-
Fixed Income:				
Domestic Asset and Mortgage Backed Securities	96,737	-	96,737	-
Government and US Agency Obligations	193,654	-	193,654	-
Corporate and Taxable Municipal Bonds	655,395	6,590	648,805	-
Index Fixed Income Funds	37,500	37,500	-	-
Total Fixed Income	983,286	44,090	939,196	-
Equity:				
Domestic Common and Preferred Stock	1,171,032	1,169,303	-	1,729
International Common and Preferred Stock	456,129	455,946	175	8
Total Equity	1,627,161	1,625,249	175	1,737
Total Investments by Fair Value Level	$ 2,699,637	$ 1,758,529	$ 939,371	$ 1,737
Investments Measured at Net Asset Value				
Private Placement Debt	$ 250			
Commingled Funds:				
Fixed Income	49,949			
Domestic Equity and Collective Trust	411,961			
International Equity	590			
Total Commingled Funds Measured at Net Asset Value	462,750			
Alternative Investments:				
Private Equity	316,237			
Real Estate	222,726			
Total Alternative Investments	538,963			
Total Investments Measured at Net Asset Value	$ 1,001,713			

At December 31, 2019, the Plan had the following recurring fair value measurements ($ in thousands):

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

	Total	Fair Value Measurements Using		
	12/31/2019	Level 1	Level 2	Level 3
Investments by Fair Value Level				
Cash and Short Term Investment:				
Short-Term Investment Fund	$ 111,496	$ 111,496	$ -	$ -
Total Cash and Short Term Investment	111,496	111,496	-	-
Fixed Income:				
Domestic Asset and Mortgage Backed Securities	83,343	-	83,343	-
Government and US Agency Obligations	199,586	-	199,586	-
Corporate and Taxable Municipal Bonds	665,809		665,718	91
Index Fixed Income Funds	48,379	48,379	-	-
Total Fixed Income	997,117	48,379	948,647	91
Equity:				
Domestic Common and Preferred Stock	1,153,068	1,150,914	244	1,910
International Common and Preferred Stock	503,270	502,896	374	-
Total Equity	1,656,338	1,653,810	618	1,910
Total Investments by Fair Value Level	$ 2,764,951	$ 1,813,685	$ 949,265	$ 2,001
Investments Measured at Net Asset Value				
Commingled Funds:				
Fixed Income	$ 39,014			
Domestic Equity and Collective Trust	346,207			
International Equity	7,771			
Total Commingled Funds Measured at Net Asset Value	392,992			
Alternative Investments:				
Private Equity	267,422			
Real Estate	230,183			
Total Alternative Investments	497,605			
Total Investments Measured at Net Asset Value	$ 890,597			

Private Placement Debt

Private Placement Debt was issued close to the financial statement date and is therefore valued at Net Asset Value (NAV) as determined by the principal amount of the debt.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

Commingled Funds

Commingled funds are fund-structure investments reported by the fund managers at NAV per share.

Neuberger Berman, Northern Trust Asset Management S&P 500 Index, Northern Trust ACWI Index, and BlackRock do not have a redemption period notice requirement. They may be redeemed at any time by the Plan. Earnest Partners has a redemption period notice requirement of 5 days.

Real Estate

Real Estate investments are held either in separate accounts, as a limited partner, or in a joint venture. These investments are illiquid and resold at varying rates, with distributions received over the life of the investments. They are typically not redeemed, nor do they have set redemption schedules. Estimated fair values of investments are determined by the fund managers based on their best estimates using fair value estimation techniques substantiated, in part, by their audited financial statements and supported by the due diligence of the Plan.

The Plan invests in:

Heitman's core real estate fund

Invesco's core fund

Invesco II

The redemption schedule for each Real Estate investment is as follows:

Heitman's core real estate fund and Invesco's core fund do not have a redemption period notice requirement. They may be redeemed at any time by the Plan.

Invesco II manages 1900 McKinney, LLC.

Private Equity

Private equity holdings include fund-structure investments with general partners. By their nature, these investments are illiquid and typically not resold or redeemed.

Private equity managers' expectations that the underlying assets of the funds will be liquidated in the future as follows:

Fairview Lone Star Fund: 12 years from subscription date with 3 one-year extensions.

GCM Grosvenor: 15th anniversary of subscription date with 3 one-year extensions.

Hamilton Lane: 10 years after subscription date with 2 one-year extensions.

Upon initial investment with a general partner or in certain fund-structures, the Plan commits to a certain funding level for the duration of the contract. At will, the partners or fund managers may request that the Plan fund a portion of this amount. Such amounts remaining as of December 31, 2020 and 2019 for investments measured at NAV are disclosed as unfunded commitments.

Unfunded commitments at December 31, 2020 for private equity are as follows:

Fairview Lone Star Fund $27.3 million

GCM Grosvenor $39.3 million

Hamilton Lane $99.7 million

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

7) Securities Lending

During the year, Northern Trust lent, on behalf of the Plan, securities held by Northern Trust as Plan custodian and received cash, United States government securities, agency securities, and irrevocable bank letters of credit as collateral. Northern Trust did not have the ability to pledge or sell collateral securities absent a borrower default. Northern Trust's Core USA Collateral Section establishes requirements for participation, collateralization levels, cash and non-cash collateral guidelines, and investment guidelines for the collateral received from borrowers. Borrowers were required to put up collateral for each loan equal to: (i) in the case of loaned securities, the collateral for which is all denominated in the same currency as the loaned securities, 102% of the fair value of the loaned securities plus any accrued but unpaid distributions thereon, and (ii) in the case of loaned securities denominated in a different currency from the loaned securities, 105% of the fair value of the loaned securities plus any accrued but unpaid distributions thereon. Additionally, the guidelines set maturity/liquidity requirements for the collateral received from borrowers. The following table shows for open loans at December 31, 2020 and 2019, the type of collateral held, the fair value of the securities on loan, and the fair value of the collateral held ($ in thousands).

	12/31/2020			12/31/2019		
Collateral Type	Fair Value	Collateral Fair Value	Collateral Percentage	Fair Value	Collateral Fair Value	Collateral Percentage
Cash	233,499	239,533	103%	$202,972	$208,368	103%

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EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

The following represents the balances relating to the Securities Lending transactions as of December 31, 2020 and 2019 ($ in thousands):

	12/31/2020			12/31/2019		
Securities Lent	Underlying Securities	Securities Collateral Value	Cash Collateral Investment Value	Underlying Securities	Securities Collateral Value	Cash Collateral Investment Value
Lent for cash collateral:						
Domestic equities	$121,912	$	$125,079	$103,943	$	$106,349
Domestic corporate fixed income	61,705	-	63,233	48,876	-	50,051
Global corporate fixed income	1,400	-	1,509	1,197	-	1,280
Global government fixed income	1,875	-	2,028	2,125	-	2,270
International equities	1,419	-	1,523	3,353	-	3,558
Global Agencies	-	-	-	205	-	215
U.S. Agencies	5,793	-	5,904	-	-	-
U.S. government fixed	39,395	-	40,257	43,273	-	44,645
Subtotal	$233,499	$	$239,533	$202,972	$	$208,368

Disclosure of Securities Lending income is shown gross with the associated reductions for investment expenses on the Statements of Changes in Fiduciary Net Position, and the cash collateral and associated securities lending payable is shown on the Statements of Fiduciary Net Position for December 31, 2020 and 2019. The net income from Securities Lending in 2020 was $946 thousand compared to $1.1 million in 2019.

8) Federal Income Tax Status

The Internal Revenue Service issued a determination letter dated August 15, 2016, stating that the Plan was designed in accordance with applicable Internal Revenue Code requirements as of that date. The Plan is currently designed and being operated in compliance with the applicable requirements of the Internal Revenue Code. Therefore, the Plan was qualified and the related trust was tax exempt as of the financial statement dates.

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

9) Capital Assets

Capital Assets activity for the years ended December 31, 2019 and 2020, was as follows ($ in thousands).

	Balance 12/31/2018	Increases	Decreases	Balance 12/31/2019	Increases	Decreases	Balance 12/31/2020
Capital Assets not being depreciated/amortized							
Construction in Progress	$ 3,186	$ 2,245	$ -	$ 5,431	$ 2,361	$ (7,792)	$ -
Capital Asset being depreciated/amortized:							
Intangible Assets	-	-	-	-	7,792	-	7,792
Furniture and Fixtures	18	-	-	18	-	-	18
Less:							
Accumulated Amortization, Intangible Assets	-	-	-	-	(389)	-	(389)
Accumulated Depreciation, Furniture and Fixtures	$ (1)	$ (3)		$ (4)	$ (3)		$ (7)
Total Capital Assets being depreciated/amortized net of Accumulated Depreciation/Amortization	17	(3)	-	14	7,400	-	7,414
Total Capital Assets, net of Accumulated Depreciation/Amortization	$ 3,203	$ 2,242	$ -	$ 5,445	$ 9,761	$ (7,792)	$ 7,414

10) Schedule of Net Pension Liability

a) The components of the Net Pension Liability of the City at December 31, 2020 and 2019 respectively were as follows ($ in thousands).

Description	2020	2019
Total Pension Liability	$6,209,855	$5,658,726
Plan Fiduciary Net Position	3,706,753	3,658,088
Net Pension Liability	2,503,102	2,000,638
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	59.69%	64.65%

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

b) Actuarial Methods and Assumptions:

Valuation date	December 31,2019 for most recent Actuarially Determined Employer Contribution ("ADEC") shown on Schedule of Contributions December 31, 2020 for Net Pension Liability
Actuarial cost method	Entry Age Normal
Asset valuation method	5-year smoothed market
Amortization method	The ADEC is initially based on a 30-year open amortization period. As specified in the Plan's governing documents, the rate may not change from year to year if the calculated rate is less than 300 basis points different from the current rate.
Remaining Amortization Period	Not determined, see description of amortization method
Investment rate of return	7.25%
Salary increases	3.00% to 8.25%, including inflation
Inflation	2.50% per year
Retirement Age	Experienced-based table of rates that are specific to the type of eligibility condition. Last updated pursuant to an experience study of the 5-year period ended December 31, 2019.
Mortality	For Actives: The PubG-2010 Employee Mortality Table is used for males and females. The rates are projected from 2010 on a fully generational basis using Scale UMP. For Healthy Retirees: The gender-distinct 2019 Texas Municipal Retirees Mortality Tables are used for males and females respectively. The rates are projected on a fully generational basis using Scale UMP. For Disabled Lives: The gender-distinct 2019 Texas Municipal Retirees Mortality Table for males and females respectively, set forward 4 years for males and 3 years for females. The rates are projected from 2019 on a fully generational basis using Scale

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

UMP.

Other Information

Notes: There were no benefit changes during the year.

The assumptions described above were for the most recent ADEC shown in the Schedule of Contributions unless otherwise noted. The assumptions used in determining the NPL as of December 31, 2020 were those used in the actuarial valuation as of December 31, 2020 and are noted in the Schedule of Contributions.

The long-term rate of return on pension plan investments was estimated using a building block methodology in which best-estimate ranges of expected future real rates of return 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 return rates by the target asset allocation percentage and by adding expected inflation. The following table shows the best estimates of arithmetic real rates of return for each of the Plan's asset classes.

Asset Class	Long-Term Expected Real Rate of Return
Domestic Equity	6.00%
International Equity	6.75
Global Equity	6.45
Low Volatility Global Equity	6.41
Private Equity	8.05
Core Fixed Income	2.70
High Yield Fixed Income	4.20
Credit Opportunities	5.35
REITs	4.70
Private Real Estate - Core	5.40
Private Real Estate – Value Add	8.00
MLPs	7.60
Global Public Infrastructure	7.23
Marketable Alternative	4.42

c) Discount rate: A single discount rate of 5.27% was used to measure the total pension liability as of December 31, 2020, which represents a decrease from the single discount rate of 5.93% as of De-

EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS

Notes to the Financial Statements
December 31, 2020 and 2019

cember 31, 2019. This single discount rate as of December 31, 2020 was based on the expected rate of return on pension plan investments of 7.25% and the municipal bond rate of 2.00%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions and employer contributions will be made at the projected future contribution rates assuming that the Plan annually earns 7.25% on its fair value of assets and that the number of active members remains constant in the future. Based on these assumptions and the Plan's funding policy, the last year in the single discount rate projection period for which projected benefit payments were fully funded was 2058, and the resulting single discount rate is 5.27%.

d) Sensitivity of the Net Pension Liability to changes in the discount rate. Below is a table providing the sensitivity of the Net Pension Liability to changes in the discount rate. In particular, the table presents the plan's Net Pension Liability, if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher than the single discount rate:

Sensitivity of the Net Pension Liability
To the Single Discount Rate Assumption
($ in thousands)

1% Decrease	Current Single Discount Rate	1% Increase
4.27%	5.27%	6.27%
$3,357,782	$2,503,102	$1,799,357

11) Subsequent Events

The Plan has evaluated its December 31, 2020 financial statements for subsequent events through July 30, 2021, the date the financial statements were available to be issued. The Plan is not aware of any subsequent events which would require recognition or disclosure in the financial statements.

REQUIRED SUPPLEMENTARY INFORMATION

(unaudited)

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SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

($ in thousands)

FY ended December 31,	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability							
Service Cost	$118,452	$124,289	$84,843	$81,178	$133,457	$78,020	$62,065
Interest on the Total Pension Liability	330,348	325,767	332,011	325,620	305,826	313,847	290,948
Difference between Expected and Actual Experience	(82,641)	(7,819)	4,793	(59,066)	(38,327)	(26,829)	(21,967)
Assumption Changes	479,292	(43,032)	1,020,969	-	(1,227,079)	1,238,431	292,137
Benefit Payments	(287,465)	(278,007)	(263,981)	(253,534)	(243,775)	(235,106)	(225,614)
Refunds	(6,857)	(10,436)	(8,515)	(8,156)	(5,864)	(4,854)	(4,629)
Net Change in Total Pension Liability	**551,129**	**110,762**	**1,170,121**	**86,042**	**(1,075,762)**	**1,363,509**	**392,940**
Total Pension Liability - Beginning	5,658,726	5,547,964	4,377,844	4,291,802	5,367,564	4,004,055	3,611,115
Total Pension Liability – Ending (a)	**6,209,855**	**$5,658,726**	**$5,547,964**	**$4,377,844**	**$4,291,802**	**$5,367,564**	**$4,004,055**
Plan Fiduciary Net Position							
Employer Contributions	$61,615	$62,177	$60,924	$58,966	$56,130	$50,721	$45,833
Employee Contributions	58,358	58,314	56,772	55,175	53,436	50,742	46,536
Pension Plan Net Investment Income	229,105	550,942	(167,783)	413,510	294,918	(53,344)	207,992
Benefit Payments	(287,465)	(278,007)	(263,981)	(253,534)	(243,775)	(235,106)	(225,614)
Refunds	(6,857)	(10,436)	(8,515)	(8,156)	(5,864)	(4,854)	(4,629)
Pension Plan Administrative Expense	(5,699)	(7,513)	(7,485)	(5,951)	(5,343)	(4,598)	(4,150)
Other	(392)	298	121	207	333	162	157
Net Change in Plan Fiduciary Position	**48,665**	**375,775**	**(329,947)**	**260,217**	**149,835**	**(196,277)**	**66,125**
Plan Fiduciary Net Position - Beginning	3,658,088	3,282,313	3,612,260	3,352,043	3,202,208	3,398,485	3,332,360
Plan Fiduciary Net Position – Ending (b)	**3,706,753**	**3,658,088**	**3,282,313**	**3,612,260**	**3,352,043**	**3,202,208**	**3,398,485**
Net Pension Liability – Ending (a)-(b)	**$2,503,102**	**$2,000,638**	**$2,265,651**	**$765,584**	**$939,759**	**$2,165,356**	**$605,570**
Plan Fiduciary Net Position as Percentage of Total Pension Liability	56.69%	64.65%	59.16%	82.51%	78.10%	59.66%	84.68%
Covered Payroll	$428,824	$433,890	$423,083	$410,913	$402,077	$383,669	$363,109
Net Pension Liability as a Percentage of Covered Payroll	583.71%	461.09%	535.51%	186.31%	233.73%	564.38%	168.95%

Notes to Schedule:

This schedule is intended to show information for ten years. Additional years' information will be displayed as it comes available.

The covered payroll is the sum of the active members' pay for valuation purposes as of the measurement date. An active member's valuation pay is the greater of their actual pay for the just completed calendar year or their current annual rate of pay.

SCHEDULE OF MONEY-WEIGHTED RATES OF RETURN

	2020	2019	2018	2017	2016	2015	2014
Rate of Return	5.75%	17.33%	-4.99%	13.08%	8.88%	-1.92%	6.52%

Note to Schedule:
This schedule is intended to show information for ten years. Additional years' information will be displayed as it comes available.

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SCHEDULE OF CONTRIBUTIONS

Last 10 Fiscal Years
($ in thousands)

FY Ending December 31,	Actuarially Determined Contribution[1]	Actual Contributions[2]	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2011	$ 33,612	$ 27,302	$ 6,310	$ 312,380	8.74%
2012	41,570	30,363	11,207	319,274	9.51%
2013	56,394	37,823	18,571	340,748	11.10%
2014	61,747	45,833	15,914	353,650	12.96%
2015	64,648	50,721	13,927	383,669	13.22%
2016	84,316	56,130	28,186	402,077	13.96%
2017	86,785	58,966	27,819	410,913	14.35%
2018	90,328	60,924	29,404	423,083	14.40%
2019	87,455	62,177	25,278	433,591	14.34%
2020	93,226	61,615	31,611	434,214	14.19%

Notes to Schedule:

1. The Actuarially Determined Employer Contribution (“ADEC”) shown is the employer contribution based on a 30-year open amortization period and actual payroll. In 2020, the following assumptions were changed based on the results of an experience study:

   Investment rate of return: Lowered from 7.75% to 7.25%.
   Salary increases: Changed from a range of 3.25% - 6.25%, to a range of 3.00% - 8.25%.
   Inflation: Adjusted from 2.75% to 2.50%.
   Mortality:

   The mortality tables prior to 2020 were as follows:
   For actives: Males – RP-2000 Employee Mortality Table for male employees, set forward 4 years; for females, RP-2000 Employee Mortality Table for female employees, set back 5 years.

   For healthy retirees: RP-2000 combined with blue collar adjustment for annuitants, with a fully generational mortality using improvement scale BB and a 109% multiplier for males, and a 103% multiplier for females.

   For disabled lives: RP-2000 Disabled Mortality Table for male annuitants, set forward one year.

   The mortality tables beginning in 2020 are as follows:
   For actives: PubG-2010 Mortality Table for General Employees projected on a fully generational basis using scale UMP.

   For healthy retirees: The gender-distinct Texas Municipal Retirees Mortality Tables. Rates are projected on a fully generational basis by scale UMP to account for future mortality improvements.

   For disabled lives: The gender distinct 2019 Texas Municipal Retirees Mortality Table, set forward 4 years for males and 3 years for females. The rates are projected on a fully generational basis by scale UMP to account for future mortality improvements.

2. Since the City’s fiscal year is October 1 to September 30 and the Plan’s fiscal year is the calendar year, the contribution amounts shown above are a blend of the City’s two fiscal year rates that occur during the calendar year.

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OTHER SUPPLEMENTARY INFORMATION

(unaudited)

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SCHEDULE OF ADMINISTRATIVE EXPENSES

As of December 31, 2020
($ in thousands)

Personal Services:	
Salaries	2,064
Retirement	342
Insurance	182
Total Personal Services	**$2,589**
Professional Services:	
Actuary Service	$105
Accounting & Audit Fees	104
Legal Fees	830
Total Professional Services	**$1,039**
Operating Services:	
Data Processing	172
Parking	42
Printing	42
Rent	460
Supplies and Services	59
Telephone	4
Travel and Training	99
Membership Dues	15
Board Expenses	16
Indirect and Other Costs	812
Total Operating Services	**$1,720**
Furniture & Fixtures:	
Furniture	18
Other	334
Total Furniture & Fixtures	**$352**
Total Administrative Expenses	**$5,699**

SCHEDULE OF INVESTMENT EXPENSES

As of December 31, 2020
($ in thousands)

Manager Fees	$16,971
Custodian Fees	125
Securities Lending Fees*	236
Investment Consultant Fees	583
Total Investment Expenses	**$17,915**

*Securities lending fees include broker rebates and the lending agent's fees.

SCHEDULE OF PAYMENTS FOR PROFESSIONAL SERVICES

As of December 31, 2020
($ in thousands)

Accounting and Audit:	
Grant Thornton, LLP	$48
STP Investment Services	56
Actuarial:	
Gabriel, Roeder, Smith & Company	105
Legal:	
Foster Garvey PC	419
Locke Lord, LLP	411
Total Professional Services Payments	**$1,039**

INVESTMENT SECTION

Wilshire

Thomas Toth, CFA
Managing Director, Wilshire Associates

April 26th, 2021

Ms. Cheryl Alston Executive Director
Employees' Retirement Fund of the City of Dallas
1920 McKinney Ave. 10th Floor
Dallas, TX 75201

Re: 2020 Performance Results

Dear Cheryl:

The purpose of this letter is to review the 2020 investment performance results of the Employees' Retirement Fund of the City of Dallas ("ERF", "the Fund").

2020 will be defined by the coronavirus and its impact on severe economic restrictions and unprecedented government responses. As the virus spread to the U.S., the market sold off quickly by returning -35% from Feb. 19 to Mar. 23. In turn, the Fed slashed its overnight rate from 1.5% to zero and the U.S. federal government passed a $2.2 trillion stimulus bill. The 2020 bear market was historically brief, however, bouncing off the lows on Mar. 23 and rallied to a new high by Aug. 12. In evidence of its speed, the market's recovery coincided with the BEA reporting a -31% real GDP decline during Q2. While equities dipped below their previous high as confirmed cases reaccelerated, the Wilshire 5000 Index ended the year at another all-time high (up +20.8% for the year). Real GDP was up 33.4% during the third quarter but the economy contracted -3.4% from last year. Inflation modestly increased throughout the year, though accelerating during the fourth quarter with the ten-year break even rate ending near 2.0% at year-end. Commodities were negative for the year, reversing the previous years' trend. Crude Oil dropped below $0 in the Spring during the height of the pandemic but remained flat for the year. Although the coronavirus pandemic and its consequences will likely continue through much of 2021, images of vaccines being administered globally provided reason for hope.

Overall, 2020 was a historic year with economic events that will take several years to fully play out. Thanks to a well- diversified investment structure, the Fund's total return participated nicely in the market rally during the second half of the year and returned 5.8% for the year, following the previous year with another positive return. The Fund maintains positive absolute results going back to inception and fairs well against its peers over longer-term periods. The majority of the Fund's segments experienced positive returns in 2020, with Real Estate and Global Listed Infrastructure being the only negative performers. Domestic, International, and Global equity segments posted double-digit year-to-date results ranging from 16.4% in U.S. equities to 15.6% for International equities. The Fund's fixed income exposures also managed to post solid gains for the year with Global Fixed Income, Opportunistic Credit and High Yield ending the year at 8.6%, 5.2% and 6.6%, respectively. Looking over a longer horizon, the Fund's track record remains in good shape as it continues to track closely with the policy benchmark while outperforming over the ten-year time period.

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Wilshire

The approved allocations as of the end of 2020 were:

Asset Class	Allocation
Domestic Equity	12.5%
International Equity	12.5%
Global Equity	7.5%
Global Low Volatility Equity	12.5%
Investment Grade Fixed Income	15.0%
High Yield	10.0%
Credit Opportunities	5.0%
Global Public Infrastructure	5.0%
REIT	2.5%
Private Real Estate – Core	5.0%
Private Real Estate – Value Add	2.5%
Private Equity	7.5%
Marketable Alternatives	2.5%

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Wilshire

Wilshire annually publishes a research paper detailing our long-term nominal return forecast for the next ten years. Our geometric return forecasts are shown below.

	Total Return			Risk		
	DEC. 2019	DEC. 2020	CHANGE	DEC. 2019	DEC. 2020	CHANGE
Investment Categories						
U.S. Stock	5.75 %	**5.00 %**	-0.75 %	17.00 %	**17.00 %**	0.00 %
Dev Ex-U.S. Stock (USD)	6.25	**5.75**	-0.50	18.00	**18.00**	0.00
Emerging Market Stock	6.25	**5.75**	-0.50	26.00	**26.00**	0.00
Global Stock	6.20	**5.55**	-0.65	17.10	**17.15**	0.05
Private Equity	7.95	**6.95**	-1.00	28.00	**28.00**	0.00
Cash Equivalents	1.85	**0.70**	-1.15	1.25	**0.75**	-0.50
Core Bond	2.85	**1.30**	-1.55	5.15	**4.30**	-0.85
LT Core Bond	3.25	**1.75**	-1.50	9.85	**8.85**	-1.00
U.S. TIPS	2.15	**0.80**	-1.35	6.00	**6.00**	0.00
High Yield Bond	4.30	**3.10**	-1.20	10.00	**10.00**	0.00
Non-U.S. Bond (HDG)	1.05	**0.35**	-0.70	3.50	**4.30**	0.80
U.S. RE Securities	5.00	**5.20**	0.20	17.00	**17.00**	0.00
Private Real Estate	6.60	**6.20**	-0.40	14.00	**14.00**	0.00
Commodities	3.60	**2.85**	-0.75	15.00	**15.00**	0.00
Real Asset Basket	5.90	**5.65**	-0.25	8.75	**10.15**	1.40
Inflation	1.75	**2.15**	0.40	1.75	**1.75**	0.00
Total Returns Minus Inflation						
U.S. Stocks	4.00	**2.85**	-1.15			
U.S. Bonds	1.10	**-0.85**	-1.95			
Cash Equivalents	0.10	**-1.45**	-1.55			
Stocks Minus Bonds	2.90	**3.70**	0.80			
Bonds Minus Cash	1.00	**0.60**	-0.40			

As always, we thank you for the opportunity to be of service to ERF.

Sincerely,

Thomas Toth, CFA
Managing Director
Wilshire Associates

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INVESTMENT POLICIES SUMMARY

Statement of Goals

The general investment goals are broad in nature to encompass the purpose of the Employees' Retirement Fund of the City of Dallas ("ERF" or the "Fund") and its investments. The goals articulate the philosophy by which the ERF Board of Trustees ("Board") will manage the Fund's assets within the applicable regulatory constraints.

1. The overall goal of the Fund is to provide benefits, as anticipated under the Plan document, Dallas City Code Chapter 40A, to its participants and their beneficiaries through a carefully planned and executed investment program.
2. The Fund seeks to produce the highest return on investments which is consistent with sufficient liquidity and investment risk that are prudent and reasonable, given prevailing capital market conditions. While the importance of the preservation of capital is recognized, the theory of capital market pricing which maintains that varying degrees of investment risk should be rewarded with compensating returns is also recognized. Consequently, prudent risk taking is reasonable and necessary.
3. The Fund investment program shall at all times comply with existing and applicable local, state and federal regulations.

Investment Philosophy

The Fund is long term in nature, and the selection of investments is regulated by: the investment time horizon; the limits of acceptable risk; and the objective of optimizing the total rate of return. Each investment manager is authorized to execute investment transactions on behalf of the Board.

Investment decisions are made under the framework of the goal established for the rate of return, limits of acceptable risk, and Fund objectives. The goal is to optimize the return of the portfolio, as opposed to maximizing the rate of return.

The optimal portfolio mix is one that carefully equates expected rate of return with expected risk of all investment categories utilized in the portfolio. In setting the optimal mix of assets for the portfolio, the Board has developed a strategic asset allocation policy which incorporates a diversified asset mix. The strategic asset allocation is designed to provide an optimal diversification to reduce risk and maximize total rate of return relative to risk and the existing and projected liability structure.

The Board bases its investment strategy and goals on advice obtained from the investment consultant, the staff, and the external investment managers. The Board uses the annual external audit and annual actuarial valuation in its evaluation of the Fund's performance each year.

Article XVI, Section 67 of the Texas Constitution and Chapter 40A of the Dallas City Code give complete responsibility for the management and investment actions of the Employees' Retirement Fund to the Board of Trustees. The Board is held to the standard of conduct of fiduciaries in discharging their responsibilities. According to Chapter 40A the Trustees, as fiduciaries, must carry out their functions solely in the interest of the members and beneficiaries.

Corporate Governance

The Board considers the active voting of proxies an integral part of the investment process. Proxy voting may be delegated to the discretion of investment managers retained by the Board. The managers shall be required to establish a proxy voting policy and maintain records of proxy votes and shall make these records available quarterly to the Board or its designee. The Board may at its discretion establish an overall policy of voting proxies in which case the managers' proxy voting policy shall be in accordance with that of the Board's. The Board recognizes that in certain non-U.S. markets, investment managers may, balancing the costs and benefits, not exercise proxy voting.

INVESTMENT RESULTS

The investment managers and the returns by investment category are shown in the following tables.
Time-weighted rate of return, based on fair value.

Investment Category	2020 Rate of Return
Cash Equivalents	0.67%
Credit Opportunities	5.17%
Domestic Equities	16.39%
Global Equities	16.11%
Global Fixed Income	8.62%
Global Low Volatility	-0.05%
High Yield Bonds	6.60%
International Equities	15.57%
Private Equity	2.99%
Global Listed Infrastructure	-25.83%
Real Estate	-1.73%
Total Portfolio	**5.76%**

INVESTMENT MANAGERS

Domestic Equities, REITs, Master Limited Partnerships, & Commingled Index Funds

Adelante Capital Management, LLC
Atlantic Trust
CenterSquare
Channing Capital Management, LLC
Cohen & Steers
Harvest Fund Advisors
Northern Trust Asset Management
Redwood Investments, LLC
Smith Graham & Co. Investment Advisors
Systematic Financial Management, LLP
T. Rowe Price Associates, Inc.

International Equities

Acadian Asset Management, LLC
AQR Capital Management, LLC
Ativo Capital Management, LLC
Baillie Gifford
Earnest Partners

Global Equity

Acadian Global Low Volatility
Ariel Investments
BlackRock, Inc.
Northern Trust Asset Management
Wellington Management Company, LLP\

Fixed Income

Aberdeen Asset Management, Inc.
BlackRock, Inc.
Garcia Hamilton & Associates, L.P.
Neuberger Berman
Oaktree Capital Management, LLC
Securian Asset Management

Cash Equivalents

The Northern Trust Company

Private Equity

Fairview Capital Partners
Grosvenor Capital Management
Hamilton Lane

Real Estate

Heitman Real Estate Investment Management
Invesco Real Estate

TOTAL PLAN RESULTS

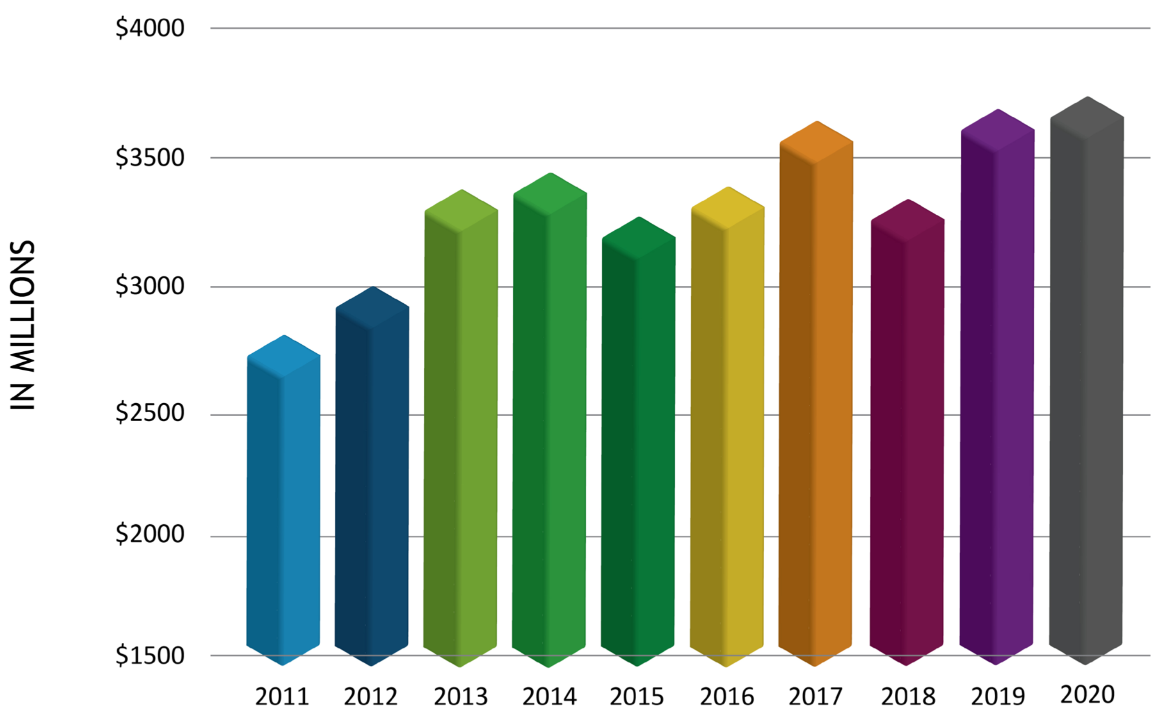
The Employees' Retirement Fund of the City of Dallas (ERF) investment portfolio generated a 5.8% (net of fees) for calendar year 2020. Dallas ERF has a 5-year return of 8.03% which exceeds its actuarial rate of return of 7.60%.

Dallas ERF has a global, diversified conservative investment program. The best performing asset class in 2020 was Domestic Equity. Dallas ERF's Domestic Equity portfolio earned 16.4%. Both Global Equity had a return of and International Equity had a return of 16.1% and 15.6%, respectively for 2020. Global Low Volatility Equity had a return of (-0.1%) lagging the benchmark MSCI ACWI Minimum Volatility Index of 2.7%. The Fund's Real Estate investments generated (-1.7%) for the year. The Real Estate investments consist of publicly traded real estate called Real Estate Investment Trusts (REITs) and national private core real estate funds. Global Listed Infrastructure had a difficult year with a (-25.8%) but was better than the benchmark of (-31.2%). The investments in Private Equity had a 1-year return of 3.0% and a 5-year return of 9.9%.

Fixed Income is 30% of the ERF investment portfolio. Our investment in Global Fixed Income returned 8.6% and exceeded the Bloomberg Aggregate benchmark of 7.5% in 2020. Our High Yield investments posted a return of 6.6% and the Opportunistic Credit posted a return of 5.2%.

At December 31, 2020, the total assets increased to $3.707 billion from $3.658 billion in 2019. This represents a $49 million increases over last year. The Market Value of Assets graph below for the Plan provides a pictorial history of the Plan's overall growth over the past 10 years.

MARKET VALUE OF ASSETS



ASSET ALLOCATION

The Plan's long-term strategic asset allocation policy sets the following targets: 70% in equity and 30% in fixed income. Although no specific allocation to cash and equivalents is targeted, cash must be available for the payment of benefits and other expenses of the Plan. To accommodate constantly changing fair values, the Board has approved ranges for each of the asset classes.

ASSET ALLOCATION, (Continued)

As of December 31, 2020

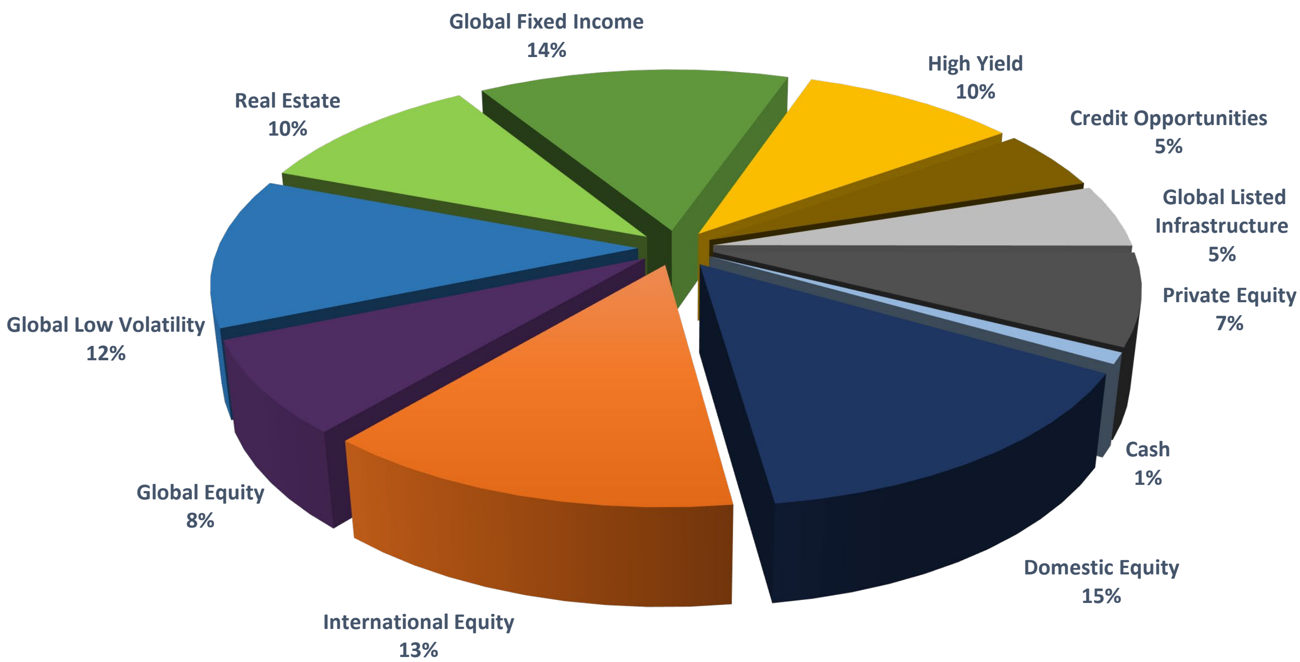
Investment Category	% of Total Fund
U.S. Equity	
Domestic Equity	12.5
Real Assets	12.5
REITs	2.5
Private Equity	7.5
Marketable Alternatives	2.5
Total U.S. Equity	**37.5**
Non-U.S. Equity	
International	12.5
Global	7.5
Global Low Volatility	12.5
Total Non-U.S. Equity	**32.5**
Total Equity	**70.0**
Fixed Income	
Credit Opportunities	5.0
Global Investment Grade	15.0
High Yield	10.0
Total Fixed Income	**30.0**
TOTAL FUND ALLOCATION	**100.0**

DOMESTIC, INTERNATIONAL AND GLOBAL EQUITY

The Plan's asset allocation policy target for U.S. Equity is targeted at 37.5% of the Plan's total assets including 12.5% to Domestic Equity, 12.50% allocated to Real Asset, 7.5% to Private Equity, and 2.5% to Marketable Alternatives. Domestic Equity assets at year-end had both Passively and Actively managed index funds each with approximately 50% of the total investment. Total U.S. Equity had a return of 16.39% for the year while the benchmark Wilshire 5000 Index had a return of 20.82%

Non-U.S. Equity has a target allocation of 32.5%, and it is split between International Equity 12.5%, Global Equity 7.5%, 12.5% Global Low Volatility. The Plan's International Equity composite return was 15.57% while the MSCI All World ex-U.S. Index reported a return of 10.65% for the year, and the MSCI EAFE Index reported 7.82%. The Global Equity allocation reported a return of 16.11% underperforming the MSCI ACWI which returned 16.25%.

ACTUAL ASSET ALLOCATION



**Source: Wilshire Associates, Inc.*

CREDIT OPPORTUNITIES

Credit Opportunities has a target of 5.0% allocated to one investment manager. During the year Credit Opportunities had a return of -2.2% relative to its' custom benchmark (33% ML High Yield Master II, 33% S&P LSTA Leveraged Loan Index, 33% JPM EMBI Global Diversified Index) which returned -3.11%.

GLOBAL FIXED INCOME

Global Fixed Income has a target of 15% of total assets allocated amongst three investment managers. For the year the Global Fixed Income had a return of 8.62% while the Bloomberg Aggregate Bond Index returned 7.51%

HIGH YIELD FIXED INCOME

High Yield Fixed Income has a target allocation of 10%. This allocation is evenly split between two investment managers. The High Yield return was 6.60% and the Citigroup High Yield Cash Pay Index returned 6.23%.

PRIVATE EQUITY

Private Equity has a target allocation of 7.5%. This allocation is split between three investment managers. At year end the fair value was approximately 7.4% of the Fund. The rate of return for the year was 2.99%.

REAL ESTATE

Real Estate is comprised of Real Estate securities ("REITs"), and Private Core Real Estate. REITs and Core Real Estate have a 2.5% and 7.5% allocation of total U.S. Equity of 32.5%. REITs had a return of -4.76 % against the Wilshire Real Estate Securities Index of -7.95%, and the Private Real Estate had a return of 0.34% against the NCREIF Property Index had a return of 0.34%.

PUBLIC REAL ASSETS

Public Real Assets (Global Listed Infrastructure) have a target allocation of 2.5%. The allocation is split between 3 investment managers. Public Real Assets returned -31.19% against the Alerian MLP index of -28.69%.

ANNUALIZED RATE OF RETURN

As of December 31, 2020
Time-weighted rate of return based on fair value

	1-Year	3-Year	5-Year
Total Fund	**5.76%**	**5.93%**	**8.03%**
Domestic Equity	**16.39**	**11.12**	**13.58**
S&P 500 Index	18.40	14.18	15.22
Wilshire 5000 Index	20.82	14.46	15.52
International Equity	**15.57**	**5.41**	**9.77**
MSCI ACWI x-US IMI (Net)	11.12	4.83	8.98
MSCI EAFE Index	7.82	4.28	7.45
Global Equity	**16.11**	**8.97**	**11.19**
MSCI ACWI	16.25	12.06	12.26
Global Low Volatility	**-0.05**	**5.48**	**8.73**
MSCI ACWI Minimum Volatility	2.69	6.96	9.17
MSCI ACWI	16.25	12.06	12.26
Global Fixed Income	**8.62**	**5.66**	**5.02**
Bloomberg Aggregate Bond Index	7.51	5.34	4.44
High Yield Fixed Income	**6.60**	**5.64**	**7.47**
Citigroup High Yield Cash Pay	6.23	5.83	8.32
Cash Equivalents	**0.67**	**1.61**	**1.19**
T-Bills	0.67	1.61	1.18
Real Estate	**-1.73**	**4.63**	**5.09**
Wilshire RE Securities Index	-7.95	3.30	4.46
NCREIF ODCE INDEX	0.34	3.99	5.27
Private Equity	**2.99**	**9.81**	**9.92**
S&P 500 Index	18.40	14.18	15.22
Public Real Assets	**-25.83**	**-9.63**	**-3.21**
Changed to: Wilshire RE Securities Index	-7.95	3.30	4.46
Credit Opportunities	**5.17**	**4.85**	
Wilshire Custom Benchmark	4.85	5.01	

Source: Wilshire 2020 presentation pages 4, 11, 10, 15, 19

INVESTMENT MANAGEMENT FEES

As of December 31, 2020
($ in thousands)

Investment	Assets Under Management	Fees	Basis Points
Domestic Equity	$ 530,765	$ 1,932	36.4
International Equity	585,900	2,892	49.3
Global Equity	272,748	1,406	51.5
Global Low Volatility	342,275	716	20.9
Global Fixed Income	513,754	1,104	21.5
High Yield Fixed Income	356,142	1,870	31.0
Real Estate	222,726	1,360	61.1
Master Limited Partnerships	187,435	1,039	55.5
Private Equity	307,594	3,217	104.6
Cash Equivalents	34,051	226	66.3
Credit Opportunities	177,863	443	24.9
REITs	155,563	766	49.2
Total	**$ 3,686,816**	**$ 16,971**	**46.0**

OTHER INVESTMENT SERVICES

As of December 31, 2020

($ in thousands)

Investment Consultant	$583
Investment Management Fees	16,971
Custodian Fees	125
Securities Lending Fees	236
Total Investment Expenses	**$17,915**

TEN LARGEST HOLDINGS - EQUITY

As of December 31, 2020
($ in thousands)

Equity	Shares	Fair Value
BLACKROCK MSCI ACWI MINIMUM	11,823,755	$223,696
MFB NTGI-QM COLTV DAILY S&P 500	11,113	151,653
HEITMAN AMERICA REAL ESTATE	70,765	82,461
1900 MCKINNEY HARWOOD LLC	60,558,462	71,551
INVESCO CORE RE FUND	379	69,262
GCM GROSVENOR - DALLAS ERF PAR 1.180	47,453,556	55,974
NEUBERGER HIGH INCOME FUND	914,587	49,950
FAIRVIEW CAPITAL III	32,747,846	40,856
CREDIT SUISSE DALLAS ERF PARTN	42,424,561	37,386
GCM GROSVENOR - DALLAS ERF PAR 1.353	26,014,834	35,192

A complete list of investments is available by contacting the Employees' Retirement Fund of the City of Dallas at 1920 McKinney Avenue, 10th Floor, Dallas, Texas 75201

Source: STP Largest Equity Holdings report 05 12 21

TEN LARGEST HOLDINGS - FIXED INCOME

As of December 31, 2020
($ in thousands)

Fixed Income	Par Value	Fair Value
MFO NEUBERGER BERMAN 0.040% due 12/31/2049	$3,870	$37,500
UNITED STATES TREAS NTS .25% due 05/31/2025	11,851	11,828
UNITED STS TREAS NTS 0.125% due 09/30/2022	10,830	10,830
UNITED STATES TREAS BDS 1.375% due 08/15/2050	10,323	9,668
UNITED STS TREAS NTS UNITED ST 0.125 % due 10/15/2023	7,117	7,112
CANADA HOUSING TST 2.35% GTD 1 due 09/15/2023	8,305	6,865
U.S. TREASURY N/B 1.5% due 02/15/2030	6,330	6,697
U.S.A. TREASURY NOTES 2.375% due 05/15/2027	5,160	5,756
UNITED STATES OF AMER TREAS NO 0.250% due 09/30/2025	5,498	5,478
BANK AMER CORP 3.974% due 02/07/2030	4,150	4,888

A complete list of investments is available by contacting the Employees' Retirement Fund of the City of Dallas at 1920 McKinney Avenue, 10th Floor, Dallas, Texas 75201

Source: STP Largest Fixed Income Holdings report 05 12 21

INVESTMENT HOLDINGS SUMMARY

As of December 31, 2020
($ in thousands)

	Fair Value	Percentage of Fair Value
Fixed Income		
Government Bonds	$243,603	6.58%
Corporate Bonds	789,882	21.34%
Total Fixed Income	1,033,485	27.92%
Equity		
Common Stock	1,583,583	42.78%
Index & Commingled	456,129	12.32%
Total Equity	2,039,712	55.11%
Real Estate		
Real Estate	222,726	6.02%
Total Real Estate	222,726	6.02%
Alternative Investments		
Private Equity	316,237	8.54%
Total Alternative Investments	316,237	8.54%
Total Cash and Cash Equivalents	89,190	2.41%
Total Fund	**$3,701,350**	**100.00%**

Source: PBC report

ACTUARIAL SECTION

The Report of the December 31, 2020 Actuarial Valuation of the Employees' Retirement Fund of the City of Dallas

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P: 469.524.0000 | www.grsconsulting.com

June 1, 2021

Board of Trustees
Employees' Retirement Fund of the City of Dallas
1920 McKinney Avenue
10th Floor
Dallas, Texas 75201

Dear Members of the Board:

We are pleased to present our report of the actuarial valuation of the Employees' Retirement Fund of the City of Dallas ("ERF" or the "Fund") as of December 31, 2020.

This valuation provides information on the financial health of ERF. It includes a determination of the actuarially calculated contribution rates for the 2021 calendar year. In addition, it also contains the information necessary to determine the current total obligation rate and the current adjusted total obligation rate for the fiscal year beginning October 1, 2021 per City Ordinance. The current adjusted total obligation rate is a function of the previous year's adjusted total obligation rate, this year's actuarially calculated contribution rate, and the rate necessary to make the debt service payment on the previously issued pension obligation bonds for fiscal year 2022.

In addition, the report provides various summaries of the data. A separate report is issued with regard to valuation results determined in accordance with Governmental Accounting Standards Board (GASB) Statements 67 and 68. Results of this report should not be used for any other purpose without consultation with the undersigned. Valuations are prepared annually as of December 31st, the last day of the ERF plan year. This report was prepared at the request of the Board and is intended for use by the ERF staff and those designated or approved by the Board. This report may be provided to parties other than ERF staff only in its entirety and only with the permission of the Board.

As authorized in Chapter 40A-4(a)(16) of the Dallas City Code, the actuarial methods and assumptions are set by the Board of Trustees, based upon recommendations made by the plan's actuary. An experience study was performed for the five-year period ending December 31, 2019. As a result of that study, revised assumptions were adopted by the Board effective with the valuation as of December 31, 2019. There were no changes in the actuarial assumptions or methods since the prior valuation.

We believe the assumptions are internally consistent, reasonable, and, where appropriate, based on the actual experience of the ERF. All of the methods and assumptions used in this valuation were selected in compliance with the Actuarial Standards of Practice. All actuarial methods and assumptions are described under Section P of this report. The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions.

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Board of Trustees
June 1, 2021
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Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. Due to the limited scope of this assignment, GRS did not perform an analysis of the potential range of such possible future differences. The actuarial calculations are intended to provide information for rational decision making. Other than the sensitivity analysis shown in Section L, this report does not include a more robust assessment of the future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

This valuation is based on the provisions of ERF in effect as of the valuation date, data on the ERF membership and information on the asset values of the Fund as of December 31, 2020. The member, annuitant and asset data used in the valuation were all prepared and furnished by ERF staff. While certain checks for reasonableness were performed, the data used was not audited.

To the best of our knowledge, this report is complete and accurate and was conducted in accordance with the Actuarial Standards of Practice as set forth by the Actuarial Standards Board and in compliance with the provisions of the Dallas City Code. The undersigned are independent actuaries and consultants. Mr. Falls is a Fellow of the Society of Actuaries, an Enrolled Actuary, and a Member of the American Academy of Actuaries and he meets the Qualification Standards of the American Academy of Actuaries. Both Mr. Falls and Mr. Ward have significant experience in performing valuations for large public retirement systems.

We would like to thank the ERF staff for their assistance in providing all necessary information to complete this valuation. Their courteous help is very much appreciated. We look forward to discussing this actuarial valuation report with you at your convenience. Please do not hesitate to let us know if you have any questions or need additional information.

Respectfully submitted,

Lewis Ward

Lewis Ward
Consultant

R. Ryan Falls

R. Ryan Falls, FSA, EA, MAAA
Senior Consultant

GRS

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EXECUTIVE SUMMARY

($ in 000s)

The key results from the actuarial valuation of the Employees' Retirement Fund of the City of Dallas as of December 31, 2020 may be summarized as follows:

		December 31, 2019		December 31, 2020
· Members				
- Actives		7,427		7,244
- Benefit recipients		7,405		7,552
- Deferred vested*		877		911
- Other terminated*		789		799
- Total		16,498		16,506
· Covered payroll (including overtime)	$	433,890	$	428,824
	$	87,509	$	84,929
· Normal cost				
as % of expected payroll		20.50%		20.11%
· Actuarial accrued liability	$	4,863,325	$	4,932,886
· Actuarial value of assets	$	3,682,959	$	3,747,078
· Market value of assets	$	3,658,088	$	3,706,753
· Unfunded actuarial accrued liability (UAAL)	$	1,180,366	$	1,185,808
		17.30%		6.42%
· Estimated yield on assets (market value basis)				
· Estimated yield on assets (actuarial value basis)		6.74%		6.81%
		36.00%		36.00%
· Contribution Rates				
- Prior Adjusted Total Obligation Rate				
- Current Total Obligation Rate		43.92%		43.77%
- Current Adjusted Total Obligation Rate		36.00%		36.00%
	$	(35,798)	$	(16,030)
· Actuarial gains/(losses)				
- Assets				
- Actuarial liability experience	$	6,156	$	69,812
- Assumption and method changes	$	(205,391)	$	-
	$	157,348	$	153,181
· 30-year level % of pay funding cost				
as % of payroll (Employee + City)		35.38%		34.85%
		75.7%		76.0%
· Funded ratio				
- Based on actuarial value of assets				
- Based on market value of assets		75.2%		75.1%

** Deferred vested are members who have applied for a deferred pension. Other terminations are other members who have terminated and still have contribution balances in the Fund.*

PURPOSES OF THE ACTUARIAL VALUATION

At your request, we have performed the actuarial valuation of the Employees' Retirement Fund of the City of Dallas ("ERF" or the "Fund") as of December 31, 2020.

The purposes of an actuarial valuation are as follows:

- To determine the funding status of ERF as of the valuation date;
- To develop the actuarially determined level of contributions for ERF for the 2021 calendar year; and
- To develop the current total obligation rate and the current adjusted total obligation rate for the fiscal year beginning October 1, 2021.

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REPORT HIGHLIGHTS

($ in 000s)

The following is a set of key actuarial results from the prior year's valuation as compared to the current year:

	Valuation Date	
	December 31, 2019	December 31, 2020
Contribution Rates (% of Payroll)		
Normal Cost (including administrative expense)	22.23%	21.44%
Total Actuarial Contribution Rate	35.38%	34.85%
Total Projected Actuarial Contribution	$157,348	$153,181
Funded Status (on AVA basis)		
Actuarial Accrued Liability	$4,863,325	$4,932,886
Actuarial Value of Assets	3,682,959	3,747,078
Unfunded Actuarial Accrued Liability	$1,180,366	$1,185,808
Funded Ratio	75.73%	75.96%

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FUNDING PROCESS

Based on the previous work of the Employees' Retirement Fund Study Committee, which was ratified by the ERF Board, the Dallas City Council and the voters of Dallas, a new funding process commenced October 1, 2005. From this date forward, a new "current adjusted total obligation rate" will be contributed jointly by the City (63%) and the Membership (37%). This current adjusted total obligation rate will cover both the debt service tied to the pension obligation bonds issued in 2005 and the contributions to the ERF. In subsequent years, the contribution rate changes only if the actuarial valuation develops a "current total obligation rate" which differs from the "prior adjusted total obligation rate" by more than 3.00% (plus or minus).

As shown in Section N – Table 3 and discussed later in this report, the "current total obligation rate" (Item 4 in Table 3) exceeds the "prior adjusted total obligation rate" (Item 1 in Table 3) as of December 31, 2020. This means that the "current adjusted total obligation rate" will remain at 36.00% of active member payroll for the fiscal year beginning October 1, 2021. It should be noted that under the contribution corridor methodology, the "current adjusted total obligation rate" would have been higher if not for the maximum rate of 36.00% allowed under Chapter 40A of the Dallas City Code.

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ACTUARIAL CONTRIBUTIONS

As shown in Section N – Table 2, the Actuarially Required Contribution Rate developed in this actuarial valuation is 34.85% of active member payroll. This rate excludes the amount needed to make the City's debt service payment on the pension obligation bonds in fiscal year 2022. This rate is the total level rateof pay (member + City) that would need to be contributed each of the next 30 years to pay off the unfunded liability of the Fund over that 30-year period. Note that because the total rate is assumed to remain level and the average normal cost as a percentage of pay is expected to decline over that time period (due to the new Tier B), the payment towards the unfunded liability as a percentage of pay is expected to increase over the 30-year period.

As shown in Section N – Table 3 of this report, the debt service payment is determined to be 8.92% of projected payroll. The sum of these rates is 43.77% (the Current Total Obligation Rate), which is 7.77% more than the Prior Adjusted Total Obligation Rate of 36.00%. Because the total contribution rate cannotexceed 36.00%, the total contribution rate in fiscal year 2022 (the Current Adjusted Total Obligation Rate)to fund the ERF and make the debt service payment on the pension obligation bonds will be 36.00%, which is the maximum rate allowed under Chapter 40A of the Dallas City Code.

The members contribute 37% of the Current Adjusted Total Obligation Rate and the City contributes 63%. Hence, the members' portion of the 36.00% total contribution rate will be 13.32% and the City portion will be 22.68%. All of the member contribution rate will be contributed to the ERF. As noted above, 8.92% of the City's contribution rate will go towards the debt service on the pension obligation bonds and the remaining 13.76% will be contributed towards the ERF. This means a total contribution rate of 27.08% will be contributed to the ERF, which compares to the actuarially calculated rate of 34.85%.

ACTUARIAL ASSUMPTIONS

Section P of this report includes a summary of the actuarial methods and assumptions used in this valuation. In short, costs are determined using the Entry Age Normal actuarial cost method. The assumed annual investment return rate is 7.25% and includes an annual assumed rate of inflation of 2.50%.

There were no changes in the actuarial assumptions since the prior valuation report. Please see Section P of this report for a summary description of these methods and assumptions.

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ERF BENEFITS

The City of Dallas voters approved a new tier of benefits for City of Dallas municipal employees hired after December 31, 2016.

There were no changes in the benefit provisions of ERF since the prior valuation. Please see Section Q for a summary description of the ERF benefits.

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EXPERIENCE DURING PREVIOUS YEARS

An Actuarial (Gain)/Loss Analysis [(G)/L] reviews the effects of the actual experience on the expected Unfunded Actuarial Accrued Liability (UAAL). If any unexpected difference increases assets or reduces liabilities (i.e., reductions in the UAAL), we have an actuarial gain. Unexpected increases in the UAAL results in an actuarial loss.

On a market value return basis, the Fund returned approximately 6.42% (calculated on a dollar-weighted basis, net of investment expenses). Given this return, the actual investment income was lower than the expected investment income on the market value of assets; therefore, an investment loss occurred. Please see Section N – Table 6 for the determination of the actuarial value of assets (AVA) and page 48 for a description of the AVA methodology. As developed on Section N – Table 9a, there was a $16.0 million loss on the actuarial value of assets as of December 31, 2020. The rate of return on the actuarial value of assets for 2020 was 6.81% (calculated on a dollar-weighted basis, net of investment expenses). This result was less than the investment return assumption of 7.25%.

As developed on Section N – Table 8, ERF experienced an overall actuarial experience gain in calendar year 2020 in the amount of $53.8 million. Since there was a $16.0 million loss on the actuarial value of assets, this implies there was a liability actuarial gain of about $69.8 million derived from demographic assumptions and non-investment economic assumptions (cost-of-living-adjustment). Please see Section N – Table 9b for an analysis of the experience loss by source.

The total (G)/L for the prior 5 years is broken down as follows ($ in millions):

	2016	**2017**	**2018**	**2019**	**2020**
1) Actuarial (Gain)/Loss on Assets	($16.41)	($19.85)	$88.73	$35.80	$16.03
2) Actuarial (Gain)/Loss on Liabilities	(32.35)	(61.02)	11.35	(6.16)	(69.81)
3) Total Actuarial (Gain) or Loss (1+2)	($48.76)	($80.87)	$100.08	$29.64	($53.78)

The unfunded actuarial accrued liability (UAAL) also increased $34.2 million due to the shortfall betweenthe calculated contribution rate and the actual contributions during 2020.

ASSET INFORMATION

The assets of the Fund (on a market value basis) increased from $3,658 million as of December 31, 2019 to $3,707 million as of December 31, 2020.

The assets recognized for actuarial valuation purposes (known as "the actuarial value of assets") were set equal to the market value of assets in the December 31, 2017 valuation. Beginning with the December 31, 2018 valuation, a new smoothing method was adopted by the Board to recognize future asset gains and losses. The purpose of such a smoothing method is to allow the use of market values, and to dampen the effect of the typical year-to-year market fluctuations. Please see page 48 of this report for a description of the smoothing method (actuarial value of asset method). See Table 6 in Section N of this report for the determination of the actuarial value of assets as of December 31, 2020.

The actuarial value of assets has increased from $3,683 million to $3,747 million during 2020. The actuarial assets are less than the expected actuarial assets, $3,763 million, due to recognition of the prior year's deferred investment losses. This resulted in an actuarial loss on the actuarial assets of $16.0 million.

The rate of return on investments for 2020 on the actuarial value of assets was 6.81%, compared to 6.74% in 2019. The detailed determinations of asset values utilized in this valuation and the change in assets in the last year are exhibited in Tables 4 and 5 of Section N of this report.

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FUNDED STATUS

The funded status of ERF is measured by the Funded Ratio and the Unfunded Actuarial Accrued Liability (UAAL). The Funded Ratio is the ratio of the actuarial value of assets available for benefits to the Actuarial Accrued Liability (AAL) of the Fund on the valuation date. Therefore, it reflects the portion of the AAL thatis covered by ERF assets. The UAAL is the difference between these two amounts.

A Funded Ratio of 100% means that the funding of ERF is precisely on schedule as of the particular valuation date. In addition, an increasing funded ratio from year-to-year may also mean that the fundingof ERF is on schedule. By monitoring changes in the Funding Ratio each year, we can determine whetheror not funding progress is being made.

Based on the market value of assets, the Funded Ratio of ERF decreased from 75.2% as of December 31, 2019 to 75.1% as of December 31, 2020. Based on the actuarial value of assets, the Funded Ratio of ERF increased from 75.7% as of December 31, 2019 to 76.0% as of December 31, 2020.

The UAAL increased from $1,180.4 million as of December 31, 2019 to $1,185.8 million as of December31, 2020. Since the UAAL is positive, this implies the actuarial accrued liabilities exceed the actuarial assets of the Fund as of December 31, 2020.

The actual $5.4 million increase in the UAAL was less than the expected increase of $59.2 million ($25.0 million due to negative amortization and $34.2 million as a result of the actual contributions being less than the actuarially determined contribution rate), resulting in a net actuarial gain in total. The primary reasons the increase in the UAAL was less than expected were the gain from the 1.35% cost of living adjustment and the gain related to salary increases being less than expected.

The funded status is one of many metrics used to show trends and develop future expectations about the health of a retirement system. The funded status measure itself is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan’s benefit obligations or assessing the need for or the amount of future contributions since it does not reflect normal cost contributions, the timing of amortization payments, or future experience other than expected.

GASB DISCLOSURE

Governmental Accounting Standards Board (GASB) Statement Numbers 67 and 68 detail the current accounting standards for ERF and the Fund's sponsor, the City of Dallas, Texas. These new standards wereeffective with the plan year ending December 31, 2014 for the Fund and the fiscal year ending September 30, 2015 for the City. The new standards created a clear distinction between the funding requirements of a pension plan and the accounting requirements. Because of these changes, the GASB disclosure information will no longer be included in the actuarial valuation report, but will instead be provided under separate cover.

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ASSESSMENT AND DISCLOSURE OF RISK ASSOCIATED WITH MEASURING PENSION OBLIGATIONS AND DETERMINING PENSION PLAN CONTRIBUTIONS

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

ASSESSMENT AND DISCLOSURE OF RISK ASSOCIATED WITH MEASURING PENSION OBLIGATIONS AND DETERMINING PENSION PLAN CONTRIBUTIONS (Continued)

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The Current Adjusted Total Obligation Rate shown in the Executive Summary may be considered as a minimum contribution rate that complies with Chapter 40A of the Dallas City Code. However, due to the contribution rate cap, this is less than the actuarially calculated rate. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Several generally accepted plan maturity measures are described below and are followed by a table showing a 10-year history of the measurements for Dallas ERF.

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

ASSESSMENT AND DISCLOSURE OF RISK ASSOCIATED WITH MEASURING PENSION OBLIGATIONS AND DETERMINING PENSION PLAN CONTRIBUTIONS (Continued)

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees, resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives, resulting in a ratio below 1.0.

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

DURATION OF PRESENT VALUE OF BENEFITS

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

ADDITIONAL RISK ASSESSMENT

Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability. While a robust measurement of additional risk assessment is outside the scope of the annual actuarial valuation, we have included a scenario test of a 1% increase or 1% decrease in the investment return assumption. The results of this test are shown at the end of this section.

ASSESSMENT AND DISCLOSURE OF RISK ASSOCIATED WITH MEASURING PENSION OBLIGATIONS AND DETERMINING PENSION PLAN CONTRIBUTIONS (Continued)

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Ratio of the market value of assets to total payroll	8.64	8.43	7.71	8.55	8.13	8.12	9.34	9.72	9.01	8.87
Ratio of actuarial accrued liability to payroll	11.50	11.21	10.68	10.39	10.48	10.50	11.03	10.55	10.64	10.95
Ratio of actives to retirees and beneficiaries	0.96	1.00	1.05	1.11	1.10	1.11	1.09	1.08	1.09	1.09
Ratio of net cash flow to market value of assets	-4.9%	-4.8%	-5.1%	-4.3%	-4.4%	-4.5%	-4.2%	-4.4%	-5.1%	-5.3%
Duration of the actuarial present value of benefits*	12.69	12.37	NA	NA	NA	NA	NA	NA	NA	NA

*Duration measure not available prior to 2018

Impact on Funding Metrics of Investment Return Assumption +/- 1%

	Investment Return Assumption		
Cost Item	6.25%	7.25%	8.25%
Normal Cost % (excluding admin expenses)	24.91%	20.11%	16.56%
UAAL ($ in millions)	$1,771.9	$1,187.5	$696.4
30-year funding rate (employee + City)	49.54%	34.85%	29.03%
Funded Ratio	67.9%	76.0%	84.3%
Funding Period	Infinite	60 years	29 years

CLOSING COMMENTS

The unfunded actuarial accrued liability of the Fund has increased less than expected due to the gain from the 1.35% cost of living adjustment and the gain related to salary increases being less than expected.

The calculated contribution rate necessary to pay the Fund's normal cost and amortize the UAAL over 30 years is 34.85% of pay. When the debt service payment on the Pension Obligation Bonds is considered, the total contribution rate is 43.77% of payroll. However, Chapter 40A of the Dallas City Code limits the contribution rate to 36.00% of payroll, therefore, the total rate to be contributed by the employees and the City for fiscal year 2022 will be 36.00% of pay.

Following adoption of the proposed changes by the ERF Board, the Dallas City Council, and approval by the City of Dallas voters, the new tier of benefits became effective for employees hired after December31, 2016 and the outlook for the ERF improved. Based on our projections, reflecting the new tier of benefits and assuming the actuarial assumptions are exactly met (including a 7.25% return on the actuarial value of assets), ERF is expected to be fully funded in approximately 51 years.

While the expected date of achieving full funding is nearer than it was last year, it is still farther away than is desired. It also exceeds the maximum funding period in the Texas Pension Review Board's actuarial soundness guidelines. Also, because the members and the City are currently contributing the maximum allowed under the City Charter, the Fund is subject to asymmetric risk if there is future adverse experience.

ACTUARIAL TABLES

Summary of Actuarial Values
As of December 31, 2020
($ in 000s)

	APV* of Projected Benefits	Entry Age Actuarial Values: Actuarial Accrued Liability (AAL)	Entry Age Actuarial Values: Normal Cost $	Entry Age Actuarial Values: Normal Cost % of Pay**
1 Active Members				
a. Retirement	$ 1,883,186	$ 1,441,853	$ 61,555	14.57%
b. Death	18,752	11,370	1,013	0.24%
c. Disability	12,114	4,717	1,016	0.24%
d. Termination	138,952	(4,325)	19,136	4.54%
e. Health Subsidy	45,787	33,232	2,209	0.52%
Total	$ 2,098,791	$ 1,486,847	$ 84,929	20.11%
2 Benefit Recipients	3,312,228	3,312,228		
3 Other Inactive	133,811	133,811		
4 Total Actuarial Valueof Benefits	$ 5,544,830	$ 4,932,886	$ 84,929	20.11%
5 Actuarial Value of Assets		$ 3,747,078		
6 Unfunded Actuarial Accrued Liability (4 - 5)		$ 1,185,808		
7 Funding Ratio				75.96%
8 Market Value Measurements				
UAAL on market value				$ 1,226,133
Funded Ratio on market value				75.14%

* *APV – Actuarial Present Value*

** *Percentage of expected payroll for continuing active members.*

Table 1

DEMONSTRATION OF ACTUARIALLY REQUIRED CONTRIBUTION RATE FOR FY 2022

Valuation as of December 31,	Actuarially Determined Total Contribution Rate	Projected Compensation for Plan Year (in Millions)	Total Contributionsto Fund for Plan Year (in Millions)	Actuarial Accrued Liability (AAL $M)	Actuarial Value of Assets (AVA $M)	Unfunded Actuarial Accrued Liability (UAAL $M)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2020	34.85%	$ 428.8	$ 149.4	$ 4,932.9	$ 3,747.1	$ 1,185.8
2021	34.85%	439.0	153.0	5,059.2	3,845.3	1,214.0
2022	34.85%	450.8	157.1	5,186.2	3,945.5	1,240.6
2023	34.85%	463.1	161.4	5,306.6	4,041.0	1,265.6
2024	34.85%	476.0	165.9	5,420.4	4,131.8	1,288.6
2025	34.85%	489.5	170.6	5,527.3	4,217.8	1,309.5
2026	34.85%	503.4	175.4	5,627.5	4,299.6	1,327.9
2027	34.85%	517.8	180.5	5,721.2	4,377.5	1,343.7
2028	34.85%	533.0	185.7	5,809.2	4,452.6	1,356.6
2029	34.85%	548.8	191.2	5,892.6	4,526.2	1,366.5
2030	34.85%	564.9	196.9	5,971.6	4,598.8	1,372.8
2031	34.85%	582.0	202.8	6,047.0	4,671.6	1,375.5
2032	34.85%	599.5	208.9	6,119.6	4,745.7	1,373.9
2033	34.85%	617.1	215.1	6,188.8	4,821.1	1,367.7
2034	34.85%	635.2	221.4	6,254.6	4,898.1	1,356.4
2035	34.85%	653.8	227.9	6,317.2	4,977.4	1,339.8
2036	34.85%	673.3	234.6	6,377.0	5,059.8	1,317.2
2037	34.85%	693.3	241.6	6,434.6	5,146.5	1,288.1
2038	34.85%	714.0	248.8	6,490.7	5,238.6	1,252.1
2039	34.85%	735.6	256.4	6,546.2	5,337.6	1,208.5
2040	34.85%	757.9	264.1	6,601.9	5,445.3	1,156.6
2041	34.85%	781.1	272.2	6,659.0	5,563.2	1,095.8
2042	34.85%	804.9	280.5	6,717.9	5,692.8	1,025.1
2043	34.85%	829.7	289.1	6,779.8	5,835.9	943.9
2044	34.85%	855.2	298.0	6,846.0	5,994.8	851.2
2045	34.85%	881.6	307.2	6,918.3	6,172.2	746.1
2046	34.85%	908.5	316.6	6,998.1	6,370.4	627.7
2047	34.85%	936.1	326.2	7,086.3	6,591.6	494.7
2048	34.85%	964.3	336.1	7,184.1	6,837.8	346.2
2049	34.85%	993.2	346.1	7,292.0	7,111.2	180.8
2050	34.85%	1,022.8	356.4	7,410.8	7,413.5	(2.7)

Table 2

Information for City Ordinance 25695
For the Fiscal Year Commencing October 1, 2021

1 Prior Adjusted Total Obligation Rate	36.00%
2 Actuarially Required Contribution Rate*	34.85%
3 Debt Service	
a Scheduled Debt Service Payment for FY 2022	$ 39,200,283
b Projected Payroll	$ 439,544,160
c Pension Obligation Bond Credit Rate (a/b)	8.92%
4 Current Total Obligation Rate (2 + 3c)	43.77%
5 Current Adjusted Total Obligation Rate	36.00% **
6 Allocation of Contribution Rates Commencing October 1, 2021	
a Employee (5 x .37)	13.32%
b City (5 x .63)	22.68%

* Actuarially determined level contribution rate as demonstrated on Table 2.

** If the absolute value of the difference between the Prior Adjusted Total Obligation Rate (PATOR) and the Current Total Obligation Rate (CTOR) is less than or equal to 3.0% then:
Current Adjusted Total Obligation Rate (CATOR) = PATOR

otherwise:

1) If PATOR - CTOR > 3.00% then the CATOR is set equal to the greater of:
   a) the average of the Prior Adjusted Total Obligation Rate and the Current Total Obligation Rate; or
   b) 90% of the Prior Adjusted Total Obligation Rate

or

2) If PATOR - CTOR < -3.00% then the CATOR is set equal to the lesser of:
   a) the average of the Prior Adjusted Total Obligation Rate and the Current Total Obligation Rate; or
   b) 110% of the Prior Adjusted Total Obligation Rate

Additionally, the CATOR cannot exceed 36.00%.

Table 3

EXCERPTS FROM CITY ORDINANCE 25695

ACTUARIALLY REQUIRED CONTRIBUTION RATE – means, for any fiscal year, a rate of contribution to the fund, expressed as a percentage of members' projected wages for such fiscal year, which is the sum of the following as determined in the actuarial valuation report for the preceding plan year:

(A) the actuarial present value of the pension plan benefits and expenses that are allocated to avaluation period by the actuarial cost method; and

(B) the contribution that will amortize the difference between the actuarial accrued liability of the fund and the actuarial value of the assets of the fund over the period of years required by generally accepted accounting principles.

CITY CONTRIBUTIONS – means, for each pay period ending during a transition year, the city shall contribute to the retirement fund an amount equal to:

(A) 63% times the current total obligation rate for that fiscal year times the members' wages for the pay period, minus

(B) The pension obligation bond credit rate for that fiscal year times the members' wages for the pay period;

and, for each pay period ending during each fiscal year, except for a transition year, the city shall contribute to the retirement fund an amount equal to:

(C) 63% times the current adjusted total obligation rate for that fiscal year times the members' wages for the pay period, minus

(D) The pension obligation bond credit rate for that fiscal year times the members' wages for the pay period.

EMPLOYEE CONTRIBUTIONS – means, for each pay period ending during a transition year, each member shall contribute to the retirement fund an amount equal to:

(A) 37% times the current total obligation rate for that fiscal year times the member's wages for the pay period;

and, for each pay period ending during each fiscal year, except for a transition year, the member shall contribute to the retirement fund an amount equal to:

(B) 37% times the current adjusted total obligation rate for that fiscal year times the member'swages for the pay period.

EXCERPTS FROM CITY ORDINANCE 25695 (Continued)

CURRENT ADJUSTED TOTAL OBLIGATION RATE – means, for any fiscal year, the rate determined by the board as follows, using whichever formula is applicable:

(A) If the current total obligation rate minus the prior adjusted total obligation rate is greater than three, then the current adjusted total obligation rate for such fiscal year is equal to the lesser of:

- (i) the prior adjusted total obligation rate plus one-half times the difference of the current total obligation rate minus the prior adjusted total obligation rate; or
- (ii) 110 percent times the prior adjusted total obligation rate; or
- (iii) 36 percent.

(B) If the difference between the current total obligation rate and the prior adjusted total obligation rate is less than three, then the current adjusted total obligation rate for such fiscal year is equal to the prior adjusted total obligation rate.

(C) If the prior adjusted total obligation rate minus the current total obligation rate is greater than three, then the current adjusted total obligation rate for such fiscal year is equal to the greater of:

- (i) the prior adjusted total obligation rate minus one-half times the difference of the prior adjusted total obligation rate minus the current total obligation rate; or
- (ii) 90 percent times the prior adjusted total obligation rate.

CURRENT TOTAL OBLIGATION RATE – means, for any fiscal year, the rate adopted by the board that is equal to the sum of the pension obligation bond credit rate for such fiscal year plus the actuarially required contribution rate for such fiscal year.

PENSION OBLIGATION BOND CREDIT RATE – means, for any fiscal year, the rate adopted by the board that is a percentage calculated by dividing:

(A) the debt service due during such fiscal year on any pension obligation bonds, the proceeds of which have been deposited in the fund, by:

(B) the total members' projected wages for such fiscal year, as reported in the relevant actuarial valuation report.

PRIOR ADJUSTED TOTAL OBLIGATION RATE – means:

(A) for the fiscal year commencing October 1, 2006, the current total obligation rate that was effective for the prior fiscal year; and

(B) for each fiscal year commencing on or after October 1, 2007, the current adjusted total obligation rate that was effective for the prior fiscal year.

EXCERPTS FROM CITY ORDINANCE 25695 (Continued)

PROJECTED PAYROLL – means the covered payroll for the valuation proceeding the fiscal year multiplied by the payroll growth assumption.

TRANSITION YEAR – means each of the following:

(A) the first fiscal year in which debt service payments related to pension obligation bonds are duefrom the city;

(B) the first fiscal year in which no debt service payments related to pension obligation bonds aredue from the city; and

(C) the fiscal year beginning October 1, 2005.

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Net Assets Available for Benefits
($ in 000s)

	December 31, 2019	December 31, 2020
1 Assets		
a. Cash & Short-Term	$ 325,309	$ 336,137
2 Receivables		
a. Accrued Investment Income	$ 14,467	$ 14,925
b. Securities Sold	4,243	6,188
c. Employer Contribution	2,307	467
d. Employee Contribution	2,164	439
e. Pending Contracts	438,841	406,359
3 Investments	$ 462,022	$ 428,378
a. Index Funds	$ 176,734	$ 208,318
b. Fixed Income	997,117	976,820
c. Equities	1,872,596	1,888,059
d. Real Estate	230,183	222,726
e. Private Equity	267,422	316,237
	$ 3,544,052	$ 3,612,160
4 Total Assets	$ 4,331,383	$ 4,376,675
5 Liabilities		
a. Accounts Payable	$ 7,267	$ 8,482
b. Investment Transactions	666,028	661,440
	$ 673,295	$ 669,922
6 Net Assets Available For Benefits	$ 3,658,088	$ 3,706,753

Table 4

Change in Assets Available for Benefits
Fiscal Year Ending December 31, 2020
($ in 000s)

		2019		2020
1 Assets Available at Beginning of Year	$	3,265,402	$	3,265,402
Adjustment *		16,911		0
2 Revenues	$	3,282,313	$	3,658,088
a. Employer Contributions	$	62,177	$	61,615
b. Employee Contributions		58,314		58,358
c. Investment Income		114,123		91,867
d. Investment Expense		(18,129)		(17,915)
e. Realized and Unrealized Gains (Losses)		453,838		153,972
f. Other (Security Lending)		1,411		1,181
Total Revenues	$	671,734	$	349,078
3 Expenses				
a. Benefits	$	278,007	$	287,465
b. Refunds		10,436		6,857
c. Operating Expense		7,516		6,091
Total Expense	$	295,959	$	300,413
4 Assets Available at End of Year (1 + 2 + 3)	$	3,658,088	$	3,706,753

** Change due to difference between unaudited asset value used for prior valuation and audited asset value reported the following year.*

Table 5

Development of Actuarial Assets
($ in 000s)

		December 31, 2020
1. Market value of assets at beginning of year	$	3,658,088
2. External cashflow		
a. Contributions	$	119,973
b. Benefits and refunds paid		(294,322)
c. Administrative and miscellaneous expenses		(6,091)
d. Subtotal		(180,440)
3. Assumed investment return rate for fiscal year		7.25%
4. Assumed investment income for fiscal year	$	258,785
5. Expected Market Value at end of year (1+ 2 + 4)	$	3,736,433
6. Market value of assets at end of year	$	3,706,753
7. Difference (6 - 5)	$	(29,680)

8. Development of amounts to be recognized as of December 31, 2020:

Fiscal Year End	Remaining Deferral of Excess (Shortfall) of Investment Income	Offsetting of Gains/(Losses)	Net Deferrals Remaining	Years Remaining	Recognized for this valuation	Remaining after this valuation
	(1)	(2)	(3) = (1) + (2)	(4)	(5) = (3) / (4)	(6) = (3) - (5)
2016	$ 0	$ 0	$ 0	1	$ 0	$ 0
2017	0	0	0	2	0	0
2018	(24,871)	0	(24,871)	3	(8,290)	(16,581)
2019	0	0	0	4	0	0
2020	29,680)	0	9,680)	5	(5,936)	(23,744)
Total	$ 54,551)	$ 0	$ (54,551)		$ (14,226)	$ (40,325)

9. Final actuarial value of plan net assets, end of year (Item 6 - Item 8, Column 6)	$	3,747,078
10. Ratio of actuarial value to market value		101.1%

Notes: Remaining deferrals in Column (1) for prior years are from last year's report Table 6, column 6. The number in the current year is Item 7, above. Column 2 is a direct offset of the current year's excess/(shortfall) return against prior years' excess/(shortfall) of the opposite type.

Table 6

Historical Investment Performance
Dollar Weighted Basis Net of Investment Expenses

Calendar Year	On Market Value	On Actuarial Value
2001	-5.46%	2.76%
2002	-9.81%	-5.37%
2003	27.05%	2.03%
2004	15.22%	9.38%
2005	7.93%	13.71%
2006	16.90%	13.03%
2007	3.56%	9.58%
2008	-31.31%	-3.76%
2009	30.35%	6.79%
2010	15.77%	4.30%
2011	0.86%	1.15%
2012	14.29%	2.82%
2013	16.75%	10.65%
2014	6.14%	10.29%
2015	-1.83%	7.02%
2016	8.65%	8.51%
2017*	12.34%	8.99%
2018	-5.15%	5.23%
2019	17.30%	6.74%
2020	6.42%	6.81%
5-year average ending in 2020	7.64%	7.25%
10-year average ending in 2020	7.32%	6.78%

* The yield on the actuarial value of assets for 2017 includes the impact of the method change for the Actuarial Value of Assets.

Table 7

Analysis of Change in Unfunded Actuarial Accrued Liability
For the Year Ending December 31, 2020
($ in 000s)

1. UAAL as of December 31, 2019		$ 1,180,366
2. Expected Change in UAAL during 2020		
a. Expected Amortization Payment for CY 2020	(58,476)	
b. Interest adjustments on 1 & 2a to Year End @ 7.25%	83,494	
c. Expected change in UAAL		25,018
3. Increase/(Decrease) in UAAL Due to Difference Between Calculated Contribution Rate and Actual Contribution		34,206
4. Net Actuarial Experience (Gains) & Losses		(53,782)
5. Assumption and Method Changes		0
6. UAAL as of December 31, 2020		$ 1,185,808

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Table 8

Investment Experience (Gain) or Loss
($ in 000s)

Item	Valuation as of December 31, 2020
1. Actuarial assets, beginning of year	$ 3,682,959
2. Contributions	119,973
3. Benefits and refunds paid with administrative expenses	(300,413)
4. Assumed net investment income at 7.25% on	
a. Beginning of year assets	267,015
b. Contributions	4,273
c. Benefits and refunds paid with administrative expenses	(10,699)
d. Total	$ 260,589
5. Expected actuarial assets, end of year (Sum of Items 1 through 4)	3,763,108
6. Actual actuarial assets, end of year	3,747,078
7. Asset experience (gain)/loss for year	16,030

Table 9a

Analysis of Actuarial (Gains) and/or Losses for 2020
($ in 000s)

	2020
Investment Return	$ 16,030
Salary Increase	(26,580)
Age and Service Retirement	(2,052)
General Employment Termination	2,301
Disability Incidence	(236)
Active Mortality	1,150
Benefit Recipient Mortality	(8,015)
Actual vs. Expected Cost of Living Adjustment (COLA)*	(24,956)
Other	(11,424)
Total Actuarial (Gain)/ Loss	$ (53,782)

* Actual COLA of 1.35% versus expected COLAs of 2.50% for Tier A and 2.20% for Tier B.

Table 9b

Schedule of Funding Status
($ in 000s)

End of Year	Actuarial Value of Assets (a)	AAL (b)	UAAL (b-a)	Funding Ratio (a/b)	Payroll* (c)	UAAL as % of Payroll ((b-a)/c)
1998	$1,617,468	$1,750,430	$132,962	92.40%	$275,547	48.30%
1999	1,862,644	1,873,998	11,353	99.39%	282,127	4.00%
2000	1,997,828	2,038,078	40,250	98.03%	298,355	13.50%
2001	2,017,041	2,276,488	259,447	88.60%	332,842	77.90%
2002	1,863,701	2,399,569	535,868	77.67%	324,615	165.08%
2003	1,843,099	2,489,071	645,972	74.05%	318,492	202.82%
2004	2,482,082	2,488,270	6,188	99.75%	331,201	1.87%
2005	2,739,269	2,606,173	(133,096)	105.11%	332,446	-40.04%
2006	2,998,099	2,761,404	(236,695)	108.57%	344,997	-68.61%
2007	3,183,260	2,915,164	(268,096)	109.20%	370,150	-72.43%
2008	2,957,506	3,075,385	117,879	96.17%	389,362	30.27%
2009	3,031,652	3,192,120	160,468	94.97%	375,164	42.77%
2010	3,027,439	3,282,126	254,687	92.24%	332,045	76.70%
2011	2,916,746	3,391,652	474,906	86.00%	318,972	148.89%
2012	2,846,124	3,518,356	672,232	80.89%	340,452	197.45%
2013	3,074,284	3,610,845	362,477	85.14%	352,486	102.83%
2014	3,241,053	4,004,055	763,002	80.94%	374,002	204.01%
2015	3,320,387	4,129,133	808,746	80.41%	404,981	199.70%
2016	3,451,463	4,291,802	840,339	80.42%	420,693	199.75%
2017	3,601,612	4,377,844	776,232	82.27%	432,854	179.33%
2018	3,620,319	4,526,996	906,677	79.97%	435,375	208.25%
2019	3,682,959	4,863,325	1,180,366	75.73%	444,737	265.41%
2020	3,747,078	4,932,886	1,185,808	75.96%	439,544	269.78%

* *Projected to following year.*

Table 10

Summary of Data Characteristics

As of December 31,	2018	2019	2020
Active Members			
Number	7,584	7,427	7,244
Total Annualized Earnings of Members as of 12/31 (000s)	$ 423,723	$ 433,890	$ 428,824
Average Earnings	55,871	58,421	59,197
Benefit Recipients			
Number	7,224	7,405	7,552
Total Annual Retirement Income (000s)	$ 258,085	$ 269,263	$ 277,429
Total Annual Health Supplement (000s)	10,523	10,984	10,929
Average Total Annual Benefit	37,200	37,871	38,228
Inactive Members*			
Deferred Vested	819	877	911
Deferred Nonvested	673	789	799
Total	1,492	1,666	1,710

** The number of inactives on 12/31/2020 includes 911 members who have applied for a deferred pension and 799 other members who have terminated and still have contribution balances in the Fund.*

Table 11

Distribution of Active Members and Payroll by Age and Years of Service

	Years of Service								
Age	**Under 1**	**1-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 & Over**	**Totals**
Under 20									0
									$0
20-24	61	75	1						137
	$2,223,449	$2,881,273	$36,410						$5,141,132
25-29	121	346	85	0					552
	$5,167,927	$15,304,158	$4,227,546	$0					$24,699,631
30-34	118	397	223	48					786
	$5,611,769	$19,815,181	$11,987,081	$2,941,744					$40,355,775
35-39	81	303	244	140	33	3			804
	$3,880,585	$16,404,669	$14,704,173	$9,295,793	$2,220,168	$198,574			$46,703,962
40-44	69	285	239	136	102	51	0		882
	$3,335,181	$17,047,343	$14,074,826	$8,863,349	$7,165,892	$3,412,203	$0		$53,898,794
45-49	73	245	201	147	118	168	46	1	999
	$3,537,292	$13,776,561	$12,966,095	$9,603,015	$7,858,980	$11,075,175	$3,043,383	$62,704	$61,923,205
50-54	71	233	205	147	139	175	99	20	1,089
	$3,992,421	$13,295,866	$11,485,053	$9,866,289	$9,478,072	$12,333,415	$7,404,503	$1,556,943	$69,412,562
55-59	48	191	172	202	157	159	48	34	1,011
	$2,839,641	$10,607,652	$10,140,848	$12,362,651	$10,568,268	$10,613,425	$3,340,115	$2,565,277	$63,037,877
60-64	22	113	142	119	89	84	37	45	651
	$1,188,366	$6,254,759	$8,653,710	$7,263,177	$6,103,557	$5,682,412	$2,865,022	$3,951,531	$41,962,534
65&Over	5	47	47	69	47	58	26	34	333
	$300,582	$2,590,212	$2,756,979	$4,485,605	$3,035,993	$3,791,601	$1,975,445	$2,751,682	$21,688,099
Totals	669	2,235	1,559	1,008	685	698	256	134	7,244
	$32,077,213	$117,977,674	$91,032,721	$64,681,623	$46,430,930	$47,106,805	$18,628,468	$10,888,137	$428,823,571

Table 12

Distribution of Benefit Recipients
As of December 31, 2020

Age	Number	Annual Benefit*	Annual Average Benefit*
Under 50	45	$ 782,346	$ 17,385
50-54	182	7,643,536	41,997
55-59	616	28,433,500	46,158
60-64	1,326	52,591,164	39,662
65-69	1,694	63,820,302	37,674
70-74	1,639	63,575,777	38,789
75-79	954	30,725,992	32,208
80-84	564	16,875,181	29,921
85-89	309	7,964,781	25,776
90 & Over	223	5,016,120	22,494
Total	7,552	$ 277,428,698	$ 36,736

** Does not include Health Benefit Supplement.*

Table 13

Schedule of Active Member Valuation Data

Year Ending December 31,	Active Participants	Percent Change	Covered Payroll	Percent Change	Average Salary	Percent Change
2008	8,117	-	$ 359,369,000	-	$ 44,274	-
2009	8,371	3.1%	378,021,000	5.2%	45,158	2.0%
2010	7,654	-8.6%	364,237,000	-3.6%	47,588	5.4%
2011	7,034	-8.1%	322,374,000	-11.5%	45,831	-3.7%
2012	6,745	-4.1%	309,682,000	-3.9%	45,913	0.2%
2013	6,864	1.8%	330,536,000	6.7%	48,155	4.9%
2014	6,993	1.9%	342,219,000	3.5%	48,937	1.6%
2015	7,180	2.7%	363,109,000	6.1%	50,572	3.3%
2016	7,477	4.1%	393,186,000	8.3%	52,586	4.0%
2017	7,619	1.9%	409,433,000	4.1%	53,738	2.2%
2018	7,838	2.9%	421,269,000	2.9%	53,747	0.0%
2019	7,584	-3.2%	423,723,000	0.6%	55,871	4.0%
2019	7,427	-2.1%	433,890,000	2.4%	58,421	4.6%
2020	7,244	-2.5%	428,824,000	-1.2%	59,197	1.3%

Table 14a

Schedule of Retirees and Beneficiaries Added to and Removed from Rolls

Year Ending December 31,	Added to Rolls		Removed from Rolls		Rolls-End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
2007	239	$ 7,250,468	205	$4,551,742	5,304	$142,267,609	-	$ 26,823
2008	383	8,905,680	211	4,684,964	5,476	154,692,846	8.7%	28,249
2009	446	9,268,740	216	4,795,982	5,706	165,826,328	7.2%	29,062
2010	508	12,798,268	221	4,907,000	5,993	179,730,384	8.4%	29,990
2011	404	10,012,165	198	4,396,317	6,199	193,851,170	7.9%	31,271
2012	325	9,795,464	204	4,529,539	6,320	202,120,582	4.3%	31,981
2013	324	11,246,955	197	4,327,990	6,447	210,027,512	3.9%	32,578
2014	370	12,415,771	219	4,821,713	6,598	219,150,070	4.3%	33,215
2015	476	13,777,204	318	6,847,464	6,756	226,019,290	3.1%	33,455
2016	384	12,746,549	237	5,562,549	6,903	237,992,528	5.3%	34,477
2017	383	9,893,931	244	6,375,641	7,042	244,768,143	2.8%	34,758
2018	402	14,905,595	220	5,976,286	7,224	258,085,328	5.4%	35,726
2019	478	17,715,050	297	8,368,302	7,405	269,263,106	10.0%	36,362
2020	455	28,634,730	308	11,614,128	7,552	277,428,698	13.3%	36,736

Table 14b

Solvency Test
($ in 000s)

	Aggregated Accrued Liabilities for				Portions of Accrued Liabilities Covered by Reported Assets		
Valuation Date	Active and Inactive Members Contributions	Retirees and Beneficiaries	Active and Inactive Members (Employer Financial Portion)	Reported Assets	(5)/(2)	[(5)-(2)]/(3)	[(5)-(2)-(3)]/(4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
December 31, 2007	$ 206,090	$ 1,591,731	$ 1,117,343	$ 3,183,260	100.0%	100.0%	100.0%
December 31, 2008	221,667	1,707,599	1,146,119	2,957,506	100.0%	100.0%	89.7%
December 31, 2009	228,666	1,834,491	1,128,963	3,031,652	100.0%	100.0%	85.8%
December 31, 2010	232,727	2.041,322	1,008,077	3,027,439	100.0%	100.0%	74.7%
December 31, 2011	240,821	2,181,731	969,100	2,916,746	100.0%	100.0%	51.0%
December 31, 2012	257,716	2,250,533	1,010,107	2,846,124	100.0%	100.0%	33.4%
December 31, 2013	278,892	2,319,424	1,012,529	3,074,284	100.0%	100.0%	47.0%
December 31, 2014	301,567	2,578,071	1,124,417	3,241,053	100.0%	100.0%	32.1%
December 31, 2015	325,607	2,650,638	1,152,888	3,320,387	100.0%	100.0%	29.9%
December 31, 2016	350,646	2,770,533	1,170,623	3,451,463	100.0%	100.0%	28.2%
December 31, 2017	373,193	2,854,818	1,149,833	3,601,612	100.0%	100.0%	32.5%
December 31, 2018	392,004	2,989,597	1,145,395	3,620,319	100.0%	100.0%	20.8%
December 31, 2019	408,984	3,228,576	1,225,766	3,682,959	100.0%	100.0%	3.7%
December 31, 2020	430,411	3,312,228	1,190,247	3,747,078	100.0%	100.0%	0.4%

Table 14c

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EXPERIENCE TABLES

Pay Experience for Employees who are Active at Beginning and End of Year
Valuation Pay Analysis
Analyzed by Years of Service

Service Beginning of Year	Experience for 2020			
	Number	Expected Pay	Actual Pay	Ratio A/E
Under 5	2,011	$ 107, 598, 161	$ 106,060,895	99%
5-9	1,688	98,818,276	97,104,156	98%
10-14	987	64,401,160	63,046,275	98%
15-19	717	49,401,604	48,442,912	98%
20-24	718	49,415,411	47,838,901	97%
25-29	299	22,356,375	21,677,411	97%
30 & Over	141	11,608,137	11,364,050	98%
Total	6,561	$ 403,599,124	$ 395,534,600	98%
Over 10 Years	2,862	$ 197,182,687	$ 192,369,549	98%

Service Beginning of Year	Experience for 2020-2020			
	Number	Expected Pay	Actual Pay	Ratio A/E
Under 5	2,011	$ 107, 598, 161	$ 106,060,895	99%
5-9	1,688	98,818,276	97,104,156	98%
10-14	987	64,401,160	63,046,275	98%
15-19	717	49,401,604	48,442,912	98%
20-24	718	49,415,411	47,838,901	97%
25-29	299	22,356,375	21,677,411	97%
30 & Over	141	11,608,137	11,364,050	98%
Total	6,561	$ 403,599,124	$ 395,534,600	98%
Over 10 Years	2,862	$ 197,182,687	$ 192,369,549	98%

Table 15

Analysis of Retirement Experience
Each Age

Age	2020 Retirement			2020-2020 Retirement		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
46	-	-	N/A	-	-	N/A
47	-	-	N/A	-	-	N/A
48	-	-	N/A	-	-	N/A
49	-	0.40	0%	-	0.40	0%
50	2	3.90	51%	2	3.90	51%
51	4	9.50	42%	4	9.50	42%
52	9	9.60	94%	9	9.60	94%
53	9	11.80	76%	9	11.80	76%
54	8	10.55	76%	8	10.55	76%
55	15	11.75	128%	15	11.75	128%
56	13	11.30	115%	13	11.30	115%
57	17	14.10	121%	17	14.10	121%
58	15	15.15	99%	15	15.15	99%
59	11	13.05	84%	11	13.05	84%
60	29	21.48	135%	29	21.48	135%
61	16	17.65	91%	16	17.65	91%
62	15	18.20	82%	15	18.20	82%
63	14	15.40	91%	14	15.40	91%
64	11	16.49	67%	11	16.49	67%
65	18	17.53	103%	18	17.53	103%
66	14	13.22	106%	14	13.22	106%
67	10	10.03	100%	10	10.03	100%
68	9	8.35	108%	9	8.35	108%
69	5	4.67	107%	5	4.67	107%
70 & Over	28	92.00	30%	28	92.00	30%
Total	272	346.12	79%	272	346.12	79%
Total Under 70	244	254.12	96%	244	254.12	96%

Table 16a

Analysis of Retirement Experience
Age Groups

Age Group	2020 Retirements			2020-2020 Retirements		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
Under 55	32	45.75	70%	32	45.75	70%
55-59	71	65.35	109%	71	65.35	109%
60-64	85	89.22	95%	85	89.22	95%
65-69	56	53.80	104%	56	53.80	104%
70 & Over	28	92.00	30%	28	92.00	30%
Total	272	346.12	79%	272	346.12	79%
Total Under 70	244	254.12	96%	244	254.12	96%

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Table 16b

Analysis of Turnover Experience

Years of Service	2020 Quits			2020-2020 Quits		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
0-4	389	387.77	100%	389	387.77	100%
5-9	126	123.69	102%	126	123.69	102%
10-14	29	28.45	102%	29	28.45	102%
15-19	17	11.17	152%	17	11.17	152%
20-24	10	6.36	157%	10	6.39	157%
25-29	-	0.48	0%	-	0.48	0%
Total	571	577.94	102%	571	557.94	102%

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Table 17

Analysis of Active Mortality Experience

	2020 Deaths			2020-2020 Deaths		
Age Group	**Actual**	**Expected**	**Ratio A/E**	**Actual**	**Expected**	**Ratio A/E**
20-24	0	0.03	0%	0	0.03	0%
25-29	1	0.11	908%	1	0.11	908%
30-34	0	0.21	0%	0	0.21	0%
35-39	2	0.31	647%	2	0.31	647%
40-44	1	0.52	191%	1	0.52	191%
45-49	1	0.88	113%	1	0.88	113%
50-54	4	1.48	270%	4	1.48	270%
55-59	3	2.08	144%	3	2.08	144%
60 & Over	7	3.25	215%	7	3.25	215%
Total	20	8.88	225%	20	8.88	225%

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Table 18

Analysis of Disability Experience

	2020 Disabilities			2020-2020 Disabilities		
Age	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
20-24	0	0.00	0%	0	0.00	0%
25-29	0	0.03	0%	0	0.03	0%
30-34	0	0.12	0%	0	0.12	0%
35-39	0	0.28	0%	0	0.28	0%
40-44	0	0.56	0%	0	0.56	0%
45-49	0	0.96	0%	0	0.96	0%
50-54	0	1.34	0%	0	1.34	0%
55-59	0	1.48	0%	0	1.48	0%
60 & Over	0	0.80	0%	0	0.80	0%
Total	0	5.57	0%	0	5.57	0%

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Table 19

Analysis of Retiree Mortality Experience*

	2020 Experience			2020-2020 Experience		
Age	**Actual**	**Expected**	**Ratio A/E**	**Actual**	**Expected**	**Ratio A/E**
Under 60	6	2.49	241%	6	2.49	241%
60-64	8	8.02	100%	8	8.02	100%
65-69	27	18.00	150%	27	18.00	150%
70-74	32	27.45	117%	32	27.45	117%
75-79	40	25.73	155%	40	25.73	155%
80-84	28	24.46	114%	28	24.46	114%
85-89	28	20.33	138%	28	20.33	138%
90 & Over	22	24.03	92%	22	24.03	92%
Total	191	150.52	127%	191	150.52	127%

**This analysis does not include beneficiary, QDRO, or disabled deaths.*

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Table 20

ACTUARIAL METHODS AND ASSUMPTIONS

The most recent experience study was completed in conjunction with the December 31, 2019 actuarial valuation. Please see our experience study, dated June 2020, to see more detail of the rationale for the current assumptions. As authorized under Sec. 40A-9 of Chapter 40A, the actuarial methods and assumptions are established set by the Board of Trustees based upon recommendations from the Fund's actuary.

Entry Age Normal Method

The Entry Age Normal actuarial cost method is the actuarial valuation method used for all purposes under ERF. The concept of this method is that funding of benefits for each member should be affected as a, theoretically, level contribution (as a level percentage of pay) from entry into ERF to termination of active status.

The Normal Cost (NC) for a fiscal year under this method is determined as described in the prior paragraph for each individual member. The ERF NC for the year is the total of individual normal costs determined for each active member. The Actuarial Accrued Liability (AAL) under this method is the theoretical asset balance of the normal costs that would have accumulated to date based upon current actuarial assumptions. To the extent that the current assets of the fund are insufficient to cover the AAL,an Unfunded Actuarial Accrued Liability (UAAL) develops.

Actuarially Determined Contribution

The actuarially determined contribution rate is developed using an open group projection. The total contribution rate (member plus City) is the level percentage of pay needed to fund the Normal Cost for each year and pay off the UAAL over 30 years.

In the open group projection, the demographic assumptions are applied to the current active employees and any employees that are assumed to leave employment are replaced one for one with a new employee. Over time this results in the change of the employee group from mostly Tier A members to Tier B members. The projection is built to assume no gains or losses on the actuarial accrued liability or the actuarial value of assets.

In the projection, new members' pay is assumed to increase at 3.00% year over year (i.e. a new employeein 2020 is assumed to be hired at a salary that is 3.00% greater than a new employee hired in 2019). The 3.00% growth rate is equal to our wage inflation assumption of 3.00% (ultimate salary increase assumption). Note that this is not an assumption that payroll will grow at 3.00% per year. Payroll couldgrow more slowly in the near-term due to membership demographics.

New Entrant Profile

For the purposes of determining the funding period, an open group projection is used which replaces on a one-to-one basis each active member who leaves employment with an average new hire. The average new hire is determined based on a new entrant profile, which is created from the valuation data by determining

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

the entry age and entry pay for anyone with between one and six years of service as of the valuation date, with salaries normalized to the valuation date. A summary of the new entrant profile is shown in the tablebelow, with 58.5% of the population being male. The salaries below would be applicable for the year preceding the valuation date. Future cohorts of new hires have starting salaries that are assumed to grow at the General Wage Inflation of 3.00% over the salaries of the previous year.

New Entrant Profile		
Entry Age	**# of Employees**	**Average Salary**
15-19	3	$ 44,036
20-24	172	37,849
25-29	311	43,421
30-34	291	48,168
35-39	217	51,087
40-44	225	54,531
45-49	176	55,142
50-54	161	53,515
55-59	122	50,631
60-64	57	57,685
65-69	6	48,734
Total	**1,741**	**$49,165**

Actuarial Value of Asset Method

The method for determining the actuarial value of assets in future years is equal to the market value of assets less a five-year phase in of the excess (shortfall) between expected investment return and actual income. The actual calculation is based on the difference between actual market value and the expected market value of assets each year, and recognizes the cumulative excess return (or shortfall) at a minimum rate of 20% per year. Each year, a base is set up to reflect this difference. If the current year's base is of opposite sign to the deferred bases, then it is offset dollar for dollar against the deferred bases. Any remaining bases are then recognized over the remaining period for the base.

Annual Rate of Investment Return: For all purposes under the Fund, the rate of investment return is assumed to be 7.25% per annum, net of investment expenses. This rate includes an annual assumed rate of inflation of 2.50%. In addition, annual cost-of-living adjustments are assumed to occur on average at the rate of 2.50% per annum for Tier A members and 2.20% for Tier B members (due to the lower maximum on cost-of-living-adjustments).

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

Annual Compensation Increases: Each member's compensation is assumed to increase in accordance with a table based on actual ERF experience. Sample rates follow:

Years of Service	Merit, Promotion, Longevity	General	Total
0	5.25 %	3.00 %	8.25 %
1	4.25	3.00	7.25
2	3.25	3.00	6.25
3	2.50	3.00	5.50
4	2.00	3.00	5.00
5	1.75	3.00	4.75
6	1.75	3.00	4.75
7	1.25	3.00	4.25
8	1.25	3.00	4.25
9	1.00	3.00	4.00
10	1.00	3.00	4.00
11	1.00	3.00	4.00
12	0.75	3.00	3.75
13	0.75	3.00	3.75
14	0.75	3.00	3.75
15	0.75	3.00	3.75
16	0.75	3.00	3.75
17	0.75	3.00	3.75
18	0.50	3.00	3.50
19 & Over	0.00	3.00	3.00

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

Mortality:

Disabled Lives: The gender-distinct 2019 Texas Municipal Retirees Mortality Table for males and females respectively, set forward 4 years for males and 3 years for females. Generational mortality improvements in accordance with the ultimate rates from the scales published through 2019 by Retirement Plans Experience Committee of the Society of Actuaries ("Ultimate MP") and projected from the year 2019.

Sample rates as of 2020 follow (rate per 1,000), with projected mortality applied:

	Disability Mortality Rate	
Age	**Male**	**Female**
20	35	30
30	35	30
40	35	30
50	35	30
60	35	30
70	35	30
80	83	50
90	238	162

Other Benefit Recipients:

The gender-distinct 2019 Texas Municipal Retirees Mortality Tables are used for males and females respectively. Generational mortality improvements in accordance with the ultimate rates from the scales published through 2019 by Retirement Plans Experience Committee of the Society of Actuaries ("Ultimate MP") and projected from the year 2019.

Sample rates as of 2020 follow (rate per 1,000), with projected mortality applied:

	Mortality Rate	
Age	**Male**	**Female**
30	0.4	0.1
40	0.8	0.3
50	2.7	1.1
60	7.5	3.5
70	20.0	11.2
80	55.3	35.5
90	155.7	113.2

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

Mortality:

Active Members: The PubG-2010 Employee Mortality Table for General Employees tables are used for males and females respectively. Generational mortality improvements in accordance with the ultimate rates from the scales published through 2019 by Retirement Plans Experience Committee of the Society of Actuaries ("Ultimate MP") and projected from the year 2010.

Sample rates as of 2020 follow (rate per 1,000) , with projected mortality applied:

	Mortality Rate	
Age	**Male**	**Female**
30	0.3	0.1
40	0.6	0.3
50	1.3	0.8
60	2.9	1.7
70	6.4	4.4
80	15.6	12.0
90	133.6	104.6

10% of active deaths are assumed to be service related.

Disability: A client-specific table of disability incidence with sample rates follows (rate per 1,000):

Age	Disability Rate
30	0.1
40	0.5
50	1.2
60	2.2

20% of disabilities are assumed to be service related. There is a 0% assumption of disability for members who have over 10 years of service and are eligible for retirement.

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

Retirement: Upon eligibility, active members are assumed to retire as follows (rate per 1,000):

Tier A:

Age	**Male**		**Female**	
	First Year Eligible	Thereafter	First Year Eligible	Thereafter
48-49	100	100	100	100
50	550	550	450	350
51	500	450	400	350
52	500	300	400	300
53	400	300	350	300
54	350	250	350	250
55	300	250	350	250
56	300	250	350	250
57	300	250	350	250
58-59	300	250	250	200
	Service < 18 yrs.	Service 18 yrs. +	Service < 18 yrs.	Service 18 yrs. +
60	80	230	90	200
61	90	230	90	180
62	100	230	90	200
63	100	230	150	150
64	150	230	120	130
65	150	230	120	300
66	200	230	150	300
67	200	230	250	300
68	200	230	150	300
69	200	230	150	300
70	1,000	1,000	1,000	300

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

Retirement, Continued: Upon eligibility, active members are assumed to retire as follows (rate per 1,000):

Tier B:

Age	**Male**		**Female**	
	Service < 40 yrs.	Service 40 yrs. +	Service < 40 yrs.	Service 40 yrs. +
<55	10	350	10	350
55-56	20	350	20	350
57-58	30	350	30	350
59-60	40	350	40	350
61-62	50	350	50	350
63-64	60	350	60	350
65	180	600	200	450
66	200	250	250	250
67	200	250	250	250
68	200	250	150	250
69	200	250	150	250
70	1,000	1,000	1,000	1,000

*For service < 40 yrs, rates shown are for those who met the rule of 80.

Retirement of Deferred Vested Members:

All deferred vested members are assumed to commence payment at their normal retirement age, whichis age 60 for Tier A members and age 65 for Tier B members.

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

General Turnover: A table of termination rates based on ERF experience as shown below.

	Terminations (per 1,000)	
Years of Service	**Male**	**Female**
0	228	200
1	180	165
2	144	150
3	110	120
4	90	95
5	75	90
6	67	80
7	60	65
8	51	48
9	43	48
10	33	45
11	33	32
12	30	30
13	30	30
14	22	20
15	22	14
16	19	14
17	19	14
18	19	14
19	19	14
20	12	14
21	12	14
22	12	6
23	12	6
24	12	6
25	12	6
26 & Over	5	6

There is 0% assumption of termination for members eligible for retirement.

Refunds of Contributions: Members are assumed to choose the most valuable termination benefit.

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

Operational Expenses: The amount of estimated administrative expenses expected in the next year is assumed to be equal to the prior year's expenses and is incorporated in the Normal Cost.

Marital Status: 75% of active male members and 50% of active female employees are assumed to be married.

Vacation Leave Conversions: Members with 20 or more years of service are assumed to convert unused vacation leave to 1.5 months of service. Other members are assumed to convert unused vacation leave to1 month of service. No vacation leave conversion is assumed for disability retirement.

Spouse Age: The female spouse is assumed to be 3 years younger than the male spouse.

Payroll Growth Rate: Used to estimate projected payroll for the following fiscal year. Assumed to beequal to the inflation rate of 2.50%.

Member's Pay: In determining the member's valuation salary, the greater of the prior calendar year's gross pay and the member's rate of compensation is used.

Form of Payment: For Tier A it is assumed that 60% of married active male members and 84% of married active female employees will elect a Joint & 50% Survivor form of payment. Taking into consideration the marriage assumption and the inherent subsidy in the System's Joint & 100% Survivor factors, the male employees are valued with Joint and 28.0% Survivor annuities and the female employees are valued with Joint and 19.5% Survivor annuities. It is also assumed that 100% of Tier B employees will elect the normal form of payment under Tier B.

Data Adjustments: Certain records are missing spousal information. For these records we use the marital status assumption and spousal age difference assumption to value these records. No other adjustments are made to the data.

Actuarial Equivalence Assumptions: for form of payment conversion and Tier B early retirement factor sare based on the following assumptions:

a. Interest Rate of 8.00%.

b. Mortality: Unisex blend (60% male and 40% female) of the following assumptions for males and females. 109% of the RP-2000 Combined Healthy Table for males with Blue Collar adjustment projected to 2026 using improvement scale BB for males. 103% of the RP-2000 Combined Healthy Table for females with Blue Collar adjustment projected to 2026 using improvement scale BB for females.

c. Cost-of-living-adjustments (COLA): a 3.0% COLA assumption for Tier A members and a 2.50% COLA assumption for Tier B members.

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

Actuarial Model: This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

Changes in Methods and Assumptions Since Prior Valuation: None.

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Summary of Benefit Provisions
Employees' Retirement Fund of the City of Dallas
As of December 31, 2020

Membership

An employee becomes a member upon permanent employment and contributes to the Fund.

Tier A

A person who was employed by the City prior to January 1, 2017, or who was re-employed by the City on or after January 1, 2017 and whose pre January 1, 2017 credited service was not canceled by withdrawal or forfeiture or was reinstated.

Tier B

A person who was employed by the City on or after January 1, 2017, or who was re-employed by the City on or after January 1, 2017 and whose pre January 1, 2017 credited service has been canceled by withdrawal orforfeiture.

Contributions

Member: 37% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.

City: 63% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.

Definitions

Final Average Salary:

Tier A

Average monthly salary over the member's highest three years (or 36months) of service.

Tier B

Average monthly salary over the member's highest five years (or 60months) of service.

Credited Service: Length of time as an employee of the City of Dallas andwhile making contributions to the Fund.

Summary of Benefit Provisions (Continued)

Retirement Pension

Eligibility:

Tier A

a. Attainment of age 60; or
b. Attainment of age 55 (if credited service began before May 9, 1972); or
c. At any age after completion of 30 years of credited service with a reduced benefit before age 50; or
d. Attainment of age 50, if the sum of an active member's age and credited service is at least equal to 78.

Tier B

a. Attainment of age 65 and 5 years of service; or
b. At any age after completion of 40 years of credited service; or
c. At any age if the sum of an active member's age and credited service is at least equal to 80 (under this eligibility the member's pension will be actuarially reduced for each year prior to the age of 65 that the member retires).

Retirement Benefits:

Tier A

The retirement benefit equals 2-3/4% multiplied by average monthly earnings multiplied by credited service limited to a maximum of 36.3636 years plus a monthly $125 health supplement (prorated for service less than 5 years).

Tier B

The retirement benefit equals 2-1/2% multiplied by average monthly earnings multiplied by credited service limited to a maximum of 40 years (no monthly health supplement).

Form of Payment:

Tier A

An unreduced pension benefit under a joint and one-half survivor option with 10 years guaranteed or a ten-year certain and life option. An actuarially equivalent joint and full survivor option is also available.

Tier B

An unreduced pension payable for life with 10 years guaranteed. Actuarially equivalent joint and survivor options (50% and 100%) are also available.

Summary of Benefit Provisions (Continued)

Early Retirement Factors:

Tier A

For members retiring prior to age 50 with 30 or more years of service, the pension shall be multiplied by the following percentage:

Age	Percentage
49	93.3
48	87.2
47	81.5
46	76.3
45	71.5
44	67.0

Tier B

For members retiring prior to age 65 with 40 or more years of service, the pension shall be multiplied by the following percentage:

Age	Percentage	Age	Percentage
64	89.72	56	40.03
63	80.66	55	36.41
62	72.64	54	33.15
61	65.53	53	30.22
60	59.21	52	27.57
59	53.58	51	25.18
58	48.56	50	23.01
57	44.06	49	21.05

Deferred Retirement

Eligibility: Deferred retirement pension benefit commencing at age 60 for Tier A members or at age 65 for Tier B members, with at least five (5) years of credited service, and accumulated contributions are left on deposit withthe Fund.

Monthly Benefit: The deferred retirement benefit is equal to the retirement pension based on earnings and credited service at the time oftermination.

Summary of Benefit Provisions (Continued)

Disability Retirement Pension

Non-Service Disability:

1. Eligibility: Five (5) years of service and totally and permanently incapacitated for duty.

2. Monthly Benefit: Computed based on average monthly earnings and credited service at time of disability but not less than 10 times the percentage multiplier multiplied by the average monthly earnings.

Service Disability:

1. Eligibility: Totally and permanently incapacitated from the further performance of duty as a result of injury while in the course of employment for the City.

2. Monthly Benefit: Calculated as a non-service disability pension but not less than $1,000 per month.

Death Benefits

Eligibility: active or inactive members who die prior to retirement

Benefit: For members with less than 2 years of service or inactive member with less than 5 years of service: refund of the members contributions.

Benefit: For members with more than 2 years of service but less than 15 years of service: an unreduced pension to designated beneficiary for 120 months or a one-half survivor option for life with 120 payments guaranteed.

Benefit: For members eligible for retirement or members and inactive members with more than 15 years of service: an unreduced pension to designated beneficiary for 120 months or a Full Survivor option for life with 120 payments guaranteed.

Form: Benefit paid in accordance with the option on file, or the eligible option, or if no eligible beneficiary, a lump sum equivalent of 10 years of benefit payments to the member’s estate.

Minimum Benefit for Service Death: For job-related death a minimum of 10 years of service used in calculation of benefit. Benefit will not be less than $1,000 per month.

Summary of Benefit Provisions (Continued)

Return of Accumulated Contributions

A member at the time of termination is entitled to be paid accumulated contributions without interest.

Cost-of-Living Adjustments

An annual cost-of-living adjustment to the base pension benefit shall be made based on the greater of:

Tier A

a. The percentage of change in the price index for October of the current year over October of the previous year, up to 5%, or

b. The percentage of annual average change in the price index for the 12-month period ending with the effective date of the adjustment, up to 5%.

Tier B

c. The percentage of change in the price index for October of the current year over October of the previous year, up to 3%, or

d. The percentage of annual average change in the price index for the 12-month period ending with the effective date of the adjustment, up to 3%.

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STATISTICAL SECTION

The Statistical Section provides additional historical perspective, context and detail to assist the reader using the information in the financial statements, notes to the financial statements and required supplementary information to understand the economic condition of the Plan. The schedules presented contain information on financial trends, operations, and additional analytical information on employees' membership and retirement benefits. The information in this section is obtained from Comprehensive Annual Financial Reports for relevant years, actuarial reports, and various internal sources.

Schedule of Additions by Source: Presents contributions, investment revenue and contributions as a percent of covered payroll for ten years.

Schedule of Deductions by Type: Presents benefit payments, administrative expenses and refunds for ten years.

Schedule of Changes in Net Position: Presents the increase or decrease in net position for ten years.

Schedule of Benefit Expenses by Type: Presents retiree, beneficiary, disability and supplemental benefit expenses for ten years.

Average Benefit Payment: Presents the average monthly benefit payment, average final salary, and number of retired members based on years of credited service for nine years. An additional year will be displayed as it becomes available.

Retired Members by Type of Benefit: Presents the number or retirees receiving various ranges of monthly benefit amounts. The information is further broken out by type of retirement and retirement option selected.

Average Age and Monthly Pension at Retirement: Presents the average age, average monthly pension, and average age at retirement based on status (members only, members and survivors, and survivors only).

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SCHEDULE OF ADDITIONS BY SOURCE

($ in thousands)

Year Ending	Member Contributions	Employer Contributions	% of Annual Covered P/R	Investment Income	Investment Professional Expenses	Other Income	Total Increases
2011	$ 31,748	$ 27,302	8.6	$ 38,580	($ 14,026)	$ 405	$ 84,009
2012	35,644	30,371	9.6	401,532	(15,854)	429	452,122
2013	41,730	37,823	11.0	509,784	(16,286)	626	573,677
2014	46,536	45,833	12.6	226,670	(18,678)	157	300,518
2015	50,742	50,721	13.2	(35,158)	(18,185)	162	48,282
2016	53,436	56,130	13.9	310,730	(15,812)	333	404,817
2017	55,175	58,966	14.4	430,396	(16,886)	207	527,858
2018	56,772	60,924	14.4	(150,098)	(17,685)	121	(49,966)
2019	58,314	62,177	14.3	569,071	(18,129)	301	671,734
2020	58,358	61,615	14.2	246,936	(17,915)	84	349,078

SCHEDULE OF DEDUCTIONS BY TYPE

($ in thousands)

Year Ending	Benefit Payments	Administrative and Depreciation Expenses	Refunds	Total Deductions
2011	$ 195,270	$ 3,492	$ 4,982	$ 203,744
2012	209,097	3,446	4,369	216,912
2013	216,988	3,595	4,405	224,988
2014	225,614	4,150	4,629	234,393
2015	235,106	4,594	4,854	244,554
2016	243,775	5,343	5,864	254,982
2017	253,534	5,951	8,156	267,641
2018	263,981	7,485	8,515	279,981
2019	278,007	7,516	10,436	295,959
2020	287,465	6,091	6,857	300,413

SCHEDULE OF CHANGES IN NET POSITION

($ in thousands)

Year Ending	Change in Net Position
2011	$ (119,735)
2012	235,210
2013	348,689
2014	66,125
2015	(196,277)
2016	149,835
2017	259,392
2018	(329,947)
2019	375,775
2020	48,665

SCHEDULE OF BENEFIT PAYMENTS BY TYPE

($ in thousands)

Year Ending	**Retiree**	**Beneficiary**	**Disability**	**Supplement**	**Total**
2011	$ 176,028	$ 5,767	$ 4,536	$ 8,939	$ 195,270
2012	187,712	7,561	4,677	9,147	209,097
2013	196,525	6,470	4,656	9,337	216,988
2014	205,172	6,147	4,743	9,552	225,614
2015	214,343	6,101	4,908	9,754	235,106
2016	220,979	7,926	4,884	9,986	243,775
2017	229,843	8,317	5,194	10,180	253,534
2018	240,186	8,276	5,109	10,410	263,981
2019	253,636	8,640	5,046	10,686	278,007
2020	263,182	8,436	4,947	10,900	287,465

AVERAGE BENEFIT PAYMENT

As of December 31, 2020

Retirement Effective Dates	Years of Credited Service						
	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30+
Period 01/01/2020 to 12/31/2020							
Average monthly benefit	$412.15	$1,088.17	$1,544.86	$2,473.03	$3,156.40	$4,068.53	$6,084.19
Average final average salary	$3,980.24	$4,261.10	$4,162.30	$4,874.51	$5,077.47	$5,615.31	$6,554.32
Number of retired members	13	39	37	43	93	39	44
Period 01/01/2019 to 12/31/2019							
Average monthly benefit	$411.49	$868.60	$1,559.50	$2,554.02	$3,007.07	$4,360.05	$5,478.80
Average final average salary	$4,573.78	$3,200.67	$3,625.18	$4,812.60	$4,531.23	$5,776.53	$6,132.39
Number of retired members	13	50	51	56	106	68	39
Period 01/01/2018 to 12/31/2018							
Average monthly benefit	$452.84	$901.30	$1,727.75	$2,169.69	$3,120.36	$4,181.67	$5,731.43
Average final average salary	$2,312.10	$2,700.97	$4,721.44	$3,588.84	$5,033.05	$5,807.68	$6,395.12
Number of retired members	18	28	43	47	65	62	55
Period 01/01/2017 to 12/31/2017							
Average monthly benefit	$395.27	$840.28	$1,456.48	$2,422.33	$3,365.92	$4,441.36	$5,039.49
Average final average salary	$4,260.11	$1,821.11	$3,470.15	$4,985.34	$5,366.59	$6,123.49	$5,798.23
Number of retired members	12	41	51	44	53	56	37
Period 01/01/2016 to 12/31/2016							
Average monthly benefit	$325.38	$762.64	$1,487.94	$2,427.06	$2488.97	$4,170.49	$4,974.11
Average final average salary	$4,28971	$3,561.23	$4,840.13	$5,273.92	$4,942.79	$5,650.83	$5,719.72
Number of retired members	20	37	40	65	45	50	65
Period 01/01/2015 to 12/31/2015							
Average monthly benefit	$144.71	$882.40	$1,36.61	$2,125.58	$3,025.21	$4,105.72	$4,922.06
Average final average salary	$3,346.57	$4,697.46	$4,059.07	$4,581.92	$4,947.81	$5,592.10	$5,691.11
Number of retired members	4	33	24	50	46	62	57
Period 01/01/2014 to 12/31/2014							
Average monthly benefit	$327.07	$643.96	$1,451.21	$1,933.56	$2,948.51	$4,012.32	$5,568.28
Average final average salary	$3,844.96	$3,210.89	$4,108.76	$4,164.61	$4,888.48	$5,444.86	$6,371.13
Number of retired members	7	42	36	56	45	71	38
Period 01/01/2013 to 12/31/2013							
Average monthly benefit	$302.03	$577.63	$1,688.96	$2,012.42	$2,909.37	$3,823.04	$4,639.47
Average final average salary	$3,891.55	$3,100.14	$4,953.89	$4,223.11	$4,763.82	$5,259.98	$5,389.69
Number of retired members	8	29	33	33	49	62	44
Period 01/01/2012 to 12/31/2012							
Average monthly benefit	$325.10	$845.25	$1,590.56	$2,009.64	$2,829.45	$3,963.86	$4,516.58
Average final average salary	$2,932.66	$4,442.19	$4,632.86	$4,117.88	$4,570.14	$5,396.80	$5,268.80
Number of retired members	12	39	32	26	39	61	32
Period 01/01/2011 to 12/31/2011							
Average monthly benefit	$323.02	$787.06	$1,259.41	$2,027.33	$3,098.78	$3,753.60	$4,262.55
Average final average salary	$3,797.67	$3,757.08	$3,701.60	$4,260.84	$5,052.09	$5,105.35	$4,990.11
Number of retired members	15	33	41	48	58	105	61

* Data includes disability retirements

RETIRED MEMBERS BY TYPE OF BENEFIT

As of December 31, 2020

Amount of Monthly Benefits		Type of Retirement							Option Selected			
		1	**2**	**3**	**4**	**5**	**6**	**7**	**#1**	**#2**	**#3**	**#4**
$1	$250	69		29					24	37	31	5
$251	$500	207	2	99			4	17	35	177	93	29
$501	$750	235	7	107	8		9	15	32	211	92	26
$751	$1,000	257	9	77	11		15	12	83	194	104	22
$1,001	$1,250	216	7	77	2	7	14	8	55	169	92	20
$1,251	$1,500	258	11	78	3	9	14	4	87	146	122	23
$1,501	$1,750	240	10	82	1	13	13	4	81	143	128	12
$1,751	$2,000	264	15	73	2	3	5	3	89	160	110	7
over	$2,000	4,303	127	411	2	7	39	20	1,266	2,107	1,499	23
Total		6,049	188	1,033	29	39	113	83	1,752	3,344	2,271	167

a) Type of Retirement

1) Normal retirement

2) Early retirement

3) Beneficiary payment, normal or early retirement

4) Beneficiary payment, service connected death

5) Service connected disability retirement

6) Non-Service connected disability retirement

7) Beneficiary payment, disability retirement

b) Option Selected

1) Joint & 100%-beneficiary receives 100% of member's benefit

2) Joint & 50%-beneficiary receives 50% of member's benefit

3) 10 Year Certain-beneficiary receives member's unused benefits

4) QDRO retirement

AVERAGE AGE AND MONTHLY PENSION AT RETIREMENT

As of December 31, 2020

Status	Average Age	Average Pension	Average Age at Retirement
Members Only	70	$3,284	58
Members and Survivors	72	$2,570	N/A
Survivors Only	74	$1,855	N/A

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EMPLOYEES' RETIREMENT FUND OF THE CITY OF DALLAS
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