Comprehensive Annual Financial Report for the Years Ended December 31, 2018 and 2017

An Independently Governed Component Unit of the City of Dallas, Texas

Protecting the Future

Serving those who protect the Dallas community

DALLAS POLICE & FIRE PENSION SYSTEM

An independently governed component unit of the City of Dallas, Texas

4100 Harry Hines Blvd, Suite 100, Dallas, Texas 75219
Phone: 214.638.3863 | 800.638.3861 **Fax:** 214.638.6403 **Website:** www.dpfp.org **Email:** info@dpfp.org

Comprehensive Annual Financial Report for the fiscal years ended December 31, 2018 and 2017

Kelly Gottschalk, *Executive Director*

Prepared through the combined efforts of the Dallas Police & Fire Pension System staff.

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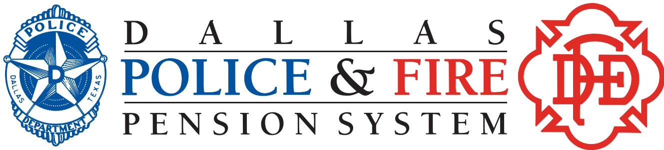
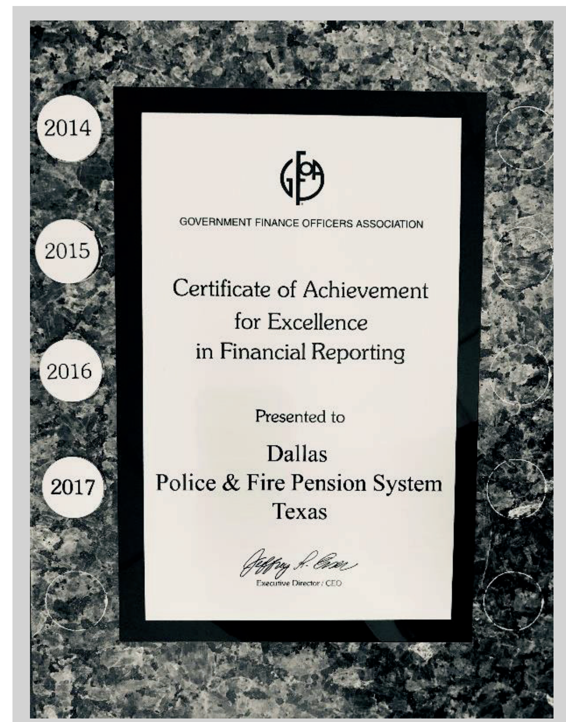
Introduction





Transmittal Letter

November 19, 2019

Board of Trustees
Dallas Police and Fire Pension System
4100 Harry Hines Blvd., Suite 100
Dallas, TX 75219

Dear Trustees and Members:

I am pleased to present the Comprehensive Annual Financial Report (CAFR) of the Dallas Police and Fire Pension System (DPFP), including the Combined Pension Plan and the Supplemental Police and Fire Pension Plan of the City of Dallas (Supplemental Plan), collectively referred to as the Plans, for the fiscal year ended December 31, 2018.

The CAFR has five sections: Introduction, Financial, Investment, Actuarial and Statistical. Responsibility for the accuracy of the data and the completeness and fairness of the presentation, including all disclosures, rests with DPFP management.

Management is responsible for establishing a system of internal controls to safeguard assets. The cost of a control should not exceed the benefits to be derived, the objective of the system of internal controls is to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements. BDO USA, LLP (BDO) audited the accompanying basic financial statements and related disclosures. The financial statement audit provides reasonable assurance that DPFP's financial statements are presented in conformity with accounting principles generally accepted in the United States of America and are free from material misstatement.

The financial statements include a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement MD&A and should be read in conjunction with it. MD&A can be found immediately following the independent auditor's reports in the Financial section.

Profile of DPFP

DPFP is an independently governed component unit of the City of Dallas (City) and serves to provide retirement, death and disability benefits to police officers and firefighters employed by the City. DPFP is a single employer contributory defined benefit plan. The general terms "police officers" and "firefighters" also include fire and rescue operators, fire alarm operators, fire inspectors, apprentice police officers, and apprentice firefighters. A retirement plan for Dallas police officers and firefighters was first created in 1916 by City of Dallas ordinance. In 1933, the 43rd Legislature enacted 6243a, Vernon's Texas Civil Service Statutes, establishing DPFP. The Plan was restated and continued in 1989 by an Act of the 71st Legislature under Article 6243a-1. Article 6243a- 1 was significantly amended by House Bill 3158 (HB 3158 or the bill) which was passed unanimously by the 85th Legislature and was signed into law by Governor Abbott on May 31, 2017. This plan is referred to as the Combined Pension Plan. At December 31, 2018, there were 10,325 members and beneficiaries in the Combined Pension Plan.

The Supplemental Plan was created by City ordinance in 1973. The intent of the Supplemental Plan is to provide additional retirement benefits to those members holding a rank higher than the highest corresponding civil service rank as provided in the Combined Pension Plan. At December 31, 2018, there were 185 members and beneficiaries in the Supplemental Plan.

The assets of the Combined Pension Plan and the Supplemental Plan are co-invested through a Group Master Trust. Administrative and professional expenses of DPFP are allocated to each plan on a pro-rata share based on the assets of each plan.

Major Initiatives and Significant Events

HB 3158 was effective September 1, 2017 and made significant changes to governance, contribution rates and benefits, including the structure of DROP. A full new Board was seated on October 12, 2017. As soon as HB 3158 was signed into law, staff began the process of implementing the provisions. Most of the changes and requirements were accomplished in 2017 but several significant items carried into 2018. The bill required that members be allowed an opportunity to revoke their prior election to participate in DROP until February 28, 2018. In total 183 members revoked their DROP participation. In addition, various system and operational changes extended into 2018.

Changes to the investment program and efforts to liquidate private assets were a major initiative in 2018. See additional discussion under Investment Program and Illiquid Real Estate and Private Asset Portfolio in this letter.

Additional information is included in MD&A and the notes to the financial statements in the Financial section, as well as the Investment and Actuarial section of this report.

Funding Status

The unfunded actuarial accrued liability as of January 1, 2019 was $2.3 billion, a decrease of approximately $21 million from the previous year. The January 1, 2019 funding ratio based on the actuarial value of assets for the Combined Pension Plan was 48.1% and the funding period was 38 years. A decrease in the funded ratio is expected for many years even if all assumptions are met. As has been described in detail in the prior year Comprehensive Annual Financial Reports and the MD&A of this report, the Combined Pension Plan experienced a funding crisis beginning in 2015. At the lowest point the Combined Plan was projected to be insolvent in seven years. HB 3158 created a path to 100% funding. The legislation increased contributions and lowered benefits for all active and retired members and their beneficiaries. The changes reduced the unfunded liability by over $1 billion or 32%. The funding level of 48.1% and 38 years to full funding is not ideal but is a significant change from the insolvency projection prior to the adoption of the legislation. As was known when the legislation was passed, the funding level of the Combined Plan will be fragile for many years. The legislation

was based on payroll projections that were prepared by the City of Dallas. The projections, referred to as the Hiring Plan, had total computation pay at $372 million in 2017 increasing to $684 million in 2037, an average annual growth rate of 3.1%. Through 2024 there is a minimum floor on City contribution levels, therefore the risk of underachieving contribution revenue only relates to the employee contributions through 2024. Beginning in 2025, when the City is expected to contribute based solely on computation pay, differences between actual computation pay and the City's Hiring Plan could have a significant impact on the funding level of the Plan. The actuarial valuation is based on the City's Hiring Plan projections. The City did not meet the Hiring Plan computation pay projection in any pay period in 2018.

Due to the low and declining funding level projections, the Board of Trustees is closely monitoring the City's computation pay and other critical assumptions. HB 3158 added a requirement that mandates the Board adopt changes if the Combined Plan does not meet the Texas Pension Review Board funding guidelines in 2024. Potential changes include increases to City contribution rates, increases to member contribution rates or benefit decreases. At this time the Board believes it's certain that additional changes will be required. The member contributions are approximately equal to the normal cost of their benefit, therefore the most appropriate option is additional funding from the City. The Board also believes that it is prudent to explore options, including pension obligation bonds, for additional City funding as soon as possible and not wait until 2024.

The December 31, 2018 GASB No. 67 pension liability calculation was based on cash flows of 90% of the City's Hiring Plan projections after 2024. The City made progress towards meeting the Hiring Plan estimates in 2019, if that trend does not continue and if it appears the Hiring Plan is not achievable, further discounts to the Hiring Plan computation pay will be included in future years' GASB No. 67 liability calculations, which may result in a lower discount rate and significantly higher pension liabilities.

The changes resulting from HB 3158 also apply to the Supplemental Plan. The January 1, 2019 actuarial funding ratio for the Supplemental Plan was 57.6% and the unfunded liability as of January 1, 2019 was $13.5 million. The City's contribution to the Supplemental Plan is based on a ten-year open amortization period. The City's contribution to the Supplemental Plan decreased by 4.7% or $98 thousand in 2018 due to an increase in City contributions funding the Excess Benefit Plan and Trust.

Additional information on the funding status, actuarial assumptions, asset values and DROP withdrawals can be found in MD&A, notes to the combining financial statements, Required Supplementary Information, and the Actuarial and Investment sections.

2018 Financial Results

The Plans' net position decreased by $61 million in 2018 primarily the result of benefit payments exceeding total contributions. The net benefit outflow was partially offset by investment income. Of note is that member contributions for 2018 were 93% ($24 million) higher than 2016, while City contributions increased by 23% ($29 million) comparing 2018 to 2016. 2016 was the last full year of contributions under the rates prior to HB 3158.

The rate of return on investments during 2018 was -1.5% net of fees, compared to a rate of return of 5.1% and 3.1% for 2017 and 2016, respectively. The rate of return is provided by Meketa Investment Group, DPFP's investment consultant for the year ended December 31, 2018. The rate of return calculations were prepared using methodology consistent with standard industry practice and, as such, cannot be recalculated from the information provided herein.

Additional information on financial results is provided in the MD&A, Financial and Investment sections. The Investment Consultant's Report in the Investment section provides additional economic information and the rate of return for 2018.

Investment Program

The investment program saw significant changes in 2018, continuing into 2019. With the passage of HB 3158, the new governing Board of Trustees was fully seated in October 2017. As one of their first investment related actions, the Board directed staff to conduct an investment consultant search in November 2017. In April 2018, the Board hired Meketa Investment Group as its new general investment consultant. In May 2018, the Board voted to terminate its allocation to GAA (Global Asset Allocation) hedge fund strategies. This coincided with the creation of a Safety Reserve allocation of high-quality, low volatility bonds, designed to pay near term benefits for the next 2.5 years. In July 2018, DPFP hired its new Chief Investment Officer, Kent Custer. In the last quarter of 2018 extensive asset allocation and asset-liability studies were conducted. This culminated in the adoption of a new asset allocation in November. The themes of the new asset allocation included simplifying the portfolio, lowering expected investment management fees, reducing exposure to illiquid assets and ensuring there is sufficient exposure in the Safety Reserve portfolio to pay benefits in the near term. Finally, the Board adopted a new Investment Policy Statement in January 2019.

Over the course of the year, the size of the investment portfolio decreased by approximately $61 million to $2.05 billion in investment assets. Although a decline, the DPFP portfolio performed better than many portfolios in 2018 due to the underweight to the equity market and gains in private assets. Although the overweight to private assets aided DPFP in 2018 it is an ongoing challenge to achieving the assumed rate of return. It will take several years to reduce the private assets to the levels in the asset allocation and the return on the portfolio is expected to lag during the transition.

Additional information regarding the investment program is included in MD&A and the notes to the financial statements in the Financial section, as well as the Investment section of this report.

Illiquid Real Estate and Private Asset Portfolio

During 2018 DPFP made progress towards reducing an overallocation to private assets through sales of Real Assets. Despite the sales progress, due in large part to the reduction in liquid assets and the significant increase in the valuation of one private equity investment, illiquid investments still comprised approximately 50% of the portfolio as of December 31, 2018. DPFP made progress towards reducing an allocation to private assets primarily through sales of Real Assets and Private Equity interests. DPFP sold timber and agriculture assets for proceeds of $63.25 million, received private equity proceeds of $26.51 million, and had various real estate property sales totaling $164.14 million, including condominium sales of $37.3 million. At December 31, 2018 the following illiquid asset classes had balances exceeding the target allocation: Real Estate, Private Equity and Natural Resources categories were 23.0%, 15.3%, and 8.5% of the portfolio, respectively, each category has a target of 5%. The Private Debt and Infrastructure categories were 0.6% and 2.8% of the portfolio, respectively, and each has a target of zero. As of the date of this letter illiquid assets are 43.4% of the total portfolio.

Additional information regarding the investment program is included in MD&A and the notes to the financial statements in the Financial section, as well as the Investment section of this report.

Litigation

The challenges faced by DPFP involved extensive litigation matters related to DROP withdrawals, plan amendments and other matters. On March 8, 2019 the Texas Supreme Court ruled in favor of DPFP in the Eddington case which challenged a 2014 Plan amendment that prospectively lowered the interest rate paid on DROP accounts. Additional litigation related to the 2017 legislative and other matters are still pending in the courts.

Additional information on ongoing litigation is available in MD&A and Notes 10 and 11 of the financial statements in the Financial section of this report.

Awards and Acknowledgements

Certificate of Achievement for Excellence in Financial Reporting

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to DPFP for its Comprehensive Annual Financial Report for the fiscal year ended December 31, 2017. This was the fourth consecutive year that the government has achieved this prestigious award. In order to be awarded a Certificate of Achievement a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

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

Public Pension Standards Award for Administration

The Public Pension Coordinating Council (PPCC) gave the 2018 Public Pension Standards Award for Administration to DPFP in recognition of meeting professional standards for plan administration as set forth in the Public Pension Standards. We believe we continue to meet the requirements and are applying to the PPCC for consideration again this year.

Acknowledgements

The compilation of this report reflects the combined effort of the staff under the leadership of the Board of Trustees. Specifically, I would like to acknowledge Brenda Barnes, Bill Scoggins, Larissa Branford, John Holt, Ryan Wagner, Greg Irlbeck and Milissa Romero for their work on the CAFR and the annual financial audit. I would like to express my gratitude to the Trustees, staff, advisors and others who have worked so diligently to assure the successful operation of DPFP.

Risk of Insolvency

At the time the legislature passed HB 3158 and continuing with the most recent actuarial valuation, the actuary reported that, even assuming all assumptions are met, the funding position of the Combined Plan would be at a very low level and fall for more than a decade before it begins to rise. If either 1) all plan assumptions are not met such as not achieving the assumed rate of return or not meeting Computation Pay projected in the Hiring Plan or 2) assumption changes in the future are determined by the Board with the advice of the actuary to be needed resulting in higher liabilities or lower projected assets, the Plan will be at serious risk for insolvency. Due to the time it takes for members with lower benefits to replace members who have accrued benefits at the higher pre-HB 3158 levels, the 2019 valuation projects the funding level to decline to 40% and that funding will not begin to increase for 12 years.

Respectfully submitted,

Kelly Gottschalk, Executive Director

Board of Trustees

HB 3158 changed the makeup of the Board of Trustees. Article 6243a-1 governs the makeup and responsibilities of the Board as of September 1, 2017. The Board is responsible for the administration of DPFP and investment of the assets of the Combined Pension Plan and Supplemental Police and Fire Pension Plan of the City of Dallas.

The Board consists of eleven Trustees who are selected as follows:

- Six Trustees appointed by the mayor of the City of Dallas, in consultation with the City Council;
- One current or former police officer Trustee, nominated and elected by active members;
- One current or former firefighter Trustee, nominated and elected by active members; and
- Three Trustees (who may not be active members or retirees) elected by the active members and retirees from a slate of nominees vetted by the Nominations Committee. The Nominations Committee consists of representatives from 11 named police and fire associations and the Executive Director of DPFP. The Executive Director serves as the chair of the committee and is a nonvoting member.

To be appointed or elected, a person must have demonstrated financial, accounting, business, investment, budgeting, real estate or actuarial expertise and may not be an elected official or current employee of the City of Dallas, with the exception of a current police officer or firefighter.

The Board serves without compensation and meets not less than once each month. Six Trustees of the Board constitute a quorum at any meeting. Six affirmative votes are required to pass a motion regardless of the number of Trustees in attendance at a meeting. Some actions, specifically identified in HB 3158, require a vote of at least eight Trustees.

Board of Trustees

William F. Quinn
Chairman
Mayoral Appointee
Term Expires 8/2020

Nicholas A. Merrick
Vice Chairman
Mayoral Appointee
*Term Expired 8/2019**

Samuel Friar
Deputy Vice Chairman
Fire Trustee
Term Expires 8/2020
Resigned May 2019

Blaine Dickens
Non-member Trustee
Term Expired 8/2019

Gilbert Garcia
Non-member Trustee
Term Expires 8/2022

Tina Hernandez Patterson
Non-member Trustee
Term Expires 8/2022

Ray Nixon
Mayoral Appointee
*Term Expired 8/2019**

Frederick E. Rowe
Mayoral Appointee
Term Expired 8/2020
Resigned February 2019

Joseph Schutz
Police Trustee
Term Expires 8/2020

Robert C. Walters
Mayoral Appointee
Term Expires 8/2020

Kneeland Youngblood
Mayoral Appointee
*Term Expired 8/2019**

Trustee Updates
After December 31, 2018

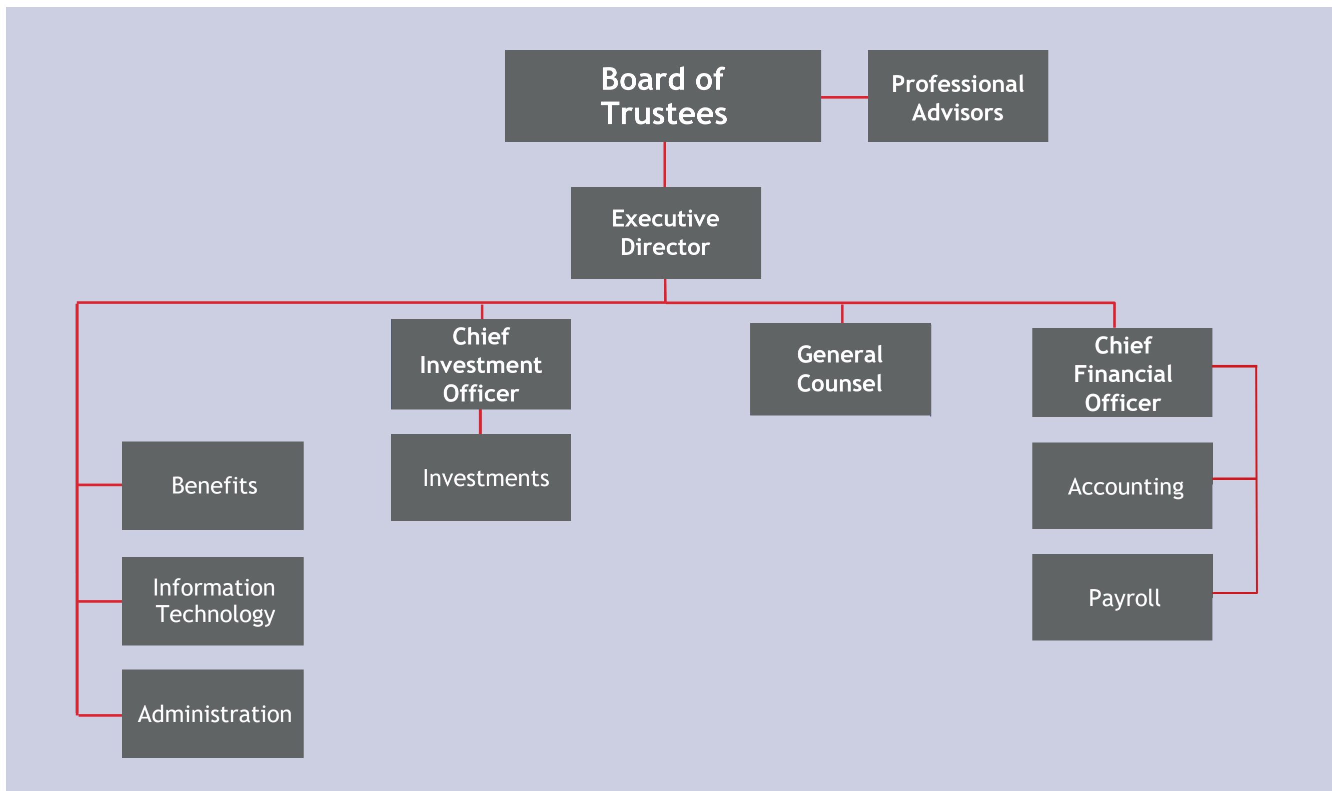
Susan Byrne
Mayoral Appointee
Term Began 3/2019
Term Expires 8/2020

Armando Garza
Fire Trustee
Term Began 6/2019
Term Expires 8/2020

Robert French
Non-member Trustee
Term Began 9/2019
Term Expires 8/2022

***The three Trustees whose terms have expired, Nicholas A. Merrick, Ray Nixon, and Kneeland Youngblood will remain in place until the Mayor of Dallas appoints Trustees to replace them.**

Administrative Organization



Professional Advisors
as of December 31, 2018

Actuary
Segal Consulting

Auditor
BDO USA, LLP

Custodian Bank
JPMorgan Chase Bank, N.A.

Investment Accounting Firm
STP Investment Services, LLC

Investment Consultant
Meketa Investment Group

Investment Managers
(See page 85)

Legislative Consultants
HillCo Partners, LLC

Executive Staff
as of December 31, 2018

Executive Director
Kelly Gottschalk, CPA

General Counsel
Joshua Mond

Chief Financial Officer
Brenda Barnes, CPA

Chief Investment Officer
Kent Custer

Note: A schedule of investment management fees is provided in the Investment section of this report at page 82.

Financial
Information

Independent Auditor's Reports

Tel: 214-969-7007
Fax: 214-953-0722
www.bdo.com

700 North Pearl, Suite 2000
Dallas, Texas 75201

Independent Auditor's Report

To the Board of Trustees
Dallas Police and Fire Pension System

Report on the Financial Statements

We have audited the accompanying financial statements of the Dallas Police and Fire Pension System (DPFP), including the Combined Pension Plan and the Supplemental Police and Fire Pension Plan of the City of Dallas (Supplemental Plan), collectively referred to as the "Plans", for the fiscal years ended December 31, 2018 and 2017, which comprise the combining statements of fiduciary net position, and the related combining statements of changes in fiduciary net position for the years then ended, and the related notes to the combining financial statements.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audits 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.

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Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of DPFP as of December 31, 2018 and 2017, and the changes in fiduciary net position for the years then ended, in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

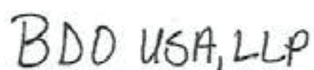
Accounting principles generally accepted in the United States of America require that the management's discussion and analysis (MD&A) and the required supplementary information, as listed in the table of contents, be presented to supplement the basic financial statements. Such information although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the MD&A and required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

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

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated November 19, 2019 on our consideration of DPFP's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering DPFP's internal control over financial reporting and compliance.



Dallas, Texas

November 19, 2019

Tel: 214-969-7007
Fax: 214-953-0722
www.bdo.com

700 North Pearl, Suite 2000
Dallas, Texas 75201

Independent Auditor's Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With Government Auditing Standards

To the Board of Trustees

Dallas Police and Fire Pension System

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Dallas Police and Fire Pension System (DPFP), including the Combined Pension Plan and the Supplemental Police and Fire Pension Plan of the City of Dallas (Supplemental Plan), collectively referred to as the "Plans", for the fiscal years ended December 31, 2018 and 2017, which comprise the combining statements of fiduciary net position, and the related combining statements of changes in fiduciary net position for the years then ended, and the related notes to the combining financial statements, and have issued our report thereon dated November 19, 2019.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered DPFP's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of DPFP's internal control. Accordingly, we do not express an opinion on the effectiveness of DPFP's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency or a combination of deficiencies in internal control, such that there is a reasonable possibility that a material misstatement of DPFP's financial statements will not be prevented, or detected and corrected on a timely basis. A significant deficiency is a deficiency or a combination of deficiencies in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit, we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

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Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Dallas Police and Fire Pension System's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, and contracts, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of This Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of DPFP's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering DPFP's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

BDO USA, LLP

Dallas, Texas
November 19, 2019

Management's Discussion and Analysis *(Unaudited)*

Overview

Management's Discussion and Analysis (MD&A) provides an overall review of the financial activities of the Dallas Police and Fire Pension System (DPFP), including the Combined Pension Plan and the Supplemental Police and Fire Pension Plan of the City of Dallas (Supplemental Plan), collectively referred to as the Plans, for the fiscal years ended December 31, 2018 and 2017. This discussion and analysis is intended to serve as an introduction to the financial statements, which reflect the Plans' resources available for payment of benefits and other related expenses. MD&A should be read in conjunction with the combining financial statements, notes to the combining financial statements, required supplementary information, and additional supplementary information provided in this report.

Financial Statements

The combining financial statements consist of the following:

Combining Statements of Fiduciary Net Position which reflect a snapshot of the Plans' financial position and reflect resources available for the payment of benefits and related expenses at year end. The resulting Net Position (Assets – Liabilities = Net Position) represents the value of the assets held in trust for pension benefits net of liabilities owed as of the financial statement date.

Combining Statements of Changes in Fiduciary Net Position which reflect the results of all transactions that occurred during the fiscal year and present the additions to and deductions from the net position. Effectively, these statements present the changes in plan net position during the fiscal year. If change in net position increased, additions were more than deductions. If change in net position decreased, additions were less than deductions.

Notes to Combining Financial Statements which are an integral part of the combining financial statements and include additional information that may be needed to obtain an adequate understanding of the overall financial status of the Plans.

Required Supplementary Information (Unaudited) and additional Supplementary Information provide historical and additional information considered useful in obtaining an overall understanding of the financial positions and activities of the Plans.

Financial Highlights

The combining financial statements are presented solely on the accounts of the Plans. The accrual basis of accounting is utilized, whereby revenues are recognized when they are earned and collection is reasonably assured, and expenses are recognized when the related liability has been incurred. Investments are reported at fair value.

A summary of the Combining Statements of Fiduciary Net Position of the Plans is as follows (in thousands):

DECEMBER 31:	2018	2017	2016
Assets			
Investments, at fair value	$ 2,007,036	$ 1,990,602	$ 1,960,057
Invested securities lending collateral	20,560	12,153	21,671
Receivables	42,634	34,629	29,378
Cash and cash equivalents	50,138	118,587	326,785
Prepaid expenses	365	436	460
Capital assets, net	12,489	12,715	12,041
Total assets	**2,133,222**	**2,169,122**	**2,350,392**
Liabilities			
Notes payable	-	-	130,000
Securities purchased	48,598	31,411	24,353
Securities lending obligations	20,560	12,153	21,671
Accounts payable and accrued liabilities	3,832	4,407	6,036
Total liabilities	**72,990**	**47,971**	**182,060**
Net position held in trust - restricted for pension benefits	**$ 2,060,232**	**$ 2,121,151**	**$ 2,168,332**

The assets of the Combined Pension Plan and the Supplemental Plan are co-invested through a Group Master Trust (Group Trust). The rate of return on Group Trust investments during 2018 was -1.49% net of fees, compared to a rate of return of 5.07% for 2017 and 3.09% for 2016. The rate of return for 2018 is provided by Meketa Investment Group, Inc., DPFP's investment consultant at December 31, 2018. NEPC, LLC (NEPC), DPFP's investment consultant at December 31, 2017 and 2016, provided the rate of return for 2017 and 2016. The methodology used by the investment consultants to calculate the time-weighted rate of return incorporates a one quarter lag on market value adjustments for private equity, private debt, and real assets investments. This "lagged with cash flow adjustments" methodology is consistent with standard industry practice and allows for timely reporting to the Board of Trustees (Board). Gains and losses on lagged investments, which occur in the fourth quarter of any year, are recognized in the following year's rate of return.

The Plans' net position decreased by $61 million in 2018 primarily the result of benefit payments exceeding total contribution payments. The net benefit outflow was partially offset by investment gains during the period.

The Plans' net position decreased by $47 million in 2017 primarily the result of benefit payments exceeding total contribution payments. The net benefit outflow was partially offset by investment gains. The net position was relatively stable for the first time since 2013 due to the passage of House Bill 3158 (HB 3158 or the bill) by the Texas legislature during the 85th legislative session. HB 3158 was passed unanimously by both the House of Representatives and the Senate and signed by Governor Abbott on May 31, 2017. HB 3158 was effective September 1, 2017 and made significant changes to governance, contributions and benefits, including the structure of the Deferred Retirement Option Plan (DROP). Additional information about HB 3158 is included in Notes 1, 5 and 6 and the Required Supplementary Information accompanying the financial statements.

Securities lending collateral and obligations increased in 2018 due to an increase in lending activity resulting from increased lendable assets due to the funding of equity and fixed income mandates in mid-2017 and increased demand for securities due to market volatility in 2018. Changes in receivables are primarily a result of the timing of settlement of pending investment trades, as well as the timing of the last payroll of the year for the City of Dallas as such timing impacts the collection of benefit contributions. Cash declined significantly in 2018 as cash held during the legislative process in 2017 was redeployed during the year.

A summary of the Combining Statements of Changes in Fiduciary Net Position of the Plans is as follows (in thousands):

YEARS ENDED DECEMBER 31:	2018	2017	2016
Additions			
Contributions			
City	$ 151,336	$ 128,395	$ 122,409
Members	49,406	33,044	25,553
Total contributions	**200,742**	**161,439**	**147,962**
Net income (loss) from investing activities	43,452	97,456	165,326
Net income from securities lending activities	112	101	402
Other income	479	2,094	204
Total additions	**244,785**	**261,090**	**313,894**
Deductions			
Benefits paid to members	297,155	295,245	827,649
Refunds to members	2,635	3,578	3,354
Interest expense	-	1,290	4,569
Professional and administrative expenses	5,914	8,158	9,571
Total deductions	**305,704**	**308,271**	**845,143**
Net decrease in net position	(60,919)	(47,181)	(531,249)
Net position held in trust - restricted for pension benefits			
Beginning of period	**2,121,151**	2,168,332	2,699,581
End of period	$ **2,060,232**	$ 2,121,151	$ 2,168,332

The 2018 Contribution amounts for both members and the City are statutorily defined. Contributions for all active members (including members in DROP) were 13.5% of Computation Pay. Computation Pay is defined as base pay, education incentive pay and longevity pay. City contributions for the Combined Pension Plan were 34.5% of Computation Pay, plus a floor amount to meet the minimum required contribution, plus an additional amount of $13 million in 2018. The floor has been greater than the 34.5% of Computation Pay for all pay periods in 2018. The increase in City and member contributions was the result of twelve full months of contributions at the legislative defined amounts. City contributions to the Plans increased by $23 million or 18% in 2018. Member contributions of $49.4 million exceeded expected contributions of $48.5 million by $0.9 million.

The City is required by ordinance to contribute amounts necessary to maintain the Supplemental Plan as determined by an actuary. City contributions to the Supplemental Plan in 2018 decreased by $98 thousand over 2017 contributions.

The decrease in other income in 2018 of $1.6 million is primarily due to the settlement of an investment related litigation matter and a property tax refund that occurred in 2017.

Net investment income during 2018 was primarily driven by the appreciation in the fair value of some private assets and was partially offset by public equity losses incurred especially during the fourth quarter of 2018.

In 2017, the passage of HB 3158 increased the contribution rates for active members and the City effective the first bi-weekly pay period beginning after September 1, 2017, which was September 6, 2017.

Prior to the effective date of HB 3158 contributions for active members not participating in DROP were 8.5% of Computation Pay, while contributions for active members participating in DROP were 4% of Computation Pay. As of September 6, 2017, the contribution rate for all active members was 13.5% of Computation Pay regardless of the member's DROP participation status. The 29% increase in employee contribution revenue from 2016 to 2017 is primarily a result of the higher employee contribution rate for the last four months of 2017 plus $600 thousand of additional contributions received in 2017 for pension buy-backs related to DROP revocations and military service purchases. See Note 6 for information on DROP revocations. The City did not meet the Hiring Plan Computation Pay represented during the legislative process, which resulted in lower employee contributions than expected for 2017. Compensation increases granted as a result of the 2016 Meet and Confer agreement were offset by total compensation declines due to high employee vacancies.

In 2017, the City contribution rate for the Combined Pension Plan was statutorily defined as 27.5% of total salary and wages, including overtime, for all members in active service prior to the effective date of HB 3158. HB 3158 required that effective September 6, 2017, the City contribute the greater of (i) 34.5% of Computation Pay and (ii) a bi-weekly minimum amount (floor) defined in the bill plus $13 million annually until December 31, 2024. After 2024 the bi-weekly floor and the additional $13 million annual contribution are eliminated. After 2024, the bill requires an independent analysis to be performed to determine if the plan is adequately funded based on standards established by the Texas Pension Review Board and changes are required if the funding level is below the amortization period requirements under Section 802 of the Texas Government Code. See Note 1 for additional information on City contribution rates.

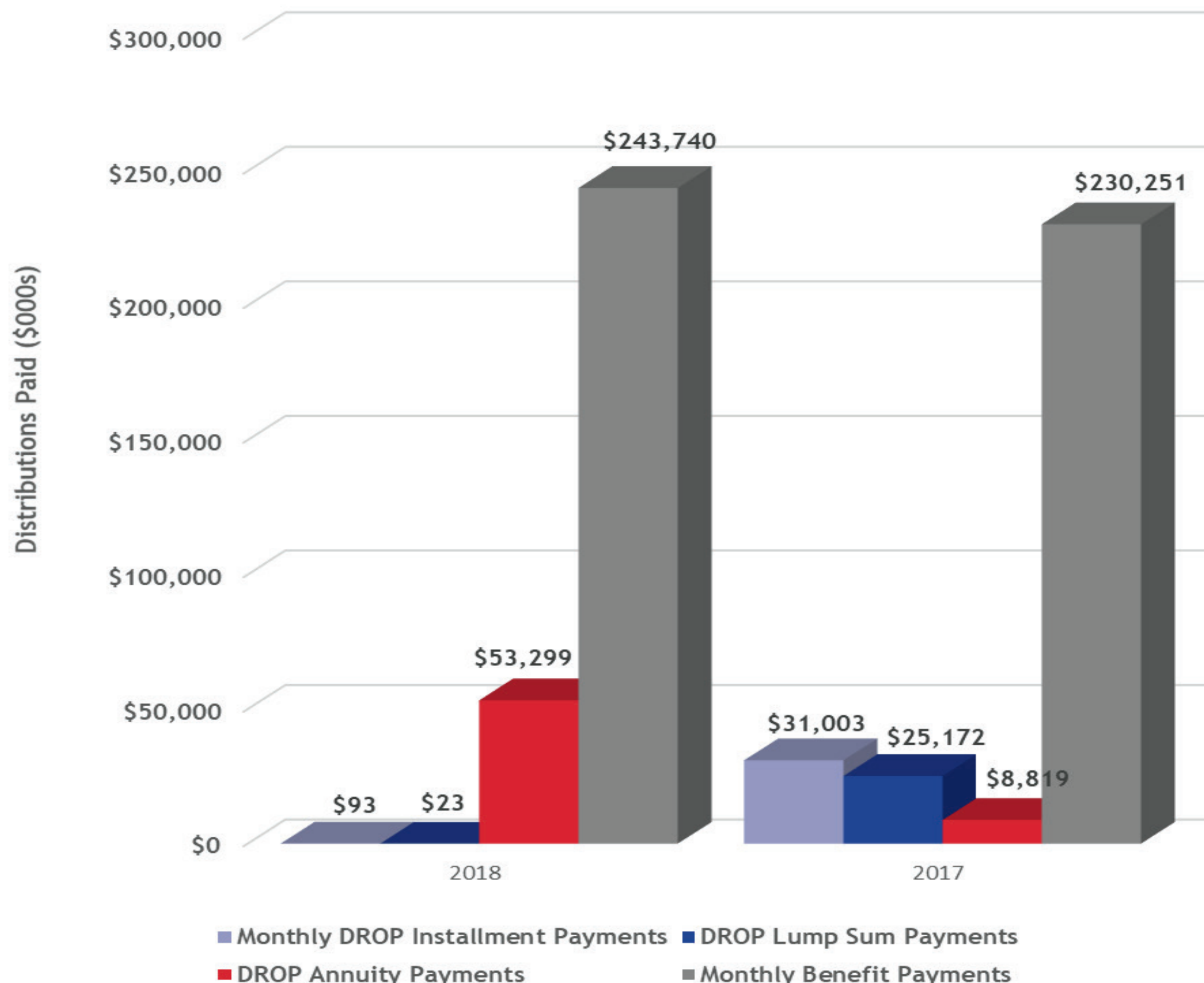
In 2017, total City contribution revenue to the Plans increased 5% or $6 million over 2016 contributions. City contribution revenue to the Combined Pension increased by $7 million while City Contribution revenue to the Supplemental Plan decreased by $1 million.

In the Combined Pension Plan, 60% ($4 million) of the increased City contribution revenue in 2017 was due to the HB 3158 required additional $13 million annual contribution, which is paid $500 thousand with each bi-weekly payroll. The remainder of the increase in contributions is due to the contribution floor. Although the City contribution rate increased from 27.5% to 34.5%, the resulting contributions did not increase significantly due to the change in the rate because overtime was eliminated from the City's contribution formula. The floor has been greater than the 34.5% of Computation Pay for all pay periods. The City's Computation Pay has not met the Hiring Plan Computation Pay represented by the City during the legislative process.

The City is required by ordinance to contribute amounts necessary to maintain the Supplemental Plan as determined by an actuary. In 2017, the City contribution to the Supplemental Plan decreased by $987 thousand or 32% because of the reduction in the Supplemental Plan liability due to the passage of HB 3158.

The Group Trust was over-allocated to cash for the majority of 2017 due to the uncertainty about what type of legislation would ultimately be passed and pending litigation as well as the transition to a new board, which would then be tasked with deciding how to allocate excess cash. After the bill was signed, cash was redeployed into assets. The overallocation to cash resulted in lower income from investing activities in 2017.

Distributions to members consist of monthly payments of retirement, disability, and survivor benefits, as well as monthly installment payments and lump sum payments of DROP balances and monthly DROP annuity payments. The chart below compares the components of distributions paid to members for the years ended December 31, 2018 and 2017.



Total benefits paid in 2018 increased $1.9 million or 0.65% over 2017. Monthly benefit payments increased $13.5 million or 5.9% due to an additional 143 retirees and beneficiaries receiving monthly benefits in 2018. Distributions from DROP balances in 2018 totaled $53.4 million with $53.3 million paid as DROP annuity payments, up $44.5 million from 2017 due to a full twelve months of annuity payments to members. See Note 6 for additional information on DROP.

No Interest expense was incurred in 2018 as the line of credit and term loan were paid in full in 2017, resulting in a decrease in interest expense of $1.3 million in 2018. See Note 7 for the discussion of Notes Payable.

Refund expense declined $943 thousand in 2018 due in part to a change in the interpretation of the calculation of the liability accrual resulting in an additional expense of $460 thousand in 2017. The cost of administering the benefit programs of the Plans, including administrative costs and professional fees, decreased approximately $2.2 million in 2018. The decrease in 2018 is primarily related to lower legal fees (net of insurance reimbursement, down $642 thousand) and salaries and benefits, down $984 thousand. Actuarial expenses were $378 thousand lower in 2018 as expenses related to the implementation of HB 3158 were largely incurred during 2017. Legislative and Communications expenses decreased $193 thousand and $247 thousand, respectively, from 2017 to 2018 as the legislative process for the new bill completed in 2017. A pro rata share of the total expenses of the Plans is

allocated to the Combined Pension Plan and the Supplemental Plan according to the ratio of Combined Pension Plan and Supplemental Plan investment assets to the total investment assets of the Group Trust. Any expenses specific to either the Combined Pension Plan or the Supplemental Plan are charged directly as a reduction of such plan's net position.

Funding Overview

DPFP's actuarial firm, Segal Consulting (Segal), conducts the annual actuarial valuations to determine if the assets and contributions are sufficient to provide the prescribed benefits (funding positions) of the Plans.

The January 1, 2019 actuarial valuation reported a funded ratio of 48.1%, based on the actuarial value of assets, an unfunded actuarial accrued liability of $2.3 billion and an expected fully funded date of 2057 for the Combined Pension Plan compared to a funded ratio of 47.7%, based on the actuarial value of assets, an unfunded actuarial accrued liability of $2.4 billion and an expected fully funded date of 2063 for the Combined Pension Plan as reported in the January 1, 2018 actuarial valuation. The January 1, 2018 valuation considers the impact of the 183 members that elected to revoke their prior DROP election, 145 of the DROP revocations were completed in 2018.

The January 1, 2019 actuarial valuation reports a funded ratio of 57.6% and an unfunded actuarial accrued liability of $13.5 million for the Supplemental Plan compared to a funded ratio of 51.5%, and an unfunded actuarial accrued liability of $16.7 million for the Supplemental Plan as reported in the January 1, 2018 actuarial valuation.

These projections may vary on an annual basis due to actual experience and demographics, which may vary from the current actuarial assumptions. Beginning in 2025, once the City is contributing based solely on Computation Pay with no floor as discussed below, differences between actual payroll and the City's current projections may have a significant impact on the projected funding period.

The total Actuarially Determined Contribution (ADC) rate required to pay the normal cost and to amortize the unfunded actuarial accrued liability over a 30-year period is currently 55.4% of Computation Pay compared to 58.9% as of January 1, 2018. The ADC rate compares to the City's actual contribution rate of 34.5% of Computation Pay as of the first pay period that began after September 1, 2017 which is subject to a minimum floor per the bill for the next seven years, plus the member contribution of 13.5% beginning September 6, 2017, plus an additional $13 million per year from the City until December 31, 2024.

Governmental Accounting Standards Board Statement No. 67, *Financial Reporting for Pension Plans –An Amendment of GASB Statement No. 25*, (GASB No. 67) requires disclosure of the Net Pension Liability (NPL). The GASB No. 67 valuation is prepared by Segal and is a calculation for accounting purposes as opposed to the actuarial valuation, which is completed to determine the funding adequacy of the Plans. The NPL is the difference between the Total Pension Liability (TPL) and the market value of assets. GASB No. 67 requires the determination of the TPL using the individual entry age method, level percent of pay actuarial cost method, and a discount rate. The GASB No. 67 for December 31, 2018 includes the impacts of HB 3158 and reports a NPL of $2.5 billion, which is an increase of $66 million from the NPL reported at December 31, 2017 for the Combined Pension Plan. The Fiduciary Net Position as a Percentage of Total Pension Liabilities (FNP) is 45.4% at December 31, 2018 compared to 46.8% at December 31, 2017 for the Combined Pension Plan. The Supplemental Plan had a NPL of $14 million and $16 million at December 31, 2018 and 2017, respectively. The Supplemental Plan had a FNP of 57.6% and 52.9% at December 31, 2018 and 2017, respectively.

Information about whether the Plans' net positions are increasing or decreasing over time relative to the TPL is provided in the accompanying Schedule of Changes in the Net Pension Liability and Related Ratios.

Contacting DPFP's Financial Management

This financial report is designed to provide members and other users with a general overview of DPFP's finances and present the Plans' accountability for the funding received. If you have questions about this report, you may contact the Executive Director of the Dallas Police and Fire Pension System at 4100 Harry Hines Boulevard, Suite 100, Dallas, Texas 75219, by phone at 214-638-3863, or by email at info@dpfp.org.

Combining Statements of Fiduciary Net Position

	2018			2017		
DECEMBER 31,	COMBINED PENSION PLAN	SUPPLEMENTAL POLICE AND FIRE PENSION PLAN OF THE CITY OF DALLAS	TOTAL	COMBINED PENSION PLAN	SUPPLEMENTAL POLICE AND FIRE PENSION PLAN OF THE CITY OF DALLAS	TOTAL
Assets						
Investments, at fair value						
Short-term investments	$ 40,949,194	$ 367,721	$ 41,316,915	$ 23,929,959	$ 202,714	$ 24,132,673
Fixed income securities	511,184,404	4,590,396	515,774,800	325,258,334	2,755,315	328,013,649
Equity securities	432,055,193	3,879,822	435,935,015	466,132,328	3,948,680	470,081,008
Real assets	695,162,373	6,242,503	701,404,876	794,476,173	6,730,133	801,206,306
Private equity	310,090,215	2,784,586	312,874,801	220,240,515	1,865,692	222,106,207
Alternative investments	-	-	-	143,709,605	1,217,387	144,926,992
Forward currency contracts	(268,300)	(2,409)	(270,709)	134,137	1,136	135,273
Total investments	1,989,173,079	17,862,619	2,007,035,698	1,973,881,051	16,721,057	1,990,602,108
Invested securities lending collateral	20,376,453	182,979	20,559,432	12,050,625	102,083	12,152,708
Receivables						
City	2,504,571	-	2,504,571	2,026,827	-	2,026,827
Members	801,661	1,583	803,244	641,998	1,147	643,145
Interest and dividends	4,759,677	42,742	4,802,419	2,924,484	24,774	2,949,258
Investment sales proceeds	33,926,492	304,657	34,231,149	28,155,275	238,508	28,393,783
Other receivables	290,170	2,606	292,776	610,876	5,175	616,051
Total receivables	42,282,571	351,588	42,634,159	34,359,460	269,604	34,629,064
Cash and cash equivalents	49,691,701	446,228	50,137,929	117,590,839	996,131	118,586,970
Prepaid expenses	362,262	3,253	365,515	431,773	3,658	435,431
Capital assets, net	12,377,791	111,152	12,488,943	12,608,396	106,808	12,715,204
Total assets	**2,114,263,857**	**18,957,819**	**2,133,221,676**	**2,150,922,144**	**18,199,341**	**2,169,121,485**
Liabilities						
Other Payables						
Other securities purchased	48,165,649	432,524	48,598,173	31,147,075	263,852	31,410,927
Securities lending obligations	20,376,453	182,979	20,559,432	12,050,625	102,083	12,152,708
Accounts payable and other accrued liabilities	3,807,625	24,423	3,832,048	4,378,973	28,253	4,407,226
Total liabilities	**72,349,727**	**639,926**	**72,989,653**	**47,576,673**	**394,188**	**47,970,861**
Net position						
Net investment in capital assets	12,377,791	111,152	12,488,943	12,608,396	106,808	12,715,204
Unrestricted	2,029,536,339	18,206,741	2,047,743,080	2,090,737,075	17,698,345	2,108,435,420
Net position held in trust-restricted for pension benefits	**$2,041,914,130**	**$ 18,317,893**	**$ 2,060,232,023**	**$ 2,103,345,471**	**$ 17,805,153**	**$ 2,121,150,624**

See accompanying independent auditor's report and notes to combining financial statements.

Combining Statements of Changes in Fiduciary Net Position

YEARS ENDED DECEMBER 31,	2018			2017		
	COMBINED PENSION PLAN	SUPPLEMENTAL POLICE AND FIRE PENSION PLAN OF THE CITY OF DALLAS	TOTAL	COMBINED PENSION PLAN	SUPPLEMENTAL POLICE AND FIRE PENSION PLAN OF THE CITY OF DALLAS	TOTAL
Additions (Reductions)						
Contributions						
City	$ 149,356,565	$ 1,979,285	$ 151,335,850	$ 126,318,005	$ 2,077,059	$ 128,395,064
Members	49,332,262	73,880	49,406,142	32,977,425	66,095	33,043,520
Total contributions	**198,688,827**	**2,053,165**	**200,741,992**	**159,295,430**	**2,143,154**	**161,438,584**
Investment income						
Net appreciation in fair value of investments	5,588,891	886,129	6,475,020	74,836,102	535,674	75,371,776
Interest and dividends	44,664,963	401,088	45,066,051	30,923,115	261,955	31,185,070
Total gross investment income	50,253,854	1,287,217	51,541,071	105,759,217	797,629	106,556,846
Less: Investment expense	(8,017,586)	(71,997)	(8,089,583)	(9,024,584)	(76,449)	(9,101,033)
Net investment income	42,236,268	1,215,220	43,451,488	96,734,633	721,180	97,455,813
Securities lending income						
Securities lending income	309,613	2,780	312,393	185,159	1,569	186,725
Securities lending expense	(198,695)	(1,784)	(200,479)	(84,612)	(717)	(85,329)
Net securities lending income	110,918	996	111,914	100,547	852	101,399
Other income	475,111	4,266	479,377	2,075,970	17,586	2,093,556
Total additions	**241,511,124**	**3,273,647**	**244,784,771**	**258,206,580**	**2,882,772**	**261,089,352**
Deductions						
Benefits paid to members	294,447,006	2,707,773	297,154,779	292,576,281	2,668,579	295,244,860
Refunds to members	2,634,049	498	2,634,547	3,577,530	-	3,577,530
Interest expense	-	-	-	1,279,517	10,839	1,290,356
Professional and administrative expenses	5,861,410	52,636	5,914,046	8,089,584	68,528	8,158,112
Total deductions	**302,942,465**	**2,760,907**	**305,703,372**	**305,522,912**	**2,747,946**	**308,270,858**
Net increase/(decrease) in net position	(61,431,341)	512,740	(60,918,601)	(47,316,332)	134,826	(47,181,506)
Net position held in trust - restricted for pension benefits						
Beginning of period	2,103,345,471	17,805,153	2,121,150,624	2,150,661,803	17,670,327	2,168,332,130
End of period	$ 2,041,914,130	$ 18,317,893	$ 2,060,232,023	$ 2,103,345,471	$ 17,805,153	$ 2,121,150,624

See accompanying independent auditor's report and notes to combining financial statements.

Notes to Combining Financial Statements

1. Organization

General

The Dallas Police and Fire Pension System (DPFP) is an independently governed component unit of the City of Dallas (City, or Employer) and serves as a single-employer pension and retirement fund for police officers and firefighters employed by the City. The general terms "police officers" and "firefighters" also include fire and rescue operators, fire alarm operators, fire inspectors, apprentice police officers, and apprentice firefighters. DPFP is comprised of a single defined benefit pension plan (Combined Pension Plan) designed to provide retirement, death, and disability benefits for police officers and firefighters (collectively, members). DPFP was originally established under former Article 6243a of the Revised Civil Statutes of Texas and, since 1989, derives its authority to continue in operation under the provisions of Article 6243a-1 of the Revised Civil Statutes of Texas (the Governing Statute). All active police officers and firefighters employed by the City are required to participate in the Combined Pension Plan.

The Supplemental Police and Fire Pension Plan of the City of Dallas (Supplemental Plan) was created in 1973 to supplement DPFP's Plan B Defined Benefit Pension Plan (Plan B). The Combined Pension Plan and Supplemental Plan are collectively referred to as the Plans. Former Plan B members are now denominated as Group B members of the Combined Pension Plan. The intent of the Supplemental Plan is to provide additional retirement benefits to those members of the Supplemental Plan holding a rank higher than the highest corresponding civil service rank as provided in the Combined Pension Plan. Members receive a supplemental pension based upon the difference between compensation for the civil service position held before entrance into the Supplemental Plan and compensation while in the Supplemental Plan. The Supplemental Plan was established and derives its authority from a City ordinance.

As of December 31, 2018 and 2017, the Combined Pension Plan's membership consisted of:

	2018	2017
Retirees and beneficiaries	4,849	4,706
Beneficiaries, DROP Only	70	50
Non-active vested members not yet receiving benefits	230	226
Non-active non-vested members not yet refunded	431	399
Total non-active members	**5,580**	**5,381**
Vested active members	3,677	3,757
Non-vested active members	1,335	1,195
Total active members	**5,012**	**4,952**

As of December 31, 2018 and 2017, the Supplemental Plan's membership consisted of:

	2018	2017
Retirees and beneficiaries	138	140
Non-active vested members not yet receiving benefits	2	1
Non-active non-vested members not yet refunded	1	-
Total non-active members	**141**	**141**
Vested active members	38	42
Non-vested active members	1	2
Total active members	**39**	**44**

No changes to benefit, contribution or administration plan provisions were made to the Combined Pension Plan or the Supplemental Plan in 2018.

The benefit, contribution and administration plan provisions discussed below are as of December 31, 2018.

Benefits

Members hired by the City before March 1, 1973 are Group A members of the Combined Pension Plan. Members hired on or after March 1, 1973 are Group B members of the Combined Pension Plan.

Group A members of the Combined Pension Plan have elected to receive one of two benefit structures as of December 31, 2018:

- Members with 20 years or more of pension service are entitled to monthly pension benefits beginning at age 50 equal to 50% of base pay, defined as the maximum monthly civil service pay established by the City for a police officer or firefighter at the time of retirement, plus 50% of the longevity pay the member was receiving either at the time he or she left active service with the City or the effective date the member joined the Deferred Retirement Option Plan (DROP). Benefit payments are adjusted annually according to changes in active service base pay, if any. Additionally, a member is eligible to receive 50% of the difference between any annualized City service incentive pay granted to the member less annual longevity pay.

- Members with 20 years or more of pension service are entitled to monthly pension benefits beginning at age 55 equal to 3% of their base pay, computed as noted in the prior paragraph, for each year of pension service with a maximum of 32 years. In addition, a member receives 50% of the longevity pay and 1/24th of any City service incentive pay the member was receiving either at the time he or she left active service with the City or the effective date the member joined DROP. Prior to September 1, 2017 pension benefit payments increased annually on October 1st by 4% of the initial benefit amount. After September 1, 2017 pension benefit payments are eligible for an ad hoc cost of living increase as approved by the Board, if certain funding requirements are met. It is not anticipated that the funding requirements necessary to grant an ad hoc cost of living increase will be met for several decades.

Group B members of the Combined Pension Plan receive one of two benefit structures as of December 31, 2018:

- Members who began membership before March 1, 2011 with 5 or more years of pension service are entitled to monthly pension benefits beginning at age 50 equal to 3% of the member's average base pay plus education and longevity pay (Computation Pay) determined over the highest 36 consecutive months of Computation Pay, multiplied by the number of years of pension service prior to September 1, 2017. The monthly pension benefit for service earned after September 1, 2017 is based on the highest 60 consecutive months of Computation Pay multiplied by a 2.5% multiplier at age 58. The multiplier is reduced to between 2.0% and 2.4% for retirement beginning at age 53 and prior to age 58. The member cannot accrue a monthly pension benefit that exceeds 90% of the member's average Computation Pay. Certain members may receive a 2.5% multiplier for pension service after September 1, 2017 prior to age 58 if the combination of their pre and post September 1, 2017 pension service calculations using

the 2.5% multiplier for post September 1, 2017 meets or exceeds the 90% maximum benefit. Certain members who meet the service prerequisite or were 45 prior to September 1, 2017 may elect to take early retirement with reduced benefits starting at age 45, or earlier if the member has 20 years of pension service.

- Members who began membership after February 28, 2011 are entitled to monthly pension benefits after accruing 5 years of pension service and the attainment of age 58. Pension benefits are equal to the member's average Computation Pay determined over the highest 60 consecutive months of Computation Pay, multiplied by 2.5% for the number of years of pension service. The member cannot accrue a monthly pension benefit that exceeds 90% of the member's average Computation Pay. Certain members who meet the service prerequisite may elect to take early retirement with reduced benefits starting at age 53.

A Group B member who has accrued 20 or more years of pension service and who has been on active service at any time on or after January 1, 1999 may take a pension benefit regardless of age except that the percent multiplier would be based on the member's age at the time of applying for the pension, or earlier if the member has 20 years of pension service.

After September 1, 2017, Group B benefits for all members are eligible for an ad hoc cost of living increase as approved by the Board, if certain funding requirements are met. It is not anticipated that the funding requirements necessary to grant an ad hoc cost of living increase will be met for several decades. Prior to September 1, 2017 Group B members hired prior to January 1, 2007 received an automatic annual increase of 4% of the initial benefit amount each October 1st. Group B members hired on or after January 1, 2007 were eligible for an ad hoc increase not to exceed 4% of the initial benefit amount.

Additional provisions under the Combined Pension Plan as of December 31, 2018 are as follows:

- Prior to September 1, 2017 members with over 20 years of pension service, upon attaining age 55, received a monthly supplement equal to the greater of $75 or 3% of their total monthly benefits (excluding the benefit supplement amount). After September 1, 2017, no additional members will receive the monthly supplement and no increases will be made to the amount of the supplement received by those members receiving the supplement prior to September 1, 2017.

- Service-connected disability benefits are available for members in active service who began service prior to March 1, 2011 and have not entered DROP who become disabled during the performance of their duties from the first day of employment. Members receiving service-connected disability benefits are given credit for the greater of actual pension service or 20 years of pension service. A benefit of 3% times the average of the highest 36 consecutive months of Computation Pay times the number of years of pension service prior to September 1, 2017, plus a multiplier, based on their age at the time the disability is granted, for pension service after September 1, 2017, times the average of the highest 60 consecutive months of Computation Pay times the number of years of pension service. If needed, additional service time necessary to reach 20 years of service credit will be included with pension service after September 1, 2017. Members who began membership after February 28, 2011 and have not entered DROP are entitled to a disability benefit based on the average of the highest 60 consecutive months of Computation Pay times a 2.5% multiplier regardless of their age. If a member has more than 20 years of service and was hired prior to March 1, 2011, the benefit is calculated in the same manner as their service retirement pension. If the member has fewer than 36 or 60 months of service, based on hire date, the benefit is based on the average of Computation Pay during their entire pension service.

- Members who began membership before March 1, 2011, who are determined to be eligible for a non-service connected disability benefit are entitled to a benefit of 3% times the average of the highest 36 consecutive months of Computation Pay times the number of years of pension service prior to September 1, 2017, plus a multiplier based on their age at the time the disability is granted for pension service after September 1, 2017 times the average of the highest 60 consecutive months of Computation pay. Total service is rounded to the nearest whole year. Members who began membership after February 28, 2011 are entitled to a disability benefit based on the average of the highest 60 consecutive months of Computation Pay, times a 2.5% multiplier regardless of their age. All non-service connected disability benefits are subject to a minimum benefit of $110 for every year of pension service. The minimum benefit cannot exceed $2,200 per month. If the member has fewer than 36 or 60 months of service, based on hire date, the benefit is based on the average of Computation Pay during their entire pension service.

- Members who are eligible to retire are eligible to enter the DROP program, which is an optional method of accruing monthly pension benefits prior to leaving active service. Members who are receiving disability benefits are not eligible to enter the DROP program. The amount of an active member's DROP balance is based on the accumulation of the member's monthly benefit each month while in active DROP, and interest accrued prior to September 1, 2017. DROP balances do not earn interest after September 1, 2017. DROP balances of retired members and other DROP account holders, excluding active member DROP account holders, were converted to annuities (a stream of payments) on November 30, 2017. DROP balances of active members are annuitized upon retirement. The life expectancy of a DROP account holder at the time of annuitization determines the term of the annuity. Interest is included in the annuity calculation for balances accrued prior to September 1, 2017. The interest rate is based on the provisions of HB 3158 and rules adopted by the Board. See Note 6 for information about the changes in the DROP program resulting from the passage of HB 3158. See below, under Contributions, for discussion of required DROP contributions. The total DROP account balance including the present values of the annuitized balances for the Combined Pension Plan was $1.01 billion at December 31, 2018 and $1.05 billion at 2017. The total DROP balances include amounts that may be paid out of the Excess Benefit Plan and Trust.

- A minimum benefit is paid to vested retired members of $2,200 per month subject to any restrictions contained in the Combined Pension Plan. The minimum benefit is prorated for members who retire with less than 20 years of service credit and equals $1,200 monthly for a qualified surviving spouse if there are no qualified surviving children receiving benefits. The minimum benefit is $1,100 monthly for qualified surviving children combined and qualified surviving spouses if qualified surviving children are receiving or had received benefits.

The Supplemental Plan's benefits are designed to supplement Group B benefits for those members holding a rank higher than the highest civil service rank because their Combined Pension Plan benefits are capped by the Combined Pension Plan's definition of considered compensation. Accordingly, when Group B benefits are amended, the Supplemental Plan's benefit calculation is also affected. The basis for a member's benefits are the difference between the monthly rate of pay a member is due as the base pay for the rank the member currently holds and the monthly rate of pay the member is due for the highest civil service rank (and pay step) the member held as a result of competitive examinations. The service time used to determine the member's Group B benefit is used to determine the member's benefit under the Supplemental Plan so that the same length of time is used for both plans. Average Computation Pay is calculated for each plan separately and combined in determining the benefit. Application for benefits under the provisions of the Combined Pension Plan is deemed to be an application for benefits under the Supplemental Plan and no additional application need be filed.

Members of the Supplemental Plan who enter the DROP program in the Combined Pension Plan also enter the DROP program in the Supplemental Plan. The total DROP account balance and the present value of the annuitized balances related to the Supplemental Plan was $4.5 million and $8.1 million at December 31, 2018 and 2017, respectively. The total DROP balances include amounts that may be paid out of the Excess Benefit Plan and Trust.

Death benefits are available to a surviving spouse, dependent children, handicapped children, or dependent parents in the event of the death of a member either after disability or service retirement, prior to leaving active service or retirement eligible deferred vested members.

Members retiring with 20 years of pension service or who were receiving a service-connected disability benefit had been eligible to receive a benefit supplement upon reaching age 55. The supplement amount was 3% of the member's monthly benefit, with a minimum of $75 per month in the Combined Pension Plan. After September 1, 2017, no additional members will receive the monthly supplement and no supplement amount will increase.

Contributions

Employee contribution rates did not change in 2018.

HB 3158 increased employee contribution rates effective the first pay period beginning after September 1, 2017, which was September 6, 2017, to 13.5% of Computation Pay for all active members regardless of their status. From January 2017 to September 1, 2017, Group B members not in DROP were required to contribute to the Combined Pension Plan 8.5% of Computation Pay and active members in DROP paid contributions at the rate of 4% of Computation Pay.

City contribution rates did not change in 2018.

Prior to September 1, 2017, the City contribution rates to the Combined Pension Plan were defined in Article 6243a-1 of the Revised Civil Statutes of Texas and required the City to make contributions of 27.5% of total wages, including overtime. HB 3158 required that effective the first bi-weekly pay period beginning after September 1, 2017, the City contribute the greater of (i) 34.5% of Computation Pay and (ii) a bi-weekly minimum (floor) amount defined in the bill, plus $13 million annually until 2024. The floor amounts were $5.344 and $5.173 million, respectively, for 2018 and 2017. After 2024, the floor amount and the additional $13 million annual amount are eliminated.

During 2024 an independent actuary selected by the Texas State Pension Review Board (PRB) must perform an analysis that includes the independent actuary's 1) conclusion regarding whether the pension system meets State Pension Review Board funding guidelines; and 2) recommendations regarding changes to benefits or to member or city contribution rates. The Board must adopt a plan that complies with the funding and amortization period requirements under Subchapter C, Section 802 of the Texas Government Code.

The City is required by ordinance to contribute amounts, as determined by an actuary, necessary to maintain the Supplemental Plan. Member contributions in the Supplemental Plan follow the same rules as the Combined Pension Plan on Computation Pay over the compensation of the highest civil service rank held as a result of competitive examinations.

City contributions can be changed by the legislature, by a majority vote of the voters of the city or in accordance with a written agreement entered into between the city and the pension system where at least eight trustees have approved the agreement, provided that the change does not increase the period required to amortize the unfunded accrued liability of the Combined Pension Plan. Changes in employee contributions require the approval of the legislature.

The Supplemental Plan's plan document can be amended only by the City Council in accordance with City ordinance. The benefit and contribution provisions of the Supplemental Plan follow those of the Combined Pension Plan.

Members of Group B are immediately vested in their member contributions. If a member's employment is terminated and the member is not vested, or the member elects not to receive present or future pension benefits, the member's contributions are refunded, without interest, upon written application. If application for a refund is not made within three years of normal retirement age, the member forfeits the right to a refund of his or her contribution; however, a procedure exists whereby the member's right to the contributions can be reinstated and refunded by the Board after the three-year period.

Administration

Collectively, the Combined Pension Plan Board of Trustees and the Supplemental Plan Board of Trustees are referred to as the Board. The Board is responsible for the general administration of DPFP and has the full power to invest the Plans' assets.

Effective September 1, 2017, HB 3158 modified the structure of the Board. Prior to September 1, 2017 the Plans were administered by a twelve-member Board of Trustees consisting of four City Council members appointed by the City Council, three active police officers and three active firefighters who were elected by employees of their respective departments, one pensioner who has retired from the Police Department and one pensioner who has retired from the Fire-Rescue Department who was elected by pensioners from their respective departments.

Beginning September 1, 2017, the Plans are administered by an eleven-member Board consisting of six Trustees appointed by the mayor of the City of Dallas, in consultation with the City Council; one current or former police officer, nominated and elected by active members; one current or former firefighter, nominated and elected by active members; and three non-member Trustees (who may not be active members or retirees) elected by the active members and retirees from a slate of nominees vetted and nominated by the Nominations Committee. The Nominations Committee consists of representatives from 11 named police and fire associations and the Executive Director of DPFP. The Executive Director is a nonvoting member of the committee.

To serve as a Trustee, a person must have demonstrated financial, accounting, business, investment, budgeting, real estate or actuarial expertise and may not be an elected official or current employee of the City of Dallas, with the exception of a current police officer or firefighter. The new Board was fully seated on October 12, 2017.

2.Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements are presented in accordance with accounting principles generally accepted in the United States (GAAP). In doing so, DPFP adheres to guidelines established by the Governmental Accounting Standards Board (GASB). The accompanying financial statements include solely the accounts of the Plans on a combined basis, which include all programs, activities and functions relating to the accumulation and investment of the net position and related income necessary to provide the service, disability and death benefits required under the terms of the governing statutes and amendments thereto.

Basis of Accounting

The accrual basis of accounting is used for the Plans. Revenues are recognized in the period in which they are earned and collection is reasonably assured. Expenses are recognized when the liability is incurred. Member and employer contributions are recognized in the period in which the contributions are due. Accrued income, when deemed uncollectible, is charged to operations.

Contributions for the final biweekly payroll of the year for the years ended December 31, 2018 and 2017 were not received by DPFP until subsequent to year end and accordingly, uncollected contributions are recorded as receivables in the accompanying financial statements. Benefits, lump sum payments, and refunds are recognized when due and payable. Dividend income is recorded on the ex-dividend date. Other income consists primarily of rental income which is recognized on a straight-line basis over the lease term. Realized gains and losses on sales of securities are recognized on the trade date. The cost of investments sold is determined using the average cost method.

Reporting Entity

DPFP is an independently governed component unit of the City and the basic financial statements and required supplementary information of the Plans are therefore included in the City's Comprehensive Annual Financial Report.

Administrative Costs

All costs of administering the Plans are paid from the Plans' assets pursuant to an annual fiscal budget approved by the Board.

Federal Income Tax

Favorable determinations that the Plans are qualified and exempt from Federal income taxes were received on October 20, 2014. While the Board has authorized a filing with the Internal Revenue Service under the Voluntary Correction Program, the Board believes that the Plans are designed to meet and operate in material compliance with the applicable requirements of the Internal Revenue Code.

Use of Estimates

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the actuarial information included in the notes to the financial statements as of the benefit information date, the reported amounts of income and expenses during the reporting period, and when applicable, disclosures of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

Cash and Cash Equivalents

DPFP considers only demand deposits as cash. Cash equivalent securities, which are composed of all highly liquid investments with a maturity of three months or less when purchased, are considered to be cash equivalents. Highly liquid securities invested by third party investment managers as part of a short-term investment fund are not considered cash equivalents and are classified as short-term investments.

Plan Interest in the Group Master Trust

Effective January 1, 2006, the Board elected to establish a Group Master Trust (Group Trust) in order to unitize the investments of the Combined Pension Plan and the Supplemental Plan. JPMorgan Chase Bank, N.A. (JPMorgan) served as custodian of the Group Trust for the years ended December 31, 2018 and 2017. The fair value of the Combined Pension Plan's interest and the Supplemental Plan's interest in the Group Trust is based on the unitized interest that each plan has in the Group Trust. The Combined Pension Plan's interest in the Group Trust's investments was approximately 99.1% at December 31, 2018 and 99.2% at 2017, while the remaining interest belongs to the Supplemental Plan. The allocation of investment income and expenses between the Combined Pension Plan and the Supplemental Plan is based on percentage interest in the Group Trust. Shared professional and administrative expenses are allocated to each plan directly in proportion to each plan's ownership interest. Benefits and contributions are attributed directly to the plan that such receipts and disbursements relate to and are not subject to a pro-rated allocation.

Investments

Investment Policy

Statutes of the State of Texas authorize DPFP to invest surplus funds in the manner provided by Government Code, Title 8, Subtitle A, Subchapter C which provides for the investment of surplus assets in any investment that is deemed prudent by the Board. These statutes stipulate that the governing body of the Plans is responsible for the management and administration of the funds of the Plans and shall determine the procedure it finds most efficient and beneficial for the management of the funds of the Plans. The governing body may directly manage the investments of the Plans or may contract for professional investment management services. Investments are reported at fair value.

The investment policy of the Board does not restrict the types of investments authorized to be made on behalf of the Group Trust. The Governing Statute requires at least eight members of the Board to approve an investment in an alternative asset. The Board determined that alternative assets include all asset classes other than traditional assets. Traditional assets include publicly traded stocks, bonds and cash equivalents. The investment policy is based upon an asset allocation study that considers the current and expected financial condition of the Plans, the expected long-term capital market outlook and DPFP's risk tolerance. The following is the Board's adopted asset allocation policy as of December 31, 2018:

ASSET CLASS	TARGET ALLOCATION
Equity	**55%**
Global Equity	40%
Emerging Markets Equity	10%
Private Equity	5%
Safety Reserve and Fixed Income	**35%**
Cash	3%
Short-term Investment Grade Bonds	12%
Investment Grade Bonds	4%
High Yield	4%
Bank Loans	4%
Global Bonds	4%
Emerging Markets Debt	4%
Real Assets	**10%**
Private Real Estate	5%
Private Natural Resources	5%

The value and performance of DPFP's investments are subject to various risks, including, but not limited to, credit risk, interest rate risk, concentration of credit risk, custodial credit risk, and foreign currency risk, which are in turn affected by economic and market factors impacting certain industries, sectors or geographies. See Note 3 for disclosures related to these risks.

Investment Transactions

The accompanying Combining Statements of Changes in Fiduciary Net Position present the net appreciation (depreciation) in the fair value of investments which consists of the realized gains and losses on securities sold and the changes in unrealized gains and losses on those investments still held in the portfolio at year end.

Purchases and sales of investments and forward foreign exchange contracts are recorded on the trade date. Unsettled investment trades as of fiscal year end are reported in the financial statements on the accrual basis of accounting. Realized gains or losses on forward foreign exchange contracts are recognized when the contract is settled.

Interest earned but not yet received and dividends declared but not yet received are recorded as accrued interest and dividends receivable, respectively. In addition, unsettled investment purchases and sales are accrued.

Valuation of Investments

The diversity of the investment types in which the Group Trust invests requires a wide range of techniques to determine fair value.

Short-term investments include money market funds and government bonds with a maturity of less than one year and are valued based on stated market rates.

Fixed income investments include government securities such as Treasury securities, bank loans, US corporate bonds, foreign securities such as dollar denominated and non-dollar denominated issues of non-US governments and private corporations, plus units of commingled fixed income funds of both US and foreign securities. Equity securities consist of individual shares of equity securities plus units of commingled stock funds of both US and foreign entities. The stated market value of investments in publicly traded fixed income and equity securities is based on published market prices or quotations from major investment dealers as provided by JPMorgan, utilizing vendor supplied pricing. Vendor supplied pricing data for equity securities is based upon the daily closing price from the primary exchange of each security while vendor supplied pricing data for fixed income securities is based upon a combination of market maker quotes, recent trade activity, and observed cash flows. Securities traded on an international exchange are valued at the last reported sales price as of year-end at exchange rates as of year-end. The fair value of non-publicly traded commingled fixed income funds and commingled stock funds is based on their respective net asset value (NAV) as reported by the investment manager.

Real assets consist of privately held real estate, infrastructure, timberland, and farmland investments. Real estate is held in separate accounts, limited partnerships, joint ventures, and commingled funds, and as debt investments in the form of notes receivable. Infrastructure, timberland, and farmland are held in separate accounts, limited partnerships, and joint ventures. Real estate, timberland and farmland are generally subject to independent third-party appraisals performed in accordance with the Uniform Standards of Professional Appraisal Practice on a periodic basis, every three years at minimum, as well as annual financial statement audits. Infrastructure funds are valued based on audited NAV reported by the manager which is based on internal manager valuation or independent appraisal at the discretion of the manager. Interests in joint ventures, limited partnerships and notes receivable are valued at the dollar value reported by the general partner or investment manager, as applicable. Certain real estate investments are managed internally by DPFP staff and the real estate holdings of such ventures are subject to independent third-party appraisals on a periodic basis, every three years at minimum. Internally managed investments are valued at their net equity on a fair value basis. Externally managed partnerships, joint venture, commingled funds, and separate accounts are valued at the NAV provided by the investment or fund manager, as applicable. The underlying investment holdings are valued by the investment or fund manager on a continuous basis.

Private equity and alternative investments consist of various investment vehicles including limited partnerships, commingled funds, trusts and notes receivable. Alternative investments, also referred to as the global asset allocation portfolio, consist of risk parity, tactical asset allocation, and absolute return funds. Private equity limited partnership investments and notes receivable are valued as reported by the investment manager. Alternative investment commingled funds are valued using their respective NAV as reported by the fund's custodian or investment manager, as applicable. Private equity funds are valued using their respective NAV as reported by the fund's custodian, investment manager or independent valuations obtained by DPFP, as applicable.

DPFP has established a framework to consistently measure the fair value of the Plans' assets and liabilities in accordance with applicable accounting, legal, and regulatory guidance. This framework has been provided by establishing valuation policies and procedures that provide reasonable assurance that assets and liabilities are carried at fair value as described above and as further discussed in Note 4.

Foreign Currency Transactions

DPFP, through its investment managers, is party to certain financial arrangements, utilizing forward contracts, options and futures as a hedge against foreign currency fluctuations. Entering into these arrangements involves not only the risk of dealing with counterparties and their ability to meet the terms of the contracts, but also the risk associated with market fluctuations. Realized gains and losses on option and future arrangements are recorded as they are incurred. Realized gains and losses on forward contracts are recorded on the settlement date.

Gains and losses resulting from foreign exchange contracts (transactions denominated in a currency other than the Group Trust's functional currency - US dollar) are recorded based on changes in market values and are included in investment income (loss) in the accompanying financial statements. Investment managers, on behalf of the Group Trust, structure foreign exchange contracts and enter into transactions to mitigate exposure to fluctuations in foreign exchange rates.

Investments and broker accounts denominated in foreign currencies outstanding at December 31, 2018 and 2017 were converted to the US dollar at the applicable foreign exchange rates quoted as of December 31, 2018 and 2017, respectively. The resulting foreign exchange gains and losses are included in net appreciation (depreciation) in fair value of investments in the accompanying financial statements.

Recent Accounting Pronouncements Applicable to DPFP

In March 2016, GASB issued Statement No. 82, Pension Issues – an amendment of GASB Statements No. 67, No. 68, and No. 73. This Statement addresses issues regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. This Statement was adopted by DPFP for the 2017 annual financial statements. The implementation of this new standard did not significantly impact the financial statements.

In 2017, GASB issued Statement No. 86, Certain Debt Extinguishment Issues. The effective date of GASB Statement No. 86 was June 30, 2018 and had no impact on the financial statements.

In 2017, GASB issued Statement No. 87, Leases. This standard will require recognition of certain lease assets and liabilities for leases that are currently classified as operating leases. It is not anticipated that GASB Statement No. 87 will have a material effect on the financial statements. The statement is effective December 31, 2020.

In March 2018, GASB issued Statement No. 88, Certain Disclosures Related To Debt, Including Borrowings and Direct Placements. This Statement requires increased disclosure in notes to financial statements of all state and local governments. The new disclosure requirements are effective for reporting periods beginning after June 15, 2018. It is not anticipated that GASB Statement No. 88 will have an impact on the DPFP financial statements.

3. Investments

The Board has contracted with investment managers to manage the investment portfolio of the Group Trust subject to the policies and guidelines established by the Board. The Board has a custody agreement with JPMorgan under which JPMorgan assumes responsibility for the safekeeping of certain investments, handling of transactions based on the instructions of investment managers, and reporting investment transactions.

The fair value of investments at December 31, 2018 and 2017 is as follows (in thousands):

	2018	2017
Short-term investments		
Short-term investment funds	$ 41,317	$ 24,133
Fixed income securities		
US Treasury bonds	95,236	41,686
US government agencies	8,747	871
Corporate bonds	231,111	104,434
Foreign-denominated bonds	36,359	37,209
Commingled funds	141,465	142,115
Municipal bonds	2,857	1,699
Equity securities		
Domestic	265,626	223,743
Foreign	170,309	196,092
Commingled funds	-	50,246
Real assets		
Real estate	470,026	532,079
Infrastructure	57,458	61,430
Timberland	40,699	52,171
Farmland	133,222	155,526
Private equity	312,875	222,106
Alternative investments	-	144,927
Forward currency contracts	(271)	135
Total	**$ 2,007,036**	**$ 1,990,602**

Custodial Credit Risk

Deposits

Custodial credit risk is the risk that, in the event of a bank failure, the System's deposits might not be recovered. DPFP does not have a formal deposit policy for custodial credit risk of its deposits.

The Federal Depository Insurance Corporation (FDIC) insures any deposits of an employee benefit plan in an insured depository institution on a "pass- through" basis, in the amount of up to $250,000 for the non-contingent interest of each plan participant at each financial institution. The pass-through insurance applies only to vested participants. DPFP believes the custodial credit risk for deposits, if any, is not material.

Investments

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

Custodial credit risk is the risk that, in the event of the failure of an investment counterparty, the investor will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the investor, and are held by either the counterparty or the counterparty's trust department or agent, but not in the investor's name. DPFP mitigates this risk by having investments held at a custodian bank on behalf of DPFP. At December 31, 2018 and 2017, all investment securities held by the custodian were registered in the name of DPFP and were held by JPMorgan in the name of DPFP. DPFP does not have a formal policy for custodial credit risk of its investments; however, management believes that custodial credit risk exposure is mitigated by the financial strength of the financial institutions in which the securities are held.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributable to the magnitude of the Group Trust's investment in a single issue. DPFP does not have an investment policy specifically regarding concentration of credit risk; however, the target allocations of assets among various asset classes are determined by the Board with the objective of optimizing the investment return of the Group Trust within a framework of acceptable risk and diversification. For major asset classes, the Group Trust will further diversify the portfolio by employing multiple investment managers who provide guidance for implementing the strategies selected by the Board.

As of December 31, 2018 and 2017, the Group Trust did not have any single investment in an issuer which represented greater than 5% of the Plans' net position.

Interest Rate Risk

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

The Group Trust invests in fixed income securities including, but not limited to, investments representing instruments with an obligated fixed rate of interest including public and private debentures, mortgage backed securities, guaranteed investment contracts with maturities greater than one year, and options/futures. Purchases and sales, investment selection, and implementation of investment strategies are delegated to the discretion of the investment manager, subject to compliance with its management agreement and DPFP's investment policy.

At December 31, 2018, the Group Trust had the following fixed income securities and maturities (in thousands):

INVESTMENT TYPE	LESS THAN 1 YEAR	1 TO 5 YEARS	6 TO 10 YEARS	MORE THAN 10 YEARS	TOTAL
US Treasury bonds	$ 896	$ 80,138	$ 7,560	$ 6,642	$ 95,236
US Government agencies	-	-	1,138	7,609	8,747
Corporate bonds	20,786	157,009	24,035	29,281	231,111
Municipal bonds	-	2,529	-	328	2,857
Foreign-denominated bonds	11,574	5,863	8,977	9,945	36,359
Total	**$ 33,256**	**$ 245,539**	**$ 41,710**	**$ 53,805**	**$ 374,310**

At December 31, 2017, the Group Trust had the following fixed income securities and maturities (in thousands):

INVESTMENT TYPE	LESS THAN 1 YEAR	1 TO 5 YEARS	6 TO 10 YEARS	MORE THAN 10 YEARS	TOTAL
US Treasury bonds	$ 9,199	$ 30,800	$ -	$ 1,687	$ 41,686
US Government agencies	-	-	-	871	871
Corporate bonds	11,316	52,243	21,948	18,927	104,434
Municipal bonds	-	399	-	1,300	1,699
Foreign-denominated bonds	4,671	13,412	4,419	14,707	37,209
Total	**$ 25,186**	**$ 96,854**	**$ 26,367**	**$ 37,492**	**$ 185,899**

Commingled fixed income funds do not have specified maturity dates and are therefore excluded from the above tables.

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. The books and records of the Plans are maintained in US dollars. Foreign currencies and non-US dollar denominated investments are translated into US dollars at the bid prices of such currencies against US dollars at each balance sheet date. Realized and unrealized gains and losses on investments which result from changes in foreign currency exchange rates, have been included in net appreciation (depreciation) in fair value of investments in the accompanying financial statements. Net realized foreign currency gains and losses resulting from changes in exchange rates include foreign currency gains and losses between trade date and settlement date of investment securities transactions, foreign currency transactions, and the difference between the amounts of interest and dividends are recorded on the books of the Plans and the amount actually received. International and global managers have permission to use currency forward and futures contracts to hedge currency against the US dollar. DPFP does not have an investment policy specific to foreign currency risk, however to mitigate foreign currency risk, investment managers with international exposure are expected to maintain diversified portfolios by sector and by issuer.

The Group Trust's exposure to foreign currency risk in US dollars as of December 31, 2018 is as follows (in thousands):

CURRENCY	FIXED INCOME	EQUITY	REAL ASSETS	TOTAL
Australian Dollar	$ 3,184	$ 6,225	$ 7,142	$ 16,551
Brazilian Real	2,732	367	7,074	10,173
British Pound Sterling	4,348	25,367	-	29,715
Canadian Dollar	-	2,149	-	2,149
Colombian Peso	1,608	-	-	1,608
Danish Krone	-	3,921	-	3,921
Euro	635	62,327	-	62,962
Hong Kong Dollar	-	11,346	-	11,346
Indonesian Rupiah	2,378	-	-	2,378
Japanese Yen	-	33,638	-	33,638
Malaysian Ringgit	4,107	-	-	4,107
Mexican Peso	9,172	-	-	9,172
Polish Zloty	4,803	-	-	4,803
Singaporean Dollar	-	148	-	148
South African Rand	3,392	-	24,366	27,758
South Korean Won	-	2,671	-	2,671
Swedish Krona	-	1,782	-	1,782
Swiss Franc	-	20,368	-	20,368
Total	**$ 36,359**	**$ 170,309**	**$ 38,582**	**$ 245,250**

The Group Trust's exposure to foreign currency risk in US dollars as of December 31, 2017 was as follows (in thousands):

CURRENCY	FIXED INCOME	EQUITY	REAL ASSETS	TOTAL
Australian Dollar	$ 3,818	$ 6,116	$ 9,067	$ 19,001
Brazilian Real	3,060	-	7,965	11,025
British Pound Sterling	4,671	27,120	-	31,791
Danish Krone	-	4,283	-	4,283
Euro	688	65,982	-	66,670
Hong Kong Dollar	-	13,831	-	13,831
Indonesian Rupiah	2,958	686	-	3,644
Japanese Yen	-	46,158	-	46,158
Malaysian Ringgit	4,213	-	-	4,213
Mexican Peso	9,085	-	-	9,085
Polish Zloty	5,178	-	-	5,178
Singaporean Dollar	-	157	-	157
South African Rand	3,538	-	28,940	32,478
South Korean Won	-	3,164	-	3,164
Swedish Krona	-	2,235	-	2,235
Swiss Franc	-	25,800	-	25,800
Taiwanese Dollar	-	560	-	560
Total	**$ 37,209**	**$ 196,092**	**$ 45,972**	**$ 279,273**

In addition to the above exposures, certain fund-structure investments in the private equity, emerging markets debt, and real assets asset classes with a total fair value of $137.0 million and $295.0 million at December 31, 2018 and 2017, respectively, have some level of investments in various countries with foreign currency risk at the fund level. The individual investments in these funds with such exposure are not included in the above table.

Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. DPFP was party to negotiated derivative contracts in the form of forward foreign exchange contracts as of December 31, 2018 as discussed below. DPFP does not have an investment policy specific to credit risk, however to mitigate credit risk on the currency forward contracts, investment managers who manage such contracts maintain a diversified portfolio by counterparty.

The Group Trust's exposure to credit risk in fixed income securities, including short-term investment funds classified as cash equivalents, as of December 31, 2018 and 2017 using the Standard & Poor's rating scale, at fair value, is as follows (in thousands):

DECEMBER 31, 2018

RATING	CORPORATE BONDS	MUNICIPAL BONDS	FOREIGN-DENOMINATED BONDS	COMMINGLED FUNDS	SHORT-TERM INVESTMENT FUNDS(1)	US GOVERNMENT SECURITIES	TOTAL
AAA	$ 7,064	$ -	$ 1,727	$ -	$ -	$ 95,236	$ 104,027
AA+	657	-	675	-	-	-	1,332
AA	1,742	-	782	-	-	-	2,524
AA-	7,583	1,400	-	-	-	-	8,983
A+	9,214	-	-	-	-	-	9,214
A	27,347	-	-	-	-	-	27,347
A-	20,914	-	17,141	-	-	-	38,055
BBB+	31,290	1,457	-	-	-	-	32,747
BBB	18,956	-	1,608	-	-	-	20,564
BBB-	3,917	-	5,770	-	-	-	9,687
BB+	2,223	-	-	-	-	-	2,223
BB	3,873	-	2,732	-	-	-	6,605
BB-	8,989	-	-	-	-	-	8,989
B+	3,628	-	-	-	-	-	3,628
B	2,629	-	-	-	-	-	2,629
B-	10,308	-	636	-	-	-	10,944
CCC+	4,504	-	-	-	-	-	4,504
CCC	2,482	-	-	-	-	-	2,482
CCC-	566	-	-	-	-	-	566
CC	3,770	-	-	-	-	-	3,770
C	3,615	-	-	-	-	-	3,615
D	771	-	-	-	-	-	771
NR(2)	55,069	-	5,288	141,465	41,317	8,747	251,886
Total	**$ 231,111**	**$ 2,857**	**$ 36,359**	**$ 141,465**	**$ 41,317**	**$ 103,983**	**$ 557,092**

(1) Includes short-term money market funds classified as cash equivalents.
(2) NR represents those securities that are not rated.

DECEMBER 31, 2017

RATING	CORPORATE BONDS	MUNICIPAL BONDS	FOREIGN-DENOMINATED BONDS	COMMINGLED FUNDS	SHORT-TERM INVESTMENT FUNDS[1]	US GOVERNMENT SECURITIES	TOTAL
AAA	$ 10,092	$ -	$ 1,936	$ -	$ -	$ 41,686	$ 53,714
AA+	2,587	~	974	-	-	-	3,561
AA	-	~	5,579	-	-	-	5,579
AA-	5,297	730	-	-	-	-	6,027
A+	1,933	~	-	-	-	-	1,933
A	4,603	969	1,344	-	-	-	6,916
A-	3,839	~	17,132	-	-	-	20,971
BBB+	9,491	~	-	-	-	-	9,491
BBB	3,141	~	-	-	-	-	3,141
BBB-	2,594	~	6,496	-	-	-	9,090
BB+	941	~	-	-	-	-	941
BB	4,276	~	3,060	-	-	-	7,336
BB-	7,392	~	-	-	-	-	7,392
B+	3,807	~	-	-	-	-	3,807
B	3,170	~	-	-	-	-	3,170
B-	13,482	~	688	-	-	-	14,170
CCC+	6,317	~	-	-	-	-	6,317
CCC	2,954	~	-	-	-	-	2,954
CCC-	736	~	-	-	-	-	736
CC	4,031	~	-	-	-	-	4,031
C	4,419	~	-	-	-	-	4,419
D	2	~	-	-	-	-	2
NR[2]	9,330	~	-	142,115	80,245	871	232,561
Total	**$ 104,434**	**$ 1,699**	**$ 37,209**	**$ 142,115**	**$ 80,245**	**$ 42,557**	**$ 408,259**

(1) Includes short-term money market funds classified as cash equivalents.
(2) NR represents those securities that are not rated.

Securities Lending

The Board has authorized the Group Trust to enter into an agreement with JPMorgan for the lending of certain of the Group Trust's securities including, but not limited to, stocks and bonds to counterparty brokers and banks (borrowers) for a predetermined fee and period of time. Such transactions are allowed by State statute.

JPMorgan lends, on behalf of the Group Trust, securities held by JPMorgan as the Group Trust's custodian and receives US dollar cash and US government securities as collateral. JPMorgan does not have the ability to pledge or sell collateral securities absent a borrower default. Borrowers are required to put up collateral for each loan equal to: (i) in the case of loaned securities denominated in US dollars or whose primary trading market is in the US or sovereign debt issued by foreign governments, 102% of the fair market value of the loaned securities and (ii) in the case of loaned securities not denominated in US dollars or whose primary trading market is not in the US, 105% of the fair market value of the loaned securities.

The Board did not impose any restrictions during 2018 or 2017 on the amount of the loans that JPMorgan made on its behalf. There were no failures by any borrowers to return the loaned securities or pay distributions thereon during 2018 or 2017. Moreover, there were no losses during 2018 or 2017 resulting from a default of the borrower. JPMorgan indemnifies the Group Trust with respect to any loan related to any non-cash distribution and return of securities.

During 2018 and 2017, the Board and the borrowers maintained the right to terminate all securities lending transactions on demand. The cash collateral was invested, together with the collateral of other qualified tax-exempt plan lenders, in a collective investment pool maintained by JPMorgan. The relationship between the maturities of the collateral pool and the Group Trust's securities lent has not been determined. The fair value for securities on loan for the Group Trust was $38.6 million and $17.9 million at December 31, 2018 and 2017, respectively. Cash collateral held for the Group Trust was $20.6 million and $12.2 million at December 31, 2018 and 2017, respectively. Non-cash collateral held for the Group Trust was $19 million and $6.2 million at December 31, 2018 and 2017, respectively, consisting primarily of corporate bonds and equity securities. At year end, credit risk is substantially mitigated as the amounts of collateral held by the Group Trust exceed the amounts the borrowers owe the Group Trust. Securities lending transactions resulted in income, net of expenses, of $112 thousand and $101 thousand during 2018 and 2017, respectively.

Forward Contracts

During fiscal years 2018 and 2017, certain investment managers, on behalf of the Group Trust, entered into forward foreign exchange contracts as permitted by guidelines established by the Board. DPFP's staff monitors guidelines and compliance. 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 possible nonperformance by one of the counterparties. The maximum potential loss is the aggregate face value in US dollars at the time the contract was entered into. Forwards are usually traded over-the-counter. These transactions are initiated in order to hedge risks from exposure to foreign currency rate fluctuation and to facilitate trade settlement of foreign security transactions. 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 Group Trust records the unrealized currency translation gain or loss based on the applicable forward exchange rates. Forward currency contracts are considered derivative financial instruments and are reported at fair value.

The fair value and notional amounts of derivative instruments outstanding at December 31, 2018 and 2017, classified by type, and the changes in fair value of such derivative instruments for the year then ended are as follows (in thousands):

DECEMBER 31, 2018

	CHANGE IN FAIR VALUE	FAIR VALUE	NOTIONAL VALUE
Currency Forwards	$ (406)	$ (271)	$ 66,729

DECEMBER 31, 2017

	CHANGE IN FAIR VALUE	FAIR VALUE	NOTIONAL VALUE
Currency Forwards	$ 422	$ 135	$ 56,015

4. Fair Value Measurement

GASB No. 72 requires all investments be categorized under a fair value hierarchy. Fair value of investments is determined based on both observable and unobservable inputs. Investments are categorized within the fair value hierarchy established by GASB and the levels within the hierarchy are as follows:

- Level 1 – quoted prices (unadjusted) for identical assets or liabilities in active markets that a government can access at the measurement date
- Level 2 – inputs (other than quoted prices included within Level 1) that are observable for an asset or liability, either directly or indirectly. These inputs can include quoted prices for similar assets or liabilities in active or inactive markets, or market-corroborated inputs.
- Level 3 – significant unobservable inputs for an asset or liability

The remaining investments not categorized under the fair value hierarchy are shown at NAV. These are investments in non-governmental entities for which a readily determinable fair value is not available, such as member units or an ownership interest in partners' capital to which a proportionate share of net assets is attributed. Investments at NAV are commonly calculated by subtracting the fair value of liabilities from the fair value of assets.

The following table presents a summary of the Group Trust's investments by type as of December 31, 2018, at fair value (in thousands):

	FAIR VALUE DECEMBER 31, 2018	QUOTED PRICES IN ACTIVE MARKETS FOR IDENTICAL ASSETS (LEVEL 1)	SIGNIFICANT OTHER OBSERVABLE INPUTS (LEVEL 2)	SIGNIFICANT UNOBSERVABLE INPUTS (LEVEL 3)
Investments by Fair Value Level				
Short-term investment funds	$ 41,317	$ 41,317	$ -	$ -
Fixed income securities				
US Treasury bonds	95,236	-	95,236	-
US government agencies	8,747	-	8,747	-
Corporate bonds	231,111	-	231,111	-
Foreign-denominated bonds	36,359	-	36,359	-
Municipal bonds	2,857	-	2,857	-
Equity securities				
Domestic	265,626	265,626	-	-
Foreign	170,309	170,309	-	-
Real assets				
Real estate [1]	293,428	-	-	293,428
Timberland	8,722	-	-	8,722
Farmland	133,222	-	-	133,222
Private equity	91,585	-	-	91,585
Forward currency contracts	(271)	-	(271)	-
Total Investments by Fair Value Level	**$ 1,378,248**	**$ 477,252**	**$ 374,039**	**$ 526,957**

Investments Measured at NAV	
Equity - commingled funds	$ -
Fixed income - commingled funds	141,465
Real assets [(1)]	266,033
Private equity	221,290
Alternative investments	-
Total Investments Measured at NAV	**$ 628,788**

Total Investments Measured at Fair Value	**$ 2,007,036**

(1) Direct holdings of real estate at Level 3 include only the assets which are wholly-owned and valued using significant unobservable inputs. Remaining real assets are valued at NAV.

The following table presents a summary of the Group Trust's investments by type as of December 31, 2017, at fair value (in thousands):

	FAIR VALUE DECEMBER 31, 2017	QUOTED PRICES IN ACTIVE MARKETS FOR IDENTICAL ASSETS (LEVEL 1)	SIGNIFICANT OTHER OBSERVABLE INPUTS (LEVEL 2)	SIGNIFICANT UNOBSERVABLE INPUTS (LEVEL 3)
Investments by Fair Value Level				
Short-term investment funds	$ 24,133	$ 24,133	$ -	$ -
Fixed income securities				
US Treasury bonds	41,686	-	41,686	-
US government agencies	871	-	871	-
Corporate bonds	104,434	-	104,434	-
Foreign-denominated bonds	37,209	-	37,209	-
Municipal bonds	1,699	-	1,699	-
Equity securities				
Domestic	223,743	223,743	-	-
Foreign	196,092	196,092	-	-
Real assets				
Real estate [1]	352,960	-	310	352,650
Timberland	14,637	-	-	14,637
Farmland	155,526	-	-	155,526
Private equity	79,381	-		79,381
Forward currency contracts	135	-	135	-
Total Investments by Fair Value Level	**$ 1,232,506**	**$ 443,968**	**$ 186,344**	**$ 602,194**

Investments Measured at NAV	
Equity - commingled funds	$ 50,246
Fixed income - commingled funds	142,115
Real assets [(1)]	278,083
Private equity	142,725
Alternative investments	144,927
Total Investments Measured at NAV	**$ 758,096**

Total Investments Measured at Fair Value	**$ 1,990,602**

(1) Direct holdings of real estate at Level 3 include only the assets which are wholly-owned and valued using significant unobservable inputs. Remaining real assets are valued at NAV.

Short-term investments consist of highly liquid securities invested by third party investment managers and held directly by the Group Trust with the custodian.

Fixed income securities consist primarily of US treasury securities, US corporate securities, international debt securities and commingled funds. Fixed income securities classified in Level 2 of the fair value hierarchy are valued using matrix pricing. This method uses quoted prices for securities with the same maturities and ratings rather than a fixed price for a designated security. Many debt securities are traded on a dealer market and much less frequently, which is consistent with a Level 2 classification as these investments are valued using observable inputs. Forward currency contracts are classified as Level 2 as these securities are priced using the cost approach on a dealer market traded on lower frequencies. Commingled funds classified as Level 3 involve internal evaluation of collectability and therefore involve unobservable inputs.

Equity securities, which include both domestic and foreign securities, are classified as Level 1 as fair value is obtained using a quoted price from active markets. The security price is generated by market transactions involving identical or similar assets, which is the market approach to measuring fair value. Inputs are observable in exchange markets, dealer markets, and brokered markets for which prices are based on trades of identical securities.

Real assets classified as Level 3 are investments in which DPFP either owns 100 percent of the asset or for which the valuation is based on non-binding offers from potential buyers to purchase the investments. Real asset investments, which are wholly-owned direct holdings, are valued at the income, cost, or market approach depending on the type of holding. All direct holdings are valued using unobservable inputs and are classified in Level 3 of the fair value hierarchy. Real estate holdings classified as Level 2 are investments which were sold subsequent to year end for which fair value is based on sales price. Private equity investments classified as Level 3 are investments valued by an independent appraiser. Private equity and real assets valued at NAV are based on per share (or its equivalent) of DPFP's ownership interest in the partners' capital valued by the managers and based on third party appraisals, valuations and audited financials.

The following table presents a summary of the fair value and remaining unfunded commitments of the Group Trust's investments measured at NAV at December 31, 2018 (in thousands):

ASSET CATEGORY/CLASS	FAIR VALUE	UNFUNDED COMMITMENTS
Fixed Income - commingled funds	$ 141,465	$ 1,445
Real assets	266,033	10,158
Private equity	221,290	5,541
Total	**$ 628,788**	**$ 17,144**

The following table presents a summary of the fair value and remaining unfunded commitments of the Group Trust's investments measured at NAV at December 31, 2017 (in thousands):

ASSET CATEGORY/CLASS	FAIR VALUE	UNFUNDED COMMITMENTS
Equity - commingled funds	$ 50,246	$ -
Fixed Income - commingled funds	142,115	823
Real assets	278,083	7,154
Private equity	142,725	38,316
Alternative investments	144,927	-
Total	**$ 758,096**	**$ 46,293**

Investments measured at NAV include commingled funds, real assets, private equity and alternative investments.

Equity commingled funds are fund structure investments reported by the fund manager at NAV. The commingled investment has a redemption notice period of 5 days.

Fixed income commingled funds are fund-structure investments reported by the fund managers at NAV. Certain of the commingled investments have a redemption notice period of 7-30 days and others are less liquid, with estimated redemption periods ranging from 5 to 10 years as assets within the funds are liquidated.

Real asset investments (real estate, infrastructure, timberland and farmland) 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.

Private equity holdings include fund-structure investments with general partners. By their nature, these investments are illiquid and typically not resold or redeemed. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over a period ranging from 5 to 15 years on average.

Alternative investments include funds that hold securities for the specific strategy of focusing on management of total risk and on generation of returns independent of broad market movements. These investments are reported at NAV as they are fund or trust-structure investments.

Upon initial investment with a general partner or in certain fund-structures, DPFP commits to a certain funding level for the duration of the contract. At will, the partners or fund managers may request that DPFP fund a portion of this amount. Such amounts remaining as of December 31, 2018 and 2017 for investments measured at NAV are disclosed above as unfunded commitments.

5. Net Pension Liability

The net pension liability is measured as the total pension liability, less the amount of the plan's fiduciary net position. The components of the net pension liability at December 31, 2018 and 2017 are as follows (in thousands):

Combined Pension Plan

	2018	2017
Total pension liability	$ 4,501,670	$ 4,497,347
Less: Plan fiduciary net position	(2,041,914)	(2,103,345)
Net pension liability	$ 2,459,756	$ 2,394,002

Plan fiduciary net position as a percentage of the total pension liability at December 31, 2018 and 2017 is 45.4% and 46.8%, respectively.

Supplemental Plan

	2018	2017
Total pension liability	$ 31,831	$ 33,670
Less: Plan fiduciary net position	(18,318)	(17,805)
Net pension liability	$ 13,513	$ 15,865

Plan fiduciary net position as a percentage of the total pension liability at December 31, 2018 and 2017 is 57.6% and 52.9%, respectively.

Actuarial Assumptions as of December 31, 2018 and 2017

The total pension liability was determined by an actuarial valuation as of January 1, 2019, using the below significant assumptions, applied to all periods included in the measurement, except as noted below. 2018 and 2017 assumptions are based on an actuarial experience review covering the period January 1, 2010 to December 31, 2014 and based on assumption changes included in the January 1, 2017 valuation that are not related to September 1, 2017 plan changes. In addition, assumptions related to Plan changes which were effective September 1, 2017 as a result of the passage of HB 3158 are reflected in the 2017 assumptions below as the net pension liability is based on the plan provisions which are in effect on December 31, 2018.

Investment rate of return	7.25% per annum, compounded annually, net of investment expenses. This rate is based on an average inflation rate of 2.75% and a real rate of return of 4.50%. Market value asset returns are expected to be 5.25% in 2019, 5.75% in 2020, 6.25% in 2021, 6.75% in 2022 and 7.25% annually thereafter.
Discount rate	7.25%, used to measure the total pension liability
Administrative expenses	Explicit assumption of $8.5 million per year or 1% or Computation Pay, whichever is greater for the Combined Pension Plan and $65 thousand per year for the Supplemental Plan, increasing 2.75% annually. Includes investment-related personnel costs.
Projected salary increases	2017: 10% if less than 10 years; 7% if 10-11 years; 2% if more than 11 years 2018: 5% if less than 10 years; 2% if more than 10 years 2019: 10% if less than 10 years; 7% if 10-11 years; 2% if more than 11 years 2020 and later: Range of 2% to 5% per year, inclusive of 2.75% inflation assumption, dependent upon years of service. 2017-2019 are based on the 2016 Meet and Confer Agreement. 2020 is based on the 2016 Meet and Confer Agreement, as amended in 2018. Remaining scale is based on the City's pay plan, along with analysis completed in conjunction with the most recent experience study.
Payroll growth	2.75% per year, to match inflation assumption
Actuarial cost method	Entry age normal cost method (level percent of pay)
Post-retirement benefit increases for participants hired prior to January 1, 2007	Ad hoc COLA after the Combined Plan is 70% funded after accounting for the impact of the COLA. 2% of original benefit, beginning October 1, 2050.

Actuarial Value of Assets	Combined Pension Plan – Reset of the actuarial value of assets to market value as of December 31, 2015, with a five-year smoothing in future periods; Supplemental Pension Plan – Market value of assets
Amortization methodology	Combined Pension Plan - 30 years; Supplemental Pension Plan – 10 years
DROP interest, compounded annually, net of expenses	3% on active balances as of September 1, 2017, payable upon retirement, 0% on balance accruals after September 1, 2017.
Retirement age	Experience-based table of rates based on age, extending to age 62, with separate tables for police officers and firefighters.
Pre-retirement mortality	RP-2014 sex-distinct Employee Mortality Table, with a two-year setback for males and no adjustments for females; projected generationally using the MP-2015 improvement scale.
Post-retirement mortality	RP-2014 sex-distinct Blue Collar Healthy Annuitant Mortality Table, with no adjustment for males and a two-year set forward for females; projected generationally using the MP-2015 improvement scale.
Disabled mortality	RP-2014 sex-distinct Disabled Retiree Mortality Table, with a three-year setback for both males and females; projected generationally using the MP-2015 improvement scale.
DROP election	The DROP utilization factor is 0% for new entrants.

Actuarial Assumptions as of December 31, 2017 that differ from above:

Projected salary increases	2017: 10% if less than 10 years; 7% if 10-11 years; 2% if more than 11 years 2018: 5% if less than 10 years; 2% if more than 10 years 2019: 10% if less than 10 years; 7% if 10-11 years; 2% if more than 11 years 2020 and later: Range of 3% to 5.2% per year, inclusive of 2.75% inflation assumption, dependent upon years of service. 2017-2019 are based on the 2016 Meet and Confer Agreement. Remaining scale is based on the City's pay plan, along with analysis completed in conjunction with the most recent experience study.
Post-retirement benefit increases for participants hired prior to January 1, 2007	Ad hoc COLA after the Combined Plan is 70% funded after accounting for the impact of the COLA. 2% of original benefit, beginning October 1, 2053.
Investment rate of return	7.25% per annum, compounded annually, net of investment expenses. This rate is based on an average inflation rate of 2.75% and a real rate of return of 4.50%. Market value asset returns are expected to be 4.75% in 2018, 5.00% in 2019, 5.25% in 2020, 6.25% in 2021, and 7.25% annually thereafter.
DROP election	0% elect to enter DROP. Current DROP members with at least eight years in DROP are assumed to retire. DROP members with less than eight years are assumed to retire when they have eight years in DROP.

The long-term expected rate of return used by the external actuary to evaluate the assumed return on the Plans' investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The actuary's best estimates of arithmetic real rates of return for each major asset class included in the Plans' target asset allocation as of December 31, 2018 are summarized as shown below. The rates of return below are net of the inflation component of 2.75%.

ASSET CLASS	LONG-TERM EXPECTED REAL RATE OF RETURN	TARGET ASSET ALLOCATION
Global Equity	6.40%	40%
Emerging Markets Equity	9.47%	10%
Private Equity	10.00%	5%
Cash	1.12%	3%
Short-Term Investment Grade Bonds	1.31%	12%
Investment Grade Bonds	1.89%	4%
High Yield Bonds	4.00%	4%
Bank Loans	3.52%	4%
Global Bonds	1.69%	4%
Emerging Market Debt	4.48%	4%
Real Estate	4.58%	5%
Natural Resources	7.44%	5%

Discount rate

The discount rate used to measure the Combined Pension Plan liability was 7.25%. The projection of cash flows used to determine the discount rate assumed City contributions will be made in accordance with the provisions of Governing Statue, including statutory minimums through 2024 and 34.50% of Computation Pay thereafter. Members are expected to contribute 13.50% of Computation Pay. For cash flow purposes, projected payroll is based on 90% of the City's Hiring Plan payroll projections through 2037, increasing by 2.75% per year thereafter. This payroll projection is used for cash flow purposes only and does not impact the Total Pension Liability. The normal cost rate for future members is assumed to be 13.07% for all years. Based on these assumptions, the System's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The discount rate used to measure the total pension liability for the Supplemental Plan was 7.25%. The projection of cash flows used to determine the discount rate assume that City contributions will equal the employer's normal cost plus a ten-year amortization payment on the unfunded actuarial accrued liability and member contributions will equal 13.50% of supplemental Computation Pay. Based on those assumptions, the Supplemental Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate

The following tables present the net pension liability, calculated using the current discount rates, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate (in thousands).

DECEMBER 31, 2018

Combined Pension Plan

	1% DECREASE (6.25%)	CURRENT DISCOUNT RATE (7.25%)	1% INCREASE (8.25%)
Net pension liability	$ 2,953,141	$ 2,459,756	$ 2,046,452

Supplemental Plan

	1% DECREASE (6.25%)	CURRENT DISCOUNT RATE (7.25%)	1% INCREASE (8.25%)
Net pension liability	$ 16,363	$ 13,513	$ 11,069

DECEMBER 31, 2017

Combined Pension Plan

	1% DECREASE (6.25%)	CURRENT DISCOUNT RATE (7.25%)	1% INCREASE (8.25%)
Net pension liability	$ 2,886,444	$ 2,394,002	$ 1,980,920

Supplemental Plan

	1% DECREASE (6.25%)	CURRENT DISCOUNT RATE (7.25%)	1% INCREASE (8.25%)
Net pension liability	$ 18,826	$ 15,865	$ 13,316

6. Deferred Retirement Option Plan

HB 3158 changed the terms of the Deferred Retirement Option Plan. DROP interest for active DROP members was eliminated after September 1, 2017; only the balance as of September 1, 2017 is eligible for interest once active DROP members retire. Active DROP participation is limited to 10 years. Retirees are not allowed to defer payments into their DROP accounts. Retirees and other DROP account holders, excluding active DROP members, had their DROP balance converted to an annuity (stream of payments) on November 30, 2017. The term of the annuity was based on the DROP account holders expected lifetime at November 30, 2017. The annuity included Interest on balances accrued prior to September 1, 2017 at a rate that is correlated to the United States Treasury Note or Bond rates based on the term of the annuity and rules adopted by the Board.

DROP account balances of a member that retires after November 30, 2017 are converted to an annuity (stream of payments) at the time the member retires. The annuity is based on the member’s life expectancy and interest rates at the time of retirement. Interest on retiree DROP accounts is based on the length of the retiree’s expected lifetime and will be based on U.S. Treasury Bond Rates and rules adopted by the Board. Interest is only payable on the September 1, 2017 account balance.

HB 3158 allowed active members an opportunity to revoke their DROP election prior to February 28, 2018 under rules adopted by the Board. 183 members revoked their prior DROP participation election.

Prior to the passage of HB 3158, DROP accounts earned interest based on the 2014 plan amendments, which instituted a gradual step-down in the interest rate paid on DROP accounts. The interest paid on DROP accounts beginning October 1, 2016 until September 1, 2017 was 6%. See Note 10 for discussion of the status of litigation related to the 2014 plan amendments.

The following tables reflect the change in DROP balances and the change in the present value of DROP annuities and the number of participants and annuitants during the year ended December 31, 2018:

Combined Pension Plan

	DROP BALANCE (000'S)		DROP PARTICIPANTS
Balance at December 31, 2017	$ 243,122	Participants at December 31, 2017	626
Accumulations	26,911		
Balances Annuitized	(61,652)		
Other Distributions/Deductions[1]	(14,450)		
Balance at December 31, 2018	**$ 193,931**	**Participants at December 31, 2018**	**483**
	ANNUITY BALANCE (000'S)		ANNUITITY PARTICIPANTS
Present Value of Annuities at December 31, 2017	$ 809,586	Annuitants at December 31, 2017	1,978
Present Value of Annuities at December 31, 2018	$ 828,520	**Annuitants at December 31, 2018**	**2,186**

Supplemental Plan

	DROP BALANCE (000'S)		DROP PARTICIPANTS
Balance at December 31, 2017	$ 590	Participants at December 31, 2017	7
Accumulations	23		
Balances Annuitized	(438)		
Other Distributions/Deductions[1]	-		
Balance at December 31, 2018	**$ 175**	**Participants at December 31, 2018**	5
	ANNUITY BALANCE (000'S)		ANNUITITY PARTICIPANTS
Present Value of Annuities at December 31, 2017	$ **7,520**	Annuitants at December 31, 2017	55
Present Value of Annuities at December 31, 2018[2]	**$ 4,296**	**Annuitants at December 31, 2018**	**57**

[1] Includes distributions and the elimination of DROP balances due to DROP revocation elections and amounts paid from the Excess Benefits Plan and Trust.
[2] Includes annuities that may be paid out of the Excess Benefits and Trust.

7. Notes Payable

As of December 31, 2015, DPFP had a credit agreement with Bank of America, N.A. (BoA) which provided for a maximum borrowing of $200 million. At December 31, 2016, the line of credit was in technical default because the surplus liquidity ratio covenant was not met for the quarter ended September 30, 2016. On March 28, 2017, BoA waived the default and the loan agreement was amended. The line of credit and term loan were paid in full on July 7, 2017.

8. Defined Contribution Retirement Plan

DPFP offers its employees a money purchase plan (MPP) created in accordance with Internal Revenue Code Section 401. An employee of DPFP becomes a participant in the MPP on their first day of service. Participation ceases, except for purposes of receiving distributions in accordance with the terms of the MPP, on the day employment with DPFP is terminated. Employees are required to contribute 6.5% of their regular pay. Employees are allowed to make after-tax contributions, not to exceed IRS Code limitations. In accordance with the MPP, DPFP is obligated to contribute 12% of permanent employees' regular rate of pay and 8% of part-time and temporary employees' regular rate of pay each year. During 2018 and 2017, DPFP contributed approximately $275 thousand and $305 thousand, respectively, and participants contributed approximately $149 thousand and $165 thousand, respectively, to the MPP. The MPP is administered by a third party, Voya Financial, Inc. (Voya), and the cost of administration is borne by the MPP participants. The MPP is held in trust by Voya and is not a component of the accompanying financial statements.

9. Capital Assets

As of December 31, 2014, the DPFP office building and land were transferred to DPFP from a limited liability investment wholly owned by DPFP and were therefore reclassified from an investment asset to a capital asset. As donated capital assets, the DPFP office building and land are recorded at acquisition value as of December 31, 2014. Purchased capital assets which include building improvements, are recorded at historical cost. Depreciation is charged over the estimated useful lives of the assets using a straight-line method. Depreciation expense of $226 thousand is included in professional and administrative expenses in the accompanying financial statements for the years ended December 31, 2018 and 2017. All capital assets belong to DPFP. Maintenance and repairs are charged to expense as incurred.

Capitalization thresholds for all capital asset classes and useful lives for exhaustible assets are as follows (in thousands):

ASSET CLASS	CAPITALIZATION THRESHOLD	DEPRECIABLE LIFE
Building	$ 50	50 years
Building improvements	$ 50	15 years

Capital asset balances and changes for the fiscal years ending December 31, 2018 and 2017 are as follows (in thousands):

ASSET CLASS	BALANCE DECEMBER 31, 2016	INCREASES	DECREASES	BALANCE DECEMBER 31, 2017	INCREASES	DECREASES	BALANCE DECEMBER 31, 2018
Land	$ 3,321	$ 241	$ -	$ 3,562	$ -	$ -	$ 3,562
Building	8,452	659	190	8,921	-	190	8,731
Building improvements	268	-	36	232	-	36	196
Total	**$ 12,041**	**$ 900**	**$ 226**	**$ 12,715**	**$ -**	**$ 226**	**$ 12,489**

10. Commitments and Contingencies

Members

As described in Note 1, certain members of the Plans whose employment with the City is terminated prior to being eligible for pension benefits are entitled to refunds of their accumulated contributions. Members who began service before March 1, 2011 who terminate employment with the City with less than five years of pension service are only entitled to a refund of their accumulated employee contributions, without interest, as they vest at five years. Prior to September 1, 2017, members who began service after February 28, 2011 were only entitled to a refund, without interest, if they terminate with less than ten years of pension service as they vested at ten years. After the passage of HB 3158 and the September 1, 2017 effective date the vesting period was reduced from ten to five years for employees hired after March 1, 2011, and such members are only entitled to a refund of their accumulated contributions, without interest, if they have less than five years of pension service. As of December 31, 2018 and 2017, aggregate contributions from active non-vested members for the Combined Pension Plan were $20.3 million and $11.9 million, respectively. The portion of these contributions that might be refunded to members who terminate prior to pension eligibility and request a refund has not been determined. Refunds due to terminated non-vested members in the amount of $1 million, for both December 31, 2018 and 2017, were included in accounts payable and other accrued liabilities of the Combined Pension Plan. As of December 31, 2018 and 2017, the aggregate contributions from active non-vested members of the Supplemental Plan was $38 and $36 thousand. One terminated member was eligible for a refund of $54 thousand from the Supplemental Plan as of December 31, 2018. No contributions for terminated members were eligible for refunds as of December 31, 2017 in the Supplemental Plan.

At December 31, 2018 the total accumulated DROP balance and the present value of the DROP annuities was $1.01 billion for the Combined Plan and $4.5 million for the Supplemental Plan. The total accumulated DROP balance at December 31, 2017 was $1.05 billion for the Combined Plan and $8.1 million for the Supplemental Plan.

Investments

The following table depicts the total commitments and unfunded commitments to various limited partnerships and investment advisors at December 31, 2018, by asset class (in thousands).

ASSET CLASS	TOTAL COMMITMENT	TOTAL UNFUNDED COMMITMENT
Real assets	$ 117,000	$ 10,158
Private equity	126,283	5,541
Fixed income – commingled funds	10,000	1,445
Total	**$ 253,283**	**$ 17,144**

Capital calls related to private equity and real assets were received after December 31, 2018, which reduced the unfunded commitments to $4.4 and $9.4 million, respectively. A distribution was made subsequent to December 31, 2018 in fixed income, which initially increased the unfunded capital commitment in fixed income to $1.5 million. However, an additional capital call of $740 thousand reduced the unfunded commitment to $770 thousand. See Note 12.

Legal

DPFP was a defendant in litigation in which certain individual members have alleged that 2014 plan amendments to the Combined Pension Plan reducing the DROP interest rate and a related policy and procedure change to accelerate DROP distributions violated Article 16, Section 66 of the Texas Constitution. On April 14, 2015, the district court entered judgment for DPFP, holding these amendments and changes are constitutional. As a result of this court decision, the Board voted on April 16, 2015 to implement the changes approved by the members. Plaintiffs appealed

and on December 13, 2016, the Fifth District Court of Appeals rendered a decision affirming the district court's ruling. On January 24, 2017, plaintiffs filed a petition for review with the Texas Supreme Court. On March 8, 2019, the Texas Supreme Court upheld the decisions by the lower courts and on June 14, 2019 denied the plaintiff's motion for rehearing thereby ending the case.

In 2017, a group of retirees filed a lawsuit in federal court which seeks to require the Board to distribute lump sum payments from DROP upon the retirees' request. On March 14, 2018, the district court granted DPFP's motion to dismiss the case. The plaintiffs appealed this decision to the Fifth Circuit and requested the Fifth Circuit certify certain issues relating to the case to the Texas Supreme Court. On March 20, 2019, the Fifth Circuit certified two questions to the Texas Supreme Court, and oral arguments occurred on September 17, 2019. This lawsuit is pending. DPFP will continue to vigorously defend this lawsuit. The ultimate outcome of this lawsuit cannot be determined at this time and, accordingly, no amounts related to these claims have been recorded in the accompanying financial statements as of December 31, 2018 and 2017.

In February 2019, certain plaintiffs filed suit against the Texas Pension Review Board and its Chairman in state district court in Travis County alleging that changes to the provisions of the DPFP Plans relating to the benefit supplement and annual adjustment were violative of the Texas Constitution. The case is in its early stages. While DPFP is not a party to the lawsuit, a judgment for the plaintiffs would have a material effect upon DPFP and its financial statement and condition. The ultimate outcome of this lawsuit cannot be determined at this time and, accordingly, no amounts related to these claims have been recorded in the accompanying financial statements as of December 31, 2018.

A lawsuit was filed in 2016 in state court related to distributions from DROP balances. The state court proceeding was initially brought by Mike Rawlings, Mayor of Dallas, in his individual capacity. Several parties subsequently intervened, including four trustees of the Board who are City of Dallas council members. Mr. Rawlings subsequently withdrew from the lawsuit. The plaintiffs sought various types of relief, including a request for a receivership and the prevention of any further amounts from being distributed from DROP balances to members. This lawsuit was dismissed in 2017.

11. Risks and Uncertainties

The Group Trust invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. The effect of such risks on the Group Trust's investment portfolio is mitigated by the diversification of its holdings. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the value of investment securities may occur over the course of different economic and market cycles and that such change could be material to the financial statements.

The Plans' actuarial estimates disclosed in Note 5 are based on certain assumptions pertaining to investment rate of return, inflation rates, and participant demographics, all of which are subject to change. Due to uncertainties inherent in the estimations and assumptions process, it is reasonably possible that changes in these estimates and assumptions in the near term could be material to the financial statements.

Several lawsuits were pending against the City by police officers and firefighters, which claim the right to significant back pay on behalf of many current and former City of Dallas police officers and firefighters. DPFP previously intervened in such lawsuits to protect DPFP's right to Member and City contributions if they were to become due upon a successful outcome of the police officers' and firefighters' claims. HB 3158, passed by the Texas Legislature in 2017, provided that any award of back pay arising out of litigation would not be included in Computation Pay, thereby eliminating any liability of DPFP for increased benefits regardless of the outcome of these suits. Additionally, a settlement agreement was signed by all parties in September 2018, which eliminates any liability for DPFP. Accordingly, no amounts related to these claims have been recorded in the accompanying financial statements as of December 31, 2018 and 2017.

12. Subsequent Events

Investment Policy Statement Amendments

In October 2018, the Board approved new long-term asset allocation targets. In late 2018, Investment Staff and Meketa completed a comprehensive review of the Investment Policy Statement (IPS) and proposed numerous changes to update for the new long-term asset allocation and implementation plan, incorporate best practices and improve clarity and structure of the policy. The Board considered these changes at the December 2018 Board meeting, provided input and feedback on the proposed changes and ultimately approved a further revised policy at the January 2019 Board meeting. The IPS was further revised in March 2019 to provide for the requirement that a majority of the outside members be present at any meeting of the Investment Advisory Committee (IAC) and that the Board be advised on how each IAC member voted on any vote for any action reported to the Board by the IAC.

Real Asset Sales and Private Equity Sales

Subsequent to year end and prior to the issuance date of the financials, there were 11 sales of Real Estate or Natural Resource properties that totaled $115.9 million in proceeds to DPFP and one Private Equity distribution of $17.1 million.

Capital Calls Resulting in the Reduction of Unfunded Commitments

Subsequent to December 31, 2018, DPFP received and paid the following material capital calls: Real Assets - $738 thousand, Private Equity - $1.2 million and Fixed Income - $740 thousand.

Management has evaluated subsequent events through November 19, 2019, which is the date that the financial statements were available for issuance and noted no subsequent events to be disclosed other than those which are disclosed in this Note or elsewhere in the Notes to Combining Financial Statements.

Required Supplementary Information

(Unaudited)

Schedule of Changes in the Net Pension Liability and Related Ratios

For Last Five Fiscal Years (in Thousands)

COMBINED PENSION PLAN

FOR FISCAL YEAR ENDING DECEMBER 31,	2018	2017	2016	2015	2014
Total pension liability					
Service cost	$ 44,792	$ 148,552	$ 167,432	$ 125,441	$ 131,312
Interest	318,536	348,171	360,567	359,023	369,408
Changes of benefit terms	16,091	(1,167,597)	-	-	(329,794)
Differences between expected and actual experience	(46,555)	(134,665)	(77,463)	379,461	(4,453)
Changes of assumptions	(31,460)	(2,851,241)	(712,003)	908,988	-
Benefit payments, including refunds of employee contributions	(297,081)	(296,154)	(825,092)	(285,003)	(245,932)
Net change in total pension liability	4,323	(3,952,934)	(1,086,559)	1,487,910	(79,459)
Total pension liability - beginning	4,497,347	8,450,28	9,536,840	8,048,930	8,128,389
Total pension liability - ending (a)	**$ 4,501,670**	**$ 4,497,347**	**$ 8,450,281**	**$ 9,536,840**	**$ 8,048,930**
Plan fiduciary net position					
Employer contributions	$ 149,357	$ 126,318	$ 119,345	$ 114,886	$ 109,792
Employee contributions	49,332	32,977	25,518	25,676	29,333
Net investment income (loss), net of expenses	42,822	98,911	164,791	(235,207)	(138,893)
Benefits payments	(297,081)	(296,154)	(825,092)	(285,003)	(245,932)
Interest expense	-	(1,279)	(4,532)	(8,417)	(7,361)
Administrative expenses	(5,861)	(8,090)	(9,492)	(6,006)	(8,003)
Net change in plan fiduciary net position	(61,431)	(47,317)	(529,462)	(394,071)	(261,064)
Plan fiduciary net position - beginning	2,103,345	2,150,662	2,680,124	3,074,195	3,335,259
Plan fiduciary net position - ending (b)	**$ 2,041,914**	**$ 2,103,345**	**$ 2,150,662**	**$2,680,124**	**$ 3,074,195**
Net pension liability - ending (a) - (b)	$ 2,459,756	$ 2,394,002	$ 6,299,619	$ 6,856,716	$ 4,974,735
Plan fiduciary net position as a percentage of total pension liability	45.4%	46.8%	25.5%	28.1%	38.2%
Covered payroll	$ 363,117	$ 346,037	$ 357,414	$ 365,210	$ 383,006
Net pension liability as a percentage of covered payroll	677.4%	691.8%	1,762.6%	1,877.5%	1,298.9%

(Continued)

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

SUPPLEMENTAL PENSION PLAN

FOR FISCAL YEAR ENDING DECEMBER 31,	2018	2017	2016	2015	2014
Total pension liability					
Service cost	$ 222	$ 111	$ 70	$ 36	$ 28
Interest	2,359	2,799	2,911	2,953	2,969
Changes of benefit terms	888	(5,305)	-	-	(526)
Differences between expected and actual experience	(2,628)	(1,435)	1,105	928	336
Changes of assumptions	28	(479)	(916)	(600)	-
Benefit payments, including refunds of employee contributions	(2,708)	(2,668)	(5,912)	(2,640)	(3,414)
Net change in total pension liability	(1,839)	(6,977)	(2,742)	677	(607)
Total pension liability - beginning	33,670	40,647	43,38	42,712	43,319
Total pension liability - ending (a)	**$ 31,831**	**$ 33,670**	**$ 40,647**	**$ 43,389**	**$ 42,712**
Plan fiduciary net position					
Employer contributions	$ 1,979	$ 2,077	$ 3,064	$ 2,443	$ 1,817
Employee contributions	74	66	35	43	49
Net investment income (loss), net of expenses	1,220	740	1,141	(1,689)	(517)
Benefits payments	(2,708)	(2,668)	(5,912)	(2,640)	(3,414)
Interest expense	-	(11)	(78)	(44)	(51)
Administrative expenses	(52)	(69)	(37)	(61)	(56)
Net change in plan fiduciary net position	513	135	(1,787)	(1,948)	(2,172)
Plan fiduciary net position - beginning	17,805	(17,670)	(19,457)	21,405	23,577
Plan fiduciary net position - ending (b)	$ 18,318	**$ 17,805**	**$ 17,670**	**$ 19,457**	**$ 21,405**
Net pension liability - ending (a) - (b)	$ 13,513	$ 15,865	$ 22,978	$ 23,932	$ 21,307
Plan fiduciary net position as a percentage of total pension liability	57.6%	52.9%	43.5%	44.8%	50.1%
Covered payroll	$ 622	$ 916	$ 525	$ 725	$ 557
Net pension liability as a percentage of covered payroll	2,173.8%	1,731.6%	4,376.2%	3,303.3%	3,827.3%

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

Notes to Schedule:

<u>Changes of benefit terms:</u>

As of December 31, 2018 - None

As of December 31, 2017

HB 3158 was signed by the Governor on May 31, 2017, the significant benefit and contribution changes in the bill were effective September 1, 2017.

- Normal Retirement Age increased from either age 50 or 55 to age 58
- For members less than the age of 45 on September 1, 2017, hired prior to March 1, 2011, and had less than 20 years of pension service the Early Retirement Age increased from age 45 to age 53
- Vesting for members hired after February 28, 2011 was reduced from ten years to five years of service
- Benefit multiplier for all future service for members hired prior to March 1, 2011 was lowered from 3.00% to 2.50%
- Benefit multiplier retroactively increased to 2.50% for members hired on or after March 1, 2011
- Benefit multipliers for 20 and Out benefit lowered
- Members hired after February 28, 2011 are eligible for an early retirement benefit after 20-years of service
- Maximum benefit reduced from 96% of computation pay to 90% of computation pay for members hired prior to March 1, 2011
- Average computation pay period changed from 36 months to 60 months for future service for members hired prior to March 1, 2011
- Annual Adjustment (COLA) discontinued for all members. The Board may choose to provide a COLA if the funded ratio on a market value basis is at least 70% after the implementation of a COLA.
- The supplemental benefit is eliminated prospectively; only those for whom the supplement was already granted as of September 1, 2017 will maintain the supplement
- Active DROP participation is limited to 10 years
- DROP interest for active DROP members was eliminated after September 1, 2017; only the balance as of September 1, 2017 will be eligible for interest once active DROP members retire
- Retirees with DROP accounts as of September 1, 2017 will have their DROP account balances paid out over their expected lifetime based on their age as of September 1, 2017
- Future retirees with DROP accounts will have their DROP account balances paid out over their expected lifetime as of the date of their retirement
- Interest on retiree DROP accounts as of August 31, 2017 will be paid based on the length of the retiree's expected lifetime and will be based on U.S. Treasury rates which correlate to expected lifetime, as determined by the Board of Trustees
- Member contributions for both DROP and non-DROP members increased to 13.5% effective September 1, 2017
- The City's contribution rate will increase to 34.5% of computation pay. Between September 1, 2017 and December 31, 2024, the City's contribution will be the greater of (i) 34.5% and (ii) a biweekly contribution amount as stated in HB3158, plus $13 million per year.

As of December 31, 2016 and 2015 - None

As of December 31, 2014

The Board approved a plan amendment implementing changes to DROP interest rates on April 16, 2015. Such changes were reflected in the valuation of the net pension liability as of December 31, 2015 and 2014.

Changes of methods and assumptions:

As of December 31, 2018

The salary scale assumption was updated to reflect the 2016 Meet and Confer Agreement, as amended in 2018.

The ad-hoc COLA assumption was updated to begin October 1, 2050 based on the updated projection of the unfunded actuarial accrued liability; last year, the COLA was assumed to begin October 1, 2053.

As of December 31, 2017

The discount rate used to measure the total pension liability changed from a blended discount rate of 4.12% to the assumed rate of return of 7.25% for the Combined Pension Plan and from a blended discount rate of 7.10% to the assumed rate of return of 7.25% for the Supplemental Plan.

As a result of the passage of HB 3158 the following assumption were changed:

- The DROP utilization factor was changed from 100% to 0%
- Current DROP members with at least eight years in DROP as of January 1, 2017 are assumed to retire in 2018. Current DROP members with less than eight years in DROP as of January 1, 2017 are assumed to retire once they have been in the DROP for eight years
- Retirement rates were changed effective January 1, 2018
- 100% retirement rate once the projected sum of age plus service equals 90
- New terminated vested members are assumed to retire at age 58
- DROP account balances annuitized as of September 1, 2017 are assumed to earn 2.75% interest; DROP account balances as of September 1, 2017 for active members are assumed to earn 3.00% interest upon retirement; DROP account balances accrued after September 1, 2017 for active members do not earn interest
- DROP payment period based on an 85%/15% male/female blend of the current healthy annuitant mortality tables
- COLA assumed to be a 2.00% COLA beginning October 1, 2053 and payable every October 1st thereafter
- The administrative expense assumption was changed from the greater of $10 million per year or 1% of computation pay to the greater of $8.5 million per year or 1% of computation pay for the Combined Plan and from $60 thousand to $65 thousand for the Supplemental Plan

As of December 31, 2016

The blended discount rate used to measure the total pension liability changed from 3.95% to 4.12% for the Combined Pension Plan and from 7.19% to 7.10% for the Supplemental Plan.

The remaining amortization period was adjusted from 40 years to 30 years for the Combined Pension Plan based on Section 802.101(a) of the Texas Government Code.

The salary scale was modified for valuation years 2017-2019 in accordance with the Meet and Confer Agreement. DROP interest is assumed to decline from 6.00% to 5.00% effective October 1, 2017, and to 0.00% effective October 1, 2018, per Section 6.14(c) of the plan document as amended and restated through April 16, 2015.

As of December 31, 2015

The blended discount rate used to measure the total pension liability changed from 4.94% to 3.95% for the Combined Pension Plan and from 7.13% to 7.19% for the Supplemental Plan.

As a result of the actuarial experience study completed for the five-year period ending December 31, 2014, the following changes in assumptions were adopted by the Board. For further information regarding the changes to actuarial assumptions, refer to the January 1, 2016 Dallas Police and Fire Pension System actuarial valuation reports for the Combined Pension Plan and the Supplemental Plan.

- Salary scales were updated with separate service-based salary assumptions for police officers and firefighters, lowering the range of increase to 3.00% to 5.20% from the previous assumed range of 4.00% to 9.64%.
- The payroll growth rate assumption was lowered from 4.00% to 2.75% to equal the assumed inflation rate.
- In the prior valuation, the investment return assumption was net of both investment and administrative expenses. In the December 31, 2015 valuation, an explicit assumption for administrative expenses was added to the normal cost. Assumptions of $10 million and $60 thousand per year were utilized for the Combined Pension Plan and Supplemental Plan, respectively.
- In the prior valuation for the Combined Pension Plan, an asset valuation method using a 10-year smoothing period was applied. In the December 31, 2015 valuation, the actuarial value of assets was reset to market value as of the measurement date. A five-year smoothing period will be used in future periods.
- The remaining amortization period was adjusted from 30 years to 40 years for the Combined Pension Plan based on Section 802.101(a) of the Texas Government Code.
- Mortality tables were updated from the RP-2000 tables to the RP-2014 tables.
- Assumed rates of turnover were lowered for police officers and raised for firefighters to reflect recent experience.
- Retirement rates were lowered for both police officers and firefighters, with the separation of service-based assumptions implemented based on recent experience.
- Disability rates were lowered for both police officers and firefighters and service-based assumptions were eliminated based on the similarity of recent experience between the two services.
- The assumption of the portion of active employees who are married was lowered from 80% to 75% and the age of the youngest child was raised from 1 to 10.

As of December 31, 2014

The assumption for the future interest rates credited to DROP balances was changed from 8.5% to the following rates prescribed by the 2014 plan amendment:

- At October 1, 2014 – 8.0%;
- At October 1, 2015 – 7.0%;
- At October 1, 2016 – 6.0%; and
- At October 1, 2017 and thereafter – 5.0%

Schedule of Employer Contributions – Combined Pension Plan
(In Thousands)

MEASUREMENT YEAR ENDING DECEMBER 31,	ACTUARIALLY DETERMINED CONTRIBUTION	ACTUAL CONTRIBUTION	CONTRIBUTION DEFICIENCY (EXCESS)	COVERED PAYROLL	ACTUAL CONTRIBUTION AS A % OF COVERED PAYROLL
2018	$ 157,100	$ 149,357	$ 7,743	$ 346,037	43.2%
2017	$ 168,865	$ 126,318	$ 42,547	$ 357,414	35.3%
2016	$ 261,859	$ 119,345	$ 142,514	$ 365,210	32.7%

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

Prior to January 1, 2016, the actuarial determined contribution for the Combined Plan was not determined by the actuary.

The City's contribution rate for the Combined Pension Plan is set by State statutes. The difference between the actuarial determined contribution and the City contribution set by State statutes results in the contribution deficiency.

Notes to Schedule:
The following methods and assumptions used to calculate the actuarial determined contribution:

As of December 31, 2018

Actuarial cost method	Entry age normal cost method
Amortization method	30-year level percent of pay
Remaining amortization period	45 years as of January 1, 2018
Asset valuation method	Reset of the actuarial value of assets to market value as of December 31, 2015, with a five-year smoothing in future periods
Investment rate return	7.25% per annum, compounded annually, net of all expense, including administrative expenses. This rate is based on an average inflation rate of 2.75% and a real rate of return of 4.50%.
Inflation rate	2.75%
Projected salary increases	Inflation plus merit increases, varying by group and service, ranging from 0.00% to 2.25%
Post-retirement benefit	COLA assumed to be a 2.00% COLA beginning October 1, 2053 and Increases payable every October 1 thereafter
Retirement age	Experienced-based table of rates, based on age

Mortality	Pre-retirement: Sex-distinct RP-2014 Employee Mortality Table, set back two years for males, projected generationally using Scale MP-2015 Post-retirement: Sex-distinct RP-2014 Blue Collar Healthy Annuitant Mortality Table, set forward two years for females, projected generationally using Scale MP-2015 Disabled: Sex-distinct RP-2014 Disabled Retiree Mortality Table, set back three years for males and females, projected generationally using Scale MP-2015
DROP balance returns	DROP account balances as of September 1, 2017 for active members are based on the United States Department of Commerce Daily Treasury Yield Curve Rates for durations between 5 and 30 years; interest rate is based on the expected lifetime of the members at the time they retire. Interest is only paid on DROP account balances as of September 1, 2017.
DROP election	The DROP utilization factor is 0% for new entrants.

As of December 31, 2017 that differed from above

Projected salary increases	Inflation plus merit increases, varying by group and service, ranging from 0.25% to 2.45%
Post-retirement benefit increases	COLA assumed to be a 2.00% COLA beginning October 1, 2049 and payable every October 1 thereafter
DROP balance returns	6% per year until September 1, 2017. Beginning September 1, 2017, DROP account balances for annuitants are assumed to earn 2.75% interest; DROP account balances as of September 1, 2017 for active members are assumed to earn 2.75% interest upon retirement; DROP account balances accrued after September 1, 2017 for active members do not earn interest.
DROP election	The DROP utilization factor is 0% for new entrants. Current DROP members with at least eight years in the DROP as of January 1, 2017 are assumed to retire in 2018. Current DROP members with less than eight years in DROP as of January 1, 2017 are assumed to retire once they have been in the DROP for eight years.

As of December 31, 2016 that differed from above

Post-retirement benefit increases	4.00% simple COLA, October 1st
DROP balance returns	At October 1, 2015 – 7.0% At October 1, 2016 – 6.0% At October 1, 2017 and thereafter – 5.0%
DROP election	Age 50 with 5 years of service. Any active member who satisfies these criteria and have not entered DROP are assumed never to join DROP. Active members who retire with a DROP account are assumed to receive the balance of their account over a 10-year time period.

Schedule of Employer Contributions – Supplemental Plan

(In Thousands)

MEASUREMENT YEAR ENDING DECEMBER 31,	ACTUARIALLY DETERMINED CONTRIBUTION	ACTUAL CONTRIBUTION	CONTRIBUTION DEFICIENCY (EXCESS)	COVERED PAYROLL	ACTUAL CONTRIBUTION AS A % OF COVERED PAYROLL
2018	$ 2,274	$ 1,979	$ 295	$ 916	216.0%
2017	2,087	2,077	10	525	395.6%
2016	3,063	3,063	-	725	422.9%
2015	2,443	2,443	-	557	438.8%
2014	1,817	1,817	-	521	348.5%

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

Actuarially determined employer contributions for the Supplemental Plan are required by City ordinance. Actuarially determined contributions are calculated as of January 1 in the fiscal year in which the contribution is reported. The deficiency shown on the table is due to Supplemental Plan contributions paid directly to the Excess Benefit Plan in compliance with Internal Revenue Code Section 415.

Notes to Schedules:

The following methods and assumptions were used to calculate the actuarial determined contribution for the Supplemental Plan:

As of December 31, 2018

Actuarial cost method	Entry age normal cost method
Amortization method	10 years level percent of pay
Remaining amortization period	10 years
Asset valuation method	Market value of assets
Investment rate of return	7.25% per annum, compounded annually, net of all expense, including administrative expenses. This rate is based on an average inflation rate of 2.75% and a real rate of return of 4.50%
Inflation rate	2.75%
Projected salary increases	Inflation plus merit increases, varying by group and service, ranging from 0.00% to 2.25%
Post-retirement benefit increases	COLA assumed to be a 2.00% COLA beginning October 1, 2053 and payable every October 1st thereafter
Retirement age	Experienced-based table of rates, based on age

Mortality	Pre-retirement: Sex-distinct RP-2014 Employee Mortality Table, set back two years for males, projected generationally using Scale MP-2015 Post-retirement: Sex-distinct RP-2014 Blue Collar Healthy Annuitant Mortality Table, set forward two years for females, projected generationally using Scale MP-2015 Disabled: Sex-distinct RP-2014 Disabled Retiree Mortality Table, set back three years for males and females, projected generationally using Scale MP-2015
DROP balance returns	DROP account balances as of September 1, 2017 for active members are based on the United States Department of Commerce Daily Treasury Yield Curve Rates for durations between 5 and 30 years; interest rate is based on the expected lifetime of the members at the time they retire. Interest is only paid on DROP account balances as of September 1, 2017.
DROP election	The DROP utilization factor is 0% for new entrants.

As of December 31, 2017 that differed from the above

Projected salary increases	Inflation plus merit increases, varying by group and service, ranging from 0.25% to 2.45%
Post-retirement benefit increases	COLA assumed to be a 2.00% COLA beginning October 1, 2049 and payable every October 1 thereafter
DROP balance returns	6% per year until September 1, 2017. Beginning September 1, 2017, DROP account balances for annuitants are assumed to earn 2.75% interest; DROP account balances as of September 1, 2017 for active members are assumed to earn 2.75% interest upon retirement; DROP account balances accrued after September 1, 2017 for active members do not earn interest.
DROP election	The DROP utilization factor is 0% for new entrants. Current DROP members with at least eight years in the DROP as of January 1, 2017 are assumed to retire in 2018. Current DROP members with less than eight years in DROP as of January 1, 2017 are assumed to retire once they have been in the DROP for eight years.

As of December 31, 2016 that differed from above

Post-retirement benefit increases	4.00% simple COLA, October 1st
DROP balance returns	October 1, 2015 – 7% October 1, 2016 – 6% October 1, 2017 and thereafter – 5%
DROP election	Age 50 with 5 years of service. Any active member who satisfy these criteria and have not entered DROP are assumed never to join DROP. Active members who retire with a DROP account are assumed to receive the balance of their account over a 10-year time period.

As of December 31, 2015 and 2014 that differed from above

Projected salary increases	Range of 4.00% - 9.64%
Mortality	RP-2000 Combined Healthy Mortality Table projected to 10 years beyond the valuation date using Scale AA for healthy retirees and active members

Schedule of Investment Returns

FISCAL YEAR ENDED DECEMBER 31,	ANNUAL MONEY-WEIGHTED RATE OF RETURN, NET OF INVESTMENT EXPENSE
2018	(1.49%)
2017	5.07%
2016	3.09%
2015	(12.70%)
2014	3.98%

Notes to Schedule:
The annual money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense, and expresses investment performance, adjusted for the changing amounts actually invested. Pension plan investment expense consists of manager fees. The return is calculated using a methodology which incorporates a one quarter lag for market value adjustments on private equity,debt, and real assets investments.

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

Supplementary Information

Administrative, Investment, and Professional Services Expenses

Year Ended December 31, 2018

ADMINISTRATIVE EXPENSES		
Information technology	$	388,938
Education		24,855
Insurance		530,507
Personnel		2,990,341
Office equipment		125,607
Dues and subscriptions		145,612
Board meetings		3,468
Office supplies		27,651
Utilities		56,157
Postage		13,362
Printing		1,977
Facilities		600,120
Other		16,120
Total administrative expenses	$	**4,924,715**
INVESTMENT EXPENSES		
Investment management	$	6,608,763
Custodial		224,891
Valuation and audits		704,739
Consulting and reporting		405,940
Legal		54,840
Tail-end advisory		91,588
Tax		6,896
Other		(8,074)
Total investment expenses	$	**8,089,583**
PROFESSIONAL SERVICES EXPENSES		
Consulting	$	9,177
Actuarial		146,021
Auditing		152,500
Accounting		61,882
Medical review		7,030
Legal		379,000
Mortality records		5,800
Legislative		126,500
Other		101,421
Total professional services expenses	$	**989,331**

Notes to Schedule:
Supplementary information on investment expenses does not include investment management fees and performance fees embedded in the structure of private equity and other limited partnership investments. Rather, these fees are a component of the net appreciation (depreciation) in fair value of investments in the accompanying Statements of Changes in Fiduciary Net Position. In addition, management fees paid directly by DPFP are included net of rebates received. The members of the Board of Trustees serve without compensation; they are reimbursed for actual expenses incurred.

See accompanying independent auditor's report.

Investment
Information

Investment Consultant's Report

MEMORANDUM

To: Board of Trustees,
Dallas Police and Fire Pension System

From: Leandro Festino, Aaron Lally, Alli Wallace Stone
Meketa Investment Group

Date: October 18, 2019

Re: Investment Consultant's Statement for CAFR

This letter reviews the global capital markets in 2018, the investment performance and the investment activities of the Dallas Police and Fire Pension System ("DPFP") for the year ending December 31, 2018.

Investment decisions were made during the calendar year with the following investment objectives in mind (as stated in DPFP's Investment Policy Statement):

- To maintain a diversified asset allocation;
- To provide for an appropriate risk adjusted rate of return;
- To allow for both passive and active investment management;
- To monitor quarterly manager performance;
- To monitor monthly asset allocation changes;
- To outperform the Policy Benchmark over rolling three-year periods;

DPFP produced a net return of -1.5% in the calendar year, which outperformed its policy benchmark return of -5.3%. Although DPFP remains over-allocated to private market investments overall, progress was made in 2018 in reducing exposure to real assets. A new asset allocation was approved, and an implementation plan was formalized to rebalance the plan towards its new asset targets.

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

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

2018 Capital Markets Year in Review

Worries of rising interest rates globally, trade tensions between the U.S. and China, elevated levels of volatility in the market, and increasing concerns of a slowing U.S. economy were central themes resonating throughout calendar year 2018. During the first quarter of 2018, we saw volatility return, with markets weathering higher levels of fluctuations (though these fluctuations were still near historical averages). While volatility seemed to wane in the quarters (Q2 and Q3) that followed, fourth quarter volatility rose sharply, culminating in abysmal returns for foreign markets in particular, and domestic markets to a lesser extent. Volatility spiked in the fourth quarter with the VIX reaching 36 before re-tracing to 25 at quarter-end. For the first three quarters of the year, most markets embraced a "risk-on" appetite, though this reversed at year-end, with investors moving toward higher quality fixed income instruments.

With the exception of core bonds, which delivered flat returns for the calendar year, every major asset class posted negative returns. After strong returns in 2017, emerging market equities posted a -14.6% return for 2018. The MSCI EAFE Index, representing foreign developed markets, followed closely with a -13.8% return. U.S. equities, as represented by the Russell 3000 Index, closed out the full year with a -5.2% return.

2019 Outlook

Looking forward, there are several issues that we will continue to monitor. First is the potential for major central banks around the globe to further tighten monetary policy at the same time. Second, in the U.S., equity markets remain extended despite the volatility spike in the fourth quarter, and the current economic cycle has been long. Also in the U.S., trade policy remains a key issue. Next is the declining growth in China and the impact of trade tensions with the U.S. Finally, political uncertainty and ongoing structural issues remain a concern in Europe.

After a long period of accommodative monetary policy globally that supported economic and market growth, higher rates and less demand from central banks for bonds could weigh on overall economic activity and risk assets going forward. Major central banks continued to increase interest rates, not only in the U.S. but in Canada and the United Kingdom as well. The U.S. Federal Reserve has already begun to reduce its balance sheet and the European Central Bank announced the end of its quantitative easing program. If multiple central banks begin pulling back support, this could put further upward pressure on rates, weigh on economic growth, and tighten liquidity. The Federal Reserve recognized this tension, and opted not to raise rates in March 2019, while also sending dovish signals for the remainder of 2019.

DPFP's 2018 Performance and Investment Activity

DPFP ended the year with $2.05 billion in investment assets. This represents a decrease of $61.2 million during the calendar year. In a year where nearly every asset class produced a negative return, DPFP preserved capital well. The plan outperformed its policy index, peers, and a broad 60% stock /40% bond mix.

	Calendar Year 2018 Return (%)
DPFP (net of fees)	**-1.5**
Policy Index	-5.3
Peer Median Return[1]	-4.4
60% Stock/40% Bond mix[2]	-6.4

[1] InvestorForce Public DB $1-$5 billion Net Performance universe.
[2] 60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index.

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

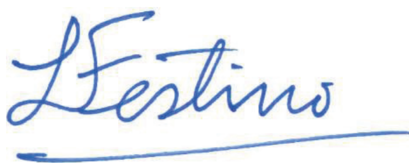
DPFP's longer-term returns (3-year, 5-year, and 10-year) trailed its policy benchmark and actuarial target. Poor manager selection within real estate and private equity and an over-allocation in these asset classes (paired with an under-allocation to public equities) have been the biggest drivers of longer-term underperformance.

A summary of the key developments and investment activity during the year includes:

- In April 2018, the Board of Trustees hired Meketa Investment Group as its new general investment consultant.
- In May 2018, the Board of Trustees voted to terminate its allocation to GAA (Global Asset Allocation) hedge fund strategies. We estimate this will result in $1.6 million annual fee savings, per year. This coincided with the creation of a Safety Reserve allocation of high-quality, low volatility bonds, designed to pay near term benefits for the next 2.5 years.
- In July 2018, DPFP hired its new Chief Investment Officer, Kent Custer.
- In August 2018, Meketa Investment Group presented its Initial Fund Review to the Board. The report prioritized a number of suggested changes over a 6 - 36 month horizon but discovered no new deficiencies or previously unknown concerns.
- In September, October and November, extensive asset allocation and asset-liability studies were conducted. This culminated in the adoption of a new asset allocation in November. The themes of the new asset allocation included simplifying the portfolio, lowering expected investment management fees, reducing exposure to illiquid assets and ensuring there is sufficient exposure in the Safety Reserve portfolio to pay benefits in the near term.

Relative to current exposure at the time, the new asset allocation policy has lower target weights in private equity, private real estate, private infrastructure and private natural resources. Reductions in these asset classes are offset with increased expected exposure to public equities and investment grade bonds.

If you have any questions, please contact us at (760) 795-3450.



Leandro Festino, CFA, CAIA
Managing Principal
Meketa Investment Group

Investment Information

Investment Activities and Initiatives

Over the course of the year, the size of the investment portfolio decreased by approximately $61 million to $2.05 billion in investment assets primarily due to benefit payments which were partially offset by contributions and investment returns.

2018 saw several changes to the investment portfolio, team, policy and asset allocation. Key challenges for the investment portfolio continued to be an overallocation to private assets and the high level of cash outflows required for benefit payments.

With the passage of HB 3158 in May 2017, the new governing Board of Trustees was fully seated in October 2017. As one of their first investment related actions, the Board directed staff to conduct an Investment Consultant Search in November 2017. The Meketa Investment Group was selected as DPFP's new investment consultant in April 2018.

In May 2018, the Board temporarily suspended portions of the Investment Policy Statement (IPS) to allow for the full liquidation of Global Asset Allocation (GAA) and allow for the creation of a 15% Safety Reserve allocation. The Safety Reserve allocation is invested in a combination of Short-Term Core Bonds managed by IR+M (approximately 12%) and Cash (approximately 3%). The proceeds from the liquidation of the GAA asset managers were redeployed to the Safety Reserve in May and June 2018. The allocation to the Safety Reserve was incorporated into the asset allocation approved in October 2018.

DPFP hired a new Chief Investment Officer, Kent Custer, in July 2018 and appointed the members of the Investment Advisory Committee in September 2018. In the third and fourth quarters, Staff and Meketa discussed asset allocation considerations with the Board such as return assumptions, risk analysis, cash outflows, illiquidity and expected path of returns. The Board approved the new long-term asset allocation in October 2018, which was incorporated into the updated IPS that was approved in January 2019. Due to the high current level of exposure to illiquid private assets, there is considerable variance between the current allocation and the new targets in several asset classes. The Board approved an asset allocation implementation plan in November 2018 which outlines the order of capital redeployment by asset class as cash distributions are received from the unwinding of private assets. In general, the implementation plan prioritizes allocating to target in the Safety Reserve and lower risk fixed income asset classes before reallocating to public equities.

The private asset portfolio, which includes Private Equity, Private Debt, Natural Resources, Infrastructure and Real Estate, was valued at $1.03 billion or 50% of the portfolio at year-end. Staff continued to work with managers to sell assets in an orderly fashion and reduce the over allocation. Distributions from the private asset portfolio totaled approximately $141 million in 2018, while capital calls were approximately $40 million.

Performance Reporting and Results

Performance Reporting Methodology

The rate of return calculation is prepared by the investment consultant using a time- weighted rate of return. The methodology used to calculate the rate of return is a "lagged with cash flow adjustments" methodology, which incorporates a one quarter lag on the market values of Private Equity, Private Debt, Infrastructure, Real Estate, Timberland and Farmland investments (collectively, Private Investments). The lagged methodology was recommended by DPFP's investment consultant, is consistent with standard industry practice, and allows for timelier reporting to the Board. Though the investment return information provided in the Investment section is based on the "lagged with cash flow adjustments" methodology, all the net asset value and allocation information is based on the final audited December 31, 2018 values (unlagged) which are reported in the Financial section.

Investment Performance

DPFP's investment performance is reported to the Board, on a quarterly basis, by the investment consultant. The overall investment performance is measured against the median return of public defined benefit plans included in the InvestorForce universe by comparison to the InvestorForce Public DB Net Median Index. DPFP's overall performance is also compared to the Policy Benchmark. The Policy Benchmark is calculated as the weighted return based on the asset class target allocations and their corresponding benchmarks. Each asset class and investment manager are measured against the return of an appropriate benchmark, as represented by a specific index return. All returns disclosed in the Investment section are calculated net of fees paid to investment managers, excluding custodial and consulting fees. The below table includes the 1, 3, 5 and 10-year returns by asset category and class as measured against the representative benchmarks (dollars in thousands).

	NET ASSET VALUE	% OF PORTFOLIO	2018 RETURN	3 YRS	5 YRS	10 YRS
Total Investment Assets	$ 2,045,800	100.0%	(1.5%)	2.2%	(0.6%)	3.3%
Policy Benchmark [1]			(5.3%)	6.2%	6.0%	8.7%
InvestorForce DB Median			(4.4%)	5.9%	4.4%	8.1%
EQUITY	759,180	37.1%	(6.1%)	(3.1%)	(1.0%)	-
MSCI ACWI IMI Net			(10.1%)	6.5%	4.2%	9.7%
Global Equity	**401,229**	**19.6%**	**(9.0%)**	**7.4%**	**5.3%**	**10.2%**
MSCI ACWI IMI Net			(10.1%)	6.5%	4.2%	9.7%
Boston Partners	94,918	4.6%	(12.9%)	-	-	-
MSCI World Net			*(8.7%)*	*6.3%*	*4.6%*	*9.7%*
Manulife	103,449	5.1%	(9.8%)	-	-	-
OFI Global Institutional	94,765	4.6%	(12.3%)	6.3%	5.1%	11.4%
Walter Scott	107,937	5.3%	(1.1%)	9.4%	6.4%	-
MSCI ACWI			*(9.4%)*	*6.6%*	*4.3%*	*9.5%*
Transition	160	0.0%	-	-	-	-
Emerging Markets Equity	**45,077**	**2.2%**	**(10.8%)**	**-**	**-**	**-**
MSCI Emerging Markets IMI Net			(15.1%)	8.5%	1.6%	8.2%
RBC	45,077	2.2%	(10.8%)	-	-	-
MSCI Emerging Markets IMI Net			*(10.8%)*	*8.5%*	*1.6%*	*8.2%*
Private Equity	**312,875**	**15.3%**	**(0.7%)**	**(10.7%)**	**(9.6%)**	**(3.9%)**
Cambridge Associates US All PE (1 Qtr Lag)			19.2%	14.8%	13.6%	12.1%
FIXED INCOME	585,215	28.6%	(0.1%)	5.1%	2.0%	8.6%
BBgBarc Multiverse TR			(1.4%)	3.0%	1.2%	2.8%
Cash	**48,527**	**2.4%**	**1.9%**	**1.3%**	**-**	**-**
91 Day T-Bills			1.9%	1.1%	0.6%	0.4%

	NET ASSET VALUE	% OF PORTFOLIO	2018 RETURN	3 YRS	5 YRS	10 YRS
FIXED INCOME (continued)						
Short Term Core Bonds	**$**	**12.3%**	**1.8%**	-	-	-
BBgBarc US Treasury 1-3 Yr TR			1.6%	0.9%	0.8%	1.0%
IR&M	252,325	12.3%	1.8%	-	-	-
BBgBarc US Treasury 1-3 Yr TR			*1.6%*	*0.9%*	*0.8%*	*1.0%*
Global Bonds	**63,653**	**3.1%**	**(4.0%)**	**3.3%**	**1.5%**	**-**
Barclays Global Aggregate Index			(1.2%)	2.7%	1.1%	2.5%
Brandywine	63,653	3.1%	(4.0%)	3.6%	1.6%	5.6%
Barclays Global Aggregate Index			*(1.2%)*	*2.7%*	*1.1%*	*2.5%*
High Yield	**79,244**	**3.9%**	**(3.2%)**	**9.0%**	**2.9%**	**-**
Barclays Global High Yield			(4.1%)	6.6%	3.3%	11.1%
Loomis Sayles	79,244	3.9%	(3.2%)	9.4%	3.7%	12.5%
Barclays Global High Yield			*(4.1%)*	*6.6%*	*3.3%*	*11.1%*
Bank Loans	**111,099**	**5.4%**	**0.8%**	**5.9%**	**3.5%**	**-**
S&P/LSTA Leveraged Loan (All Loans Index Levels)			0.4%	4.8%	3.1%	-
Loomis Sayles Sr Floating Rate and Fixed Income	59,839	2.9%	0.9%	6.0%	3.6%	-
S&P/LSTA Leveraged Loan (All Loans Index Levels)			*0.4%*	*4.8%*	*3.1%*	-
Pacific Asset Management	51,260	2.5%	*0.7%*	-	-	-
Credit Suisse Leveraged Loan			*1.1%*	*5.0%*	*3.3%*	-
Emerging Markets Debt	**19,162**	**0.9%**	**(6.2%)**	**6.9%**	**2.3%**	**-**
50% JPM EMBI/50% JPM GBI-EM			(5.2%)	5.6%	1.8%	-
Ashmore Emerging Markets Blended Debt	19,162	0.9%	(6.2%)	-	-	-
50% JPM EMBI/25% JPM GBI-EM/25% JPM ELMI+			*(4.5%)*	*5.1%*	*2.0%*	*5.3%*
Private Debt	**11,204**	**0.6%**	**11.6%**	**(3.3%)**	**-**	**-**
Barclays Global High Yield + 2%			*(2.1%)*	8.7%	-	-
REAL ASSETS	701,405	34.3%	1.5%	4.0%	(2.2%)	-
50% NCREIF Property /50% Farmland Total Return (1Qtr Lag)			7.0%	7.5%	9.8%	-
Real Estate	**470,025**	**23.0%**	**7.9%**	**2.4%**	**(5.4%)**	**(4.4%)**
NCRIEF Property (1Qtr Lag)			7.2%	7.8%	9.6%	6.4%
Natural Resources	**173,921**	**8.5%**	**(4.9%)**	**(2.8%)**	**1.6%**	**-**
NCRIEF Farmland Total Return Index (1Qtr Lag)			6.8%	7.2%	9.9%	11.6%
Infrastructure	**57,458**	**2.8%**	**(6.7%)**	**15.3%**	**8.3%**	**-**
S&P Global Infrastructure Index			(9.5%)	6.9%	4.1%	7.6%

(1) The Policy Benchmark is calculated as the weighted return based on the asset class target allocations and their corresponding benchmarks. The Policy Benchmark was changed on April 1, 2016 to match the new asset allocation and asset class benchmarks in the Investment Policy Statement. The current benchmark has been linked with the Policy Benchmark for the prior asset allocation policy.

Overview and Goals

The general investment goals of DPFP are broad in nature in order to encompass the purpose of DPFP and its investments. By achieving allocation and performance objectives consistently, the long-term investment goals of DPFP are expected to be achieved. The goals and objectives as outlined in the Investment Policy Statement (IPS) are as follows:

Goals

- To ensure funds are available to meet current and future obligations of DPFP when due while earning a long-term, net of fees investment return greater than the actuarial return assumption.
- To consistently rank in the top half of the public fund universe over the rolling three-year period, net of fees.

Objectives

- To maintain a diversified asset allocation;
- To provide for an appropriate risk adjusted rate of return;
- To allow for both passive and active investment management;
- To monitor quarterly manager performance;
- To monitor monthly asset allocation changes;
- To outperform the Policy Benchmark over rolling three-year periods;
- To establish guidelines and procedures for selecting, monitoring and replacing investment vehicles.

DPFP's portfolio strategy is implemented primarily through the use of external investment managers. Each investment manager operates under a set of guidelines specific to the strategic role its portfolio is intended to fulfill in the overall investment portfolio. As part of the due diligence process for any new manager, DPFP negotiates fees with these external managers to the lowest reasonable cost to administer the investments without sacrificing quality of service.

DPFP's investment staff serve as the primary liaisons between the Board, Investment Advisory Committee, investment consultant, investment managers, and custodian bank. The investment staff's responsibilities include managing assets within the scope of DPFP's policies, implementing Board actions regarding asset allocation and investment managers, portfolio rebalancing, monitoring investment activities and performance, managing liquidity, performing investment manager due diligence, and coordinating manager searches and selection processes.

Investment Policy

The IPS is designed to guide investment of the assets of DPFP and sets forth an appropriate set of goals and objectives for DPFP. It defines guidelines to assist fiduciaries and staff in the supervision of the investments of DPFP.

The IPS at year-end outlines the asset allocation, details due diligence and investment review procedures, and clearly defines the roles of the Board, consultants and DPFP staff in the investment decision making process.

In October 2018, the Board approved a new long-term asset allocation which is discussed further below. In late 2018, Investment Staff and Meketa completed a comprehensive review of the Investment Policy Statement (IPS) and proposed numerous changes to update for the new long-term asset allocation and implementation plan, incorporate best practices and improve clarity and structure of the policy. The Board considered these changes at the December 2018 Board meeting, provided input and feedback on the proposed changes and ultimately approved a further revised policy at the January 2019 Board meeting. The IPS was further revised in March 2019 to provide for the requirement that a majority of outside members be present at any meeting of the IAC and that the Board be advised of how each IAC member voted on any vote for any action reported to the Board by the IAC.

The 2019 IPS was updated to incorporate the following, among others:

- Updated for new long-term asset allocation, ranges, benchmarks and implementation plan.
- Addressed asset class structure, rebalancing procedures, and private market limitations.
- Significant changes to the Investment Advisory Committee (IAC) section relating to IAC roles, responsibilities, composition and selection.
- Significant changes in Core Beliefs and Long-Term Acknowledgements, to incorporate best practices and views of Board, Consultant, and Investment Staff.
- Updated the investment manager search, selection and monitoring sections.

To review the IPS in full, visit DPFP's website at www.dpfp.org.

Asset Allocation

The updated asset allocation includes three broad asset categories: Equity, Fixed Income and Real Assets. The broad asset categories are further categorized into 14 separate asset classes. Initial variances to long-term allocation targets may be quite large but are expected to gradually diminish. Rebalancing ranges have been established to accommodate current variances to target and will be tightened over time as appropriate. The asset allocation as of December 31, 2018, along with targets and ranges, is as follows:

ASSET CATEGORY/CLASS	CURRENT ALLOCATION	TARGET ALLOCATION	MINIMUM ALLOCATION	MAXIMUM ALLOCATION
Equity	37.1%	55%		
Global Equity	19.6%	40%	18%	48%
Emerging Markets Equity	2.2%	10%	0%	12%
Private Equity	15.3%	5%	-	-
Fixed Income	28.6%	35%		
Cash	2.4%	3%	0%	5%
Short-Term Core Bonds	12.3%	12%	5%	15%
Investment Grade Bonds	0.0%	4%	2%	6%
Global Bonds	3.1%	4%	2%	6%
Bank Loans	5.4%	4%	2%	6%
High Yield	3.9%	4%	2%	6%
Emerging Market Debt	0.9%	4%	2%	6%
Private Debt	0.6%	0%	-	-
Real Assets	34.3%	10%		
Real Estate	23.0%	5%	-	-
Natural Resources	8.5%	5%	-	-
Infrastructure	2.8%	0%	-	-

The updated long-term asset allocation included increases to the overall targets for public liquid asset and decreases to the targets for illiquid private assets. The investment portfolio is undergoing a transition from a current allocation with substantial exposure to illiquid private market assets to a more traditional allocation profile. In October 2018, the Board approved a new long-term asset allocation, recognizing that implementation would be subject to the gradual unwinding of private market assets. In November 2018, the Board approved an asset allocation implementation plan to prioritize the reallocation of cash distributions from private market assets as follows:

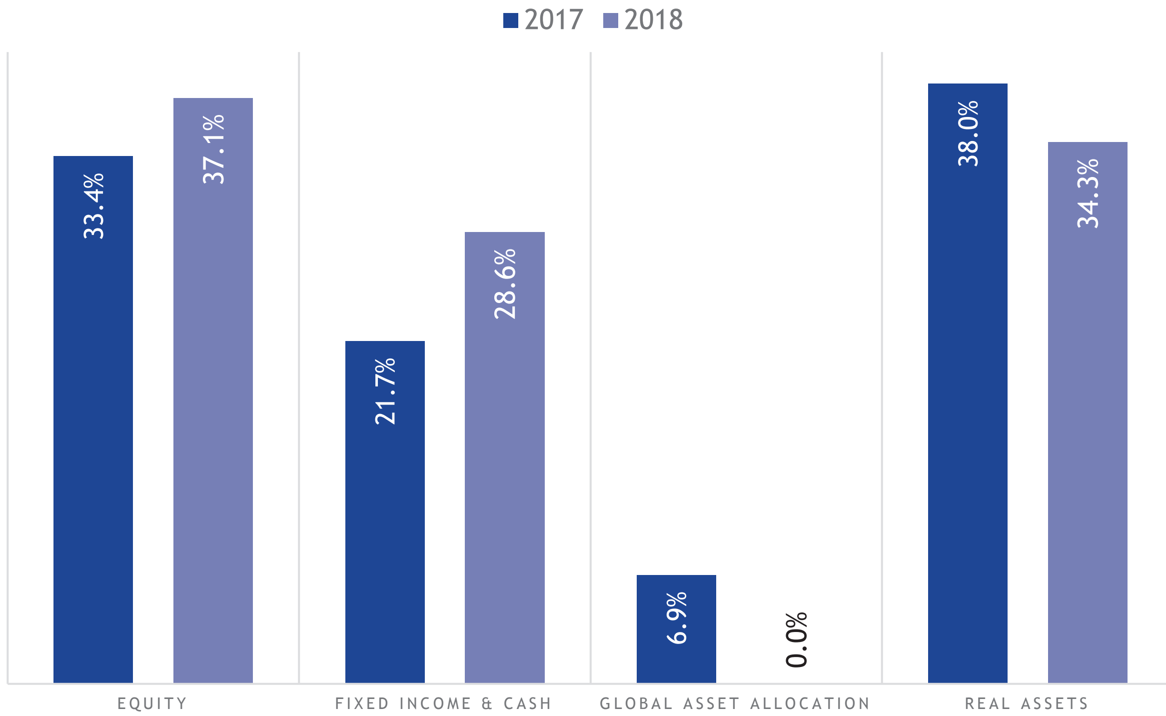
ORDER OF REALLOCATION
Allocate up to Target, then proceed to next asset class
1. Safety Reserve – Cash
2. Safety Reserve – Short-Term Investment Grade Bonds
3. Global Equity, only if current exposure is less than 22% of DPFP[1]
4. Emerging Market Equity, only if current exposure is less than 2.5% of DPFP[2]
5. Investment Grade Bonds
6. Global Bonds
7. Bank Loans
8. High Yield Bonds
9. Global Equity above 22%, contributions limited to 6% per year.
10. Emerging Market Debt
11. Emerging Markets Equity above 2.5%, contributions limited to 2.5% per year
12. Private Real Estate (aggregate illiquid exposure must be under 20%)
13. Private Equity (aggregate illiquid exposure must be under 15%)

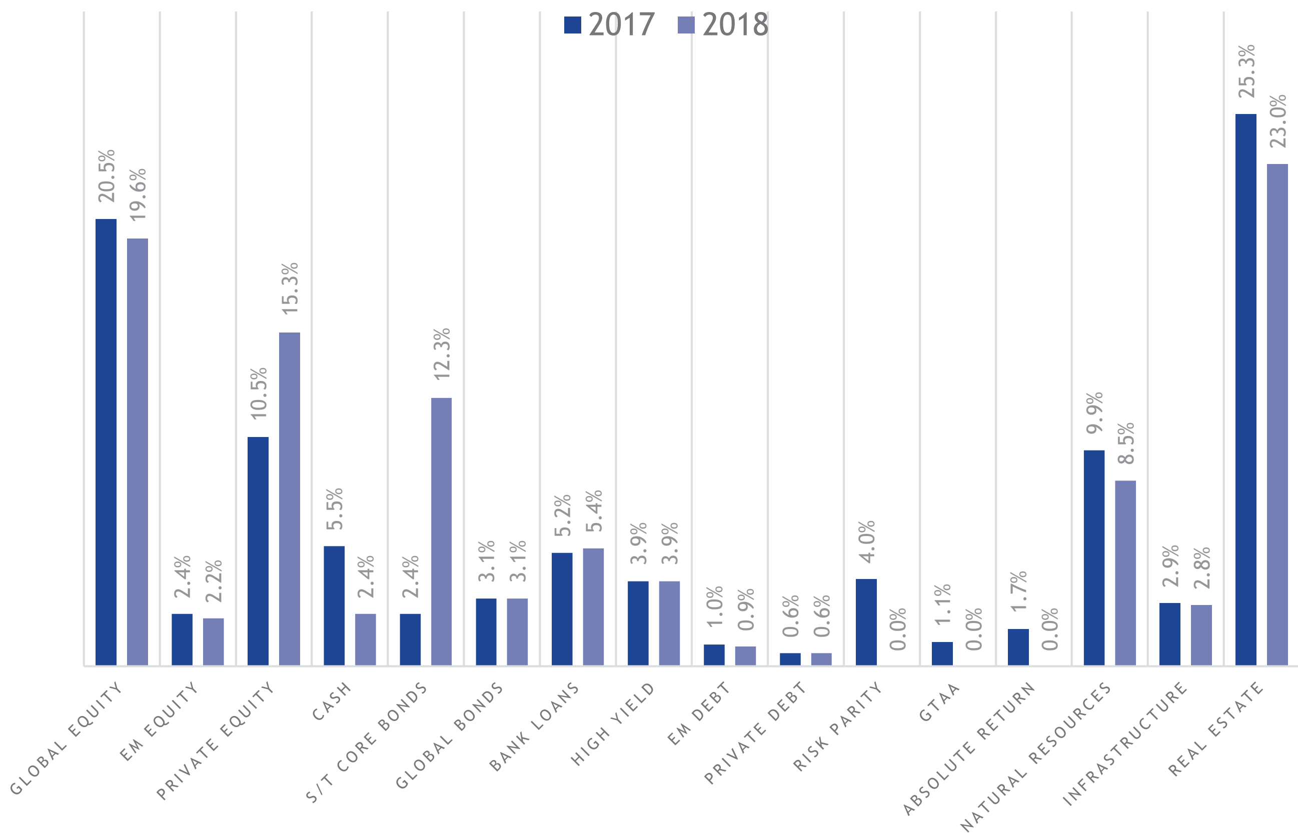
(1) Global Equity target weight is 40%. If current exposure is more than 22% proceed to next asset class in the matrix. The reallocation framework is designed to maintain at least the mid-2018 exposure to public equity, prior to increasing fixed-income exposure.

(2) Emerging Market Equity Target weight is 10%. If current exposure is more than 2.5% proceed to next asset class in the matrix. The reallocation framework is designed to maintain at least the mid-2018 exposure to public equity, prior to increasing fixed-income exposure.

Investment Grade Bonds and Emerging Market Debt were the only asset classes that ended the year with actual allocations below the minimum range outlined in the asset allocation in the IPS. These under allocations follow the Asset Allocation Implementation Plan discussed above. DPFP funded $37 million to the Investment Grade Bonds asset class in September 2019 through an investment in the Vanguard Total Bond Market Index Fund Institutional Shares (VBTIX). All the private markets asset classes (Private Equity, Private Debt, Real Estate, Natural Resources and Infrastructure) ended the year above their respective target allocations. Given the overallocation to private markets, many public asset classes ended the year below the target allocation. As discussed above, distributions from private markets will be reallocated into public investments according to the Asset Allocation Implementation Plan.

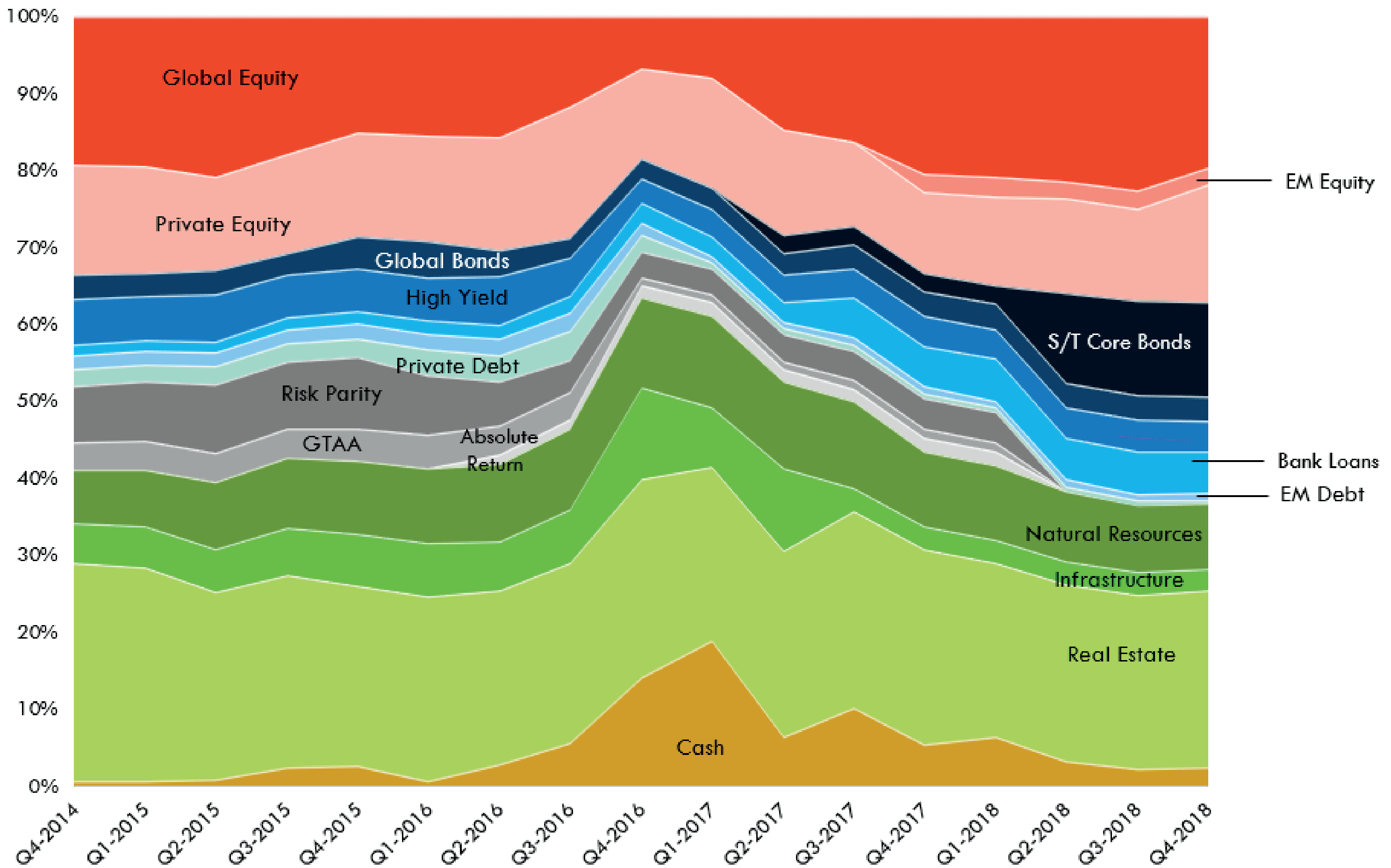
The following graphs reflect the portfolio allocation at December 31, 2017 and 2018 by broad asset category and asset class.





Over time, DPFP has made efforts to add asset classes to improve the diversification of the portfolio. The below graph reflects the asset allocation changes over the past four years, on a quarterly basis. Prior to 2016, the assets have been reclassified to match the asset classes in the 2016 IPS.

Asset Allocation Evolution



Investment Management Fees and Brokerage Commissions

Investment management fees included in the Administrative, Investment and Professional Services Expenses supplementary schedule in the Financial section of this report represent only those fees paid directly by DPFP. In addition to the fees paid directly, DPFP incurs investment management fees which are charged by general partners or investment managers at the fund level. Fees charged at the fund level are typically seen in private equity, private debt, infrastructure, and global asset allocation funds. DPFP considers any incentive, performance or disposition fees paid directly to the investment manager a management fee and therefore is included in the below table. The below table presents all fees paid in 2018, net of any rebates or discounts received (dollars in thousands).

ASSET CLASS	MANAGEMENT FEES PAID FROM THE GROUP TRUST	MANAGEMENT FEES PAID AT FUND LEVEL	TOTAL INVESTMENT MANAGEMENT FEES	2018 AVERAGE MARKET VALUE	TOTAL MANAGEMENT FEES PAID AS A % OF AVERAGE MARKET VALUE
Equity	$ 2,287	$ 5,016	$ 7,303	$ 736,922	0.99%
Fixed Income & Cash	1,017	489	1,506	538,634	0.28%
Real Assets	3,273	2,461	5,734	724,561	0.79%
Global Asset Allocation	32	704	736	51,786	1.42%
TOTAL	**$ 6,609**	**$ 8,670**	**$ 15,279**	**$ 2,051,903**	**0.74%**

[1] *Total may not foot due to rounding.*

The Texas Legislature passed Senate Bill 322 in 2019 which requires a listing, by asset class, of all direct and indirect commissions and fees paid by the retirement system during the system's previous fiscal year for the sale, purchase, or management of system assets. DPFP has included all management fees as outlined above. Brokerage Fees and Commissions include brokerage commissions for public debt and equity securities that are held directly by DPFP through our custody bank and all third-party brokerage commissions paid on wholly owned private assets. Carried Interest includes any preferred return paid to an investment manager, which is typical in private equity structures. Other Investment Expenses includes consultant, custodian, legal, valuation, and other expenses that are paid directly by DPFP and related to the operation and management of the investment portfolio. For the purposes of the SB 322 schedule, these investment expenses are not allocated to specific asset classes and are considered DPFP Plan Level expenses. A more detailed breakdown of the Other Investment Expenses can be found in the Supplementary Information section of the Audit.

ASSET CLASS	INVESTMENT MANAGEMENT FEES	BROKERAGE FEES OR COMMISSIONS	CARRIED INTEREST	OTHER INVESTMENT EXPENSES	TOTAL OF ALL FEES AND EXPENSES
Equity	$ 2,622	$ 308	$ -	$ -	$ 2,930
Fixed Income	1,506	-	-	-	1,506
Real Assets	5,734	4,366	-	-	10,100
Alternatives (GAA & Private Equity)	5,417	-	24	-	5,441
DPFP Plan Level	-	-	-	1,482	1,482
TOTAL	**$ 15,279**	**$ 4,674**	**$ 24**	**$ 1,482**	**$ 21,459**

Below is a breakdown of DPFP Plan Level investment expenses by category:

OTHER INVESTMENT EXPENSES	
Custodial	$ 225
Valuation & Audit	705
Consulting and Reporting	406
Legal	55
Tail-end Advisory	92
Tax	7
Other	(8)
TOTAL	**$ 1,482**

During 2018, DPFP incurred approximately $308 thousand in brokerage fees and commissions paid through managers to trade a total of approximately 15 million shares across 151 firms. This represents an average cost of $0.020 per share traded.

BROKERAGE FIRM	NUMBER OF SHARES TRADED (000'S)	TOTAL FEES AND COMMISSIONS (000's)	FEES AND COMMISSIONS PER SHARE
J.P. Morgan Securities, Ltd.	1,752	44	0.025
Citigroup Global Markets, Ltd.	635	28	0.044
Credit Suisse Securities (USA) LLC	846	16	0.019
Citigroup Global Markets Inc, NY	1,362	15	0.011
Jefferies International London	132	10	0.080
Morgan Stanley and Co International	67	8	0.125
Stifel Nicolaus & Co Inc	253	8	0.031
Morgan Stanley and Co., Inc.	279	7	0.026
Goldman Sachs New York	249	7	0.028
Davy Stockbrokers	73	7	0.092
All other firms	9,466	158	0.017
TOTAL	**15,114**	**$ 308**	**$ 0.020**

Largest Public Equity and Fixed Income Holdings

The below tables contain the ten largest public equity and fixed income securities owned at December 31, 2018. A full list of securities owned is available upon written request.

PUBLIC EQUITY HOLDING	MARKET VALUE (000's)
Alphabet Inc.	$ 10,366
Microsoft Corp.	10,064
Johnson & Johnson	5,999
LVMH Moet Hennessy Louis Vuitton SE	5,894
Nestle SA	5,737
Adobe Inc.	5,349
Cisco Systems Inc.	5,297
Oracle Corp.	5,197
Airbus SE	4,834
Wells Fargo & Co.	4,794

PUBLIC FIXED INCOME HOLDING	MATURITY DATE	INTEREST RATE	MARKET VALUE (000's)
United States of America Notes	9/15/2021	2.75%	$ 29,694
United States of America Notes	3/15/2021	2.38%	25,801
United States of America Notes	9/15/2020	1.38%	11,824
United States of America Notes	5/15/2021	2.63%	9,538
United States of America Notes	8/15/2028	2.88%	7,560
United States of America Bill	3/28/2019	0.00%	6,464
United States of America Bond	11/15/2048	3.38%	5,042
United States of America Bill	1/17/2019	0.00%	4,995
United Kingdom of Great Britain	7/22/2019	1.75%	4,348
APL Ltd. Bond	1/15/2024	8.00%	3,672

Investment Managers

Assets under management during 2018

AEW Capital Management

Alvarez & Marsal

Ashmore Investment Management Limited

BankCap Partners

Barings Real Estate Advisors

Bentall Kennedy

Boston Partners Global Investors

Brandywine Global Investment Management

Bridgewater Associates

BTG Pactual Asset Management

Clarion Partners

Forest Investment Associates

Grantham, Mayo, Van Otterloo & Co. (GMO)

Hancock Agricultural Investment Group

Hearthstone, Inc.

Highland Capital Management

Hudson Clean Energy Partners

Income Research and Management

Industry Ventures

JPMorgan Asset Management

L&B Realty Advisors

Lone Star Investment Advisors

Loomis, Sayles & Company

Manulife Asset Management

OFI Institutional Asset Management

Oaktree Capital Management

Pacific Asset Management

Putnam Fiduciary Trust Company

RBC Global Asset Management

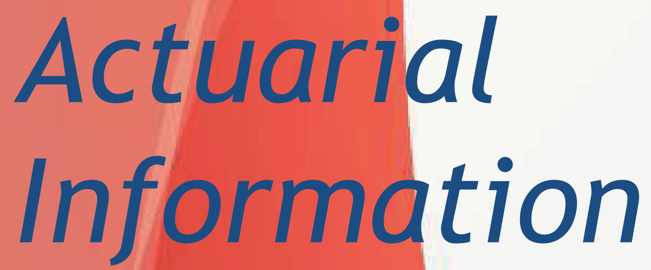
Riverstone Credit Partners

The Rohatyn Group

Walter Scott & Partners Limited

W.R. Huff Asset Management

Yellowstone Capital Partners


Actuarial
Information

Actuary's Report

2018 Powers Ferry Road SE Suite 850 Atlanta,
GA 30339-7200 T 678.306.3100 www.segalco.com

October 25, 2019

Dallas Police & Fire Pension System
4100 Harry Hines Blvd., Suite 100
Dallas, TX 75219

Re: Actuarial Valuations as of January 1, 2019

Dear Board Members:

At the request of the Dallas Police and Fire Pension System (DPFP), Segal Consulting has completed January 1, 2019 actuarial valuation for the Combined Pension Plan and the Supplemental Plan (the Plans). This letter certifies that the information contained in this report is accurate and fairly presents the actuarial position of the Plans as of the valuation date.

All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the results presented also comply with the requirements of Texas state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board (GASB). The undersigned are independent actuaries and consultants. Mr. Williams and Ms. Brigham are Fellows of the Conference of Consulting Actuaries, Associates of the Society of Actuaries, Enrolled Actuaries, and Members of the American Academy of Actuaries, and both are experienced in performing valuations for large public retirement systems. They meet the Qualification Standards of the American Academy of Actuaries to render this opinion.

ACTUARIAL VALUATION

The primary purposes of the valuation reports are to determine the adequacy of the current employer contribution rates, to describe the current financial condition of the Plans, and to analyze changes in the Plans' financial condition. In addition, this report provides information required in connection with Governmental Accounting Standards Board Statement No. 67 (GASB 67), and provides various summaries of the data. Valuations are prepared annually as of January 1 of each year, the first day of DPFP's plan year.

FINANCING OBJECTIVES

The City of Dallas ("City") and member contribution rates for the Combined Pension Plan, along with the member contribution rates for the Supplemental Plan, are established by State statute. The City's contribution for the

Supplemental Plan is determined with the actuarial valuation each year and is the sum of the normal cost and a ten-year amortization of the unfunded actuarial accrued liability (UAAL).

In order to determine the adequacy of the Combined Pension Plan's contribution rates, they are compared to an actuarially determined recommended contribution intended to be sufficient to pay the normal cost (the current year's cost) and to amortize the UAAL as a level percentage of payroll over a period of no more than 30 years from the valuation date. For this calculation, payroll is assumed to increase 2.75% per year. For actuarial valuation purposes, Combined Plan assets are valued at actuarial value. Under this method, the assets used to determine employer contribution rates take into account market value by recognizing the differences between the actual and expected return on market value over a five-year period. Supplemental Plan assets are valued at market value.

The Board monitors the margin or deficit between the 30-year actuarially determined recommended contribution and the statutory contribution rates, and the funding period over which the current statutory rates are expected to amortize the UAAL. If actuarial assumptions, including investment experience, are met, the objective of maintaining a relatively level contribution rate over time is achieved. However, if there is a shortfall of the rate compared to the actuarially determined contribution, the effective amortization period exceeds 30 years, and action should be taken to remedy the situation. The Board and the City recognize that the current contribution rates are expected to achieve full funding by January 1, 2057 if assumptions are met, including the City's hiring plan payroll projections. This period to full funding is effectively a 38-year amortization of the UAAL. Substantial changes enacted by HB3158, which was signed by the Governor of Texas on May 31, 2017 and which became effective September 1, 2017, significantly improved projected plan funding over the long-term. Prior to these changes, the System had a projected insolvency.

PROGRESS TOWARD REALIZATION OF FINANCING OBJECTIVES

Combined Pension Plan

As of January 1, 2019, the City's 30-year actuarially determined contribution for the Combined Pension Plan is 41.88% of computation pay. The City's contribution rate is 34.50% of computation pay, but not less than the bi-weekly contribution amounts stated in HB3158, plus $13 million annually, through December 31, 2024. Beginning January 1, 2025, City contributions will be 34.50% of computation pay. While the Combined Pension Plan is not currently scheduled to achieve full funding within 30 years, the projection of full funding by 2057 for the Combined Pension Plan is six years earlier than was projected in the January 1, 2018 actuarial valuation. The Texas Pension Review Board is aware of the System's status and progress.

The funded ratio is equal to the ratio of the actuarial value of assets to the actuarial accrued liability. The Combined Pension Plan's funded ratio on an actuarial value basis increased from 47.74% to 48.10% between January 1, 2018 and January 1, 2019. This increase was primarily due to a gain on demographic experience and assumption changes, offset somewhat by a loss on the actuarial value of assets. The UAAL decreased from $2.4 billion to $2.3 billion on an actuarial basis.

Supplemental Plan

The Supplemental Plan funded ratio increased from 51.53% to 57.56% between January 1, 2018 and January 1, 2019. This increase is primarily due to a decrease in actuarial accrued liability as a result of a reduction in the number of active participants and the moving of DROP annuity payouts for five annuitants to the IRC 415 Excess Plan. Although the funded ratio is currently low, the City contributions to this Plan are calculated in such a way as to ensure that benefits will be funded.

ASSUMPTIONS AND METHODS

Actuarial assumptions and methods are set by the Board of Trustees, based upon recommendations made by DPFP's actuary. 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. Even seemingly minor changes in assumptions can materially change the liabilities, actuarially determined contribution rates, and funding periods.

All actuarial assumptions and methods are described under Section 4 of our actuarial valuation reports, and a summary is included in this Actuarial Information section as well. The assumptions and methods used for funding purposes conform to the Actuarial Standards of Practice, and we believe them to be internally consistent and reasonable.

The majority of the assumptions used in the January 1, 2019 actuarial valuation were adopted by the Board following a five-year experience review for the period ended December 31, 2014. Some assumptions were adjusted in the January 1, 2017 valuation related to the 2016 Meet and Confer agreement, Section 6.14(c) of the Plan Document, and plan changes effective September 1, 2017. Additional assumption changes included in the January 1, 2019 valuations include: (1) changing the ad-hoc COLA assumed starting date from October 1, 2053 to October 1, 2050, and (3) updating the salary scale in conjunction with the 2016 Meet and Confer agreement, as amended in 2018.

We believe the actuarial assumptions and methods are internally consistent and are reasonable, based upon past experience and future expectations of the Plans. However, it should be noted that the retirement assumptions were set based on the plan changes effective September 1, 2017, and that not enough retirements have yet occurred subsequent to the plan changes becoming effective with which to compare the appropriateness of the rates.

Since the population of the Supplemental Plan is a subset of the Combined Pension Plan, and is too small to be independently credible, the valuation for the Supplemental Plan uses most of the same assumptions as the Combined Pension Plan. The explicit administrative expense assumption is set independently. Also, the Supplemental Plan uses market value for funding, with no smoothing of gains and losses.

BENEFIT PROVISIONS

There were no changes to the plan provisions in the last year. The current provisions are outlined in the Financial Information section of this Comprehensive Annual Financial Report (CAFR).

DATA

Member data for retired, active and inactive participants was supplied as of December 31, 2018 by the staff of DPFP. We have not subjected this data to any auditing procedures, but have examined the data for reasonableness and consistency with the prior year's data. The staff also supplied asset and financial information as of December 31, 2018.

COMPREHENSIVE ANNUAL FINANCIAL REPORT SCHEDULES

Segal Consulting prepared the supporting schedules in this Actuarial Information section of the CAFR, including:

- Historical Nominal Rates of Return
- Reconciliation of Unfunded Actuarial Accrued Liability
- Solvency Test
- Active Member Valuation Data
- Retirees and Beneficiaries Added to and Removed from Rolls
- Funding Progress

In addition, we prepared the following schedules in the Financial Information Section:

- Schedule of Changes in the Net Pension Liability
- Sensitivity of the Net Pension Liability to Changes in Discount Rate
- Schedule of Actuarially Determined Contributions

We would like to thank the Board, the Executive Director, and DPFP's staff for their assistance and input necessary to complete the actuarial valuations.

Respectfully submitted,

Segal Consulting, a Member of The Segal Group, Inc.

Jeffrey S. Williams, FCA, ASA,
MAAA, EA Vice President and
Associate Actuary

Deborah K. Brigham, FCA,
ASA, MAAA, EA Senior Vice
President and Actuary

Actuarial Information

Introduction

DPFP's Combined Pension Plan and Supplemental Plan are single-employer defined benefit plans. The Plans provide retirement, death and disability benefits. The Combined Pension Plan requires an annual actuarial valuation to determine the adequacy of the current contribution rate of the City, to describe the current financial condition of DPFP, and to analyze changes in DPFP's financial condition. The Supplemental Plan requires an annual actuarial valuation to determine the amount of the City's annual contribution as required by City ordinance.

Funding

Defined benefit plans represent a commitment to pay specific benefits to employees and their survivors. Refer to Note 1 in the Financial Section for a description of benefits. The benefit to employees and their survivors is usually much more than the combined contributions of the employee and the employer. Determining adequate funding requires making a variety of assumptions to assure full payments can be made from the plan.

There are a number of actuarial assumptions necessary in order to estimate the amount of funding required to provide future benefits. Once the assumptions have been determined, the actuary must select a cost method to determine the amount of funding required in order for the committed benefits to be provided.

As of January 1, 2015, the funding period of the Combined Pension Plan increased to an infinite period. This increase was primarily due to returns on the actuarial value of assets that were below the long-term expectations, as well as a change to the assumed rate of return from 8.50% to 7.25% in the January 1, 2015 valuation. Based on the January 1, 2016 valuation, the Combined Pension Plan was projected to become insolvent within 15 years.

Plan changes resulting from the passage of HB 3158 were taken into account in the January 1, 2018 actuarial valuation performed by Segal. Although the effective date of the plan changes was September 1, 2017, contribution and benefit changes required under the Bill significantly impacted the future funding of the Plans and therefore were reflected in the January 1, 2018 funding analysis. The funding level as of January 1, 2018 would have been 40.2% and the plan was projected to be insolvent without the Plan changes. It is expected that the funding level will decline for many years even if all assumptions are realized.

Based on the Plan changes and the City's payroll projections, the Combined Pension Plan's funded ratio improved to 48.1% as of January 1, 2019 from 47.7% as of January 1, 2018. Additionally, the Combined Pension Plan is projected to become fully funded by 2057 as of the January 1, 2019 valuation, an improvement over the January 1, 2018 fully funded expectation of 2063.

The funding period of the Supplemental Plan remains a rolling 10 years, which is the amortization period used in determining the annual employer contribution. The funding period of 10 years is based on the assumption that the annual actuarially determined contribution is received from the City each year.

Cost Method

Using an actuarial cost method requires estimating the ultimate cost of the plan. The ultimate cost of the plan includes all specific benefits that are committed to be paid, plus all administrative expenses, less any investment earnings realized over the life of the plan. As the exact ultimate cost of the plan cannot be determined until the last retired member of a plan dies, it must be actuarially estimated by forecasting the plan's expenses and investment return.

Assumptions must be made for all the years the plan is in existence, including the number of active members and beneficiaries who will retire, terminate service, or become disabled, the duration of retirement and disability payments, mortality rates, salary increases, DROP participation, inflation, and long-term rate of return on investments. Administrative expenses must also be estimated.

Actuary's Report

The actuarial information that follows was determined using specific actuarial methods which have been described in general above. Such methods were applied to census data related to active members, retirees, and beneficiaries of DPFP as of January 1, 2019. Content throughout the Actuarial section has been obtained from reports provided by DPFP's external actuaries for the periods noted. The Actuary's Report at page 87 is a summary from Segal regarding the January 1, 2019 valuations.

Actuarial Assumptions and Methods

In conjunction with the January 1, 2016 actuarial valuations, a comprehensive experience study was performed by Segal, reviewing all assumptions incorporated in the actuarial valuations and covering the five-year period ended December 31, 2014. Adjustments to the demographic and economic assumptions were made in the January 1, 2016 valuation based on the results of the experience study. In addition, the asset smoothing, actuarial cost, and amortization methods were revisited as part of the experience study and recommendations were provided to the Board for consideration. In addition, assumption changes were made to the January 1, 2018 valuation related to the salary scale based on the Meet and Confer agreement approved in 2016.

The following assumptions were changed for the January 1, 2019 valuation:

- The salary scale assumption was updated to reflect the 2016 Meet and Confer Agreement, as amended in 2018.
- The ad-hoc COLA assumption was updated to begin October 1, 2050 based on the updated projection of the unfunded actuarial accrued liability; last year, the COLA was assumed to begin October 1, 2053.

The following assumptions were changed for the January 1, 2018 valuation:

- The DROP annuity interest rate applied to the DROP balance accrued prior to September 1, 2017 for future retirees was increased from 2.75% to 3.00% to reflect the rising interest rates.
- The cost of living adjustment is assumed to begin in 2053.
- The administrative expense assumption was decreased from $10 million to $8.5 million.

The following significant changes in assumptions were incorporated in the January 1, 2017 valuation as a result of the passage of HB 3158

- The DROP utilization factor was changed from 100% to 0%
- Retirement rates for DROP participants were accelerated
- Retirement rates for members not in DROP were adjusted effective January 1, 2018

- Beginning September 1, 2017, DROP balances for annuitants are assumed to earn 2.75% interest; DROP balances for active participants are assumed to earn 2.75% upon retirement; DROP balances accrued after September 1, 2017 do not earn interest
- The DROP payment period for annuitization is based on an 85%/15% male/female blend of the current healthy annuitant mortality tables
- The cost of living adjustment is assumed to be 2.0% beginning in 2049 and thereafter

The Combined Pension Plan's contribution rate is set by State statute. See the Required Supplementary Information in the Financial Section for a ten-year schedule of actuarial determined contribution and actual contributions. As of September 6, 2017 the contribution rate for all employees is 13.5%. As of September 6, 2017 the City contribution rate is 34.5% of Computation Pay, with certain minimum floor amounts as specified in the Bill through 2024, plus $13 million per year through 2024. There is no direct policy to fund the unfunded liability in a certain number of years. The PRB requires that municipal plans develop a Funding Soundness Restoration Plan if their effective amortization period exceeds 40 years for three consecutive annual valuations. The January 1, 2018 valuation was the fourth year the funding period for the Combined Pension Plan exceeded 40 years. The PRB was involved with the plan changes throughout the legislative process and DPFP will continue to provide annual reporting to the PRB as required. In accordance with HB 3158, in 2024, an actuarial analysis shall be conducted with an independent actuary making recommendations to the Board for changes to bring the Combined Pension Plan in line with funding guidelines set by the PRB, if needed. The Board shall adopt changes based on the actuary's recommendations to meet the funding amortization period required by the Texas Government Code. The PRB shall review the changes and submit a report to the Texas legislature regarding such review. The changes adopted by the Board will remain in effect until either amended by the Board or a law is enacted by the Texas legislature which preempts the changes.

The January 1, 2019 valuation projects the full funding of the plan at 38 years.

The actual expense for the employer's financial disclosure purposes is determined in accordance with GASB No. 68, *Accounting and Financial Reporting for Pensions – An Amendment of GASB No. 27.*

Member contributions for the Supplemental Plan are established by State statute. Per City ordinance, the City makes a contribution each year sufficient to pay for the annual normal cost of the Supplemental Plan, plus enough to amortize the unfunded actuarial accrued liability of the Supplemental Plan over a rolling 10 years.

A summary of the actuarial assumptions and methods used in the January 1, 2019 actuarial valuation follows.

Investment Rate of Return: 7.25% per annum, compounded annually, net of investment expenses. This rate reflects an underlying inflation rate of 2.75% and a real rate of return of 4.50%. Market value asset returns are expected to be 5.25% in 2019, 5.75% in 2020, 6.25% in 2021, 6.75% in 2022 and 7.25% annually thereafter.

Discount Rate: 7.25% is the rate used to discount the liabilities.

Administrative Expenses: An explicit assumption of annual administrative expenses, including investment-related personnel costs has been added to the normal cost in the amount of the greater of $8.5 million per year or 1% of Computation Pay for the Combined Pension Plan and $65 thousand for the Supplemental Plan.

DROP Interest: DROP balances for active participants are assumed to earn 3.00% upon retirement and balances accrued after September 1, 2017 do not earn interest.

Salary Scale: The salary scale assumption is based on the City's pay plan, along with analysis completed in conjunction with an Experience Study report for the five year period ended December 31,2014

2018 - 5% if less than ten years of service; 2% if more than ten years of service

2019 - 10% if less than ten years of service; 7% if ten to eleven years of service; 2% if more than eleven years of service

2020 and later – Range of 2% to 5% per year, inclusive of 2.75% inflation assumption, dependent on years of service

2018 – 2019 are based on the 2016 Meet and Confer Agreement. 2020 is based on the 2016 Meet and Confer Agreement, as amended in 2018.

Between October 1, 2018 and September 30, 2019, members received or are scheduled to receive two step raises based on their anniversary date. Members with anniversary dates between October 1 and December 31 had their two step raises accounted for in the valuation payroll. Members with anniversary dates between January 1 and September 30 are assumed to receive two step raises in 2019.

In years 2020 and thereafter:

YEARS OF SERVICE	OFFICERS & OFFICER TRAINEES	CORPORALS, DRIVERS & SENIOR OFFICERS	SERGEANTS, LIEUTENANTS, CAPTAINS, & MAJORS	DEPUTY CHIEFS	ASSISTANT CHIEFS	CHIEFS
Years of Service	RATE (%)					
1	0.00%	0.00%	5.00%	5.00%	5.00%	5.00%
2	0.00%	2.75%	5.00%	5.00%	5.00%	5.00%
3	2.75%	5.00%	5.00%	5.00%	5.00%	5.00%
4-6	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
7	5.00%	5.00%	5.00%	2.00%	5.00%	5.00%
8	2.00%	5.00%	2.00%	2.00%	5.00%	5.00%
9-11	2.00%	2.00%	2.00%	2.00%	5.00%	5.00%
12-14	2.00%	2.00%	2.00%	2.00%	2.00%	5.00%
15 and over	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%

Payroll Growth Rate: Total payroll is assumed to increase 2.75% per year, which is consistent with the assumed inflation rate.

Retirements-DROP active members: The percentage of the population assumed to retire at various ages in 2019 is as follows:

AGE	ANNUAL RATE OF RETIREMENT	
	Police	Fire
49 or less	1.00%	0.75%
50	3.00%	2.50%
51	3.00%	2.50%
52	3.00%	2.50%
53	7.00%	2.50%
54	7.00%	2.50%
55	15.00%	12.00%
56	20.00%	12.00%
57	20.00%	12.00%
58	25.00%	12.00%
59	25.00%	25.00%
60	25.00%	25.00%
61	25.00%	25.00%
62	25.00%	25.00%
63	25.00%	25.00%
64	25.00%	25.00%
65	50.00%	30.00%
66	50.00%	30.00%
67	100.00%	100.00%

Retirements-Non-DROP active members: The percentage of non-DROP members assumed to retire at various ages is as follows:

	MEMBERS HIRED PRIOR TO MARCH 1, 2011 WITH LESS THAN 20 YEARS OF SERVICE AS OF SEPTEMBER 1, 2017	MEMBERS HIRED PRIOR TO MARCH 1, 2011 WITH AT LEAST 20 YEARS OF SERVICE AS OF SEPTEMBER 1, 2017	MEMBERS HIRED ON OR AFTER MARCH 1, 2011
Age	Annual Rate of Retirement		
49 or less	0.00%	1.00%	1.00%
50	10.00%	20.00%	5.00%
51	5.00%	10.00%	5.00%
52	5.00%	10.00%	5.00%
53	5.00%	10.00%	5.00%
54	5.00%	20.00%	10.00%
55	15.00%	40.00%	20.00%
56	10.00%	50.00%	30.00%
57	5.00%	50.00%	40.00%
58	60.00%	60.00%	50.00%
59	50.00%	60.00%	50.00%
60	50.00%	60.00%	50.00%
61	50.00%	60.00%	50.00%
62 and over	100.00%	100.00%	100.00%

Note: 100% retirement rate once benefit multiplier hits 90% maximum.

Mortality Rates: The tables used for mortality assumptions are as follows:

Pre-retirement – RP-2014 sex-distinct Employee Mortality Table, set back two years for males

Post-retirement - RP-2014 sex-distinct Blue Collar Healthy Annuitant Mortality Table, set forward two years for females

Disabled annuitants – RP-2014 sex-distinct Disabled Retiree Mortality Table, set back three years for males and females

All tables are projected generationally using Scale MP-2015.

Turnover: The assumed annual rates of turnover (withdrawal) differ by employee group, with higher rates assumed for police officers than for firefighters. Rates for each group are based on service and reflect recent experience as follows. Rates cut off at normal retirement age.

YEARS OF SERVICE	TURNOVER RATE	
	Police	Fire
<1	14.00%	5.50%
1	6.00%	4.50%
2	5.50%	4.00%
3	5.00%	3.50%
4	4.50%	3.00%
5	4.00%	1.50%
6	3.50%	1.00%
7	3.00%	0.75%
8	2.50%	0.50%
9	2.00%	0.50%
10 - 37	1.00%	0.50%
38 and over	0.00%	0.00%

Disability Rates: The percentage of members assumed to leave active service due to disability at various ages is as follows. Rates cut off at normal retirement age.100% of disabilities are assumed to be service-related.

AGE	DISABILITY RATE
20	0.010%
25	0.015%
30	0.020%
35	0.025%
40	0.030%
45	0.035%
50	0.040%

DROP Election: Based on changes to the DROP program as set forth by HB 3158, the DROP utilization factor was changed from 100% to 0%.

Spouses and Children: 75% of active members are assumed to be married, with the male assumed to be three years older than the female. The age of the youngest child is assumed to be 10 years.

Retiree Payment Form Assumption: All married members are assumed to receive a joint and survivor annuity.

Assumed Post-Retirement Cost of Living: As a result of HB 3158, the Board may grant an ad hoc cost of living adjustment not to exceed 4.0% of the original benefit if, after granting a cost of living adjustment, the funded ratio on a market value of assets basis is no less than 70%. Such ad hoc adjustment is subject to limitation based on the trailing five years of investment returns at the time the 70% ratio is met. The adjustment is assumed to be 2.0% beginning October 1, 2050 and payable every October 1st thereafter.

Actuarial Cost Method: The method used to determine the cost of future service (normal cost) and the actuarial accrued liability (AAL) is the Entry Age Normal Actuarial Cost Method. Under this method, the present value of future normal cost is determined for all active members, which is the contribution required to provide all the projected pension benefits assuming this contribution is payable over a period ending on the date of retirement (separation from active service) and expressed as a level percentage of the present value of future compensation for all active members. The AAL is determined as the excess of the total present value of all pension benefits over the total present value of future normal costs. The unfunded actuarial accrued liability as of the valuation date is determined as the excess of the AAL over the assets of the Plans.

The normal cost and AAL are derived by making certain assumptions as to the rates of interest, mortality, and turnover, among others, which are assumed to reflect experience for many years into the future. Since actual experience will differ from the assumptions, the costs determined must be regarded as estimates of the true costs of the plans. The effects of any actuarial gains or losses are immediately reflected in the unfunded actuarial accrued liability and the normal cost.

Amortization Method: The effective amortization period is developed using a level percent of pay, with pay assumed to increase at the payroll growth rate. Combined Pension Plan amortizes the liability over a 30-year period. The Supplemental Pension Plan amortizes the unfunded liability over a 10-year period.

Asset Valuation Method: Actuarial valuation methods include "smoothing" investment returns over a period of time to provide a more stable actuarial rate of return and more predictable pension costs. In conjunction with the most recent experience study and as a result of significant write-downs to the carrying value of investment assets in 2013 through 2015 which were not considered to be market-driven, the asset valuation method was altered as of January 1, 2016. The revised method involved resetting the actuarial value of assets to market value as of December 31, 2015. Future gains and losses are recognized over a five-year smoothing period. In no event will the actuarial value of assets be less than 80% nor more than 120% of the market value of assets.

The Supplemental Plan actuarial value of assets is equal to the market value of assets.

Long-term Rate of Return on Plan Assets: The long-term rate of return on plan assets used to value the liabilities of the Plans is 7.25%. This assumption was last changed as of January 1, 2015 to better anticipate future expectations and the assumed inflation rate. Based on the asset allocation policy, expectations of future real rates of return and the expected investment expenses, a long-term rate of return of 7.25% is considered reasonable.

A summary of historical nominal rates of return is as follows:

YEAR ENDED DECEMBER 31,	ACTUARIAL VALUE INVESTMENT RETURN	MARKET VALUE INVESTMENT RETURN
2008	(6.14%)	(24.8%)
2009	12.29%	13.78%
2010	2.69%	10.72%
2011	0.43%	(1.78%)
2012	14.79%*	9.92%
2013	4.52%	7.70%
2014	(1.98%)	(5.35%)
2015	(24.03%)*	(8.47%)
2016	7.16%	6.82%
2017	6.63%	4.74%
2018	5.48%	2.09%
5-year average return	(7.6%)	(1.03%)
10-year average return	0.27%	3.66%
11-year average return	(0.38%)	0.53%

Note: Each annual yield is weighted by the average asset value for that year.

** Includes effects of change in asset valuation method. As of December 31, 2012, the smoothing method was extended from 5 to 10 years. As of December 31, 2015, the actuarial value of assets was reset to market value and the smoothing method was altered from 10 to 5 years.*

Analysis of Financial Experience

An analysis of financial experience is a gain/loss analysis of changes in the actuarial accrued liability or unfunded actuarial accrued liability that considers variances between actual experience and assumed experience for different types of risk. Such analysis is as follows (in thousands):

COMBINED PENSION PLAN	
Unfunded actuarial accrued liability as of January 1, 2018	$ 2,354,398
Normal cost at beginning of year	61,892
Total contributions	(198,689)
Total interest	168,063
Expected unfunded actuarial accrued liability as of January 1, 2019 **(a)**	2,385,664
Changes due to:	
Net experience loss	(22,049)
Plan provisions	-
Assumptions	(30,692)
Total changes **(b)**	(52,741)
Unfunded actuarial accrued liability at year end **(a+b)**	2,332,923
Actuarial accrued liability at beginning of year	4,505,437
Net (gain)/loss as a percentage of actuarial accrued liability at beginning of year	0.2%

SUPPLEMENTAL PLAN	
Unfunded actuarial accrued liability as of January 1, 2018	$ 16,745
Normal cost at beginning of year	309
Total contributions	(2,053)
Total interest	1,163
Expected unfunded actuarial accrued liability as of January 1, 2019 **(a)**	16,164
Changes due to:	
Net experience loss	(2,686)
Plan provisions	-
Assumptions	29
Total changes **(b)**	2,657
Unfunded actuarial accrued liability at year end **(a+b)**	13,507
Actuarial accrued liability at beginning of year	34,550
Net (gain)/loss as a percentage of actuarial accrued liability at beginning of year	7.9%

Refer to the Financial Section and the Actuarial Section for additional information on Plan changes and changes in actuarial methods and assumptions.

Short-Term Solvency Test

A short-term solvency test is one means of checking a plan's progress under its funding program. In a short-term solvency test, the plan's valuation assets are compared with: 1) active member contributions on deposit; 2) the liabilities for future benefits to present retired lives; and 3) the liabilities for service already rendered by active members. In a plan that has been following the discipline of level percent of payroll financing, the liabilities for active member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will typically be fully covered by present assets. In addition, the liabilities for service already rendered by active members (liability 3) will be partially covered by the remainder of present assets. Liability 3 being fully funded is very rare. As a result of the decline in the actuarial value of assets as of January 1, 2016, the liabilities for future benefits to present retired lives is no longer fully covered by present assets. Solvency test results for the Plans for the last 10 years are as follows (dollars in thousands):

Combined Pension Plan

	AGGREGATE ACCRUED LIABILITIES FOR							
	(1)	(2)	(3)					
Jan. 1 Valuation Date	Active Member Contributions	Retirees, Beneficiaries, and Vested Terminations	Active Members (Employer Financed Portion)	Total Actuarial Accrued Liability	Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Assets (1)	(2)	(3)*
2010	$ 262,567	$ 1,987,186	$ 1,883,535	$ 4,133,288	$ 3,382,908	100.0%	100.0%	60.2%
2011	270,978	2,134,212	1,911,159	4,316,349	3,430,819	100.0%	100.0%	53.7%
2012	274,302	2,376,907	1,917,642	4,568,851	3,378,481	100.0%	100.0%	37.9%
2013	278,391	2,570,327	2,009,488	4,858,206	3,795,025	100.0%	100.0%	47.1%
2014	281,440	2,810,346	2,037,410	5,129,196	3,877,321	100.0%	100.0%	38.6%
2015	286,637	3,282,406	2,223,173	5,792,216	3,695,274	100.0%	100.0%	5.7%
2016	290,395	3,385,527	2,271,252	5,947,174	2,680,124	100.0%	70.6%	0.0%
2017	284,871	2,734,837	1,347,472	4,367,180	2,157,800	100.0%	69.2%	0.0%
2018	280,965	3,018,210	1,206,262	4,505,437	2,151,039	100.0%	62.6%	0.0%
2019	292,370	3,129,484	1,072,969	4,494,823	2,161,900	100.0%	60.4%	0.0%

** The portion of accrued liabilities for active members (employer financed portion) is calculated as follows: [Actuarial value of assets-(1) - (2)]/(3).*

Short-Term Solvency Test (continued)

Supplemental Plan

	AGGREGATE ACCRUED LIABILITIES FOR							
	(1)	(2)	(3)					
Jan. 1 Valuation Date	Active Member Contributions	Retirees, Beneficiaries, and Vested Terminations	Active Members (Employer Financed Portion)	Total Actuarial Accrued Liability	Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Assets (1)	(2)	(3)*
2010	$ 270	$ 25,736	$ 7,444	$ 33,450	$ 20,681	100.0%	79.3%	0.0%
2011	265	27,394	6,649	34,308	21,119	100.0%	76.1%	0.0%
2012	226	28,001	8,102	36,329	20,823	100.0%	73.6%	0.0%
2013	138	31,871	5,256	37,265	21,563	100.0%	67.2%	0.0%
2014	122	33,660	4,995	38,777	24,037	100.0%	71.0%	0.0%
2015	134	35,739	6,038	41,911	21,439	100.0%	59.6%	0.0%
2016	150	34,968	7,362	42,480	19,457	100.0%	55.2%	0.0%
2017	106	30,161	3,117	33,384	17,664	100.0%	58.2%	0.0%
2018	170	30,680	3,700	34,550	17,805	100.0%	57.5%	0.0%
2019	202	28,757	2,866	31,825	18,318	100.0%	63.3%	0.0%

** The portion of accrued liabilities for active members (employer financed portion) is calculated as follows: [Actuarial value of assets-(1) - (2)]/(3).*

Active Member Valuation Data

Combined Pension Plan (Dollars in Thousands)

JAN. 1 VALUATION DATE	ACTIVE MEMBERS	ANNUAL COVERED PAYROLL	ANNUAL AVERAGE PAY	% CHANGE IN ANNUAL AVERAGE PAY
2010	5,476	$ 366,720	$ 67	0.7%
2011	5,482	365,126	67	(0.5%)
2012	5,376	349,495	65	(2.4%)
2013	5,400	361,044	67	2.8%
2014	5,397	377,943	70	4.7%
2015	5,487	383,006	70	(0.3%)
2016	5,415	365,210	67	(3.4%)
2017	5,104	357,414	70	3.8%
2018	4,952	346,037	70	(0.2%)
2019	5,012	363,117	72	3.8%

Supplemental Plan (Dollars in Thousands)

JAN. 1 VALUATION DATE	ACTIVE MEMBERS	ANNUAL COVERED PAYROLL	ANNUAL AVERAGE PAY	% CHANGE IN ANNUAL AVERAGE PAY
2010	40	$ 1,044	$ 26	2.6%
2011	39	886	23	(13.0%)
2012	37	621	17	(26.2%)
2013	39	450	12	(31.2%)
2014	38	521	14	19.0%
2015	39	557	14	4.0%
2016	45	725	16	12.8%
2017	47	525	11	(30.6%)
2018	44	961	22	95.5%
2019	39	659	17	(22.6%)

Refer to the Financial Section and the Actuarial Section for additional information on Plan changes and changes in actuarial methods and assumptions.

Retirees and Beneficiaries Added to and Removed from Rolls

Consolidated Plans* (Dollars in Thousands)

	ADDED TO PAYROLL		REMOVED FROM PAYROLL		TOTAL			
Jan. 1 Valuation Date	Number	Annual Benefits	Number	Annual Benefits	Number**	Annual Benefits	Average Annual Benefits	% Change in Average Annual Benefits
2010	136	$ 10,375	61	$ 2,307	3,450	$ 133,533	$ 39	6.4%
2011	146	10,231	61	2,239	3,535	141,522	40	6.0%
2012	209	13,671	75	2,750	3,669	152,444	42	7.7%
2013	192	13,452	78	7,436	3,783	158,453	42	3.9%
2014	183	14,188	76	3,499	3,890	169,144	43	6.7%
2015	248	14,491	69	2,850	4,069	180,785	44	6.9%
2016	243	11,242	130	4,475	4,182	199,419	48	7.3%
2017	360	19,869	127	4,257	4,415	219,691	50	4.4%
2018	443	24,229	152	6,314	4,706	238,014	51	1.6%
2019	268	14,251	125	5,058	4,849	247,848	51	1.1%

** Due to confidentiality issues arising from the small number of members in the Supplemental Plan, data from the Combined Pension Plan and Supplemental Plan is presented on a consolidated basis.*

*** Excludes beneficiaries who are annuity account holders but do not receive a monthly benefit.*

Funding Progress

Combined Pension Plan (Dollars in Thousands)

JAN. 1 VALUATION DATE	ACTUARIAL VALUE OF ASSETS (AVA)	ACTUARIAL ACCRUED LIABILITY (AAL)	AVA AS A PERCENTAGE OF AAL	UNFUNDED AAL (UAAL)	ANNUAL COVERED PAYROLL	UAAL AS A PERCENTAGE OF ANNUAL COVERED PAYROLL	FUNDING PERIOD (YEARS)
2010	$ 3,382,908	$ 4,133,289	81.8%	$ 750,381	$ 366,720	204%	26
2011	3,430,819	4,316,349	79.5%	885,530	365,126	243%	21
2012	3,378,481	4,568,851	73.9%	1,190,370	349,495	341%	30
2013	3,795,025	4,858,206	78.1%	1,063,181	361,044	295%	23
2014	3,877,321	5,129,196	75.6%	1,251,875	377,943	331%	26
2015	3,695,274	5,792,216	63.8%	2,096,942	383,006	548%	Infinite
2016	2,680,124	5,947,174	45.1%	3,267,050	365,210	895%	Infinite
2017	2,157,800	4,367,180	49.4%	2,209,381	357,414	618%	44
2018	2,151,039	4,505,437	47.7%	2,354,398	346,037	680%	45
2019	2,161,900	4,494,823	48.1%	2,332,923	363,117	642%	38

Supplemental Plan (Dollars in Thousands)

JAN. 1 VALUATION DATE	ACTUARIAL VALUE OF ASSETS (AVA)	ACTUARIAL ACCRUED LIABILITY (AAL)	AVA AS A PERCENTAGE OF AAL	UNFUNDED AAL (UAAL)	ANNUAL COVERED PAYROLL	UAAL AS A PERCENTAGE OF ANNUAL COVERED PAYROLL
2010	$ 20,681	$ 33,449	61.8%	$ 12,768	$ 1,044	1,349%
2011	21,119	34,309	61.6%	13,190	886	1,489%
2012	20,823	36,330	57.3%	15,507	621	2,497%
2013	21,563	37,265	57.9%	15,702	450	3,489%
2014	24,037	38,777	62.0%	14,740	521	2,829%
2015	21,439	41,910	51.2%	20,471	557	3,675%
2016	19,457	42,480	45.8%	23,023	725	3,178%
2017	17,664	33,384	52.9%	15,720	525	2,994%
2018	17,805	34,550	51.5%	16,745	961	1,743%
2019	18,318	31,825	57.6%	13,507	659	2,050%

Refer to the Financial Section and the Actuarial Section for additional information on Plan changes and changes in actuarial methods and assumptions.

Statistical
Information

Statistical Information

Introduction

The Statistical section provides additional historical perspective, context, and detail to assist the reader in using the information in the financial statements, notes to the financial statements, and required supplementary information to understand and assess the economic condition of DPFP. The schedules within the Statistical section reflect financial trends and operating information. All information was derived from the audited annual financial statements, actuarial valuation reports, and/or DPFP's pension administration database. Refer to Note 1 in the Financial Section for additional information about the benefits.

Financial Trends

Financial trend information is intended to assist users in understanding and assessing the changes in the financial position of DPFP over time.

The Changes in Fiduciary Net Position schedule presents member and employer contributions and the net investment income/loss and administrative expenses to arrive at the net increase/decrease to changes in plan net assets for the 10 years ending December 31, 2018.

The Distributions by Type schedules present the amount of monthly benefit payments and DROP distributions by type for the 10 years ending December 31, 2018.

The DROP Growth schedule presents the changes in interest rate credited to DROP balances, the amounts deferred into and interest credited to DROP balances, DROP withdrawals, the DROP balances annuitized in accordance with HB 3158 and the change in DROP balances year over year. In addition, the annual annuity payments as well as the present value of the annuity balances are presented.

Operating Information

Operating information is intended to provide contextual information about the operations and resources of DPFP to assist readers in understanding and assessing the economic condition of DPFP.

The schedule of Benefit Recipients by Type presents, for given benefit ranges, the total number of benefit recipients by retirement type as of December 31, 2018.

The schedule of Yearly Retirements by Service Years presents, in five-year increments of credited service, the average monthly benefit, the average final average salary, and the number of retirements for the 10 years ending December 31, 2018.

The Benefits Payable schedules present the number of retired members and beneficiaries by status type, as well as the total annual benefits paid and average annual benefit by status type as of December 31, 2018.

The Value of Assets vs. Funded Ratio schedules present the actuarial and market values of assets and the related funded ratios for the 10 years ending December 31, 2018.

The Membership Count schedules reflect the number of members by status type for the 10 years ending December 31, 2018.

The DROP Participation schedule reflects a roll forward of the number of DROP participants and DROP balance and present value of the annuity balance for the 10 years ending December 31, 2018.

Throughout this Statistical section, certain schedules include a combination of data for both the Combined Pension Plan and the Supplemental Plan, jointly referred to as the Consolidated Plans. The combination of the two plans for certain data is necessary due to the small number of Supplemental Plan members and the need to maintain confidentiality of members' personal data.

Changes in Fiduciary Net Position

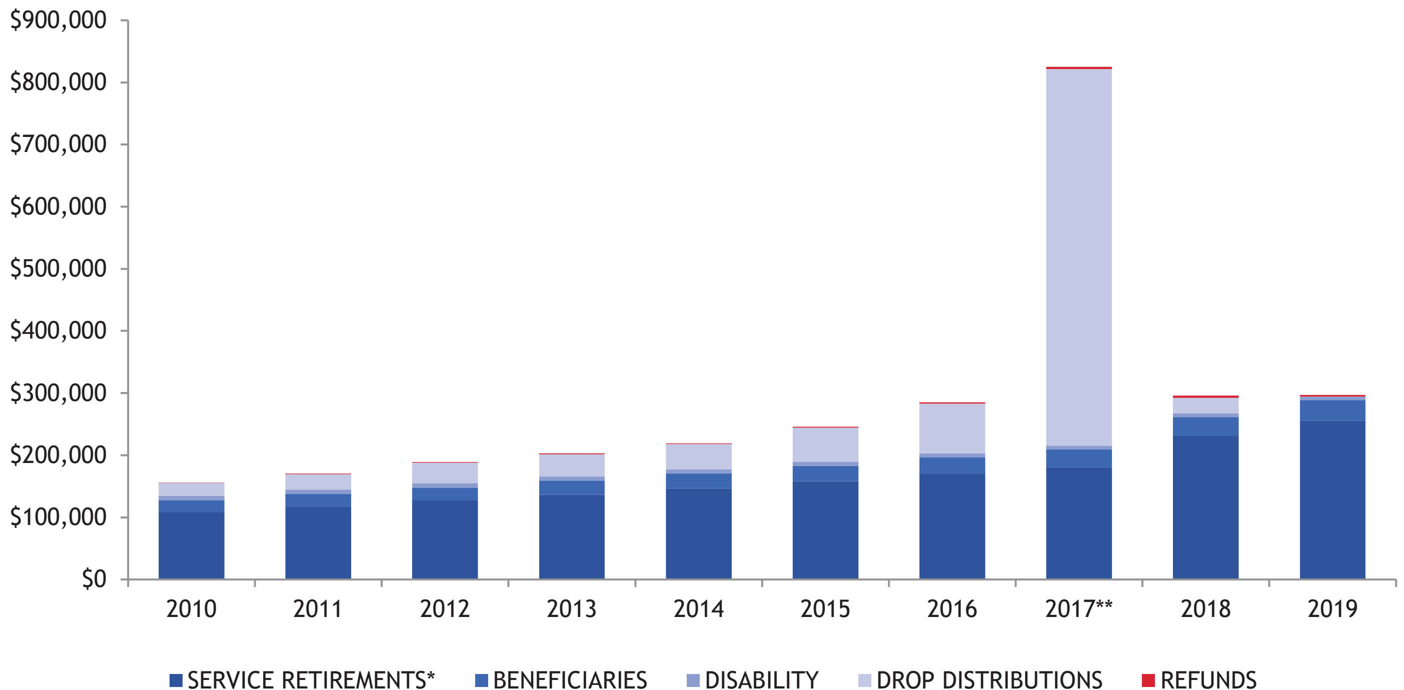
Consolidated Plans* (In Millions)

YEARS ENDED DECEMBER 31,	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Additions (Reductions)										
Contributions										
City	$ 151.3	$ 128.4	$ 122.4	$ 117.3	$ 111.6	$ 108.0	$ 105.9	$ 104.0	$ 109.7	$ 109.0
Members	49.4	33.0	25.6	25.7	29.4	26.3	22.8	19.5	19.8	19.6
Total contributions	200.7	161.4	148.0	143.0	141.0	134.3	128.7	123.5	129.5	128.6
Investment income (loss)										
Net appreciation (depreciation) in fair value of investments	6.5	75.4	122.3	(300.9)	(223.2)	94.2	301.5	(44.8)	248.7	318.7
Interest and dividends	45.1	31.2	54.8	73.4	94.5	86.5	67.2	59.4	65.8	89.3
Total gross investment income (loss)	51.6	106.6	177.1	(227.5)	(128.7)	180.7	368.7	14.6	314.5	408.0
Less: Investment expense	(8.1)	(9.1)	(11.8)	(10.1)	(11.3)	(10.1)	(28.8)	(32.3)	(18.4)	(23.9)
Net investment income (loss)	43.5	97.5	165.3	(237.6)	(140.0)	170.6	339.9	(17.7)	296.1	384.1
Securities lending income	0.3	0.2	0.7	0.7	0.8	1.1	0.9	0.8	1.0	1.8
Securities lending expense	(0.2)	(0.1)	(0.3)	(0.2)	(0.2)	(0.3)	(0.2)	(0.2)	(0.4)	(0.6)
Net securities lending income	0.1	0.1	0.4	0.5	0.6	0.8	0.7	0.6	0.6	1.2
Other income	0.5	2.1	0.2	0.3	-	-	-	-	-	-
Total additions (reductions)	**244.8**	**261.1**	**313.9**	**(93.8)**	**1.6**	**305.7**	**469.3**	**106.4**	**426.2**	**513.9**
Deductions										
Benefits paid to members	297.2	295.2	827.6	285.9	247.6	220.2	203.4	190.2	171.4	156.8
Refunds paid to members	2.6	3.6	3.4	1.8	1.7	0.9	1.5	0.7	0.8	0.8
Interest expense	-	1.3	4.6	6.0	7.4	5.9	6.3	6.7	7.3	3.8
Professional and administrative expenses	5.9	8.2	9.6	8.5	8.1	7.5	6.1	7.0	6.5	6.5
Total deductions	**305.7**	**308.3**	**845.2**	**302.2**	**264.8**	**234.5**	**217.3**	**204.6**	**186.0**	**167.9**
Net increase (decrease) in net position	(60.9)	(47.2)	(531.3)	(396.0)	(263.2)	71.2	252.0	(98.2)	240.2	346.0
Net position held in trust - restricted for pension benefits										
Beginning of period	2,121.1	2,168.3	2,699.6	3,095.6	3,358.8	3,287.6	3,035.6	3,133.8	2,893.6	2,547.6
End of period	$2,060.2	$2,121.1	$2,168.3	$2,699.6	$3,095.6	$3,358.8	$3,287.6	$ 3,035.6	$3,133.8	$2,893.6

** Includes both the Combined Pension Plan and the Supplemental Pension Plan.*

Distributions by Type

Combined Pension Plan (In Thousands)

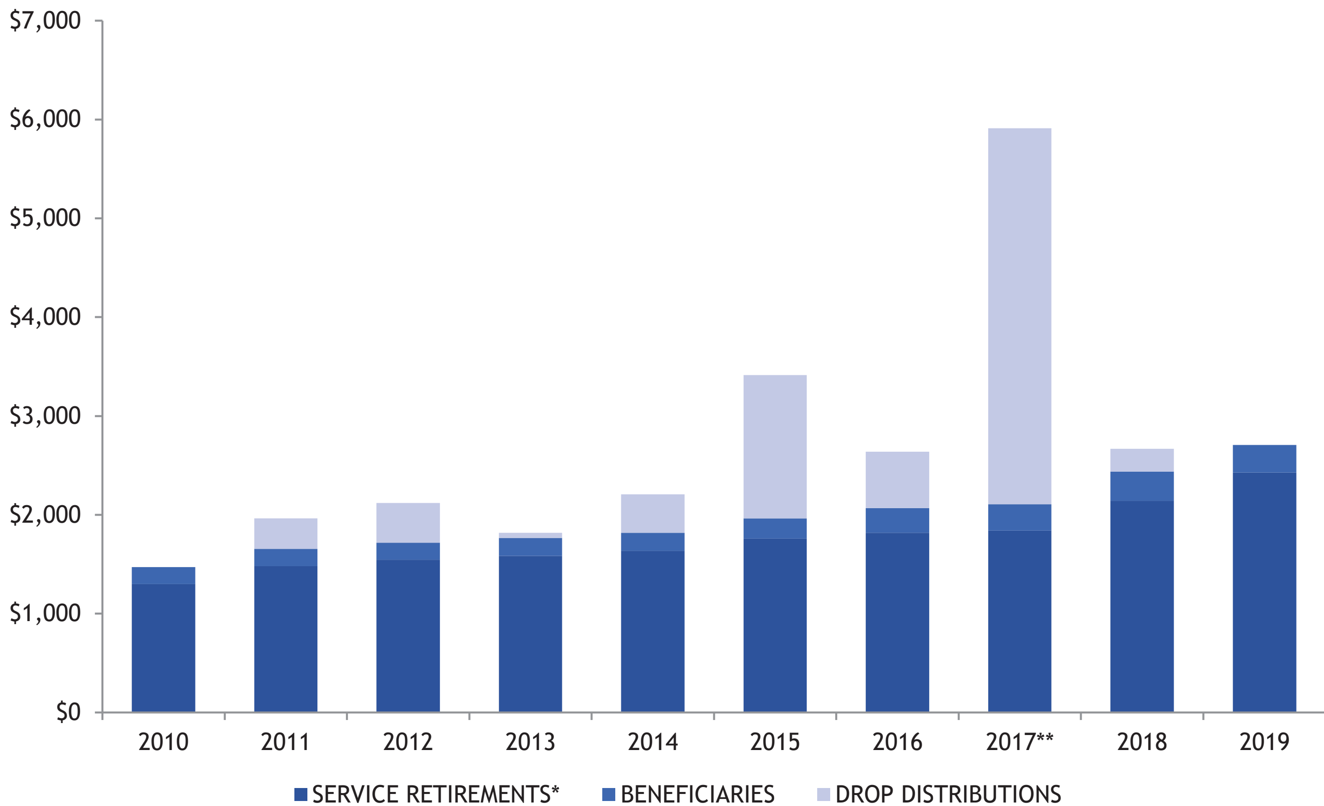


JAN. 1 VALUATION DATE	SERVICE RETIREMENTS*	BENEFICIARIES	DISABILITIES	DROP LUMP SUM DISTRIBUTIONS	REFUNDS	TOTAL
2010	108,383	19,163	6,933	20,864	771	156,114
2011	117,350	20,369	6,842	24,898	814	170,273
2012	127,048	20,860	6,860	33,325	736	188,829
2013	136,677	22,338	6,724	35,826	1,535	203,100
2014	146,846	23,849	6,543	40,744	900	218,882
2015	157,987	25,104	6,433	54,675	1,733	245,932
2016	170,323	26,559	6,335	80,000	1,786	285,003
2017**	180,577	28,392	6,340	606,429	3,354	825,092
2018	230,774	30,706	6,154	24,942	3,578	296,154
2019	255,664	32,954	5,806	23	2,634	297,081

*Includes monthly DROP installment payments.
**The January 1, 2017 valuation date data reflects the $600 million withdrawal from DROP accounts that occurred during the funding crisis.

Distributions by Type (continued)

Supplemental Plans (In Thousands)



JAN. 1 VALUATION DATE	SERVICE RETIREMENTS*	BENEFICIARIES	DROP LUMP SUM DISTRIBUTIONS	TOTAL
2010	1,300	172	-	1,472
2011	1,482	174	308	1,964
2012	1,545	172	402	2,119
2013	1,584	182	53	1,819
2014	1,637	182	388	2,207
2015	1,761	202	1,451	3,414
2016	1,817	251	572	2,640
2017**	1,841	266	3,805	5,912
2018	2,143	295	230	2,668
2019	2,428	280	-	2,708

*Includes monthly DROP installment payments.
**The January 1, 2017 valuation date data reflects the $600 million withdrawal from DROP accounts that occurred during the funding crisis.

DROP Growth

Consolidated Plans* (Dollars in Thousands)

JAN. 1 VALUATION DATE	INTEREST RATE CREDITED	DEFERRALS	INTEREST CREDITED	WITHDRAWALS	CHANGE	BALANCE	ANNUITY PAYMENTS	ANNUITY BALANCE
2010	9.50%	77,495	69,975	(35,745)	111,725	818,310	-	-
2011	9.25%	82,306	78,780	(42,721)	118,364	936,674	-	-
2012	8.00%	86,880	84,846	(53,815)	117,911	1,054,586	-	-
2013	8.00%	90,154	85,373	(58,441)	117,085	1,171,671	-	-
2014	8.78%	96,062	97,066	(66,190)	126,938	1,298,609	-	-
2015	8.00%	96,071	111,856	(83,940)	123,988	1,422,597	-	-
2016	7.00%	96,510	110,060	(112,552)	94,018	1,516,615	-	-
2017	6.00%	89,533	92,986	(637,993)	(455,473)	1,061,168	-	-
2018[1]	6.00%/0.00%[2]	18,293[3]	40,616[2]	(876,365)[4]	(817,456)	243,712	(8,819)	817,106
2019	0.00%	26,029[5]	(1) [6]	(75,634)	(49,606)	194,106	(53,299)	832,816

** Due to confidentiality issues arising from the small number of members in the Supplemental Plan, data from the Combined Pension Plan and Supplemental Plan is presented on a consolidated basis.*

[1] *2018 reflects the changes to the DROP program as a result of HB 3158.*

[2] *Interest was credited at 6% until August 31, 2017. Interest does not accrue beginning September 1, 2017. DROP balances accrued prior to September 1, 2017 are annuitized with interest upon retirement or at the initial annuitization date of November 30, 2017 for those already retired. Balances accrued after September 1, 2017 are annuitized upon retirement with no interest.*

[3] *Includes $45,413 in Deferrals and $27,120 in DROP Revocations.*

[4] *Includes withdrawals of $56,421 and DROP balance annuitization of $819,944.*

[5] *Includes $26,934 in deferrals and $905 in DROP revocations.*

[6] *Interest is due to DROP corrections prior to 9-1-2017*

Benefit Recipients by Type

Consolidated Plans* (As of December 31, 2018)

MONTHLY BENEFIT RANGE	TOTAL NUMBER OF BENEFITS	SERVICE RETIREMENTS	DISABILITIES	BENEFICIARIES	NON-ACTIVE VESTED	ACTIVE DROP
$0 - $500	70	12	1	49	7	1
$501 - $1,000	251	55	1	83	110	2
$1,001 - $1,500	276	81	1	132	58	4
$1,501 - $2,000	568	81	1	448	29	9
$2,001 - $2,500	253	79	10	139	10	15
$2,501 - $3,000	291	156	22	82	11	20
$3,001 - $3,500	444	337	39	40	1	27
$3,501 - $4,000	313	236	26	14	3	34
$4,001 - $4,500	495	388	14	30	1	62
$4,501 - $5,000	535	429	8	28	-	70
$5,001 - $5,500	515	409	2	23	-	81
$5,501 - $6,000	485	398	5	23	-	59
$6,001 - $6,500	328	271	1	14	-	42
$6,501 - $7,000	287	251	1	17	-	18
$7,001 - $7,500	206	179	2	3	-	22
$7,501 - $8,000	118	104	-	4	-	10
$8,001 - $8,500	55	52	-	2	-	1
Over $8,500	72	65	-	1	-	6
Total	**5,562**	**3,583**	**134**	**1,132**	**230**	**483**

** Due to confidentiality issues arising from the small number of members in the Supplemental Plan, data from the Combined Pension Plan and Supplemental Plan is presented on a consolidated basis.*
***Refer to the Financial Section for additional information on the major features of the plans.*

Yearly Retirements by Service Years

Consolidated Plans* (Monthly Benefit) (As of December 31st)

	YEARS OF SERVICE							
	0-5	6-10	11-15	16-20	21-25	26-30	30+	TOTAL
2009								
Retirements	-	2	5	25	52	43	14	141
Avg. FAS	$ -	$ 2,691	$ 3,221	$ 1,134	$ 2,119	$ 3,497	$ 2,988	$ 2,498
Avg. benefit	$ -	$ 1,803	$ 1,718	$ 592	$ 1,685	$ 3,774	$ 4,128	$ 2,374
2010								
Retirements	1	2	10	24	52	34	15	138
Avg. FAS	$ 3,597	$ 2,655	$ 2,579	$ 1,718	$ 3,094	$ 3,947	$ 3,466	$ 3,065
Avg. benefit	$ 2,160	$ 740	$ 1,119	$ 1,017	$ 2,659	$ 4,395	$ 4,383	$ 2,845
2011								
Retirements	-	2	10	40	74	66	12	204
Avg. FAS	$ -	$ 3,361	$ 2,367	$ 1,299	$ 2,840	$ 4,371	$ 2,910	$ 3,019
Avg. benefit	$ -	$ 1,068	$ 1,148	$ 1,016	$ 2,462	$ 4,740	$ 3,905	$ 2,922
2012								
Retirements	-	4	10	28	64	48	13	167
Avg. FAS	$ -	$ 3,624	$ 1,912	$ 2,045	$ 2,840	$ 3,473	$ 2,149	$ 2,798
Avg. benefit	$ -	$ 944	$ 968	$ 1,148	$ 2,535	$ 3,674	$ 2,899	$ 2,526
2013								
Retirements	-	2	9	25	63	74	11	184
Avg. FAS	$ -	$ 2,775	$ 2,849	$ 1,825	$ 2,930	$ 4,237	$ 957	$ 3,182
Avg. benefit	$ -	$ 670	$ 1,348	$ 1,167	$ 2,615	$ 4,607	$ 1,359	$ 3,061
2014								
Retirements	-	2	7	16	47	44	5	121
Avg. FAS	$ -	$ 3,812	$ 3,478	$ 1,661	$ 3,144	$ 4,628	$ 3,047	$ 3,514
Avg. benefit	$ -	$ 921	$ 1,672	$ 1,053	$ 2,851	$ 4,870	$ 3,550	$ 3,276
2015								
Retirements	-	4	12	23	55	40	8	142
Avg. FAS	$ -	$ 4,142	$ 3,101	$ 2,649	$ 3,898	$ 4,947	$ 791	$ 3,756
Avg. benefit	$ -	$ 1,277	$ 1,456	$ 1,840	$ 3,360	$ 5,383	$ 1,807	$ 3,376
2016								
Retirements	2	8	15	66	125	69	4	289
Avg. FAS	$ 6,566	$ 1,455	$ 2,954	$ 1,454	$ 4,622	$ 6,208	$ 5,553	$ 4,129
Avg. benefit	$ 1,220	$ 586	$ 1,270	$ 1,024	$ 3,851	$ 6,841	$ 5,882	$ 3,705
2017								
Retirements	1	11	15	77	171	83	3	361
Avg. FAS	$ 6,403	$ 2,873	$ 2,741	$ 2,121	$ 4,572	$ 6,628	$ 5,938	$ 4,410
Avg. benefit	$ 2,041	$ 882	$ 1,349	$ 1,350	$ 3,736	$ 6,677	$ 7,488	$ 3,743
2018								
Retirements	1	2	9	38	79	54	2	185
Avg. FAS	$ 2,883	$ 2,191	$ 3,248	$ 1,557	$ 4,416	$ 6,676	$ 7,463	$ 4,432
Avg. benefit	$ 575	$ 450	$ 1,490	$ 980	$ 3,525	$ 6,230	$ 7,377	$ 3,685

** Due to confidentiality issues arising from the small number of members in the Supplemental Plan, data from the Combined Pension Plan and Supplemental Plan is presented on a consolidated basis.*

***FAS: Final average salary*

****Retirements include non-active vested members who have begun receiving a monthly benefit.*

Benefits Payable

Combined Pension Plan (Dollars in Thousands)

DECEMBER 31, 2018		NUMBER	ANNUAL BENEFIT	AVERAGE ANNUAL BENEFIT
Retired members				
	Service pensions	3,583	$ 209,041	$ 58
	Disabilities	134	5,704	43
	Total	3,717	$ 214,745	$ 58
Beneficiaries*				
	Total	1,132	$ 30,408	$ 27
Total		**4,849**	**$ 245,153**	**$ 51**

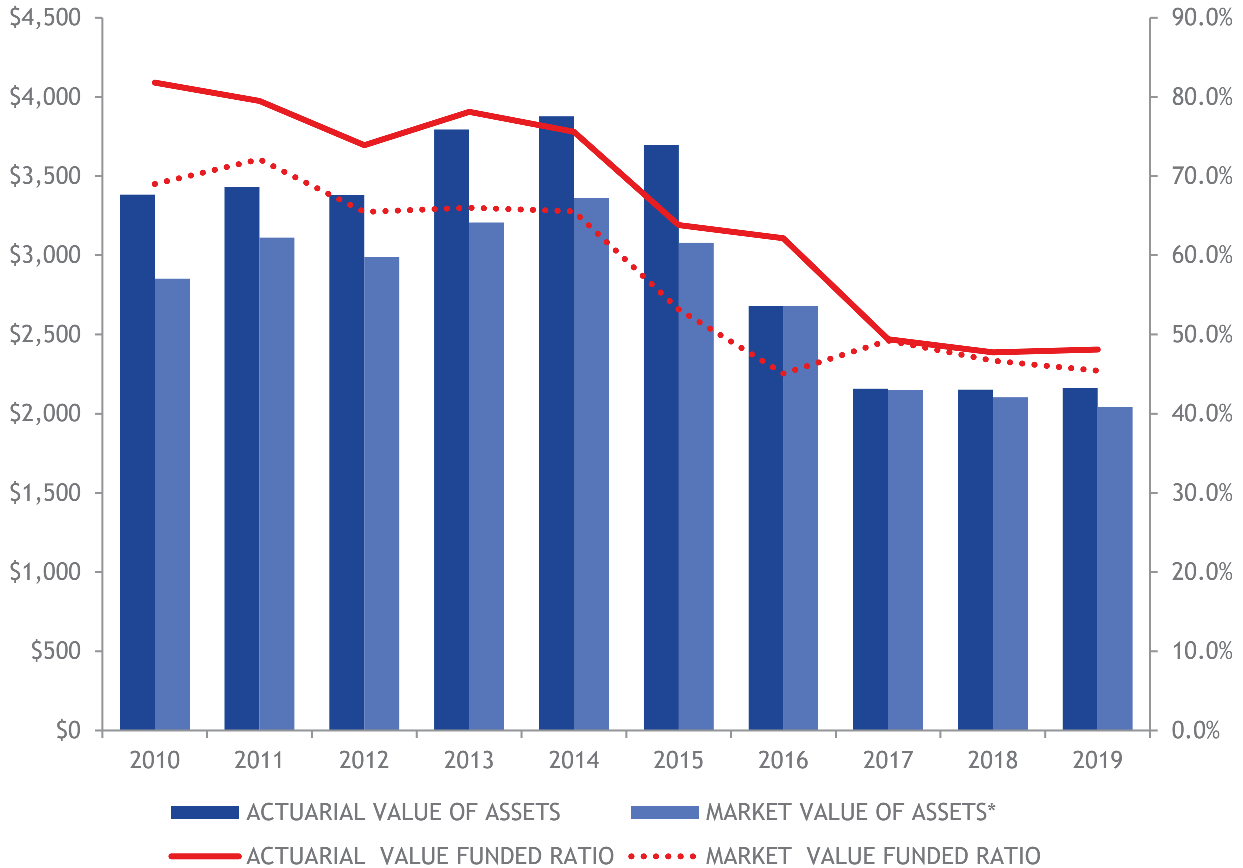
Supplemental Plan (Dollars in Thousands)

DECEMBER 31, 2018		NUMBER	ANNUAL BENEFIT	AVERAGE ANNUAL BENEFIT
Retired members				
	Service pensions	112	$ 2,170	$ 19
	Disabilities	-	-	-
	Total	112	$ 2,170	$ 19
Beneficiaries*				
	Total	26	$ 284	$ 11
Total		**138**	**$ 2,454**	**$ 18**

** Excludes beneficiaries who maintain a DROP account balance but do not receive a monthly benefit.*

Value of Assets vs. Funded Ratio

Combined Pension Plan (Dollars in Millions)

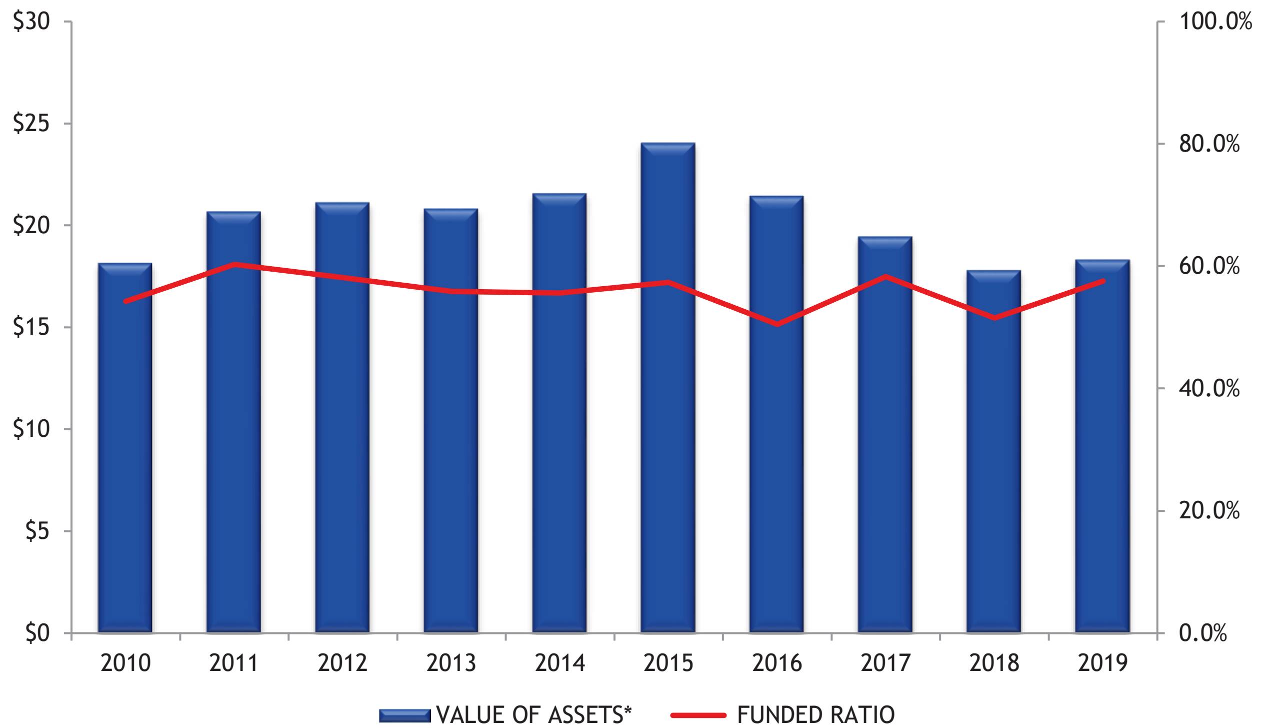


JAN. 1 VALUATION DATE	ACTUARIAL VALUE OF ASSETS	MARKET VALUE OF ASSETS*	ACTUARIAL VALUE FUNDED RATIO	MARKET VALUE FUNDED RATIO
2010	3,383	2,852	81.8%	69.0%
2011	3,431	3,113	79.5%	72.1%
2012	3,378	2,991	73.9%	65.5%
2013	3,795	3,206	78.1%	66.0%
2014	3,877	3,363	75.6%	65.6%
2015	3,695	3,079	63.8%	53.2%
2016	2,680	2,680	45.1%	45.1%
2017	2,158	2,150	49.4%	49.2%
2018	2,151	2,103	47.7%	46.7%
2019	2,162	2,042	48.1%	45.4%

** The market value of assets is per the actuarial valuation report as of the valuation date. This value may differ immaterially from the audited market value for the prior December 31 due to timing of adjustments made to valuations after the finalization of the actuarial valuation report.*

Value of Assets vs. Funded Ratio (continued)

Supplemental Plan (Dollars in Millions)



JAN. 1 VALUATION DATE	VALUE OF ASSETS*	FUNDED RATIO
2010	21	59.5%
2011	21	61.6%
2012	21	57.3%
2013	22	57.9%
2014	24	62.0%
2015	21	51.2%
2016	19	45.8%
2017	18	52.9%
2018	18	51.5%
2019	18	57.6%

** The value of assets represents both the market value of assets and the actuarial value of assets.*

Membership Count

Combined Pension Plan

JAN. 1 VALUATION DATE	ACTIVE (EXCLUDING DROP)	ACTIVE DROP	RETIREES	BENEFICIARIES	NON-ACTIVE VESTED	NON-ACTIVE NON-VESTED	TOTAL
2010	4,170	1,306	2,565	894	144	57	9,136
2011	4,085	1,397	2,644	908	135	68	9,237
2012	3,995	1,381	2,767	926	128	75	9,272
2013	3,974	1,426	2,854	969	96	86	9,405
2014	3,983	1,414	2,956	969	122	106	9,550
2015	4,107	1,380	3,033	1,092	157	99	9,868
2016	4,077	1,338	3,115	1,115	200	126	9,971
2017	4,002	1,102	3,338	1,118	215	295	10,070
2018	4,326	626	3,598	1,158	226	399	10,333
2019	4,529	483	3,717	1,202	230	431	10,592

Supplemental Plan

JAN. 1 VALUATION DATE	ACTIVE (EXCLUDING DROP)	ACTIVE DROP	RETIREES	BENEFICIARIES	NON-ACTIVE VESTED	TOTAL
2010	13	27	86	26	-	152
2011	11	28	87	26	-	152
2012	9	28	90	23	-	150
2013	19	20	96	24	-	159
2014	18	20	99	21	-	158
2015	21	19	99	22	-	161
2016	25	20	98	26	-	169
2017	31	16	100	28	-	175
2018	37	7	110	30	1	185
2019	34	5	112	26	2	179

DROP Participation

Consolidated Plans* (Dollars in Millions)

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Active - DROP Participants										
Beginning of year	626	1,102	1,338	1,399	1,434	1,446	1,409	1,425	1,333	1,278
Entrants	15	17	36	121	107	155	190	176	208	168
Withdrawals	(158)	(493)	(272)	(182)	(142)	(167)	(153)	(192)	(116)	(113)
End of year	483	626	1,102	1,338	1,399	1,434	1,446	1,409	1,425	1,333
DROP balance at December 31	$ 192	$ 242	$ 358	$ 479	$ 461	$ 441	$ 434	$ 425	$ 406	$ 374

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Retirees and Beneficiaries - DROP Participants										
Beginning of year	16	1,876	2,085	1,971	1,855	1,718	1,525	1,414	1,265	1,138
Additions	3	-	204	168	170	190	215	173	164	151
Closures	(3)	(1,860)	(413)	(54)	(54)	(53)	(22)	(62)	(15)	(24)
End of year	16	16	1,876	2,085	1,971	1,855	1,718	1,525	1,414	1,265
DROP balance at December 31	$ 2	$ 2	$ 703	$ 1,038	$ 962	$ 858	$ 738	$ 630	$ 531	$ 444

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total DROP participants	**499**	**642**	**2,978**	**3,423**	**3,370**	**3,289**	**3,164**	**2,934**	**2,839**	**2,598**

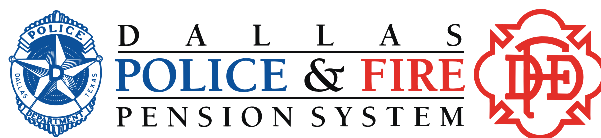
** Due to confidentiality issues arising from the small number of members in the Supplemental Plan, data from the Combined Pension Plan and Supplemental Plan is presented on a consolidated basis.*

Combined Pension Plan

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Retirees and Beneficiaries - DROP Annuities										
Beginning of year	1,978	-	-	-	-	-	-	-	-	-
Additions	216	1,978	-	-	-	-	-	-	-	-
Closures	(8)	-	-	-	-	-	-	-	-	-
End of year	2,186	1,978	-	-	-	-	-	-	-	-
Present Value of Annuities at December 31	$ 829	$ 810	-	-	-	-	-	-	-	-

Supplemental Plan

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Retirees and Beneficiaries - DROP Annuities										
Beginning of year	55	-								
Additions	2	55								
Closures	-	-								
End of year	57	55								
Present Value of Annuities at December 31	$ 4	$ 7								



Phone: 214.638.3863 | 800.638.3861 | **Fax:** 214.638.6403

Website: www.dpfp.org | **Email:** info@dpfp.org