AGENDA

Date: December 3, 2021

The regular meeting of the Dallas Police and Fire Pension System Board of Trustees will be held at **8:30 a.m. on Thursday, December 9, 2021, in the Second Floor Board Room at 4100 Harry Hines Boulevard, Dallas, Texas and via telephone conference for audio at 214-271-5080 access code 588694 or Toll-Free (US & CAN): 1-800-201-5203 and Zoom meeting for visual** https://us02web.zoom.us/j/83431446165?pwd=MTFhWEJDQ3h5MmhMQ2QvSUx2TGFEZz09 Passcode: 808842. Items of the following agenda will be presented to the Board:

A. MOMENT OF SILENCE

B. CONSENT AGENDA

1. Approval of Minutes

a. Required Public meeting of November 11, 2021
b. Regular meeting of November 11, 2021

2. Approval of Refunds of Contributions for the Month of November 2021

3. **Approval of Estate Settlements**

4. **Approval of Survivor Benefits**

5. **Approval of Service Retirements**

6. **Approval of Payment of Military Leave Contributions**

C. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

1. **Report on Audit Committee**

2. **2020 Financial Audit**

3. **2020 Annual Comprehensive Financial Report**

4. **Chairman's Discussion Items**

    2022 Board Calendar

5. **Report on Professional Services Provider Meeting**

6. **Portfolio Update**

7. **Third Quarter 2021 Investment Performance Analysis and Second Quarter 2021 Private Markets & Real Assets Review**

   Portions of the discussion under this topic may be closed to the public under the terms of Section 551.072 of the Texas Government Code.

8. **Investment Advisory Committee Appointments**

9. **Monthly Contribution Report**

10. **Board approval of Trustee education and travel**

    a. Future Education and Business-related Travel
    b. Future Investment-related Travel

11. **Staff Compensation Plan**

12. **Legal issues - In accordance with Section 551.071 of the Texas Government Code, the Board will meet in executive session to seek and receive the advice of its attorneys about pending or contemplated litigation or any other legal matter in which the duty of the attorneys to DPFP and the Board under the Texas Disciplinary Rules of Professional Conduct clearly conflicts with Texas Open Meeting laws.**

13. Executive Director Performance Evaluation

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.074 of the Texas Government Code.

D. BRIEFING ITEMS

1. Public Comment

2. Executive Director's report

a. Associations' newsletters
- NCPERS Monitor (December 2021)
- NCPERS PERSist (Fall 2021)
- TEXPERS Pension Observer (Vol. 4, 2021) https://online.anyflip.com/mxfu/znio/mobile/index.html

b. Open Records

c. CIO Recruitment

The term "possible action" in the wording of any Agenda item contained herein serves as notice that the Board may, as permitted by the Texas Government Code, Section 551, in its discretion, dispose of any item by any action in the following non-exclusive list: approval, disapproval, deferral, table, take no action, and receive and file. At the discretion of the Board, items on this agenda may be considered at times other than in the order indicated in this agenda.

At any point during the consideration of the above items, the Board may go into Closed Executive Session as per Texas Government Code, Section 551.071 for consultation with attorneys, Section 551.072 for real estate matters, Section 551.074 for personnel matters, and Section 551.078 for review of medical records.

DALLAS POLICE & FIRE PENSION SYSTEM

MOMENT OF SILENCE

In memory of our Members and Pensioners who recently passed away

NAME	ACTIVE/ RETIRED	DEPARTMENT	DATE OF DEATH
Albert M. Cargile	Retired	Police	Nov. 3, 2021
Jesse Lee Bean	Retired	Fire	Nov. 4, 2021
Jerry L. Craig	Retired	Police	Nov. 7, 2021
John K. Crutcher	Active	Fire	Nov. 12, 2021
Danny L. Watley	Active	Police	Nov. 18, 2021

Regular Board Meeting –Thursday, December 9, 2021

Dallas Police and Fire Pension System
Thursday, November 11, 2021
8:30 a.m.
4100 Harry Hines Blvd., Suite 100
Second Floor Board Room
Dallas, TX

Required Public meeting, Nicholas A. Merrick, Chairman, presiding:

ROLL CALL

Board Members

Present at 8:31 a.m.	Nicholas A. Merrick, William F. Quinn, Armando Garza (by telephone), Michael Brown (by telephone), Robert B. French, Gilbert A. Garcia (by telephone), Kenneth Haben, Tina Hernandez Patterson (by telephone), Steve Idoux, Mark Malveaux
Absent:	None
Staff	Kelly Gottschalk, Josh Mond, Ryan Wagner, Brenda Barnes, John Holt, Damion Hervey, Greg Irlbeck, Michael Yan (by telephone), Cynthia Thomas (by telephone), Milissa Romero
Others	Jeff Williams, Catlin Grice

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The second of two annual public meetings of the Dallas Police and Fire Pension System Board of Trustees as required by Section 3.01 (j-9) of Article 6243a-1 of Vernon's Revised Civil Statutes.

The Required Public meeting was called to order and recessed at 8:31 a.m.

The Required Public meeting was reconvened at 9:59 a.m.

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1. Report on the health and performance of the Pension System

a. January 1, 2021 Actuarial Valuation
b. Projected Change in Net Position Bridge Chart

a. Jeff Williams and Caitlin Grice of Segal Consulting, DPFP's actuarial firm, discussed results of the January 1, 2021 actuarial valuation report, including the GASB No. 67 actuarial valuation.

Required Public Meeting
Thursday, November 11, 2021

1. Report on the health and performance of the Pension System

b. The Executive Director presented the Projected Change in Net Position Bridge Chart based on projected data from the January 1, 2021 Actuarial Valuation report and reported on the health and performance of DPFP as required by Section 3.01 (j-9) of Article 6243a-1 of Vernon's Revised Civil Statutes.

No motion was made.

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2. Public Comment

The Chairman extended an opportunity for public comment. No one requested to speak to the Board.

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Ms. Gottschalk stated that there was no further business to come before the Board. On a motion by Mr. Idoux and a second by Mr. Haben, the meeting was adjourned at 10:32 a.m.

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Nicholas A. Merrick
Chairman

ATTEST:

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Kelly Gottschalk
Secretary

Dallas Police and Fire Pension System
Thursday, November 11, 2021
8:30 a.m.
4100 Harry Hines Blvd., Suite 100
Second Floor Board Room
Dallas, TX

Regular meeting, Nicholas A. Merrick, Chairman, presiding:

ROLL CALL

Board Members

Present at 8:31 a.m.	Nicholas A. Merrick, William F. Quinn, Armando Garza (by telephone), Michael Brown (by telephone), Robert B. French, Gilbert A. Garcia (by telephone), Kenneth Haben, Tina Hernandez Patterson (by telephone), Steve Idoux, Mark Malveaux
Absent:	None
Staff	Kelly Gottschalk, Josh Mond, Ryan Wagner, Brenda Barnes, John Holt, Damion Hervey, Greg Irlbeck, Michael Yan (by telephone), Cynthia Thomas (by telephone), Milissa Romero
Others	Anthony Mills, Leslee Hardy, Jeff Williams, Catlin Grice

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The Regular meeting was called to order at 8:31 a.m. and recessed at 9:59 a.m.

The Regular meeting was reconvened at 10:32 a.m.

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A. MOMENT OF SILENCE

The Board observed a moment of silence in memory of active police officer Scott P. Harn, retired police officers Wayne A. Karitis, Richard D. Bridges, Joe M. Poe, Billy D. Bateman, Michael R. Wilson, and retired firefighters E. G. Tanton, John G. Wegley, B. C. Crenshaw

No motion was made.

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Regular Board Meeting
Thursday, November 11, 2021

B. CONSENT AGENDA

1. **Approval of Minutes**

   Regular meeting of October 15, 2021

2. **Approval of Refunds of Contributions for the Month of October 2021**

3. **Approval of Activity in the Deferred Retirement Option Plan (DROP) for November 2021**

4. **Approval of Estate Settlements**

5. **Approval of Survivor Benefits**

6. **Approval of Service Retirements**

7. **Approval of Alternate Payee Benefits**

8. **Approval of Spouse Wed After Retirement (SWAR)**

9. **Approval of Payment of Previously Withdrawn Contributions**

After discussion, Mr. Quinn made a motion to approve the minutes of the meeting of October 15, 2021. Mr. Idoux seconded the motion, which was unanimously approved by the Board.

After discussion, Mr. Haben made a motion to approve the remaining items on the Consent Agenda, subject to the final approval of the staff. Mr. Idoux seconded the motion, which was unanimously approved by the Board.

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C. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

1. **Actuarial Training**

   Jeff Williams and Caitlin Grice of Segal Consulting, DPFP's actuarial firm provided actuarial training specifically targeted to the actuarial issues that are most relevant to DPFP.

   No motion was made.

Regular Board Meeting
Thursday, November 11, 2021

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2. January 1, 2021 Actuarial Valuation

Jeff Williams and Caitlin Grice of Segal Consulting, DPFP’s actuarial firm, discussed results of the January 1, 2021 actuarial valuation report, including the GASB No. 67 actuarial valuation.

After discussion, Mr. Haben made a motion to approve issuance of the January 1, 2021 actuarial valuation report, subject to final review by the auditors (BDO) and review and approval by the Executive Director. Mr. Idoux seconded the motion, which was unanimously approved by the Board.

Mr. Quinn was not present for the vote.

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3. Report on Professional Service Provider Meeting

The Professional Services Committee Chair reported to the Board on its meeting with Jeff Williams and Caitlin Grice of Segal, DPFP’s actuary. No issues of concern were raised by Segal.

No motion was made.

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4. Staff Retirement Plan

TMRS staff members Anthony Mills and Leslee Hardy presented an overview of TMRS, discussed options, funding matters and answered the Board’s questions.

After discussion, Mr. Quinn made a motion to adopt the TMRS Participation Resolution with an employee contribution rate of 7% and employer matching rate of 2:1 and authorized staff to take any actions necessary to (i) cause DPFP staff to become members of TMRS and (ii) terminate the current DPFP staff 401(a) plan. Mr. Idoux seconded the motion, which was approved by the following vote:
For: Mr. Merrick, Mr. Quinn, Mr. Garza, Mr. Brown, Mr. Garcia, Mr. Haben, Ms. Hernandez Patterson, Mr. Idoux, Mr. Malveaux
Opposed: Mr. French

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Regular Board Meeting
Thursday, November 11, 2021

5. Financial Audit Status

The Chief Financial Officer provided a status update on the annual financial audit.

No motion was made.

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6. Second Reading and discussion of the 2022 Budget

The Chief Financial Officer reviewed the changes to the proposed budget from the first reading.

After discussion, Mr. Malveaux made a motion to approve the proposed 2022 budget. Mr. Idoux seconded the motion, which was unanimously approved by the Board.

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7. Quarterly Financial Reports

The Chief Financial Officer presented the third quarter 2021 financial statements.

No motion was made.

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8. Monthly Contribution Report

The Executive Director reviewed the Monthly Contribution Report.

No motion was made.

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9. Board approval of Trustee education and travel

a. Future Education and Business-related Travel
b. Future Investment-related Travel

The Board and staff discussed future Trustee education. There was no future Trustee business-related travel or investment-related travel scheduled.

No motion was made.

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Regular Board Meeting
Thursday, November 11, 2021

10. Required Training Manual Delivery

Section 3.013(c) of Article 6243a-1 requires the Executive Director annually deliver a training manual covering certain subject areas set forth in Section 3.013(b). The Executive Director provided an overview of the contents, addressed new items in the manual and answered any questions concerning the training manual. Each Trustee received the Trustee acknowledgment form to sign to acknowledge receipt of the electronic training manual accessible in Diligent.

No motion was made.

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11. Portfolio Update

Investment Staff briefed the Board on recent events and current developments with respect to the investment portfolio.

No motion was made.

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12. Private Equity and Debt Portfolio Review

Staff provided an overview of DPFP investments in private equity and private debt.

No motion was made.

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13. Legal issues - In accordance with Section 551.071 of the Texas Government Code, the Board will meet in executive session to seek and receive the advice of its attorneys about pending or contemplated litigation or any other legal matter in which the duty of the attorneys to DPFP and the Board under the Texas Disciplinary Rules of Professional Conduct clearly conflicts with Texas Open Meeting laws.

The Board went into closed executive session at 11:17 a.m.

The meeting was reopened at 11:31 a.m.

The Board and staff discussed legal issues.

No motion was made.

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Regular Board Meeting
Thursday, November 11, 2021

14. Closed Session - Board serving as Medical Committee

The Board went into closed executive session at 11:17 a.m.

The meeting was reopened at 11:31 a.m.

After discussion, Mr. Malveaux made a motion to grant survivor benefits under the provisions of Article 6243a-1, Section 6.06(o-2). Mr. Haben seconded the motion, which was unanimously approved by the Board.

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D. BRIEFING ITEMS

1. Public Comments

Prior to commencing items for Board discussion and deliberation, the Chairman extended an opportunity for public comment. No one requested to speak to the Board.

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Regular Board Meeting
Thursday, November 11, 2021

2. Executive Director's report

a. Associations' newsletters
- NCPERS Monitor (November 2021)

b. Open Records
c. CIO Recruitment

The Executive Director's report was presented.

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Ms. Gottschalk stated that there was no further business to come before the Board. On a motion by Mr. Quinn and a second by Mr. Haben, the meeting was adjourned at 11:31 a.m.

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Nicholas A. Merrick
Chairman

ATTEST:

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Kelly Gottschalk
Secretary

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C1

Topic: **Report on Audit Committee**

Discussion: The Audit Committee met with representatives of BDO on December 9, 2021. The Committee Chair will comment on Committee observations and advice.

Regular Board Meeting – Thursday, December 9, 2021

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C2

Topic:	**2020 Financial Audit**
Attendees:	Jill Svoboda, BDO, Partner Rachel Pierson, BDO, Audit Director
Discussion:	Representatives from BDO, DPFP's independent audit firm, will be present to discuss the results of their audit for the year ended December 31, 2020.
Staff Recommendation:	**Approve** issuance of the 2020 audit report, subject to final review and approval by BDO and the Executive Director.

Report To Those Charged With Governance

DALLAS POLICE & FIRE PENSION SYSTEM

Audit Wrap:
Year Ending
December 31, 2020

DALLAS POLICE & FIRE PENSION SYSTEM

BDO

Contents

The following communication was prepared as part of our audit, has consequential limitations, and is intended solely for the information and use of those charged with governance (e.g., Board of Directors and audit committee) and, if appropriate, management of the Company and is not intended and should not be used by anyone other than these specified parties.

Welcome

December 9, 2021

Board of Trustees and Audit Committee
Dallas Police and Fire Pension System

Professional standards require us to communicate with you regarding matters related to the audit that are, in our professional judgment, significant and relevant to your responsibilities in overseeing the financial reporting process. On April 28, 2021, we presented an overview of our plan for the audit of the financial statements of the Dallas Police and Fire Pension System (the System) as of and for the year ended December 31, 2020, including a summary of our overall objectives for the audit, and the nature, scope, and timing of the planned audit work.

This communication is intended to elaborate on the significant findings from our audit, including our views on the qualitative aspects of the System's accounting practices and policies, management's judgments and estimates, financial statement disclosures, and other required matters.

We are pleased to be of service to the System and look forward to meeting with you to discuss our audit findings, as well as other matters that may be of interest to you, and to answer any questions you might have.

Respectfully,

BDO USA, LLP

Status of Our Audit

We have completed our audit of the financial statements, including procedures applied to the supplemental schedules, as of and for the year ended December 31, 2020. Our audit was conducted in accordance with auditing standards generally accepted in the United States of America (GAAS) and adheres to the guidelines established by the Governmental Auditing Standards Board. This audit of the financial statements does not relieve System management or those charged with governance of their responsibilities. The term “those charged with governance” encompasses the term Board of Directors or Audit Committee or other formally designated body that has financial oversight responsibilities.

- The objective of our financial statement audit was to obtain reasonable - not absolute - assurance about whether the financial statements are free from material misstatements.
- The scope of the work performed was substantially the same as that described to you in our earlier Audit Planning communications.
- We expect to issue an unmodified opinion on the financial statements and release our report upon final approval of the Board and obtaining the final signed representation letter.
- Our responsibility for other information in documents containing the System’s audited financial statements does not extend beyond the financial information identified in the audit report, and we are not required to perform procedures to corroborate such other information. However, in accordance with professional standards, we have read the information included by the System and considered whether such information, or the manner of its presentation, was materially inconsistent with its presentation in the financial statements. Our responsibility also includes calling to management’s attention any information that we believe is a material misstatement of fact. We have not identified any material inconsistencies or concluded there are any material misstatements of facts in the other information that management has chosen not to correct.
- All records and information requested were freely available for our inspection.
- Management’s cooperation was excellent. We received full access to all information that we requested while performing our audit, and we acknowledge the full cooperation extended to us by all levels of System personnel throughout the course of our work.

Results of Our Audit

Accounting Practices, Policies, and Estimates

The following summarizes the more significant required communications related to our audit concerning the System's accounting practices, policies, and estimates:

The System's significant accounting practices and policies are those included in Note 2 to the financial statements. These accounting practices and policies are appropriate, comply with generally accepted accounting principles and industry practice, were consistently applied, and are adequately described within Note 2 to the financial statements.

- A summary of recently issued accounting pronouncements is included in Note 2 to the System's financial statements. The effective date for GASB 87 *Leases* is for reporting periods beginning after July 1, 2021, as per Statement No. 95 *Postponement of the Effective Dates of Certain Authoritative Guidance*, issued in May 2020.
- There were no changes in significant accounting policies and practices during 2020.

Significant estimates are those that require management's most difficult, subjective, or complex judgments, often as a result of the need to make estimates about the effects of matters that are inherently uncertain. The System's significant accounting estimates, including a description of management's processes and significant assumptions used in development of the estimates, are disclosed in Note 2, 4, and 5 of the financial statements.

- Significant accounting estimates include:
  - Actuarial Estimates
  - Fair Value Measurements
- Management did not make any significant changes to the processes or significant assumptions used to develop the accounting estimates in 2020.

Results of Our Audit (continued)

Corrected and Uncorrected Misstatements

There were no corrected or uncorrected misstatements, other than those that were clearly trivial, related to accounts and/or disclosures that we brought to the attention of management.

Quality of the Plan's Financial Reporting

A discussion was held regarding the quality of the System's financial reporting, which included the following:

- Qualitative aspects of significant accounting policies and practices
  - BDO has no issues with the quality of the System's accounting policies and practices.
- Our conclusions regarding significant accounting estimates
  - BDO concurs with the System's critical accounting policies and practices with respect to significant estimates.
- Financial statement presentation
  - BDO does not note exceptions to the System's financial statements.
- New accounting pronouncements
  - Refer to Note 2 of the financial statements and as noted on the preceding page under accounting practices, policies and estimates.
- Alternative accounting treatments
  - BDO notes that there were no alternative accounting treatments adopted by the System during the year.

Results of Our Audit (continued)

Below is a Summary of Select Policies, Areas, and Findings:

Internal Controls

Summary of procedures:
- Reviewed internal controls in place over financial reporting, distributions, payroll data, investments, system expenses, and system obligations.
- Obtained and reviewed the Service Organization Controls reports for JPMorgan, the System's Custodian, and STP Investment Services, LLP, the System's investment accounting service provider.

Findings:
No issues were noted during our review of internal controls which caused us to adjust planned audit procedures.

Actuarial Valuation

Summary of procedures:
- Obtained actuarial reports and related requested data directly from the actuary.
- Ensured the census information provided was complete, accurate, and as of benefit information date.
- Tested census information in correlation with eligibility testing.
- Considered cash flow projections and determination of GASB 67 discount rates.
- Reviewed the actuarial valuation reports and utilized BDO's Actuarial Managing Director to perform an independent review of the reports and assumptions used. Primary areas of focus included demographic assumptions (mortality, termination prior to retirement, retirement and DROP participation eligibility which affect DROP utilization and retirement rates, disability) and economic assumptions (discount rate, inflation rate, investment rate of return, salary scale, administrative expenses, interest on DROP accounts) as well as the actuarial methods used (asset smoothing, actuarial cost method, amortization of unfunded actuarial accrued liability).
- Reviewed actuarial disclosures for completeness and accuracy during the review of the financial statements.

Findings:
Based on the review by BDO and BDO's experts, the actuarial methods employed by the System meet the requirements under GASB and Actuarial Standards of Practice.

Eligibility

Summary of procedures:
- Agreed demographic information to the census data used by the actuary.
- Ensured members were properly included or excluded from the System or census based on system requirements.

Findings:
No issues were identified in our testing.

Results of Our Audit (continued)

Below is a Summary of Select Policies, Areas, and Findings:

Benefit Payments

<u>Summary of procedures:</u>

- Reviewed reconciliation of annuity payments.
- Tested a sample of participants receiving benefits and ensured the participants selected were eligible to receive payment.
- For sample selected, traced amounts of benefit payments to the actual payments recorded per the payment register. Additionally, ensured proper tax was withheld and proper authorization of benefit payments was made.
- For each selection, obtained the calculation of benefits and recomputed the benefit amount based upon the participant data and ensured it was in accordance with the System documents.
- Reviewed annuity payments by month for any unusual variations.

<u>Findings:</u>

No issues were identified in our testing

Investments

<u>Summary of procedures:</u>

- Tested investments by selecting a sample using statistical sampling techniques.
- Obtained confirmations from investment managers and reviewed audited financial statements for investments selected. Reviewed confirmations for unusual items and misclassifications. Additionally, performed recalculations based on the unit values in the audited financials.
- A majority of the real estate investments have audited financial statements. Consideration of those internally managed real estate investments included review subsequent sales contracts.
- Reviewed all complex investment valuation techniques and utilized BDO Valuation experts where necessary.
- Reviewed purchase agreements and letters of intent for properties sold or currently for sale.
- Reviewed Management's valuation memos in obtaining an understanding of the supporting process for establishing fair value.
- Confirmed all cash balances.
- Reconciled unit information recorded by the System to JPMorgan and to the fund's financial statements.
- Selected a sample of transactions for investment transaction testing and agreed the purchase/sales price to approved pricing sources.
- Recalculated the exchange rate used for certain investments by comparing the rate to a third-party source such as Oanda.com.
- Reviewed the investment policy and reviewed for deviations from policy.
- Reviewed Management's fair value considerations and fair value hierarchy by investment in correlation with GASB No. 72.

<u>Findings:</u>

No issues were identified in our testing.

Results of Our Audit (continued)

Below is a Summary of Select Policies, Areas, and Findings:

Other Receivables, Payables, and System Expenses

Summary of procedures:

- Confirmed and reviewed contributions receivables.
- Reviewed the reasonableness of interest and dividend receivables.
- Reviewed management's policy for securities lending and the accounting treatment of such transactions.
- Reviewed the schedule of accrued expenses. Tested fund management fees payable and accrued uncompensated balances.
- Performed a search for unrecorded liabilities to ensure all subsequent payments after year end which related to 2020 were appropriately accrued.
- Reviewed investment contracts in correlation with testing system expenses.
- Sampled administrative fees and selected individual transactions to test.
- Sampled management fee expenses and agreed the expense to confirmation received from investment managers where applicable. Reviewed and recalculated the breakout of fees and agreed amounts to actual invoices and payment support.

Findings:

No issues were identified in our testing.

Investment Income

Summary of procedures:

- Selected a sample of dividends received and verified to an independent market source.
- Tested interest earned by recalculating individual transactions and performing a reasonableness test.
- Reconciled investment value and investment income to JPMorgan.
- Recalculated realized and unrealized gains and losses for a sample of transactions.

Findings:

No issues were identified in our testing.

Fraud, Commitments and Contingencies, and Subsequent Events

Fraud procedures:

- Performed interviews with a sample of members of the Board of Trustees, Management, and other individuals and considered responses received in determining necessary audit procedures.
- The nature, timing and extent of our procedures across areas of the audit were also varied, mainly by auditing items that would be considered below our normal vouching scope.
- Performed detailed journal entry testing to review for any potential unusual or fraudulent transactions.

Results of Our Audit (continued)

Below is a Summary of Select Policies, Areas, and Findings:

Fraud, Commitments and Contingencies, and Subsequent Events

<u>Commitments and Contingencies:</u>

- Although legal expenses are not material, we performed a test of legal expense transactions and reviewed legal invoices carefully for any unusual matters that were not already disclosed to us. No such matters were identified.
- Based on the legal confirmation responses received the System is appropriately disclosing legal matters in the financial statements.

<u>Subsequent Events:</u>

- Reviewed Board Meeting Minutes.
- Obtained legal update letters prior to issuance.
- Performed final subsequent event procedures, including inquiries of Management to be updated prior to issuance.

Reportable Findings and Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the System's internal control over financial reporting (internal control) as a basis for designing our auditing procedures for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

Our consideration was for the limited purpose described above and was not designed to identify all deficiencies in internal control that might be significant deficiencies or material weaknesses and/or all reportable findings.

We are required to communicate, in writing and in a timely manner, to those charged with governance all reportable findings and all material weaknesses and significant deficiencies that have been identified in the System's internal control over financial reporting. The definitions of a reportable finding, control deficiency, significant deficiency and material weakness are as follows:

Category	Definition
Reportable Finding	Matters that are one or more of the following: a. An identified instance of noncompliance or suspected noncompliance with laws or regulations b. A finding arising from the audit that is, in the auditor's professional judgment, significant and relevant to those charged with governance regarding their responsibility to oversee the financial reporting process c. An indication of deficiencies in internal control identified during the audit that have not been communicated by management by other parties and that, in the auditor's professional judgment, are of sufficient importance to merit management's attention
Deficiency in Internal Control	A deficiency in internal control over financial reporting 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 misstatements on a timely basis.
Significant Deficiency	A deficiency or a combination of deficiencies in internal control over financial reporting that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.
Material Weakness	A deficiency or a combination of deficiencies in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the financial statements will not be prevented or detected on a timely basis.

A reportable finding may also be considered a deficiency in internal control, a significant deficiency or a material weakness. In conjunction with our audit of the financial statements, we noted no material weaknesses.

Additional Required Communications

Following is a summary of those required items, along with specific discussion points as they pertain to the System.

Requirement	Discussion Points
Independence	Our engagement letter to you dated April 19, 2021, describes our responsibilities in accordance with professional standards and certain regulatory authorities with regard to independence and the performance of our services. This letter also stipulates the responsibilities of the System with respect to independence as agreed to by the System. Please refer to that letter for further information.
Significant changes to planned audit strategy or significant risks initially identified	There were no significant changes to the planned audit strategy or significant risks initially identified and previously communicated to those charged with governance as part of our Audit Planning communications.
Obtain information from those charged with governance relevant to the audit	There were no matters noted relevant to the audit, including, but not limited to: violations or possible violations of laws or regulations; risk of material misstatements, including fraud risks; or tips or complaints regarding the System's financial reporting that we were made aware of as a result of our inquiry of those charged with governance.
Nature and extent of specialized skills or knowledge needed related to significant risks	The nature and extent of specialized skills or knowledge needed to perform the planned audit procedures or evaluate audit results related to significant risks are outlined below: • Utilized BDO's Actuarial Managing Director and Actuarial Manager to review the assumptions presented in the actuarial report. • Utilized BDO Valuation specialists for review of the fair value of certain funds selected for testing.
Consultations with other accountants	We are not aware of any consultations about accounting or auditing matters between management and other independent public accountants. Nor are we aware of opinions obtained by management from other independent public accountants on the application of generally accepted accounting principles.
Our evaluation of the System's relationships and transactions with related parties and their impact on the financial statements	We have evaluated the System's process to identify, authorize and approve, account for, and disclose its relationships and transactions with related parties and noted no significant issues.
Disagreements with management	There were no disagreements with management about matters, whether or not satisfactorily resolved, that individually or in aggregate could be significant to the System's financial statements or to our auditor's report.
Significant difficulties encountered during the audit	There were no significant difficulties encountered during the audit.

Additional Required Communications (continued)

Following is a summary of those required items, along with specific discussion points as they pertain to the System.

Requirement	Discussion Points
Other matters significant to the oversight of the System's financial reporting process, including complaints or concerns regarding accounting or auditing matters	There are no other matters that we consider significant to the oversight of the System's financial reporting process that have not been previously communicated.
Representations requested from management	Please refer to the management representation letter to be provided upon issuance of the report.

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DISCUSSION SHEET

ITEM #C3

Topic: **2020 Annual Comprehensive Financial Report**

Discussion: Staff will present a draft of the 2020 Annual Comprehensive Financial Report.

The report is scheduled to be completed following final approval by the Executive Director, as well as BDO. Upon completion, the report will be posted to the DPFP website and provided to the Pension Review Board and the City of Dallas.

Staff Recommendation: **Authorize** the Executive Director to issue the 2020 Annual Comprehensive Financial Report upon finalization.

DALLAS POLICE & FIRE PENSION SYSTEM

ANNUAL COMPREHENSIVE FINANCIAL REPORT 2020

FOR THE YEARS ENDING
DECEMBER 31, 2020 AND 2019

AN INDEPENDENTLY GOVERNED COMPONENT UNIT OF THE CITY OF DALLAS, TEXAS

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

Annual Comprehensive Financial Report for the fiscal years ended December 31, 2020 and 2019

Kelly Gottschalk, *Executive Director*

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

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Contents

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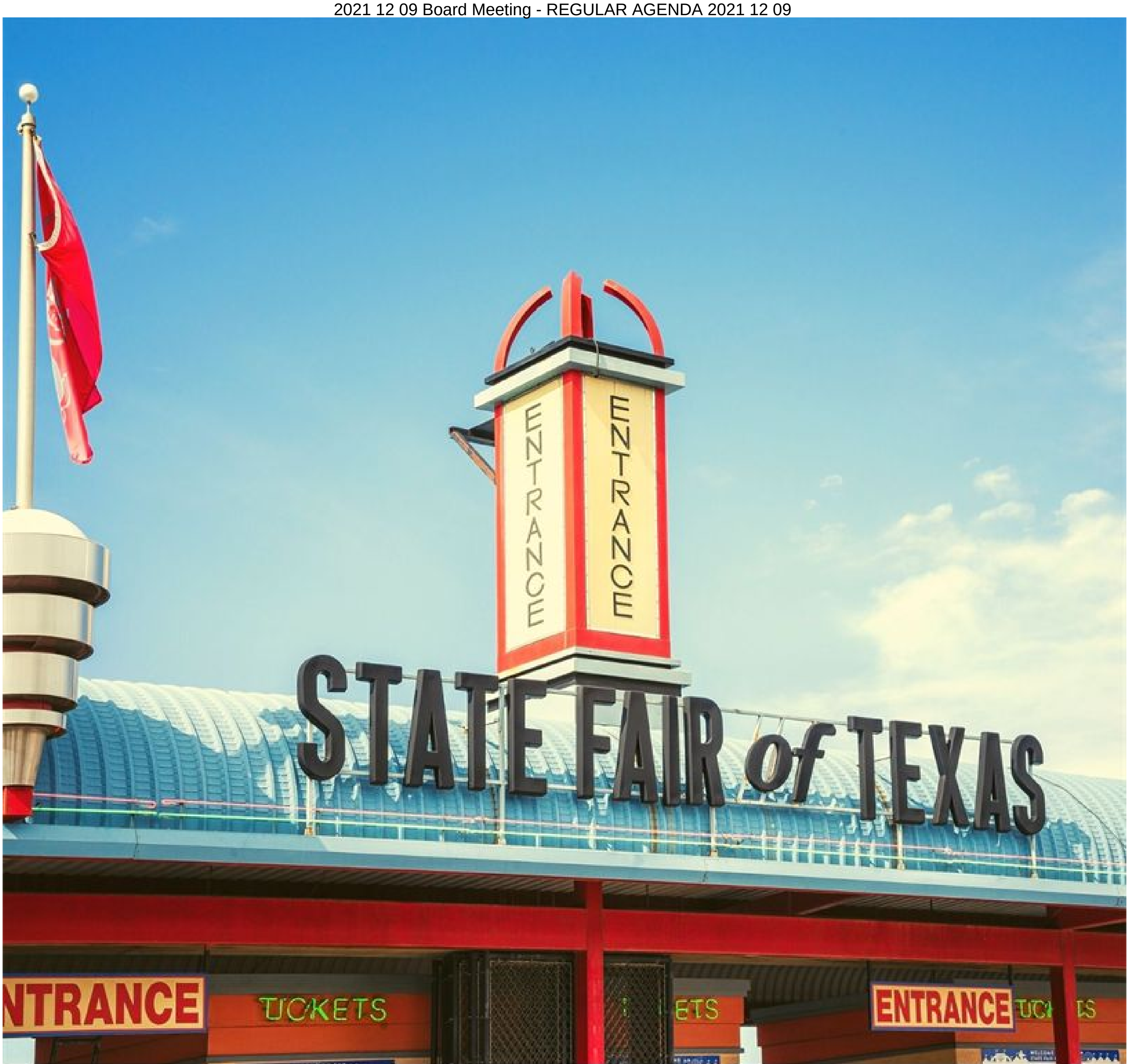


INTRODUCTION

Transmittal Letter

December 9, 2021

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 Annual Comprehensive Financial Report (ACFR) 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, 2020. Responsibility for both the accuracy of the data, and the completeness and fairness of presentation, rests with DPFP management.

Management is also 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, 2020, there were 10,457 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, 2020, there were 188 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

The COVID-19 pandemic impacted global commercial activity and contributed to significant volatility in the financial markets. Not only were the financial markets affected, but regional lockdowns resulted in business and school closures. Governments and central banks reacted with monetary interventions to stabilize economic conditions and mitigate the duration and extent of the COVID-19 outbreak. The full impact of the COVID-19 outbreak continues to evolve as of the date of this report.

Changes to the investment program and efforts to liquidate private assets were a major initiative in 2020. See additional discussion under Investment Program and Illiquid Real Estate and Private Asset Portfolio in this letter.

Continued focus on funding status, litigation management, Board member changes and policy reviews were areas that required specific attention in 2020 continuing into 2021.

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 of the Combined Pension Plan as of January 1, 2021 was $3 billion, an increase of approximately $424 million from the previous year. The January 1, 2021 funding ratio based on the actuarial value of assets for the Combined Pension Plan was 41.6%, a decrease from the prior year's funded ratio of 45.7%. This decrease was primarily due to investment losses, demographic experience and assumption changes. The funding period increased from 55 years to 63 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 Annual Comprehensive 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 legislative changes reduced the unfunded liability by over $1 billion or 32%. As was known when the legislation was passed, the funding level of the Combined Plan will be fragile for many years.

An Experience Study was conducted by Segal (Actuary) for the five-year period ended December 31, 2019. Based on this study and the recommendations of Segal, the Board modified many of the economic and demographic assumptions used in preparing the January 1, 2020 and 2021 actuarial valuations. The Board also lowered the assumed rate of return for the January 1, 2021 actuarial report to 6.50% from 7.00%. In the short-term, the estimated investment returns were lowered from prior ramp-up assumptions. The use of lower rates of return in the short-term reflects the time and challenge of transitioning legacy illiquid assets to the asset allocation policy.

The Board revised the Funding Policy for both Plans during 2020 to meet the requirements of the Texas Pension Review Board (PRB). Even though the Combined Plan contribution rates are set by State Statute, the PRB requires a closed amortization period of the unfunded liability. To meet this requirement, the amortization period in the Funding Policy was modified from a 30-year open period to a closed 25-year period in 2020. Beginning in 2021, future gains and losses are amortized over separate, closed 20-year periods. This change does not impact the contribution rates to the Combined Plan. The amortization period for the Supplemental Plan was changed from a 10-year open period to a 20-year closed period with the January 1, 2020 valuation. Beginning in 2021, future gains and losses are amortized over separate, closed 10-year periods. The City was involved with the amendments to the Funding Policy and has agreed to fund the Supplemental Plan based on the Actuarial Determined Contribution plus any amounts paid out of the Excess Plan and Trust, as determined by the Actuary, that relate to the Supplemental Plan benefits.

The 2017 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 pensionable payroll increased in 2020 due to additional hiring and salary adjustments. The City's Computation Pay exceeded the Hiring Plan estimates in 2020.

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 changes resulting from HB 3158 also apply to the Supplemental Plan. The January 1, 2021 actuarial funding ratio for the Supplemental Plan was 43.7% and the unfunded liability was $21.1 million. The amortization period for the Supplemental Plan was changed from a 10-year open period less payments to the Excess Benefits Plan and Trust to a 20-year closed period with the January 1, 2020 valuation. Beginning in 2021, future gains and losses are amortized over separate, closed 10-year periods. The closure of the amortization periods should accelerate progress towards 100% funding. The City's contribution to the Supplemental Plan is the Actuarially Determined Contribution plus payments to the Excess Benefits Plan and Trust related to the Supplemental Plan. The City's contribution to the Supplemental Plan increased by $247 thousand or 16.1% in 2020 due to the change in membership and change in payments made out of the Excess Benefits Plan and Trust. The small size of the Supplemental Plan makes it more volatile to changes.

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.

2020 Financial Results

The Plans' net position decreased by $115 million in 2020 primarily the result of investment losses and benefit payments exceeding contributions. Total contributions increased by $11.6 million or 5.6% in 2020 when compared to 2019, but were mostly offset by an increase in benefit payments of $8.4 million or 2.7%.

The rate of return on investments during 2020 was 1.7% net of fees, compared to a rate of return of 11.6% and -1.5% for 2019 and 2018, respectively. The rate of return is provided by Meketa Investment Group, DPFP's investment consultant for the year ended December 31, 2020. The rate of return calculations were prepared using methodology consistent with standard industry practice and 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.

Investment Program

The investment program continued to see significant changes in 2020. After establishing a new long-term asset allocation, implementation plan, and Investment Policy Statement (IPS) in prior years, DPFP made progress in reducing private asset exposure and increasing public markets exposure in 2020. 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. 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. Key challenges for the investment portfolio continued to be an over allocation to private assets and the high level of cash outflows required for benefit payments.

Over the course of the year, the size of the investment portfolio decreased by approximately $117 million to $1.94 billion in investment assets. The portfolio returned 1.7% net of fees in 2020. DPFP trailed its benchmarks and peers given its underweight exposure to public equities and the overweight exposure to illiquid investments in real estate and legacy private equity. The overweight to private assets is an ongoing challenge to achieving the assumed rate of return and returns on par with our peers. 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.

The Investment Advisory Committee (IAC) held meetings virtually during 2020. The IAC provides advice to the Board of Trustees to ensure DPFP investments are prudently managed and advises regarding the search and selection process for investment managers.

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

DPFP made progress towards reducing an over allocation to private assets in 2020. Distributions from the private asset portfolio were $35 million in 2020, of which $28 million represented return of principal and gain. Capital calls during 2020 were only $2 million. At December 31, 2020, private asset investments still comprised approximately 35% of the portfolio. The pace of liquidating the legacy assets slowed considerably in 2020 due to the COVID-19 pandemic.

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, 2020 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. In 2017, a group of retirees filed a lawsuit in federal court which sought to require the Board to distribute lump sum payments from DROP upon the retirees' request. This case ended in favor of DPFP after the plaintiffs filed a writ of certiorari to the United States Supreme Court which was denied thereby ending the case in August 2020. Additional litigation related matters are still pending in the courts.

Additional information on ongoing litigation is available in MD&A and Note 9 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 Annual Comprehensive Financial Report for the fiscal year ended December 31, 2019. This was the sixth 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 annual comprehensive 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 annual comprehensive 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 2020 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.

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, Milissa Romero, John Holt, Ryan Wagner, Greg Irlbeck and Mike Yan for their work on the ACFR 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 2021 valuation projects the funding level to decline to below 30% and that funding will not begin to increase for 20 years.

Respectfully submitted,

Kelly Gottschalk, Executive Director

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Dallas Police & Fire Pension System
Texas

For its Comprehensive Annual Financial Report
For the Fiscal Year Ended

December 31, 2019

Christopher P. Morrill

Executive Director/CEO

Public Pension Coordinating Council

Recognition Award for Administration 2020

Presented to

Dallas Police and Fire Pension System

In recognition of meeting professional standards for
plan administration as
set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

Alan H. Winkle
Program Administrator

Board of Trustees

Article 6243a-1 of the Texas Statutes governs the makeup and responsibilities of the Board. 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.

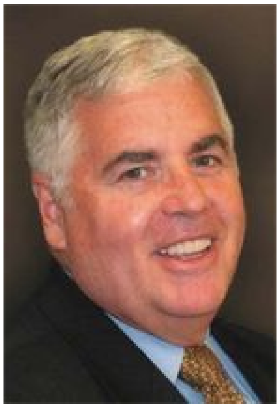
The Board consists of eleven Trustees who are selected as follows:

- 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 Article 6243a-1, require a vote of at least eight Trustees.

Board of Trustees



William F. Quinn
Chairman (1)
Mayoral Appointee
Term Expires 8/2022

Nicholas A. Merrick
Vice Chairman (1)
Mayoral Appointee
Term Expires 8/2023

Armando Garza
Deputy Vice Chairman (1)
Fire Trustee
Term Expires 8/2023

Michael Brown
Mayoral Appointee
Term Expires 8/2022

Robert French
Non-member Trustee
Term Expires 8/2022

Gilbert Garcia
Non-member Trustee
Term Expires 8/2022

Kenneth Haben
Police Trustee
Term Expires 8/2023

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

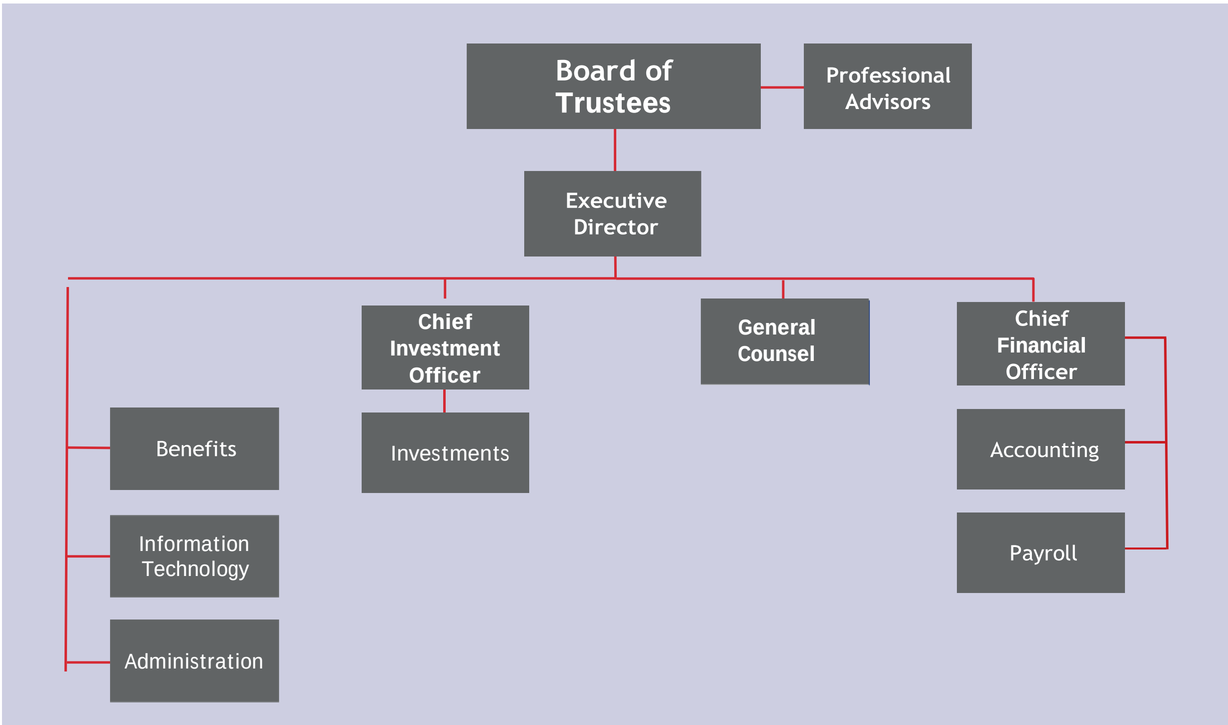
Steve Idoux
Mayoral Appointee
Term Expired 8/2021(2)

Mark Malveaux
Mayoral Appointee
Term Expired 8/2021(2)

Allen Vaught
Mayoral Appointee
Term Expired 8/2021
Resigned 5/2021

(1) At the July 2021 Board meeting, the Board elected Nicholas A. Merrick as Chairman, William F. Quinn as Vice Chairman, and reappointed Armando Garza as Deputy Vice Chairman.
(2) Additionally, the terms of Steve Idoux and Mark Malveaux expired on August 31, 2021, and they continue to serve as hold-over trustees pending trustee appointments by the Mayor of Dallas.

Administrative Organization



Professional Advisors
as of December 31, 2020

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 87)

Legislative Consultants
HillCo Partners, LLC

Executive Staff
as of December 31, 2020

Executive Director
Kelly Gottschalk

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 84.

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FINANCIAL INFORMATION

Independent Auditor's Reports

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www.bdo.com

600 North Pearl, Suite 1700
Dallas, Texas 75201

Independent Auditor's Report

To the Board of Trustees
Dallas Police and Fire Pension System

Report on the Audit of the Financial Statements

Opinion

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, 2020 and 2019, 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.

In our opinion, the accompanying financial statements present fairly, in all material respects, the fiduciary net position of DPFP as of December 31, 2020 and 2019, 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.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of DPFP and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibility of Management for the Financial Statements

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

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the DPFP's ability to continue as a going concern within one year after the date that the financial statements are issued or available to be issued.

Auditor's Responsibilities for the Audit of the Financial Statements

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

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the DPFP's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the DPFP's ability to continue as a going concern for a reasonable period of time.

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

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 is the responsibility of management and, 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 Supplementary 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 December 9, 2021 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 the effectiveness of DPFP's 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.

BDO USA, LLP

Dallas, Texas

December 9, 2021

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

600 North Pearl, Suite 1700
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, 2020 and 2019, 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 December 9, 2021.

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) as a basis for designing 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.

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 financial statements. 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
December 9, 2021

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, 2020 and 2019. 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 (Additions – Deductions = Net Change in Net Position). 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, 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:	2020	2019	2018
Assets			
Investments, at fair value	$ 1,856,965	$ 1,971,352	$ 2,007,036
Invested securities lending collateral	-	13,025	20,560
Receivables	19,233	61,308	42,634
Cash and cash equivalents	88,491	89,462	50,138
Prepaid expenses	545	402	365
Capital assets, net	12,088	12,329	12,489
Total assets	**1,977,322**	**2,147,878**	**2,133,222**
Liabilities			
Securities purchased	11,784	54,957	48,598
Securities lending obligations	-	13,025	20,560
Accounts payable and accrued liabilities	5,463	4,731	3,832
Total liabilities	**17,247**	**72,713**	**72,990**
Net position restricted for pension benefits	**$ 1,960,075**	**$ 2,075,165**	**$ 2,060,232**

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 2020 was 1.48% net of fees, compared to a rate of return of 11.51% for 2019 and -1.49% for 2018. Meketa Investment Group, Inc., DPFP's investment consultant at December 31, 2020, provides the rate of return for all years. 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 $115 million in 2020 due primarily to investment losses and benefit payments exceeding total contribution payments.

The Plans' net position increased by $15 million in 2019 due to investment gains which were partially offset by benefit payments exceeding contribution payments.

The Securities Lending balances were zero at December 31, 2020 as the program was suspended by the Board in August 2020. Securities lending collateral and obligations decreased in 2019 due to a decrease in lending activity.

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.

The cash balance remained fairly stable year over year. Cash increased significantly in 2019 as cash from the sale of some investments was received at the end of 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:	2020	2019	2018
Additions			
Contributions			
City	$ 163,727	$ 157,251	$ 151,336
Members	57,551	52,379	49,406
Total contributions	**221,278**	**209,630**	**200,742**
Net income from investing activities	(9,432)	123,955	43,452
Net income from securities lending activities	35	114	112
Other income	347	360	479
Total additions	**212,228**	**334,059**	**244,785**
Deductions			
Benefits paid to members	318,452	310,008	297,155
Refunds to members	2,276	2,618	2,635
Professional and administrative expenses	6,590	6,500	5,914
Total deductions	**327,318**	**319,126**	**305,704**
Net increase (decrease) in net position	(115,090)	14,933	(60,919)
Net position restricted for pension benefits			
Beginning of period	**2,075,165**	**2,060,232**	**2,121,151**
End of period	**$ 1,960,075**	**$ 2,075,165**	**$ 2,060,232**

The 2020 Contribution amounts for both members and the City were 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 2020. The floor has been greater than the 34.5% of Computation Pay for most pay periods in 2020. See Note 1 for additional information on City contribution rates.

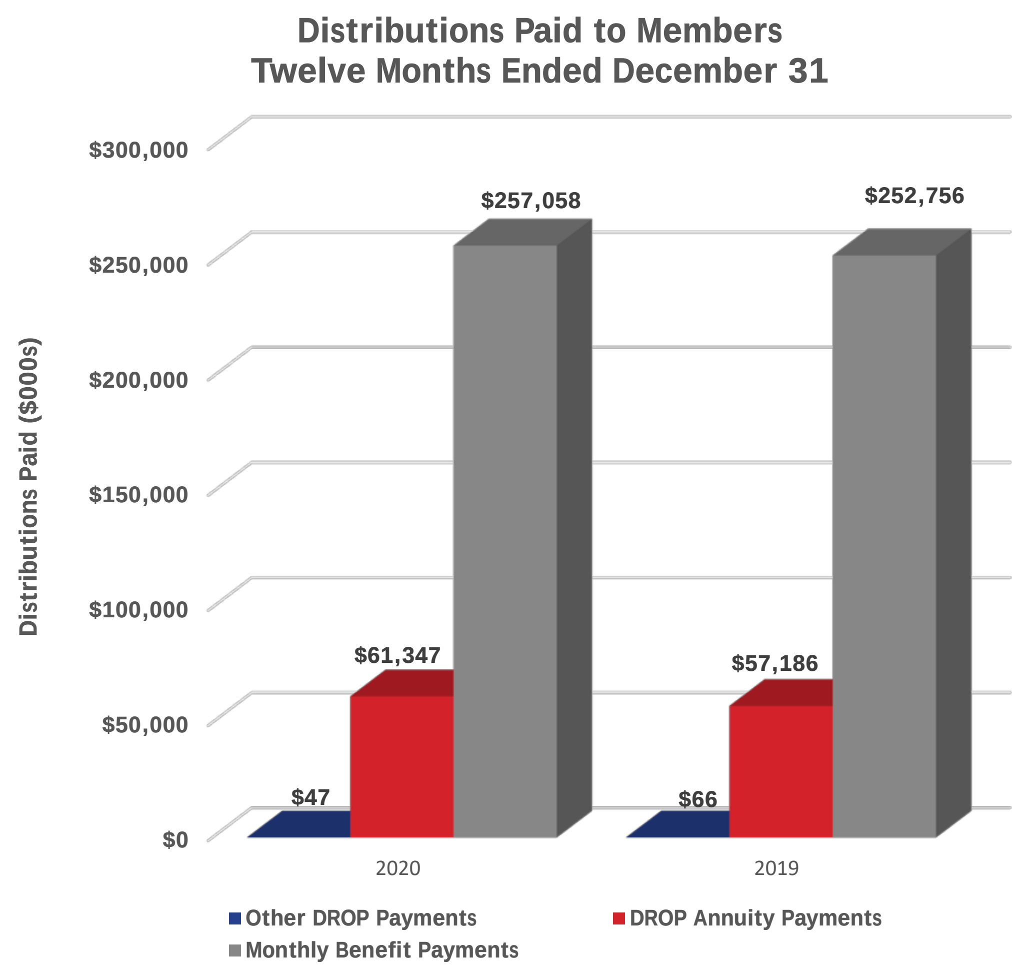
City contributions to the Plans increased by $6.5 million or 4.1% in 2020 due to an increase in the bi-weekly floor amount. Member contributions of $57.6 million exceeded 2019 contributions by $5.2 million because of increased salaries.

City Contributions to the Combined Pension Plan only increased $6.2 million or 4.0% in 2020 due to the scheduled increase in the bi-weekly floor amount.

The City is required by ordinance to contribute amounts necessary to ensure the payment of benefits in the Supplemental Plan. The City's contributions shall be made in accordance with actuarial requirements established by the actuary and the board. City contributions to the Supplemental Plan in 2020 increased by $247 thousand over 2019 contributions and City contributions to the Supplemental Plan in 2019 decreased by $449 thousand over 2018 contributions primarily due to contributions being redirected to the Excess Benefit Plan and Trust.

Net investment loss during 2020 was primarily driven by the depreciation in the fair value of private equity assets. Net investment income during 2019 was primarily driven by the appreciation in the fair value of public equity assets.

Distributions to members consist of monthly payments of retirement, disability, and survivor benefits, as well as monthly DROP annuity payments and other DROP payments made in accordance with Section 6.14 of Article 6243a-1 of the Texas Statutes. The chart on the next page compares the components of distributions paid to members for the years ended December 31, 2020 and 2019.



Total benefits paid in 2020 increased $8.4 million or 2.7% over 2019. Monthly benefit payments increased $4.3 million or 1.7% due to an additional 73 retirees and beneficiaries receiving monthly benefits in 2020. Distributions from DROP balances in 2020 totaled $61.4 million with $61.3 million paid as DROP annuity payments, up $4.2 million from 2019. See Note 6 for additional information on DROP.

Refund expense declined $342 thousand in 2020 and declined $17 thousand in 2019.

The cost of administering the benefit plans increased approximately $90 thousand in 2020. Lower legal expenses, down $304 thousand, partially offset increases in salaries and benefits, up $265 thousand and risk insurance, up $92 thousand. The cost of administering the benefit programs of the Plans, including administrative costs and professional fees, increased approximately $586 thousand in 2019. The increase in 2019 is primarily related to higher legal fees, (net of insurance reimbursement, up $220 thousand) and higher salaries and benefits, up $420 thousand.

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, 2021 actuarial valuation reported a funded ratio of 41.6%, based on the actuarial value of assets, an unfunded actuarial accrued liability of $3.0 billion and an expected fully funded date of 2084 for the Combined Pension Plan compared to a funded ratio of 45.7%, based on the actuarial value of assets, an unfunded actuarial accrued liability of $2.6 billion and an expected fully funded date of 2075 for the Combined Pension Plan as reported in the January 1, 2020 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 Actuarially Determined Contribution (ADC) is equal to the City normal cost payment and a payment on the unfunded actuarial accrued liability. As of January 1, 2021, for the Combined Plan, the total ADC was $281 million or 65.3% of Computation Pay. The total ADC as of January 1, 2020 was $241 million or 60.2% of Computation Pay. The funding policy used to calculate the ADC as of January 1, 2020 was based on a closed amortization period of 25 years, established as of January 1, 2020. For the plan year beginning January 1, 2021 and forward, all changes in the unfunded actuarial accrued liability are amortized over separate closed, 20 year periods. The ADC rate compares to the City's actual contribution rate of 34.5% of Computation Pay, which is subject to a minimum floor for the next four years, plus the member contribution of 13.5%, plus an additional $13 million per year from the City until December 31, 2024.

The January 1, 2021 actuarial valuation for the Supplemental Plan reports a funded ratio of 43.7% and an unfunded actuarial accrued liability of $21.1 million compared to a funded ratio of 48.3%, and an unfunded actuarial accrued liability of $18.5 million as reported in the January 1, 2020 actuarial valuation. These projections may vary on an annual basis due to actual experience and demographics, which may vary from the current actuarial assumptions. The City's contributions for the Supplemental Plan are based on the ADC as determined by the actuary.

The Board's funding policy for the Supplemental Plan was changed in 2020 from an open 10-year amortization period to a closed 20-year period. Beginning in 2021, future gains or losses each year will be amortized over separate, closed 10-year periods.

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, 2020 reports a NPL of $3.2 billion, which is an increase of $505 million from the NPL reported at December 31, 2019 for the Combined Pension Plan. The Fiduciary Net Position as a Percentage of Total Pension Liabilities (FNP) is 38.0% at December 31, 2020 compared to 43.5% at December 31, 2019 for the Combined Pension Plan. The Supplemental Plan had a NPL of $21.1 million and $18.5 million at December 31, 2020 and 2019, respectively. The Supplemental Plan had a FNP of 43.7% and 48.3% at December 31, 2020 and 2019, 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

	2020			2019		
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	$ 20,259,224	$ 170,963	$ 20,430,187	$ 25,099,677	$ 211,352	$ 25,311,029
Fixed income securities	469,459,926	3,961,671	473,421,597	550,746,613	4,637,555	555,384,168
Equity securities	694,903,302	5,864,138	700,767,440	550,594,317	4,636,273	555,230,590
Real assets	520,936,531	4,396,071	525,332,602	562,450,805	4,736,110	567,186,915
Private equity	136,160,838	1,149,032	137,309,870	265,352,308	2,234,396	267,586,704
Forward currency contracts	(294,433)	(2,485)	(296,918)	647,050	5,448	652,498
Total investments	1,841,425,388	15,539,390	1,856,964,778	1,954,890,770	16,461,134	1,971,351,904
Invested securities lending collateral	-	-	-	12,916,355	108,762	13,025,117
Receivables						
City	4,032,755	-	4,032,755	3,035,500	-	3,035,500
Members	1,441,181	4,702	1,445,883	1,053,322	2,547	1,055,869
Interest and dividends	3,750,751	31,652	3,782,403	4,422,424	37,239	4,459,663
Investment sales proceeds	9,218,823	77,796	9,296,619	52,131,442	438,972	52,570,414
Other receivables	669,988	5,654	675,642	184,550	1,554	186,104
Total receivables	19,113,498	119,804	19,233,302	60,827,238	480,312	61,307,550
Cash and cash equivalents	87,750,543	740,508	88,491,051	88,714,699	747,021	89,461,720
Prepaid expenses	540,397	4,560	544,957	399,234	3,362	402,596
Capital assets, net	11,986,674	101,153	12,087,827	12,225,827	102,947	12,328,774
Total assets	**1,960,816,500**	**16,505,415**	**1,977,321,915**	**2,129,974,123**	**17,903,538**	**2,147,877,661**
Liabilities						
Other Payables						
Securities purchased	11,685,111	98,608	11,783,719	54,498,283	458,902	54,957,185
Securities lending obligations	-	-	-	12,916,355	108,762	13,025,117
Accounts payable and other accrued liabilities	5,430,796	32,623	5,463,419	4,702,168	28,441	4,730,609
Total liabilities	**17,115,907**	**131,231**	**17,247,138**	**72,116,806**	**596,105**	**72,712,911**
Net position restricted for pension benefits	**$ 1,943,700,593**	**$ 16,374,184**	**$ 1,960,074,777**	**$ 2,057,857,317**	**$ 17,307,433**	**$ 2,075,164,750**

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

Combining Statements of Changes in Fiduciary Net Position

YEARS ENDED DECEMBER 31,	2020 COMBINED PENSION PLAN	2020 SUPPLEMENTAL POLICE AND FIRE PENSION PLAN OF THE CITY OF DALLAS	2020 TOTAL	2019 COMBINED PENSION PLAN	2019 SUPPLEMENTAL POLICE AND FIRE PENSION PLAN OF THE CITY OF DALLAS	2019 TOTAL
Additions (Reductions)						
Contributions						
City	$ 161,950,183	$ 1,777,311	$ 163,727,494	$ 155,721,087	$ 1,530,262	$ 157,251,349
Members	57,305,399	245,237	57,550,636	52,268,293	110,660	52,378,953
Total contributions	219,255,582	2,022,548	221,278,130	207,989,380	1,640,922	209,630,302
Investment income (loss)						
Net appreciation (depreciation) in fair value of investments	(30,452,978)	(305,074)	(30,758,052)	94,213,367	(85,530)	94,127,837
Interest and dividends	29,560,790	250,414	29,811,204	37,657,218	319,000	37,976,218
Total gross investment income	(892,188)	(54,660)	(946,848)	131,870,585	233,470	132,104,055
Less: Investment expense	(8,413,581)	(71,273)	(8,484,854)	(8,081,019)	(68,456)	(8,149,475)
Net investment income **(loss)**	(9,305,769)	(125,933)	(9,431,702)	123,789,566	165,014	123,954,580
Securities lending income						
Securities lending income	88,604	751	89,355	840,502	7,120	847,622
Securities lending expense	(53,874)	(456)	(54,330)	(727,010)	(6,159)	(733,169)
Net securities lending income	34,730	295	35,025	113,492	961	114,453
Other income	343,703	2,912	346,615	356,549	3,020	359,569
Total additions	**210,328,246**	**1,899,822**	**212,228,068**	**332,248,987**	**1,809,917**	**334,058,904**
Deductions						
Benefits paid to members	315,674,779	2,777,719	318,452,498	307,243,319	2,764,781	310,008,100
Refunds to members	2,275,841	-	2,275,841	2,617,230	998	2,618,228
Professional and administrative expenses	6,534,350	55,352	6,589,702	6,445,251	54,598	6,499,849
Total deductions	**324,484,970**	**2,833,071**	**327,318,041**	**316,305,800**	**2,820,377**	**319,126,177**
Net increase/(decrease) in net position	(114,156,724)	(933,249)	(115,089,973)	15,943,187	(1,010,460)	14,932,727
Net position restricted for pension benefits						
Beginning of period	2,057,857,317	17,307,433	2,075,164,750	2,041,914,130	18,317,893	2,060,232,023
End of period	$ 1,943,700,593	$ 16,374,184	$ 1,960,074,777	$ 2,057,857,317	$ 17,307,433	$ 2,075,164,750

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). 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.

The Combined Pension Plan and Supplemental Plan are collectively referred to as the Plans.

As of December 31, 2020 and 2019, the Combined Pension Plan’s membership consisted of:

	2020	2019
Retirees and beneficiaries	5,003	4,956
Beneficiaries, DROP Only	107	83
Non-active vested members not yet receiving benefits	241	242
Non-active non-vested members not yet refunded	442	434
Total non-active members	**5,793**	**5,715**
Vested active members	3,704	3,692
Non-vested active members	1,402	1,429
Total active members	**5,106**	**5,121**

As of December 31, 2020 and 2019, the Supplemental Plan's membership consisted of:

	2020	2019
Retirees and beneficiaries	141	139
Non-active vested members not yet receiving benefits	2	2
Non-active non-vested members not yet refunded	1	1
Total non-active members	**144**	**142**
Vested active members	44	40
Non-vested active members	1	1
Total active members	**45**	**41**

No changes to benefit, contribution or administration plan provisions were made to the Combined Pension Plan or the Supplemental Plan in 2020.

The benefit, contribution and administration plan provisions discussed below are as of December 31, 2020 and 2019.

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, 2020:

- 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, 2020:

- 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. Members who have 20 years of service may elect to take early retirement. Vested members may take a reduced benefit 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, 2020 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. All service-connected disability benefits are subject to a minimum benefit of $2,200 per month.

- 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 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 and the present values of the annuitized balances for the Combined Pension Plan was $1.01 billion at December 31, 2020 and $1.04 billion at December 31, 2019. 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.

Additional provisions under the Supplemental Plan as of December 31, 2020 are as follows:

- 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 $6.9 million and $7.1 million at December 31, 2020 and 2019, 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, disabled 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 2020. The employee contribution rate is 13.5% of Computation Pay for all active members.

City contribution rates did not change in 2020. City contribution rates did not change in 2020. The City contributes 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 $5.724 and $5.571 million, respectively, for 2020 and 2019. 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 necessary to ensure the payment of benefits in the Supplemental Plan. The City's contributions shall be made in accordance with actuarial requirements established by the actuary and the board. 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. Decreases in employee contributions require the approval of the legislature. Increases in employee contributions require the approval of at least a two-thirds vote of all trustees of the Board.

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.

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.

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, 2020 and 2019 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 Annual Comprehensive 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. The Board authorized a filing with the Internal Revenue Service under the Voluntary Correction Program in 2018. The issues were related to DROP distributions and the Excess Benefit Plan. In 2020, a closing agreement with the IRS was completed and no additional action is expected on this issue. 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, 2020 and 2019. 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 99.2% at December 31, 2020 and December 31, 2019, 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 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 contained in the Investment Policy Statement as of December 31, 2020:

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 Bonds	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. DPFP staff manages one real estate investment internally 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 investment or fund manager on a continuous basis values the underlying investment holdings.

Private equity investments consist of various investment vehicles including limited partnerships and notes receivable. Private equity limited partnership investments and notes receivable are valued as reported by the investment manager. 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, 2020 and 2019 were converted to the US dollar at the applicable foreign exchange rates quoted as of December 31, 2020 and 2019, 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 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 effective date for GASB 87 is for reporting periods beginning after July 1, 2021 as per Statement No. 95, Postponement of the Effective Dates of Certain Authoritative Guidance, issued in May 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 effective date of GASB Statement No. 88 was for reporting periods beginning after June 15, 2019 and had no impact on the financial statements.

In October 2021, GASB issued Statement No. 98, The Annual Comprehensive Financial Report. This Statement's introduction of the new term is founded on a commitment to promoting inclusiveness. The effective date for GASB No.98 is for fiscal years ending after December 15, 2021 with early adoption permitted. DPFP has early adopted GASB No. 98 as of December 31, 2020.

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, 2020 and 2019 is as follows (in thousands):

	2020	2019
Short-term investments		
Short-term investment funds	$ 20,430	$ 25,311
Fixed income securities		
US Treasury bonds	44,843	118,853
US government agencies	21,063	12,870
Corporate bonds	282,086	278,775
Foreign-denominated bonds	-	28,846
Commingled funds	115,538	111,385
Municipal bonds	9,892	4,655
Equity securities		
Domestic	355,856	279,709
Foreign	283,035	222,361
Commingled funds	61,876	53,161
Real assets		
Real estate	348,621	382,374
Infrastructure	44,355	52,978
Timberland	31,692	39,600
Farmland	100,665	92,235
Private equity	137,310	267,587
Forward currency contracts	(297)	652
Total	**$ 1,856,965**	**$ 1,971,352**

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, 2020 and 2019, 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, 2020 and 2019, 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, 2020, 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	$ 4,086	$ 37,800	$ 1,095	$ 1,862	$ 44,843
US Government agencies	595	581	1,977	17,910	21,063
Corporate bonds	13,124	154,118	49,645	65,199	282,086
Municipal bonds	-	4,249	384	5,259	9,892
Foreign-denominated bonds	-	-	-	-	-
Total	**$ 17,805**	**$ 196,748**	**$ 53,101**	**$ 90,230**	**$ 357,884**

At December 31, 2019, 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	$ 7,855	$ 107,044	$ -	$ 3,954	$ 118,853
US Government agencies	-	1,021	2,541	9,308	12,870
Corporate bonds	26,848	137,524	40,570	73,833	278,775
Municipal bonds	-	3,067	-	1,588	4,655
Foreign-denominated bonds	1,579	10,860	7,332	9,075	28,846
Total	**$ 36,282**	**$ 259,516**	**$ 50,443**	**$ 97,758**	**$ 443,999**

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, 2020 is as follows (in thousands):

CURRENCY	FIXED INCOME	EQUITY	REAL ASSETS	TOTAL
Australian Dollar	$ -	$ 6,387	$ 185	$ 6,572
Brazilian Real	-	1,486	3,629	5,115
British Pound Sterling	-	40,128	-	40,128
Canadian Dollar	-	6,795	-	6,795
Colombian Peso	-	-	-	-
Danish Krone	-	3,191	-	3,191
Euro	-	109,196	-	109,196
Hong Kong Dollar	-	4,742	-	4,742
Hungarian Forint	-	-	-	-
Indonesian Rupiah	-	-	-	-
Japanese Yen	-	68,628	-	68,628
Malaysian Ringgit	-	-	-	-
Mexican Peso	-	-	-	-
Norwegian Krone	-	-	-	-
Polish Zloty	-	-	-	-
Singaporean Dollar	-	2,430	-	2,430
South African Rand	-	-	24,269	24,269
South Korean Won	-	11,595	-	11,595
Swedish Krona	-	7,249	-	7,249
Swiss Franc	-	21,208	-	21,208
Total	**$ -**	**$ 283,035**	**$ 28,083**	**$ 311,118**

The Group Trust's exposure to foreign currency risk in US dollars as of December 31, 2019 is as follows (in thousands):

CURRENCY	FIXED INCOME	EQUITY	REAL ASSETS	TOTAL
Australian Dollar	$ 3,095	$ 6,263	$ 1,311	$ 10,669
Brazilian Real	2,880	942	4,689	8,511
British Pound Sterling	-	30,709	-	30,709
Canadian Dollar	-	5,001	-	5,001
Colombian Peso	3,074	-	-	3,074
Danish Krone	-	5,078	-	5,078
Euro	-	91,706	-	91,706
Hong Kong Dollar	-	8,403	-	8,403
Hungarian Forint	-	1,334	-	1,334
Indonesian Rupiah	2,611	730	-	3,341
Japanese Yen	-	44,759	-	44,759
Malaysian Ringgit	3,288	-	-	3,288
Mexican Peso	8,378	-	-	8,378
Norwegian Krone	217	138		355
Polish Zloty	2,525	-	-	2,525
Singaporean Dollar	-	1,159	-	1,159
South African Rand	2,778	-	25,968	28,746
South Korean Won	-	3,434	-	3,434
Swedish Krona	-	3,378	-	3,378
Swiss Franc	-	19,327	-	19,327
Total	**$ 28,846**	$ **222,361**	**$ 31,968**	$ **283,175**

In addition to the above exposures, certain fund-structure investments in the private equity, emerging markets debt, private debt and real assets asset classes with a total fair value of $117 million at December 31, 2020 and $137 million at December 31, 2019, 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, 2020 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, 2020 and 2019 using the Standard & Poor's rating scale, at fair value, is as follows (in thousands):

DECEMBER 31, 2020

RATING	CORPORATE BONDS	MUNICIPAL BONDS	FOREIGN-DENOMINATED BONDS	COMMINGLED FUNDS	SHORT-TERM INVESTMENT FUNDS(1)	US GOVERNMENT SECURITIES	TOTAL
AAA	$ 59,035	$ 428	$ -	$ -	$ -	$ 1,626	$ 61,089
AA+	5,620	1,253	-	-	-	51,566	58,439
AA	2,101	2,707	-	-	-	725	5,533
AA-	1,585	1,128	-	-	-	-	2,713
A+	6,549	932	-	-	-	-	7,481
A	17,869	1,776	-	-	-	-	19,645
A-	21,050	666	-	-	-	-	21,716
BBB+	35,846	-	-	-	-	-	35,846
BBB	28,509	-	-	-	-	-	28,509
BBB-	21,579	-	-	-	-	-	21,579
BB+	4,412	-	-	-	-	-	4,412
BB	10,269	-	-	-	-	-	10,269
BB-	11,883	-	-	-	-	-	11,883
B+	9,454	-	-	-	-	-	9,454
B	9,927	-	-	-	-	-	9,927
B-	8,509	-	-	-	-	-	8,509
CCC+	4,038	-	-	-	-	-	4,038
CCC	1,984	-	-	-	-	-	1,984
CCC-	658	-	-	-	-	-	658
CC	668	-	-	-	-	-	668
C	-	-	-	-	-	-	-
D	226	-	-	-	-	-	226
NR(2)	20,315	1,002	-	115,538	108,921	11,989	257,765
Total	**$ 282,086**	**$ 9,892**	**$ -**	**$ 115,538**	**$ 108,921**	**$ 65,906**	**$ 582,343**

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

DECEMBER 31, 2019

RATING	CORPORATE BONDS	MUNICIPAL BONDS	FOREIGN-DENOMINATED BONDS	COMMINGLED FUNDS	SHORT-TERM INVESTMENT FUNDS(1)	US GOVERNMENT SECURITIES	TOTAL
AAA	$ 49,269	$ -	$ 1,906	$ -	$ -	$ 1,022	$ 52,197
AA+	4,203	-	1,406	-	-	130,701	136,310
AA	3,039	1,588	-	-	-	-	4,627
AA-	4,173	-	-	-	-	-	4,173
A+	8,784	-	-	-	-	-	8,784
A	12,043	1,364	-	-	-	-	13,407
A-	22,655	-	5,813	-	-	-	28,468
BBB+	37,102	1,703	8,378	-	-	-	47,183
BBB	19,539	-	2,611	-	-	-	22,150
BBB-	8,670	-	3,074	-	-	-	11,744
BB+	6,636	-	-	-	-	-	6,636
BB	9,568	-	2,778	-	-	-	12,346
BB-	14,934	-	2,880	-	-	-	17,814
B+	7,785	-	-	-	-	-	7,785
B	7,155	-	-	-	-	-	7,155
B-	8,483	-	-	-	-	-	8,483
CCC+	3,599	-	-	-	-	-	3,599
CCC	4,130	-	-	-	-	-	4,130
CCC-	861	-	-	-	-	-	861
CC	185	-	-	-	-	-	185
C	-	-	-	-	-	-	-
D	439	-	-	-	-	-	439
NR(2)	45,523	-	-	111,385	113,393	-	270,301
Total	**$ 278,775**	**$ 4,655**	**$ 28,846**	**$ 111,385**	**$ 113,393**	**$ 131,723**	**$ 668,777**

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

Securities Lending

The Board had 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.

In August 2020, the Board suspended the Securities Lending Program. Until the program suspension, the Board did not impose any restrictions during 2020 or 2019 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 2020 or 2019. Moreover, there were no losses during 2020 or 2019 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 2020 and 2019, 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 zero at December 31, 2020 and $38.6 million at December 31, 2019. Cash collateral held for the Group Trust was zero and $13 million at December 31, 2020 and 2019, respectively. Non-cash collateral held for the Group Trust was zero and $26.6 million at December 31, 2020 and 2019, 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 $35 thousand and $114 thousand during 2020 and 2019, respectively.

Forward Contracts

During fiscal years 2020 and 2019, certain investment managers, on behalf of the Group Trust, entered into forward foreign exchange contracts as permitted by guidelines established by the Board. 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, 2020 and 2019, 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, 2020

	CHANGE IN FAIR VALUE	FAIR VALUE	NOTIONAL VALUE
Currency Forwards	$ (949)	$ (297)	$ 18,418

DECEMBER 31, 2019

	CHANGE IN FAIR VALUE	FAIR VALUE	NOTIONAL VALUE
Currency Forwards	$ 923	$ 652	$ 105,365

4. Fair Value Measurement

GASB Statement 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, 2020, at fair value (in thousands):

	FAIR VALUE DECEMBER 31, 2020	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	$ 20,430	$ 20,430	$ -	$ -
Fixed income securities				
US Treasury bonds	44,843	-	44,843	-
US government agencies	21,063	-	21,063	-
Corporate bonds	282,086	-	282,086	-
Foreign-denominated bonds	-	-	-	-
Municipal bonds	9,892	-	9,892	-
Equity securities				
Domestic	355,856	355,856	-	-
Foreign	283,035	283,035	-	-
Real assets				
Real estate (1)	230,550	-	-	230,550
Timberland	3,830	-	-	3,830
Farmland	100,665	-	-	100,665
Private equity	45,732	-	-	45,732
Forward currency contracts	(297)	-	(297)	-
Total Investments by Fair Value Level	**$ 1,397,685**	**$ 659,321**	**$ 357,587**	**$ 380,777**

Investments Measured at NAV	
Equity - commingled funds (1)	$ 61,876
Fixed income - commingled funds	115,538
Real assets (1)	190,288
Private equity	91,578
Total Investments Measured at NAV	**$ 459,280**

Total Investments Measured at Fair Value	**$ 1,856,965**

(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 estate investments are valued at NAV.

The following table presents a summary of the Group Trust's investments by type as of December 31, 2019, at fair value (in thousands):

		FAIR VALUE DECEMBER 31, 2019		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	$	25,311	$	25,311	$	-	$	-
Fixed income securities								
US Treasury bonds		118,853		-		118,853		-
US government agencies		12,870		-		12,870		-
Corporate bonds		278,775		-		278,775		-
Foreign-denominated bonds		28,846		-		28,846		-
Municipal bonds		4,655		-		4,655		-
Equity securities								
Domestic		279,709		279,709		-		-
Foreign[1]		222,361		222,361		-		-
Real assets								
Real estate [2]		254,812		-		-		254,812
Timberland		8,771		-		-		8,771
Farmland		92,235		-		-		92,235
Private equity		92,064		-		-		92,064
Forward currency contracts		652		-		652		-
Total Investments by Fair Value Level	**$**	**1,419,914**	**$**	**527,381**	**$**	**444,651**	**$**	**447,882**

Investments Measured at NAV		
Equity - commingled funds [1]	$	53,161
Fixed income - commingled funds		111,385
Real assets [2]		211,369
Private equity		175,523
Total Investments Measured at NAV	**$**	**551,438**
Total Investments Measured at Fair Value	**$**	**1,971,352**

(1) Certain prior year amounts have been reclassified for consistency with current year presentation.
(2) Direct holdings of real estate at Level 3 include only the assets which are wholly-owned and valued using significant unobservable inputs. Remaining real estate investments 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.

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. 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, 2020 (in thousands):

ASSET CATEGORY/CLASS	FAIR VALUE	UNFUNDED COMMITMENTS
Equity - commingled funds	$ 61,876	$ -
Fixed Income - commingled funds	115,538	514
Real assets	190,288	9,501
Private equity	91,578	3,490
Total	**$ 459,280**	**$ 13,505**

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, 2019 (in thousands):

ASSET CATEGORY/CLASS	FAIR VALUE	UNFUNDED COMMITMENTS
Equity - commingled funds	$ 53,161	$ -
Fixed Income - commingled funds	111,385	640
Real assets	211,369	10,020
Private equity	175,523	3,996
Total	**$ 551,438**	**$ 14,656**

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

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 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.

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, 2020 and 2019 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, 2020 and 2019 are as follows (in thousands):

Combined Pension Plan

	2020	2019
Total pension liability	$ 5,122,372	$ 4,731,960
Less: Plan fiduciary net position	(1,943,700)	(2,057,857)
Net pension liability	$ 3,178,672	$ 2,674,103

Plan fiduciary net position as a percentage of the total pension liability at December 31, 2020 and 2019 is 38.0% and 43.5%, respectively.

Supplemental Plan

	2020	2019
Total pension liability	$ 37,484	$ 35,839
Less: Plan fiduciary net position	(16,374)	(17,307)
Net pension liability	$ 21,110	$ 18,532

Plan fiduciary net position as a percentage of the total pension liability at December 31, 2020 and 2019 is 43.7% and 48.3%, respective.

Actuarial Assumptions as of December 31, 2020

The total pension liability was determined by an actuarial valuation as of January 1, 2021, using the below significant assumptions, applied to all periods included in the measurement, except as noted below.

Investment rate of return	6.50% per annum, compounded annually, net of investment expenses. This rate is based on an average inflation rate of 2.50% and a real rate of return of 4.00%. Market value asset returns are expected to be 5.25% in 2021, 5.75% in 2022, 6.25% in 2023 and 6.50% annually thereafter.
Discount rate	6.50%, used to measure the total pension liability
Administrative expenses	Explicit assumption of $8.5 million per year or 1% of Computation Pay, whichever is greater for the Combined Pension Plan and $65 thousand per year for the Supplemental Plan or 1% of Computation Pay. Includes investment-related personnel costs.
Projected salary increases	Range of 2.5% to 3.25% 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, 2019 and the 2019 Meet and Confer Agreement.
Payroll growth	2.50% 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, 2069.
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 – closed 25 years, beginning January 1, 2021, each year's gains and losses will be amortized over a closed 20-year period. Supplemental Pension Plan – closed 20 years, beginning January 1, 2021, each year's gains and losses will be amortized over a closed 10-year period.
DROP interest, compounded annually, net of expenses	2.75% on active balances as of September 1, 2017, payable upon retirement, 0% on balances accrued after September 1, 2017.
Retirement age	Experience-based table of rates based on age, extending to age 65, with separate tables for police officers and firefighters
Pre-retirement mortality	Pub-2010 Public Safety Employee Amount-Weighted Mortality Table, set forward five years for males; projected generationally using the Scale MP-2019.
Post-retirement mortality	Pub-2010 Public Safety Retiree Amount-Weighted Mortality Table, with a one-year setback for females; projected generationally using Scale MP-2019.
Disabled mortality	Pub-2010 Public Safety Disabled Retiree Amount-Weighted Mortality Table, with a four-year set forward for both males and females; projected generationally using Scale MP-2019.

DROP election	The DROP Utilization factor is 0% for new entrants.

Actuarial Assumptions as of December 31, 2019

The total pension liability was determined by an actuarial valuation as of January 1, 2020, using the below significant assumptions, applied to all periods included in the measurement, except as noted below. The 2019 assumptions are based on an actuarial experience review covering the period January 1, 2015 to December 31, 2019.

Investment rate of return	7.00% per annum, compounded annually, net of investment expenses. This rate is based on an average inflation rate of 2.50% and a real rate of return of 4.50%. Market value asset returns are expected to be -6.00% in 2020, 5.25% in 2021, 5.75% in 2022, 6.25% in 2023 and 7.00% annually thereafter.
Discount rate	7.00%, used to measure the total pension liability
Administrative expenses	Explicit assumption of $8.5 million per year or 1% of Computation Pay, whichever is greater for the Combined Pension Plan and $65 thousand per year for the Supplemental Plan or 1% of Computation Pay. Includes investment-related personnel costs.
Projected salary increases	Range of 2.5% to 3.25% 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, 2019 and the 2019 Meet and Confer Agreement.
Payroll growth	2.50% 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, 2063.
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 – Closed 25 years. Beginning January 1, 2021, each year's gains and losses will be amortized over a closed 20-year period. Supplemental Pension Plan – Closed 20 years. Beginning January 1, 2021, each year's gains and losses will be amortized over a closed 10-year period.
DROP interest, compounded annually, net of expenses	2.75% on active balances as of September 1, 2017, payable upon retirement, 0% on balance accrued after September 1, 2017.
Retirement age	Experience-based table of rates based on age, extending to age 65, with separate tables for police officers and firefighters.
Pre-retirement mortality	Pub-2010 Public Safety Employee Amount-Weighted Mortality Tables, set forward five years for males; projected generationally using the Scale MP-2019.

Post-retirement mortality	Pub-2010 Public Safety Retiree Amount-Weighted Mortality Table, with a one-year setback for females; projected generationally using Scale MP-2019.
Disabled mortality	Pub-2010 Public Safety Disabled Retiree Amount-Weighted Mortality Table, with a four-year set forward for both males and females; projected generationally using Scale MP-2019.
DROP election	The DROP utilization factor is 0% for new entrants.

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, 2020 are summarized as shown below. The rates of return below are net of the inflation component of 2.50%.

ASSET CLASS	LONG-TERM EXPECTED REAL RATE OF RETURN	TARGET ASSET ALLOCATION
Global Equity	6.80%	40%
Emerging Markets Equity	9.20%	10%
Private Equity	10.55%	5%
Cash	-0.20%	3%
Short-Term Investment Grade Bonds	-0.10%	12%
Investment Grade Bonds	0.40%	4%
High Yield Bonds	3.10%	4%
Bank Loans	2.30%	4%
Global Bonds	0.50%	4%
Emerging Markets Debt	3.30%	4%
Real Estate	3.65%	5%
Natural Resources	7.90%	5%

Discount rate

The discount rate used to measure the Combined Pension Plan liability was 6.50%. The projection of cash flows used to determine the discount rate assumed City contributions will be made in accordance with the provisions of the Governing Statute, 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 2.50% 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 15.66% 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 6.50%. The projection of cash flows used to determine the discount rate assumed that City contributions will equal the employer's normal cost plus a twenty-year amortization payment on the 2020 unfunded actuarial accrued liability and a ten-year amortization method beginning in 2021. 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 rate, as well as what the net pension liability would be if it were calculated using a discount rate that is one percentage-point lower or one percentage-point higher than the current rate (in thousands).

DECEMBER 31, 2020

Combined Pension Plan	1% DECREASE (5.50%)	CURRENT DISCOUNT RATE (6.50%)	1% INCREASE (7.50%)
Net pension liability	$ 3,787,843	$ 3,178,672	$ 2,672,602

Supplemental Plan	1% DECREASE (5.50%)	CURRENT DISCOUNT RATE (6.50%)	1% INCREASE (7.50%)
Net pension liability	$ 24,651	$ 21,110	$ 18,093

DECEMBER 31, 2019

Combined Pension Plan	1% DECREASE (6.00%)	CURRENT DISCOUNT RATE (7.00%)	1% INCREASE (8.00%)
Net pension liability	$ 3,212,526	$ 2,674,103	$ 2,224,767

Supplemental Plan	1% DECREASE (6.00%)	CURRENT DISCOUNT RATE (7.00%)	1% INCREASE (8.00%)
Net pension liability	$ 21,763	$ 18,532	$ 15,763

6. Deferred Retirement Option Plan

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.

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, 2020:

Combined Pension Plan

	DROP BALANCE (000'S)		DROP PARTICIPANTS
Balance at December 31, 2019	$ 155,343	Participants at December 31, 2019	383
Accumulations	17,865		
Balances Annuitized	(36,771)		
Other Distributions/Deductions	(48)		
Adjustments	23		
Balance at December 31, 2020	**$ 136,412**	**Participants at December 31, 2020**	**320**
	ANNUITY BALANCE (000'S)		ANNUITY PARTICIPANTS
Present Value of Annuities at December 31, 2019	$ 880,306	Annuitants at December 31, 2019	**2,342**
Present Value of Annuities at December 31, 2020	$ 869,967	**Annuitants at December 31, 2020**	**2,450**

Supplemental Plan

	DROP BALANCE (000'S)		DROP PARTICIPANTS
Balance at December 31, 2019	$ 137	Participants at December 31, 2019	3
Accumulations	11		
Balances Annuitized	(28)		
Other Distributions/Deductions	-		
Adjustments	-		
Balance at December 31, 2020	**$ 120**	**Participants at December 31, 2020**	2
	ANNUITY BALANCE (000'S)		ANNUITY PARTICIPANTS
Present Value of Annuities at December 31, 2019 [1]	$ **6,988**	Annuitants at December 31, 2019	66
Present Value of Annuities at December 31, 2020 [1]	**$ 6,750**	**Annuitants at December 31, 2020**	**67**

[1] Includes annuities that may be paid out of the Excess Benefits and Trust.

7. 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 2020 and 2019, DPFP contributed approximately $337 thousand and $312 thousand, respectively, and participants contributed approximately $183 thousand and $169 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.

8. Capital Assets

The DPFP office building and land are recorded at acquisition value. Purchased capital assets which include building improvements and information technology hardware, are recorded at historical cost. Depreciation is charged over the estimated useful lives of the assets using a straight-line method. Depreciation expense of $241 thousand and $233 thousand, respectively, is included in professional and administrative expenses in the accompanying financial statements for the years ended December 31, 2020 and 2019. 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
Information Technology Hardware	$ 50	5 years

Capital asset balances and changes for the fiscal years ending December 31, 2020 and 2019 are as follows (in thousands):

ASSET CLASS	BALANCE DECEMBER 31, 2018	INCREASES	DECREASES	BALANCE DECEMBER 31, 2019	INCREASES	DECREASES	BALANCE DECEMBER 31, 2020
Land	$ 3,562	$ -	$ -	$ 3,562	$ -	$ -	$ 3,562
Building	8,731	-	190	8,541	-	190	8,351
Building improvements	196	-	36	160	-	36	124
IT Hardware	-	73	7	66	-	15	51
Total	**$ 12,489**	**$ 73**	**$ 233**	**$ 12,329**	**$ -**	**$ 241**	**$ 12,088**

9. 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 without interest, if they have less than five years of pension service. As of December 31, 2020, and 2019, aggregate contributions from active non-vested members for the Combined Pension Plan were $25.5 million and $19.4 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 $1.6 million and $1.3 million for December 31, 2020 and 2019, respectively, were included in accounts payable and other accrued liabilities of the Combined Pension Plan. As of December 31, 2020, and 2019, the aggregate contributions from active non-vested members of the Supplemental Plan were $100 thousand and $2 thousand, respectively. One member was eligible for a refund from the Supplemental Plan as of December 31, 2020 and no members were eligible for refunds as of December 31, 2019.

At December 31, 2020 the total accumulated DROP balance and the present value of the DROP annuities was $1.01 billion for the Combined Plan and $6.9 million for the Supplemental Plan. At December 31, 2019 the total accumulated DROP balance and the present value of the DROP annuities was $1.04 billion for the Combined Plan and $7.1 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, 2020, by asset class (in thousands).

ASSET CLASS	TOTAL COMMITMENT	TOTAL UNFUNDED COMMITMENT
Real assets	$ 117,000	$ 9,501
Private equity	121,000	3,490
Fixed income – commingled funds	10,000	514
Total	$ **248,000**	$ **13,505**

Capital calls related to private equity and real assets were received after December 31, 2020, which reduced the unfunded commitments to $1.9 and $9.1 million, respectively. See Note 11.

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. In January 2020, the Supreme Court answered these questions and in April 2020 the Fifth Circuit subsequently upheld the decision of the district court. In August 2020, the plaintiffs filed a writ of certiorari to the United States Supreme Court which was denied thereby ending the case.

10. 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.

COVID-19 and *CARES Act*

On January 30, 2020, the World Health Organization ("WHO") announced a global health emergency because of a new strain of coronavirus originating in Wuhan, China (the "COVID-19 outbreak") and the risks to the international community as the virus spread globally beyond its point of origin. In March 2020, the WHO classified the COVID-19 outbreak as a pandemic based on the rapid increase in exposure globally. The System believes that the COVID-19 outbreak and the measures taken to control it may have a large negative impact on the economy in the United States.

The full impact of the COVID-19 outbreak continues to evolve as of the date of this report. This pandemic has adversely affected global economic activity and greatly contributed to significant deterioration and instability in financial markets. The resulting financial and economic market uncertainty could have a significant adverse impact on the System, including the fair value of its investments.

On March 27, 2020, President Trump signed into law the "coronavirus Aid, Relief, and Economic Security (CARES) Act." The CARES Act, among other things, includes provisions appropriating funds from programs of the United States Department of the Treasury to be used to make payments for specified uses to states and certain local governments.

It also appropriated funds for the SBP Paycheck Protection Program loans (PPP) that are forgivable in certain situations to promote continued employment, as well as Economic Injury Disaster Loans (EIDL) to provide liquidity to small businesses harmed by COVID-19. The System did not receive funding from the PPP or EIDL programs.

11. Subsequent Events

Investment Policy Statement Amendments

In March 2021, the Board approved revising some language in the Investment Policy Statement (IPS) regarding the Investment Advisory Committee (IAC) public meeting provisions and the goals, objectives of the system. In August 2021, the Board approved modifying the IPS to reduce the amount of the Safety Reserve from 2.5 years of expected net cash flows to 18 months, to update the Asset Allocation targets and to clarify the language related to rebalancing efforts.

Real Asset and Private Equity Sales

Subsequent to year end and prior to the issuance date of the financials, there were 10 sales of Real Estate properties that totaled $127.0 million in proceeds to DPFP and three Private Equity distributions of $8.6 million.

Capital Calls Resulting in the Reduction of Unfunded Commitments

Subsequent to December 31, 2020, DPFP received and paid the following material capital calls: Real Assets - $364 thousand and Private Equity - $1.55 million.

Legal

In August 2021, The Dallas Police Retired Officers Association filed suit against DPFP and Nicholas Merrick in his capacity as Board Chairman in state district court in Dallas 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. 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, 2020.

Management has evaluated subsequent events through December 9, 2021, 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 Seven Fiscal Years (in Thousands)

COMBINED PENSION PLAN

FOR FISCAL YEAR ENDING DECEMBER 31,	2020	2019	2018	2017
Total pension liability				
Service cost	$ 56,244	$ 49,155	$ 44,792	$ 148,552
Interest	324,046	318,703	318,536	348,171
Changes of benefit terms	-	-	16,091	(1,167,597)
Differences between expected and actual experience	70,548	16,723	(46,555)	(134,665)
Changes of assumptions	257,525	155,569	(31,460)	(2,851,241)
Benefit payments, including refunds of employee contributions	(317,951)	(309,860)	(297,081)	(296,154)
Net change in total pension liability	390,412	230,290	4,323	(3,952,934)
Total pension liability - beginning	4,731,960	4,501,670	4,497,347	8,450,281
Total pension liability - ending (a)	**$ 5,122,372**	**$ 4,731,960**	**$ 4,501,670**	**$ 4,497,347**
Plan fiduciary net position				
Employer contributions	$ 161,950	$ 155,721	$ 149,357	$ 126,318
Employee contributions	57,305	52,268	49,332	32,977
Net investment income (loss), net of expenses	(8,927)	124,260	42,822	98,911
Benefits payments	(317,951)	(309,861)	(297,081)	(296,154)
Interest expense	-	-	-	(1,279)
Administrative expenses	(6,534)	(6,445)	(5,861)	(8,090)
Net change in plan fiduciary net position	(114,157)	15,943	(61,431)	(47,317)
Plan fiduciary net position - beginning	2,057,857	2,041,914	2,103,345	2,150,662
Plan fiduciary net position - ending (b)	**$ 1,943,700**	**$ 2,057,857**	**$ 2,041,914**	**$ 2,103,345**
Net pension liability - ending (a) - (b)	$ 3,178,672	$ 2,674,103	$ 2,459,756	$ 2,394,002
Plan fiduciary net position as a percentage of total pension liability	38.0%	43.5%	45.4%	46.8%
Covered payroll	$ 427,441	$ 396,955	$ 363,117	$ 346,037
Net pension liability as a percentage of covered payroll	743.7%	673.7%	677.4%	691.8%

(Continued)

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

COMBINED PENSION PLAN						
FOR FISCAL YEAR ENDING DECEMBER 31,		2016		2015		2014
Total pension liability						
Service cost	$	167,432	$	125,441	$	131,312
Interest		360,567		359,023		369,408
Changes of benefit terms		-		-		(329,794)
Differences between expected and actual experience		(77,463)		379,461		(4,453)
Changes of assumptions		(712,003)		908,988		-
Benefit payments, including refunds of employee contributions		(825,092)		(285,003)		(245,932)
Net change in total pension liability		(1,086,559)		1,487,910		(79,459)
Total pension liability - beginning		9,536,840		8,048,930		8,128,389
Total pension liability - ending (a)	**$**	**8,450,281**	**$**	**9,536,840**	**$**	**8,048,930**
Plan fiduciary net position						
Employer contributions	$	119,345	$	114,886	$	109,792
Employee contributions		25,518		25,676		29,333
Net investment income (loss), net of expenses		164,791		(235,207)		(138,893)
Benefits payments		(825,092)		(285,003)		(245,932)
Interest expense		(4,532)		(8,417)		(7,361)
Administrative expenses		(9,492)		(6,006)		(8,003)
Net change in plan fiduciary net position		(529,462)		(394,071)		(261,064)
Plan fiduciary net position - beginning		2,680,124		3,074,195		3,335,259
Plan fiduciary net position - ending (b)	**$**	**2,150,662**	**$**	**2,680,124**	**$**	**3,074,195**
Net pension liability - ending (a) - (b)	$	6,299,619	$	6,856,716	$	4,974,735
Plan fiduciary net position as a percentage of total pension liability		25.5%		28.1%		38.2%
Covered payroll	$	357,414	$	365,210	$	383,006
Net pension liability as a percentage of covered payroll		1,762.6%		1,877.5%		1,298.9%

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

Required Supplementary Information

(Unaudited)

Schedule of Changes in the Net Pension Liability and Related Ratios

For Last Seven Fiscal Years (in Thousands)

SUPPLEMENTAL PENSION PLAN				
FOR FISCAL YEAR ENDING DECEMBER 31,	2020	2019	2018	2017
Total pension liability				
Service cost	$ 379	$ 212	$ 222	$ 111
Interest	2,438	2,223	2,359	2,799
Changes of benefit terms	-	-	888	(5,305)
Differences between expected and actual experience	47	3,007	(2,628)	(1,435)
Changes of assumptions	1,559	1,332	28	(479)
Benefit payments, including refunds of employee contributions	(2,778)	(2,766)	(2,708)	(2,668)
Net change in total pension liability	1,645	4,008	(1,839)	(6,977)
Total pension liability - beginning	35,839	31,831	33,670	40,647
Total pension liability - ending (a)	**$ 37,484**	**$ 35,839**	**$ 31,831**	**$ 33,670**
Plan fiduciary net position				
Employer contributions	$ 1,777	$ 1,530	$ 1,979	$ 2,077
Employee contributions	245	111	74	66
Net investment income (loss), net of expenses	(122)	169	1,220	740
Benefits payments	(2,778)	(2,766)	(2,708)	(2,668)
Interest expense	-	-	-	(11)
Administrative expenses	(55)	(55)	(52)	(69)
Net change in plan fiduciary net position	(933)	(1,011)	513	135
Plan fiduciary net position - beginning	17,307	18,318	17,805	17,670
Plan fiduciary net position - ending (b)	**$ 16,374**	**$ 17,307**	$ **18,318**	$ **17,805**
Net pension liability - ending (a) - (b)	$ 21,110	$ 18,532	$ 13,513	$ 15,865
Plan fiduciary net position as a percentage of total pension liability	43.7%	48.3%	57.6%	52.9%
Covered payroll	$ 627	$ 584	$ 622	$ 916
Net pension liability as a percentage of covered payroll	3,368.0%	3,172.8%	2,173.8%	1,731.6%

(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,	2016	2015	2014
Total pension liability			
Service cost	$ 70	$ 36	$ 28
Interest	2,911	2,953	2,969
Changes of benefit terms	-	-	(526)
Differences between expected and actual experience	1,105	928	336
Changes of assumptions	(916)	(600)	-
Benefit payments, including refunds of employee contributions	(5,912)	(2,640)	(3,414)
Net change in total pension liability	(2,742)	677	(607)
Total pension liability - beginning	43,389	42,712	43,319
Total pension liability - ending (a)	**$ 40,647**	**$ 43,389**	**$ 42,712**
Plan fiduciary net position			
Employer contributions	$ 3,064	$ 2,443	$ 1,817
Employee contributions	35	43	49
Net investment income (loss), net of expenses	1,141	(1,689)	(517)
Benefits payments	(5,912)	(2,640)	(3,414)
Interest expense	(78)	(44)	(51)
Administrative expenses	(37)	(61)	(56)
Net change in plan fiduciary net position	(1,787)	(1,948)	(2,172)
Plan fiduciary net position - beginning	19,457	21,405	23,577
Plan fiduciary net position - ending (b)	$ **17,670**	$ **19,457**	$ **21,405**
Net pension liability - ending (a) - (b)	$ 22,977	$ 23,932	$ 21,307
Plan fiduciary net position as a percentage of total pension liability	43.5%	44.8%	50.1%
Covered payroll	$ 525	$ 725	$ 557
Net pension liability as a percentage of covered payroll	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. See notes below related to this schedule.

Notes to Schedule:

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

As of December 31, 2020, 2019 and 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 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:

The following assumption changes were adopted by the Board for use in the January 1, 2021 actuarial valuation. For further information regarding the changes to actuarial assumptions, refer to the January 1, 2021 Dallas Police and Fire Pension System actuarial valuation reports for the Combined Pension Plan and the Supplemental Plan.

As of December 31, 2020

- The net investment return assumption was lowered from 7.00% to 6.50%.
- The ad-hoc COLA assumption was updated to begin October 1, 2069. Last year, the COLA was assumed to begin October 1, 2063.

As of December 31, 2019

The following assumption changes were adopted by the Board for use in the January 1, 2020 actuarial valuation. Some of the assumption changes were related to the actuarial experience study completed for the five-year period ending December 31, 2019.

- The net investment return assumption was lowered from 7.25% to 7.0%.
- The salary scale assumption was updated based on the 2019 Meet and Confer agreement, with a new ultimate rate of 2.50%.
- The payroll growth assumption was lowered from 2.75% to 2.50%.
- The mortality rates were updated to the Pub-2010 Public Safety Amount-weighted Mortality Tables, with varying adjustments by status and sex, projected generationally with Scale MP-2019.
- The withdrawal rates were updated and the ultimate 0% rate was moved up from 38 to 25 years of service.
- The DROP retirement rates were increased at most ages and the ultimate 100% retirement was updated from the earlier of 67 years or 8 years in DROP to the earlier of age 65 or 10 years in DROP.
- The non-DROP retirement rates were lowered at most ages and simplified from three sets to two sets of rates.
- The retirement assumption for inactive vested participants was updated to include an assumption that 75% of those who terminate with a vested benefit prior to age 40 will take a cash out at age 40.
- The DROP annuitization interest rate for account balances as of September 1, 2017 was lowered from 3.0% to 2.75%.
- The ad-hoc COLA assumption was updated to begin October 1, 2063. Last year, the COLA was assumed to begin October 1, 2050.
- The system's expectations for near-term market returns were lowered to -6.0% for 2020, +5.25% for 2021, +5.75% for 2022 and +6.25% for 2023. For valuation purposes, these return assumptions are used for determining the projected full-funding date and the projected COLA start date.

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
2020	$ 185,429	$ 161,950	$ 23,479	396,955	40.8%
2019	152,084	155,721	(3,637)	363,117	42.9%
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 excess or deficiency.

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

As of December 31, 2020

Actuarial cost method	Entry age normal cost method
Amortization method	25-year level percent of pay, using 2.50% annual increases. Beginning January 1, 2021, each year's gains and losses will be amortized over a closed 20-year period.
Remaining amortization period	55 years as of January 1, 2020
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.
Projected salary increases	Inflation plus merit increases, varying by group and year
Post-retirement benefit	COLA assumed to be a 2.00% COLA beginning October 1, 2063 and increases payable every October 1 thereafter
Retirement age	Experienced-based table of rates, based on age

Mortality	Pre-retirement: Pub-2010 Public Safety Employee Amount-Weighted Mortality Table, set forward five years for males, projected generationally using Scale MP-2019 Post-retirement: Pub-2010 Public Safety Retiree Amount-Weighted Mortality Table, set back one year for females, projected generationally using Scale MP-2019 Disabled: Pub-2010 Public Safety Retiree Amount-Weighted Mortality Table, set forward four years for males and females, projected generationally using Scale MP-2019
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, 2019

Actuarial cost method	Entry age normal cost method
Amortization method	30-year level percent of pay, using 2.75% annual increases
Remaining amortization period	38 years as of January 1, 2019
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.
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
Post-retirement benefit	COLA assumed to be a 2.00% COLA beginning October 1, 2050 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 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, 2018 that differed from above

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
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

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	COVERED PAYROLL	ACTUAL CONTRIBUTION AS A % OF COVERED PAYROLL
2020	$ 1,777	$ 1,777	$ -	$ 584	304.3%
2019	1,881	1,530	351	622	246.2%
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.

The City is required by ordinance to contribute amounts necessary to ensure the payment of benefits in the Supplemental Plan. The City's contributions shall be made in accordance with actuarial requirements established by the actuary and the Board. 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, 2020

Actuarial cost method	Entry age normal cost method
Amortization method	20-year level percent of pay, using 2.5% annual increases. Beginning January 1, 2021 each year's gains and losses will be amortized over a closed 10-year period.
Remaining amortization period	20 years
Asset valuation method	Market value of assets
Investment rate of return	7.00% per annum, compounded annually, net of all expense, including administrative expenses. This rate is based on an average inflation rate of 2.50% and a real rate of return of 4.00%.
Inflation rate	2.50%
Projected salary increases	Inflation plus merit increases, varying by group and service
Post-retirement benefit increases	COLA assumed to be a 2.00% COLA beginning October 1, 2063 and payable every October 1st thereafter
Retirement age	Experienced-based table of rates, based on age

Mortality	Pre-retirement: Pub-2010 Public Safety Employee Amount-Weighted Mortality Table, set forward five years for males, projected generationally using Scale MP-2019 Post-retirement: Pub-2010 Public Safety Retiree Amount-Weighted Mortality Table, set back one year for females, projected generationally using Scale MP-2019 Disabled: Pub-2010 Public Safety Retiree Amount-Weighted Mortality Table, set forward four years for males and females, projected generationally using Scale MP-2019
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, 2019

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
Post-retirement benefit increases	COLA assumed to be a 2.00% COLA beginning October 1, 2050 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 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, 2018 that differed from above

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

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
2020	1.48%
2019	11.51%
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, 2020

ADMINISTRATIVE EXPENSES		
Information technology	$	466,529
Education		5,591
Insurance		608,136
Personnel		3,675,664
Office equipment		53,779
Dues and subscriptions		163,970
Board meetings		1,968
Office supplies		11,407
Utilities		72,161
Postage		19,129
Printing		573
Election		-
Facilities		621,229
Other		28,119
Total administrative expenses	**$**	**5,728,255**
INVESTMENT EXPENSES		
Investment management	$	6,235,767
Custodial		221,226
Investment level valuations and audits		432,555
Consulting and reporting		363,542
Legal		948,244
Tail-end advisory		272,500
Tax		9,097
Other		1,923
Total investment expenses	**$**	**8,484,854**
PROFESSIONAL SERVICES EXPENSES		
Consulting	$	14,625
Actuarial		165,814
Auditing		158,477
Accounting		61,776
Medical review		11,260
Legal		294,373
Mortality records		3,988
Legislative		126,000
Other		25,134
Total professional services expenses	**$**	**861,447**

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.

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INVESTMENT INFORMATION

Investment Consultant's Report

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MEMORANDUM

TO: Board of Trustees, Dallas Police & Fire Pension System
FROM: Leo Festino, Aaron Lally, Alli Wallace, Meketa Investment Group
DATE: August 1, 2021
RE: Investment Consultant's Statement for Annual Comprehensive Financial Report

This letter reviews the global capital markets in 2020 and the investment performance of the Dallas Police and Fire Pension System ("DPFP") for the year ending December 31, 2020.

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

- Maintain a diversified asset allocation that seeks to maximize the investment return while accepting prudent exposure to key investment risks;
- Outperform the Policy Benchmark over rolling five-year periods;
- Control and monitor the costs of administering and managing the investments.

DPFP produced a positive return of 1.7% in the calendar year but failed to outperform its policy benchmark or achieve its actuarial return target.

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, the Investment Advisory Committee and Investment Staff, to assist with performance evaluation, asset allocation, manager selection, governance, and other industry best practices.

2020 Capital Markets Year in Review

Calendar year 2020 will be remembered for COVID-19, which upended the world and resulted in regional lockdowns, business and school closures and an economic standstill.

The impact of global lock-downs on financial markets was extreme. All major stock indices saw sharp selloffs in the first quarter of 2020. At the depth of the drawdown from January 1 - March 23 most broad equity market indices (both US and non-US) were down close to 32%.

To combat the expected significant decline in economic activity, fiscal and monetary authorities across the globe responded with immediate and historic stimulus measures. Robust stimulus coupled with incremental positive news regarding the spread of COVID-19, and economies slowly reopening, set the stage for a relatively rapid rebound in risk assets in the second calendar quarter. This recovery, particularly in the riskier assets, continued throughout the year. Vaccine approvals were a key catalyst for the significant year-end market rally that saw strong market performance across all major asset classes.

US equities, as represented by the Russell 3000 Index, finished the calendar year with a 21% return. Emerging markets (MSCI Emerging Markets) delivered 18% for the year with the index up 20% in the fourth quarter alone as a weak dollar and vaccine efficacy and approvals exceeded expectations and helped bolster returns. The MSCI EAFE Index, representing foreign developed markets, was the equity laggard of the year returning 8%.

The US Treasury yield curve declined materially during 2020 as investors flocked to safe-haven assets early in the year and aggressive Federal Reserve policies were enacted through policy rate cuts and the quantitative easing program. As such, fixed income markets generated relatively strong results for the year. The Bloomberg Barclays US Aggregate produced a total return of 8% and the Bloomberg Barclays TIPS returned 11%.

DPFP's 2020 Performance and Investment Activity

DPFP ended 2020 with nearly $2 billion in investment assets. In a year where nearly every public market asset class produced a positive return, DPFP trailed its benchmarks and peers given its underweight exposure to public equities and overweight exposure to illiquid investments in real estate and legacy private equity commitments.

	Calendar Year 2020 Return (%)
DPFP (net of fees)	1.7%
Policy Index	11.8%
Peer Median Return[1]	10.5%
60% Stock/40% Bond mix[2]	14.1%

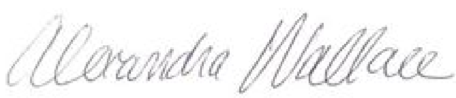
***Returns are time-weighted, net of fees. DPFP's private market valuations are included on a one-quarter lag, cash flow adjusted basis, to account for the typical 60-90 day delayed reporting cycle for most private market investments.*

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

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.

Leandro Festino, CFA, CAIA
Managing Principal
Meketa Investment Group

Aaron Lally, CFA, CAIA
Managing Principal
Meketa Investment Group



Alli Wallace Stone, CFA
Managing Principal
Meketa Investment Group

Investment Information

Investment Activities and Initiatives

Over the course of the year, the size of the investment portfolio declined by approximately $117 million to $1.945 billion in investment assets primarily due to benefit payments which were offset by modest positive investment returns and benefit contributions.

DPFP continued to take steps towards the new long-term asset allocation targets set in the 2018 Investment Policy Statement (IPS) by reducing private asset exposure and building out parts of the public markets asset allocation in 2020. 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. 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. In 2020, the fixed income asset class was brought up to the target range and considerable progress was made to bring the public equity asset class up to target. 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.

The Investment Advisory Committee (IAC), which is comprised of DPFP Board of Trustees members and a majority of outside investment professionals, continued to hold quarterly meetings virtually despite the COVID pandemic. The IAC provides advice to the Board of Trustees to ensure DPFP investments are prudently managed and advises regarding the search and selection process for investment managers.

Investment initiatives in the public asset portfolio included Public Equity Portfolio Structure reviews throughout the year with the Board and IAC, consolidating the Bank Loans allocation to one portfolio managed by Pacific Asset Management early in 2020, switching from a passive Investment Grade Bond fund with Vanguard to an active Investment Grade Bond fund managed by Longfellow Investment Management in July 2020, terminating the Global Bond allocation managed by Brandywine in November 2020, and switching the High Yield allocation managed by Loomis from a Full Discretion strategy to a United States focused strategy. In consultation with the consultant, DPFP took rebalancing actions in 2020 during the market drawdown in 1Q20 to invest in the Global Equity managers with proceeds from the Safety Reserve.

The private asset portfolio, which includes Private Equity, Private Debt, Natural Resources, Infrastructure and Real Estate, was valued at $668 million or 34% of the portfolio at year-end. Staff continued to work with managers to sell assets in an orderly fashion and reduce the over allocation. Given the market disruption caused by the global pandemic, private asset sale activity was considerably down in 2020 as compared to prior years. Distributions from the private asset portfolio totaled approximately $35 million in 2020, while capital calls totaled only $2 million.

Performance Reporting and Results

Performance Reporting Methodology

The rate of return calculation is prepared by the investment consultant as of December 31, 2020, 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, 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, 2020 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 all fees paid to investment managers. 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	2020 RETURN	3 YRS	5 YRS	10 YRS
Total Investment Assets	$ 1,944,751	100.0%	1.7%	3.8%	3.9%	2.5%
Policy Benchmark [1]			11.8%	7.0%	9.1%	8.4%
InvestorForce DB Median			10.5%	7.3%	8.8%	7.7%
EQUITY	850,470	43.7%	0.9%	6.2%	3.0%	5.1%
MSCI ACWI IMI Net			26.4%	12.1%	8.3%	-
Global Equity	**651,284**	**33.5%**	**15.7%**	**10.6%**	**13.0%**	**9.9%**
MSCI ACWI IMI Net			16.3%	9.7%	12.1%	9.1%
Boston Partners	160,671	8.3%	6.0%	3.4%	-	-
MSCI World Net			*15.9%*	*10.5%*	-	-
Manulife	151,920	7.8%	7.6%	8.1%	-	-
Invesco Global Equity	180,058	9.3%	29.4%	14.4%	15.5%	12.0%
Walter Scott	158,469	8.1%	19.1%	15.6%	15.4%	11.4%
MSCI ACWI Net			*16.3%*	*10.1%*	*12.3%*	*9.1%*
Transition	166	0.0%	-	-	-	-
Emerging Markets Equity	**61,876**	**3.2%**	**16.4%**	**7.2%**	**-**	**-**
MSCI Emerging Markets IMI Net			18.4%	5.8%	-	-
RBC	61,876	3.2%	16.4%	7.2%	-	-
MSCI Emerging Markets IMI Net			*18.4%*	*5.8%*	-	-
Private Equity	**137,310**	**7.1%**	**(33.0%)**	**(6.4%)**	**(10.0%)**	**(5.7%)**
Cambridge Associates US All PE (1 Qtr Lag)			13.5%	13.1%	12.9%	13.6%
FIXED INCOME	568,948	29.3%	6.2%	4.1%	7.0%	5.3%
BBgBarc Multiverse TR			9.0%	4.8%	5.0%	3.0%
Cash	**87,492**	**4.5%**	**0.6%**	**1.6%**	**1.4%**	**-**
91 Day T-Bills			0.5%	1.5%	1.1%	-
Short Term Core Bonds	**216,951**	**11.2%**	**4.6%**	**3.5%**	**-**	**-**
BBgBarc US Treasury 1-3 Yr TR			3.2%	2.8%	-	-
IR&M	216,951	11.2%	4.6%	3.5%	-	-
BBgBarc US Govt/Credit 1-3 Yr TR			*3.3%*	*3.0%*	-	-
Investment Grade Bonds	**74,583**	**3.8%**	**8.7%**	**-**	**-**	**-**
BBgBarc US Aggregate TR			7.5%	-	-	-
Longfellow Investment Management	74,583	3.8%	-	-	-	-
BBgBarc US Aggregate TR			-	-	-	-
Global Bonds	**42**	**0.0%**	**6.7%**	**3.9%**	**5.2%**	**3.4%**
BBgBarc Global Aggregate TR			9.2%	4.8%	4.8%	2.8%
Brandywine Global Fixed Income	42	0.0%	-	-	-	-

	NET ASSET VALUE	% OF PORTFOLIO	2020 RETURN	3 YRS	5 YRS	10 YRS
FIXED INCOME (continued)						
Bank Loans	**$ 71,618**	**3.7%**	**4.9%**	**4.2%**	**5.9%**	**-**
Credit Suisse Leveraged Loan			2.8%	4.0%	5.2%	-
Loomis Sayles Sr Floating Rate and Fixed Income	373	0.0%	-	-	-	-
Pacific Asset Management	71,245	3.7%	*2.6%*	*3.9%*	-	-
Credit Suisse Leveraged Loan			*2.8%*	*4.0%*	-	-
High Yield Bonds	**74,342**	**3.8%**	**8.6%**	**4.5%**	**8.8%**	**6.3%**
BBgBarc US Corporate High Yield			7.1%	6.2%	8.6%	6.8%
Loomis Sayles US High Yield	74,168	3.8%	-	-	-	-
BBgBarc Global High Yield			-	-	-	-
Loomis Sayles High Yield Full Discretion[2]	174	0.0%	8.6%	4.5%	9.0%	6.7%
BBgBarc Global High Yield			*7.0%*	*4.9%*	*7.8%*	*6.5%*
Emerging Markets Debt	**38,330**	**2.0%**	**2.4%**	**2.2%**	**6.8%**	**3.7%**
50% JPM EMBI/50% JPM GBI-EM			4.0%	4.1%	7.0%	3.8%
Ashmore Emerging Markets Blended Debt	38,330	2.0%	2.4%	2.2%	-	-
50% JPM EMBI/25% JPM GBI-EM/25% JPM ELMI+			*3.9%*	*3.6%*	-	-
Private Debt	**5,590**	**0.3%**	**(16.3%)**	**(1.4%)**	**(5.0%)**	**-**
BBgBarc Global High Yield + 2%			9.2%	7.0%	10.0%	-
REAL ASSETS	525,333	27.0%	(1.8%)	0.1%	2.0%	(1.9%)
50% NCREIF Property /50% Farmland Total Return (1Qtr Lag)			2.9%	5.2%	6.2%	10.1%
Real Estate	**348,621**	**17.9%**	**0.2%**	**2.7%**	**1.5%**	**(3.5%)**
NCRIEF Property (1Qtr Lag)			2.0%	5.1%	6.3%	9.4%
Natural Resources	**132,357**	**6.8%**	**0.6%**	**(0.3%)**	**(0.9%)**	**3.4%**
NCRIEF Farmland Total Return Index (1Qtr Lag)			3.8%	5.3%	6.1%	10.9%
Infrastructure	**44,354**	**2.3%**	**(20.2%)**	**(11.1%)**	**2.9%**	**-**
S&P Global Infrastructure Index			(5.8%)	2.7%	7.9%	-

(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.

(2) Loomis Sayles High Yield Full Discretion Account was transitioned to the Loomis Sayles US High Yield Account on 12/31/2020

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, objectives and constraints 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.
- To earn a long-term, net of fees investment return greater than the actuarial return assumption.
- To rank in the top half of the public fund universe over the rolling five-year period, net of fees.

Objectives

- To maintain a diversified asset allocation.
- To accept the minimum level of risk required to achieve the return objective.
- To outperform the Policy Benchmark over rolling five-year periods.
- To control and monitor the costs of administering and managing the investments.

Constraints

- DPFP will be managed on a going-concern basis. The assets of the Fund will be invested with a long-term time horizon, while being cognizant of the weak actuarial funded ratio and ongoing liquidity needs.
- The Board intends to maintain sufficient liquidity in either cash equivalents or short-term investment grade bonds to meet two to three years of anticipated benefit payments and expenses (net of contributions).
- DPFP is a tax-exempt entity. Therefore, investments and strategies will be evaluated on a basis that is generally indifferent to tax status.

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, but are not limited to, 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 management of the investments of DPFP.

The IPS outlines the asset allocation, details due diligence and investment review procedures, and clearly defines the roles of the Board, IAC, consultants and DPFP staff in the investment process.

Updates to the IPS were approved by the Board on three occasions in 2020. Notable changes to the IPS approved in 2020 incorporated the following, among others:

- Updated language to clarify that the Safety Reserve will be viewed both in terms of the 15% target and two and a half years of projected net cash outflows when making rebalancing decisions.
- Clarified the roles and responsibilities of the consultant and staff.
- Allows DPFP to engage Advisors that are not fiduciaries.
- Updated several Asset Class benchmarks.
- Expanded IAC to seven total members.

Thus far in 2021, the IPS has been updated to incorporate changes in the long-term Asset Allocation and Asset Class targets, removed the Asset Allocation Implementation Plan, updated rebalancing approval and notification processes, changes to the IAC meeting provisions to address public meetings and quorum considerations, and changes to some Asset Class benchmarks.

To review the IPS in full, visit DPFP's website at [www.dpfp.org.](http://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, 2020, along with targets and ranges, is as follows:

ASSET CATEGORY/CLASS	CURRENT ALLOCATION	TARGET ALLOCATION	MINIMUM ALLOCATION	MAXIMUM ALLOCATION
Equity	43.7%	55%		
Global Equity	33.5%	40%	18%	48%
Emerging Markets Equity	3.2%	10%	0%	12%
Private Equity	7.0%	5%	-	-
Fixed Income	29.3%	35%		
Cash	4.5%	3%	0%	5%
Short-Term Grade Bonds	11.2%	12%	5%	15%
Investment Grade Bonds	3.8%	4%	2%	6%
Global Bonds	0.0%	4%	2%	6%
Bank Loans	3.7%	4%	2%	6%
High Yield Bonds	3.8%	4%	2%	6%
Emerging Markets Debt	2.0%	4%	2%	6%
Private Debt	0.3%	0%	-	-
Real Assets	27.0%	10%		
Real Estate	17.9%	5%	-	-
Natural Resources	6.8%	5%	-	-
Infrastructure	2.3%	0%	-	-

In November 2018, the Board approved an asset allocation implementation plan to prioritize the reallocation of cash distributions from private market assets as follows:

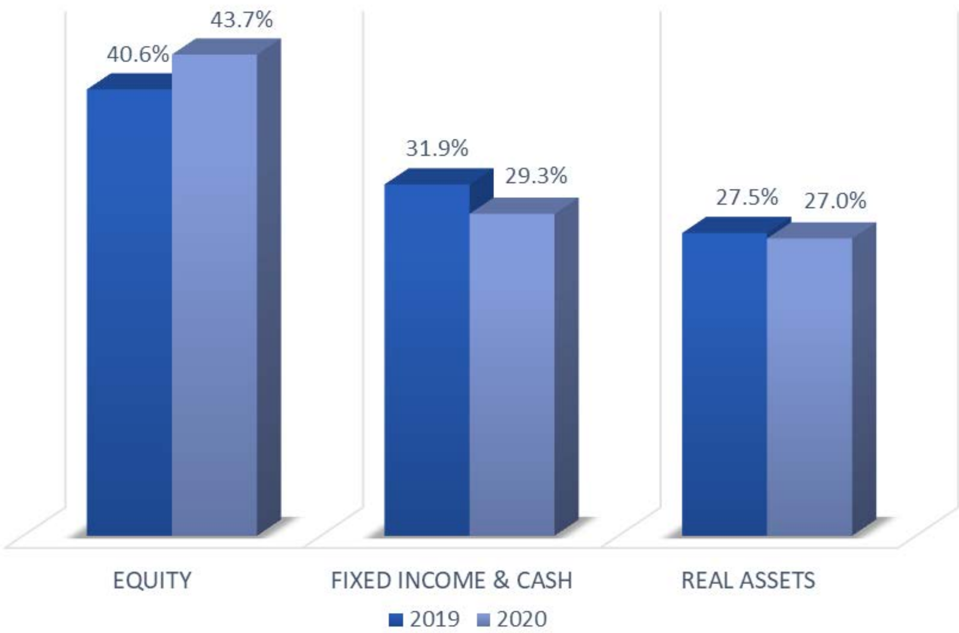
ORDER OF REALLOCATION
Allocate up to Target, then proceed to next asset class
1. Safety Reserve – Cash[1]
2. Safety Reserve – Short-Term Investment Grade Bonds[1]
3. Global Equity, only if current exposure is less than 22% of DPFP[2]
4. Emerging Markets Equity, only if current exposure is less than 2.5% of DPFP[3]
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 Markets 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) The Safety Reserve is not required to be allocated to target if deemed prudent by Staff and Consultant.
(2) 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.
(3) Emerging Markets 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.

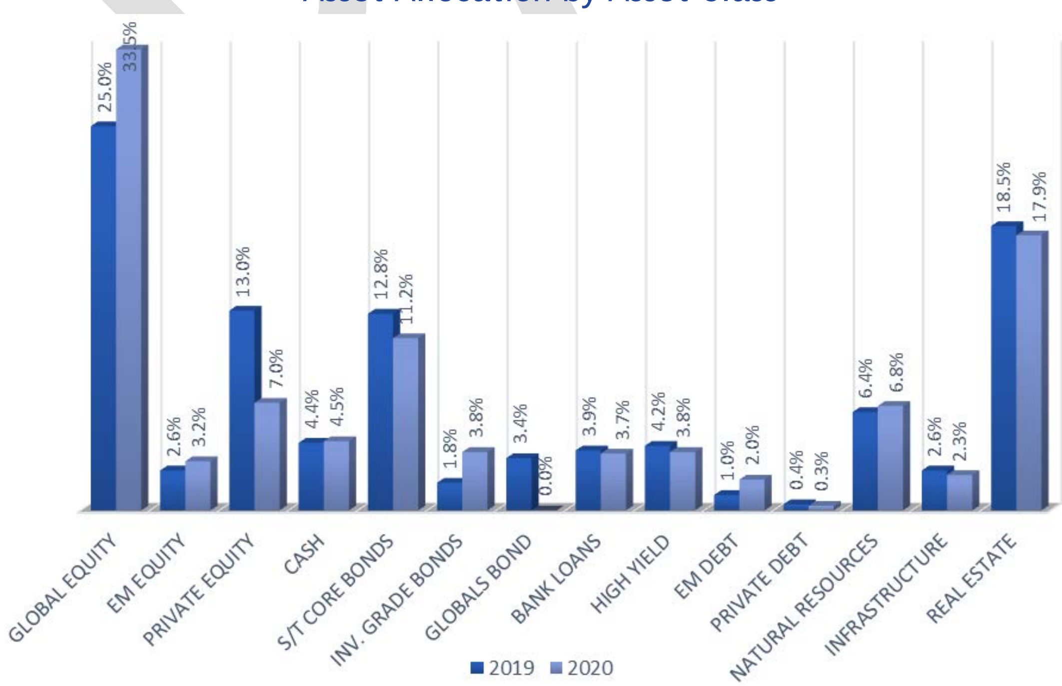
The Investment Grade Bonds asset class was brought up to target in 2020 as proceeds from private asset distributions were invested into the Longfellow account. Additional private asset proceeds followed the implementation plan and were invested into Global Equity. Global Bonds was the only asset classes that ended the year with actual allocations below the minimum range outlined in the asset allocation in the IPS. In November 2020, DPFP liquidated the Global Bond's account managed by Brandywine with the intention to eliminate the Global Bond asset class with the updated Asset Allocation study in 2021. At the same time, DPFP funded $16 million to the Emerging Markets Debt asset class to maintain similar overall exposure to Emerging Markets Debt exposure through an additional investment in the Ashmore Emerging Markets Debt Fund. Global Equities would be the next asset class to receive distributions from private asset distributions based on the implementation plan and asset class weight at December 31, 2020. 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 though progress was made throughout 2020 in getting most fixed income asset classes at or near their respective targets.

The following graphs reflect the portfolio allocation at December 31, 2019 and 2020 by broad asset category and asset class.

Asset Allocation by Broad Asset Category

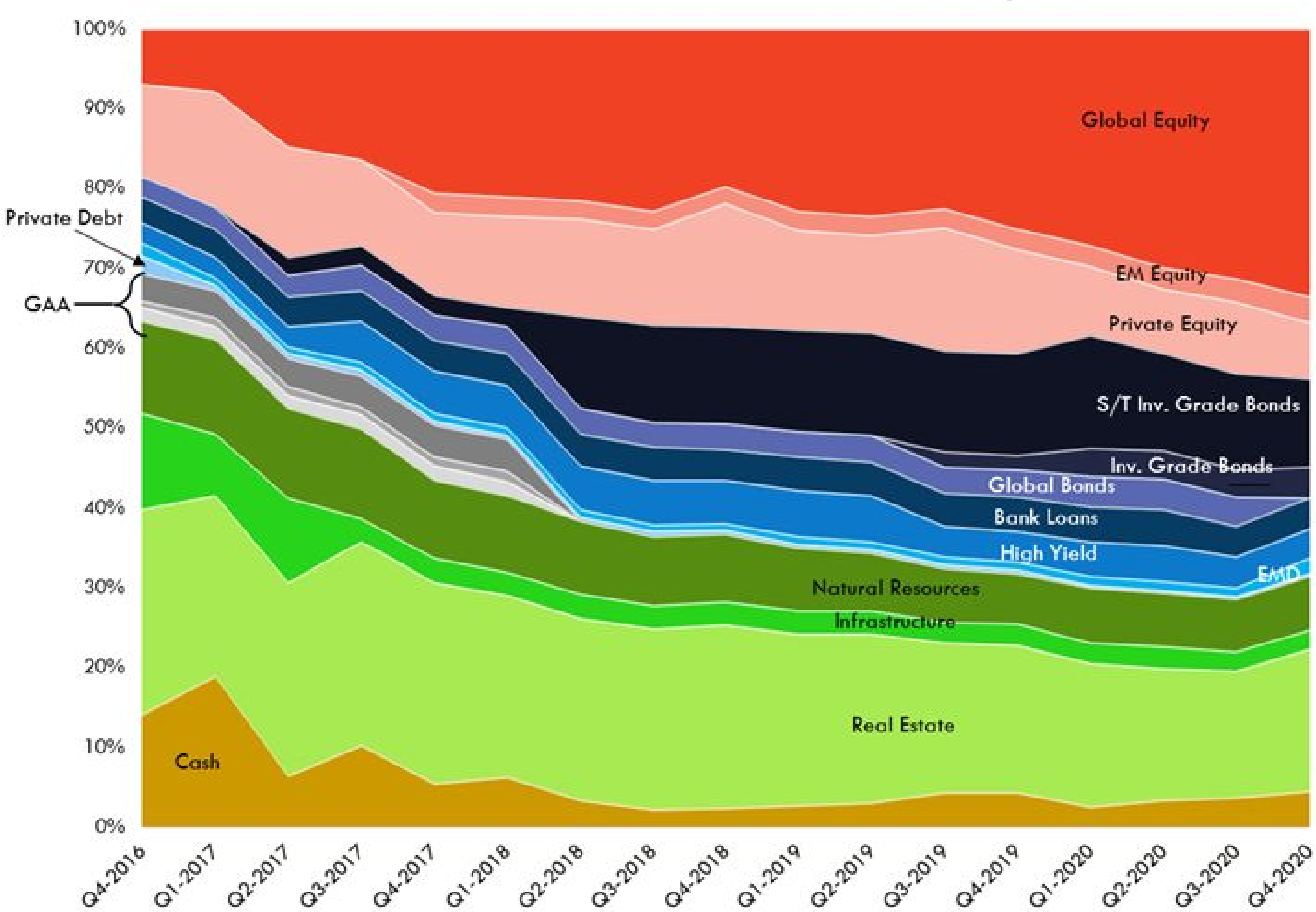


Asset Allocation by Asset Class



Over the past several years, DPFP has been focused on transitioning private assets proceeds into a greater allocation to public markets. The below graph reflects the asset allocation changes over the past four years, on a quarterly basis.

Asset Allocation Evolution



2021 Updated Asset Allocation

An updated long-term Asset Allocation was approved by the Board in July 2021, which increased the target allocation to Global Equity by 15%, eliminated the 4% allocation to Global Bonds, reduced the target to Short Term Investment Grade Bonds, held within the Safety Reserve, by 6% and reduced the target allocation to Emerging Markets Equity by 5%. The previous Implementation Plan was also eliminated with the updated Asset Allocation, as most public asset classes besides Global Equity are nearing or at the target allocation. The below table outlines the actual allocation at December 31, 2020, compared to the 2020 and updated 2021 asset class targets.

ASSET CATEGORY/CLASS	DECEMBER 31, 2021 ALLOCATION	2020 TARGET ALLOCATION	UPDATED 2021 TARGET ALLOCATION
Equity	43.7%	55%	65%
Global Equity	33.5%	40%	55%
Emerging Markets Equity	3.2%	10%	5%
Private Equity	7.0%	5%	5%
Fixed Income	29.3%	35%	25%
Cash	4.5%	3%	3%
Short-Term Investment Grade Bonds	11.2%	12%	6%
Investment Grade Bonds	3.8%	4%	4%
Global Bonds	0.0%	4%	0%
Bank Loans	3.7%	4%	4%
High Yield Bonds	3.8%	4%	4%
Emerging Markets Debt	2.0%	4%	4%
Private Debt	0.3%	0%	0%
Real Assets	27.0%	10%	10%
Real Estate	17.9%	5%	5%
Natural Resources	6.8%	5%	5%
Infrastructure	2.3%	0%	0%

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 public equity and fixed income commingled funds or private equity, private debt, and infrastructure 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 2020, 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	2020 AVERAGE MARKET VALUE	TOTAL MANAGEMENT FEES PAID AS A % OF AVERAGE MARKET VALUE
Equity	$ 3,023	$ 2,541	$ 5,564	$ 848,703	0.66%
Fixed Income & Cash	705	475	1,180	583,884	0.20%
Real Assets	2,508	1,657	4,165	538,606	0.77%
TOTAL	**$ 6,236**	**$ 4,673**	**$ 10,909**	**$ 1,971,194**	**0.55%**

In 2019, the Texas Legislature passed Senate Bill 322 which modified Section 802.109 of the Texas Government Code to require 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.

ASSET CLASS	INVESTMENT MANAGEMENT FEES	BROKERAGE FEES OR COMMISSIONS	CARRIED INTEREST	OTHER INVESTMENT EXPENSES	TOTAL OF ALL FEES AND EXPENSES
Cash	$ -	$ -	$ -	$ -	$ -
Equity	3,375	478	-	-	3,853
Fixed Income	1,179	-	-	-	1,179
Real Assets	4,166	1,557	-	-	5,723
Alternatives (GAA & Private Equity)	2,188	-	184	-	2,372
DPFP Plan Level	-	-	-	2,249	2,249
TOTAL	**$ 10,908**	**$ 2,035**	**$ 184**	**$ 2,249**	**$ 15,376**

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

OTHER INVESTMENT EXPENSES (000's)	
Custodial	$ 221
Investment Level Valuation & Audit	433
Consulting and Reporting	364
Legal	948
Tail-end Advisory	272
Tax	9
Other	2
TOTAL	**$ 2,249**

During 2020, DPFP incurred approximately $478 thousand in brokerage fees and commissions paid through managers to trade a total of approximately 31 million shares across 116 brokerage firms. This represents an average cost of $0.016 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 Inc., NY	2,213	45	0.020
J.P. Morgan Securities Ltd.	1,538	40	0.026
Sanford C Bernstein Ltd	717	27	0.038
Credit Suisse Securities (USA) LLC	2,378	22	0.009
Merrill Lynch International	777	22	0.028
Citigroup Global Markets Ltd.	926	19	0.021
Goldman Sachs	1,808	16	0.009
Goldman Sachs International	513	16	0.031
Jefferies International	388	14	0.037
Morgan Stanley	642	14	0.022
All other firms	18,789	243	0.013
Totals	30,689	$ 478	$ 0.016

Largest Public Equity and Fixed Income Holdings

The below tables contain the ten largest public equity and fixed income securities owned at December 31, 2020. A full list of securities owned is available upon written request.

PUBLIC EQUITY HOLDING	MARKET VALUE (000's)
Alphabet Inc.	$ 20,594
Microsoft Corp.	14,453
Adobe Inc.	11,724
LVMH Moet Hennessy Louis Vuitton	10,587
Keyence Corp.	10,226
Oracle Corp.	8,906
Samsung Electronics Co.	8,842
Novartis AG	8,503
Walt Disney Co.	7,544
Fanuc Corp.	7,302

PUBLIC FIXED INCOME HOLDING	MATURITY DATE	INTEREST RATE	MARKET VALUE (000's)
United States of America Notes	7/15/2023	0.13%	$ 16,771
United States of America Notes	12/31/2023	2.25%	8,353
United States of America Notes	4/15/2023	0.25%	5,807
United States of America Notes	5/15/2023	0.13%	4,994
United States of America Notes	4/15/2021	2.38%	4,107
Citigroup Inc. Callable Notes	10/30/2024	Floating	3,268
Toyota Motor Credit Corp. Medium Term	3/30/2023	2.90%	3,222
JP Morgan Chase Commercial Mortgage	6/15/2045	3.48%	2,568
Truist Bank Callable Medium Term Note	3/9/2023	1.25%	2,559
BMW US Capital LLC Callable Notes	4/6/2023	3.80%	2,491

Investment Managers

Assets under management during 2020

AEW Capital Management

Alvarez & Marsal

Ashmore Investment Management Limited

BentallGreenOak

Boston Partners Global Investors

Brandywine Global Investment Management

BTG Pactual Asset Management

Clarion Partners

Conway MacKenzie, LLC

Forest Investment Associates

Hancock Agricultural Investment Group

Hearthstone, Inc.

Highland Capital Management

Hudson Clean Energy Partners

Income Research and Management

Industry Ventures

Invesco, Ltd.

JPMorgan Asset Management

L&B Realty Advisors

Longfellow Investment Management Company

Lone Star Investment Advisors

Loomis, Sayles & Company

Manulife Asset Management

Pacific Asset Management

RBC Global Asset Management

Riverstone Credit Partners

The Rohatyn Group

Vanguard

Walter Scott & Partners Limited

W.R. Huff Asset Management

Yellowstone Capital Partners

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ACTUARIAL INFORMATION

Actuary's Report

Segal

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www.segalco.com

November 30, 2021

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

Re: Actuarial Valuations as of January 1, 2021

Dear Board Members:

At the request of the Dallas Police and Fire Pension System (DPFP), Segal has completed January 1, 2021 actuarial valuations 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 is an independent actuary and consultant. Mr. Williams is a Fellow of the Conference of Consulting Actuaries, Associate of the Society of Actuaries, Enrolled Actuary, and Member of the American Academy of Actuaries, and is experienced in performing valuations for large public retirement systems. He meets 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 an amortization of the unfunded actuarial accrued liability (UAL). In accordance with June 2020 amendments to the funding policy adopted by the System's Board, the UAL amortization period was changed to a closed, 20-year amortization as of January 1, 2020. Beginning in 2021, future gains or losses each year are amortized over separate, closed, 10-year periods. The effective amortization period as of January 1, 2021 is 17 years. Amortization is on a level percentage of pay basis, with payroll assumed to increase 2.50% per year.

In order to determine the adequacy of the Combined Pension Plan's contribution rates, they are compared to an actuarially determined contribution intended to be sufficient to pay the normal cost (the current year's cost) and to amortize the UAL as a level percentage of payroll over a set period. In accordance with July 2020 amendments to the funding policy adopted by the System's Board, the UAL amortization period was changed to a closed, 25-year amortization as of January 1, 2020. Beginning in 2021, future gains or losses each year are amortized over separate, closed, 20-year periods. The effective amortization period as of January 1, 2021 is 24 years. For these calculations, payroll is assumed to increase 2.50% per year. For actuarial valuation purposes, Combined Plan assets are valued at actuarial value. Under the actuarial asset 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.

The Board monitors the margin or deficit between the actuarially determined recommended contribution and the statutory contribution rates. Under the System's funding policy, if the City's actual contributions are at least 2% below the actuarially determined contribution for two consecutive years, with a two-thirds vote of the Board, the Trustees will recommend an increase in the City's contribution rates. The City's contributions fell short of the actuarially determined contribution for the plan year ended December 31, 2020, by $23.5M or 12.7% of the actuarially determined contribution. The System and the actuary will monitor the contributions on the shorter amortization basis going forward.

PROGRESS TOWARD REALIZATION OF FINANCING OBJECTIVES

Combined Pension Plan

As of January 1, 2021, the City's actuarially determined contribution for the Combined Pension Plan is a dollar amount equivalent to 51.77% 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. Based on Dallas's hiring plan projections, these contribution rates are expected to achieve full funding of the System by January 1, 2084, if actuarial assumptions are met in the aggregate. This full-funding date, which is effectively a 63-year amortization of the UAL, is significantly later than was expected last year. The delay is due, in part, to the change in the valuation interest rate and coinciding long-term assumed asset return from 7% to 6.5% with this year's valuation. The changes implemented under HB3158, 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. 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 decreased from 45.73% to 41.59% between January 1, 2020 and January 1, 2021. This decrease was primarily due to investment losses, demographic experience and assumption changes. The UAL increased from $2.6 billion to $3.0 billion on an actuarial basis.

Supplemental Plan

The Supplemental Plan funded ratio decreased from 48.30% to 43.69% between January 1, 2020 and January 1, 2021. This decrease is primarily due to investment losses, demographic experience and assumption changes. The supplemental nature of this plan makes it more susceptible to fluctuations than a typical defined benefit plan. Also, Supplemental Plan assets are valued at market value, and investment gains and losses are recognized immediately.

Although the funded ratio currently is low, City contributions to this Plan are calculated in such a way as to ensure that benefits will be funded. Further, as discussed previously, the funding policy was changed from an open, 10-year amortization of the UAL to a closed, 20-year amortization with the January 1, 2020 valuation. Beginning in 2021, future gains or losses each year are amortized over separate, closed, 10-year periods. The closure of the amortization periods should accelerate progress towards 100% funding.

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, 2021 actuarial valuation were adopted by the Board following a five-year experience review for the period ended December 31, 2019. An additional change was made to the net investment return rate in 2021. The COLA assumption was also updated, as it is annually.

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 there have not been enough retirements subsequent to the plan changes becoming effective to evaluate the appropriateness of those 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 Annual Comprehensive Financial Report (ACFR).

DATA

Member data for retired, active and inactive participants was supplied as of December 31, 2020 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, 2020.

ANNUAL COMPREHENSIVE FINANCIAL REPORT SCHEDULES

Segal prepared the supporting schedules in this Actuarial Information section of the annual financial report, 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

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

Based on assumption changes and asset returns, the Combined Pension Plan's funded ratio declined from 45.7% as of January 1, 2020 to 41.6% as of January 1, 2021. Additionally, the Combined Pension Plan is projected to become fully funded by 2084 as of the January 1, 2021 valuation, an extension over the January 1, 2020 fully funded expectation of 2075. The Plan funding is based on statutorily defined rates. The Board adopted a new funding policy in December 2019 and amended the policy in July 2020. In the Board's amended policy, the amortization period was changed from 30 years to a closed 25-year period for the January 1, 2020 valuation. Beginning in 2021, future gains or losses each year are amortized over separate, closed 20 year periods. Amortization remains on a level percentage of pay basis.

The funding policy for the Supplemental Plan was changed from an open 10-year amortization of the UAL to a closed, 20-year amortization with the January 1, 2020 valuation. Beginning January 1, 2021, future gains or losses each year will be amortized over separate, closed, 10 year periods. Amortization will remain on a level percentage of pay basis. The funding policy 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, 2021. 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 89 is a summary from Segal regarding the January 1, 2021 valuations.

Actuarial Assumptions and Methods

The following assumptions were changed for the January 1, 2021 valuation:

- The net investment return assumption was lowered from 7.0% to 6.50%.
- The ad-hoc COLA assumption was updated to begin October 1, 2069. Last year, the COLA was assumed to begin October 1, 2063.

In conjunction with the January 1, 2020 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, 2020. Adjustments to the demographic and economic assumptions were made in the January 1, 2020 valuation based on the results of the experience study.

The following assumptions were changed for the January 1, 2020 valuation:

- The net investment return assumption was lowered from 7.25% to 7.0%.
- The salary scale assumption was updated based on the 2019 Meet and Confer agreement, with a new ultimate rate of 2.5%.
- The payroll growth assumption was lowered from 2.75% to 2.50%.
- The mortality rates were updated to the Pub-2010 Public Safety Amount-weighted Mortality Tables, with varying adjustments by status and sex, projected generationally with Scale MP-2019.
- The withdrawal rates were updated and the ultimate 0% rate was moved up from 38 to 25 years of service.
- The DROP retirement rates were increased at most ages and the ultimate 100% retirement was updated from the earlier of 67 years or 8 years in DROP to the earlier of age 65 or 10 years in DROP.
- The non-DROP retirement rates were lowered at most ages and simplified from three sets to two sets of rates.
- The retirement assumption for inactive vested participants was updated to include an assumption that 75% of those who terminate with a vested benefit prior to age 40 will take a cash out at age 40.
- The DROP annuitization interest rate for account balances as of September 1, 2017 was lowered from 3.0% to 2.75%.
- The ad-hoc COLA assumption was updated to begin October 1, 2063. Last year, the COLA was assumed to begin October 1, 2050.
- The system's expectations for near-term market returns were lowered to -6.00% for 2020, +5.25% for 2021, +5.75% for 2022 and +6.25% for 2023. For valuation purposes, these return assumptions are used for determining the projected full-funding date and the projected COLA start date.

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 2019.
- The ad-hoc COLA assumption was updated to begin October 1, 2050 based on the updated projection of the unfunded actuarial accrued liability; the COLA was assumed to begin October 1, 2053 in the January 1, 2018 valuation.

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 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, 2021 valuation projects the full funding of the plan at 63 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 at January 1, 2021 over a closed 20 years. Beginning in January 1, 2021, future gains and losses each year will be amortized over separate, closed 10 year periods.

A summary of the actuarial assumptions and methods used in the January 1, 2021 actuarial valuation follows.

Investment Rate of Return: 6.50% per annum, compounded annually, net of investment expenses. This rate reflects an underlying inflation rate of 2.50% and a real rate of return of 4.00%. Market value asset returns are expected to be 5.25% in 2021, 5.75% in 2022, 6.25% in 2023 and 6.50% annually thereafter.

Discount Rate: 6.50% 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 per year or 1% of the Computation Pay for the Supplemental Plan.

DROP Interest: DROP balances for active participants are assumed to earn 2.75% upon retirement and balances accrued after September 1, 2017 do not earn interest.

Salary Scale: Range of 2.5% to 3.25% 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, 2019 and the 2019 Meet and Confer Agreement.

In years 2020 and thereafter:

	OFFICERS	CORPORALS, DRIVERS, SENIOR OFFICERS & CHIEFS	SERGEANTS, LIEUTENANTS, CAPTAINS, MAJORS, DEPUTY CHIEFS & ASSISTANT CHIEFS
Year	**RATE (%)**		
2020 – 2022	3.25%	3.00%	2.50%
2023 and thereafter	2.50%	2.50%	2.50%

Payroll Growth Rate: Total payroll is assumed to increase 2.50% 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 2020 is as follows:

AGE	ANNUAL RATE OF RETIREMENT	
	Police	**Fire**
Under 50	1.00%	0.75%
50	10.00%	0.75%
51	15.00%	0.75%
52 - 53	15.00%	10.00%
54	25.00%	10.00%
55 - 57	25.00%	15.00%
58 - 62	30.00%	40.00%
63	40.00%	50.00%
64	50.00%	50.00%
65 and over	100.00%	100.00%

Note: 100% retirement rate after ten years in DROP.

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 AT LEAST 20 YEARS OF SERVICE AS OF SEPTEMBER 1, 2017	MEMBERS HIRED PRIOR TO MARCH 1, 2011 WITH LESS THAN 20 YEARS OF SERVICE AS OF SEPTEMBER 1, 2017 & MEMBERS HIRED ON OR AFTER MARCH 1, 2011
Age	Annual Rate of Retirement	
Under 50	1.00%	1.00%
50 - 51	8.00%	2.00%
52	10.00%	2.00%
53	15.00%	2.00%
54	20.00%	2.00%
55	35.00%	2.00%
56 – 57	40.00%	2.00%
58 – 60	75.00%	25.00%
61	75.00%	50.00%
62	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:

Healthy Pre-retirement – Pub-2010 Public Safety Employee Amount-Weighted Mortality Table, set forward five years for males

Healthy annuitants and dependent spouses - Pub-2010 Public Safety Retiree Amount-Weighted Mortality Table, set back one year for females

Healthy contingent beneficiaries - Pub-2010 Public Safety Contingent Survivor Amount-Weighted Mortality Table, set back one year for females

Disabled annuitants – Pub-2010 Public Safety Disabled Retiree Amount-Weighted Mortality Table, set forward four years for males and females

All tables are projected generationally using Scale MP-2019.

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	
	Police	Fire
<1	20.00%	10.00%
1	5.50%	5.50%
2	5.50%	5.50%
3	5.50%	5.50%
4	5.50%	5.50%
5	5.50%	5.50%
6	3.50%	5.50%
7	3.50%	1.00%
8	3.50%	1.00%
9	3.50%	1.00%
10	3.50%	1.00%
11 - 14	2.00%	1.00%
15 - 24	1.00%	1.00%
25 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: The DROP utilization factor is 0% for new entrants.

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, 2069 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 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. The Combined Pension Plan amortizes the unfunded liability at January 1, 2020 over a closed 25-year period. Beginning in January 1, 2021, future gains and losses each year are amortized over separate, closed, 20 year periods. The Supplemental Pension Plan amortizes the unfunded liability at January 1, 2020 over a closed 20-year period. Beginning January 1, 2021, future gains or losses each year will be amortized over separate, closed 10 year periods.

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. The actuarial value of assets was reset to market value as of December 31, 2015. Future gains and losses are recognized over a five-year smoothing period, further adjusted, if necessary, to be within 20% of market value.

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 6.50%. This assumption was last changed as of January 1, 2021 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 6.50% 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	(6.1%)	(24.8%)
2009	12.3%	13.8%
2010	2.7%	10.7%
2011	0.4%	(1.8%)
2012	14.8%*	9.9%
2013	4.5%	7.7%
2014	(2.0%)	(5.3%)
2015	(24.0%)*	(8.5%)
2016	7.2%	6.8%
2017	6.6%	4.7%
2018	5.5%	2.1%
2019	5.1%	6.3%
2020	3.5%	(0.4%)
5-year average return	5.6%	4.0%
10-year average return	(0.8%)	1.8%
12-year average return	0.2%	0.8%

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, 2020	$ 2,563,847
Normal cost at beginning of year	69,084
Total contributions	(219,256)
Total interest	176,718
Expected unfunded actuarial accrued liability as of January 1, 2020 **(a)**	2,590,393
Changes due to:	
Net experience loss	141,018
Plan provisions	-
Assumptions	256,721
Total changes **(b)**	397,739
Unfunded actuarial accrued liability at year end **(a+b)**	2,988,132
Actuarial accrued liability at beginning of year	4,723,972
Net (gain)/loss as a percentage of actuarial accrued liability at beginning of year	3.0%

SUPPLEMENTAL PLAN	
Unfunded actuarial accrued liability as of January 1, 2020	$ 18,523
Normal cost at beginning of year	448
Total contributions	(2,023)
Total interest	1,258
Expected unfunded actuarial accrued liability as of January 1, 2020 **(a)**	18,206
Changes due to:	
Net experience loss	1,341
Plan provisions	-
Assumptions	1,559
Total changes **(b)**	2,900
Unfunded actuarial accrued liability at year end **(a+b)**	21,106
Actuarial accrued liability at beginning of year	25,830
Net (gain)/loss as a percentage of actuarial accrued liability at beginning of year	3.7%

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 Contribution	Retirees, Beneficiaries, and Vested Termination	Active Members (Employer Financed Portion)	Total Actuarial Accrued Liability	Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Assets (1)	(2)	(3)*
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%
2020	317,954	3,301,584	1,104,434	4,723,972	2,160,126	100.0%	56.4%	0.0%
2021	352,376	3,528,182	1,235,408	5,115,966	2,127,834	100.0%	50.9%	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 Termination	Active Members (Employer Financed Portion)	Total Actuarial Accrued Liability	Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Assets (1)	(2)	(3)*
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%
2020	203	32,120	3,507	35,830	17,307	100.0%	53.5%	0.0%
2021	399	32,901	4,181	37,481	16,374	100.0%	48.7%	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
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%
2020	5,121	396,955	78	7.0%
2021	5,106	427,441	84	8.0%

Supplemental Plan (Dollars in Thousands)

JAN. 1 VALUATION DATE	ACTIVE MEMBERS	ANNUAL COVERED PAYROLL	ANNUAL AVERAGE PAY	% CHANGE IN ANNUAL AVERAGE PAY
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%)
2020	41	599	15	(13.5%)
2021	45	643	14	(2.2%)

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**
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%
2020	238	12,205	131	5,128	4,956	255,251	52	0.8%
2021	191	9,695	144	5,880	5,003	258,942	52	0.5%

** 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)
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
2020	2,160,126	4,723,972	45.7%	2,563,846	396,955	646%	55
2021	2,127,834	5,115,967	41.6%	2,988,133	427,441	699%	63

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
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%
2020	17,307	35,830	48.3%	18,523	599	3,091%
2021	16,374	37,481	43.7%	21,107	643	3,283%

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

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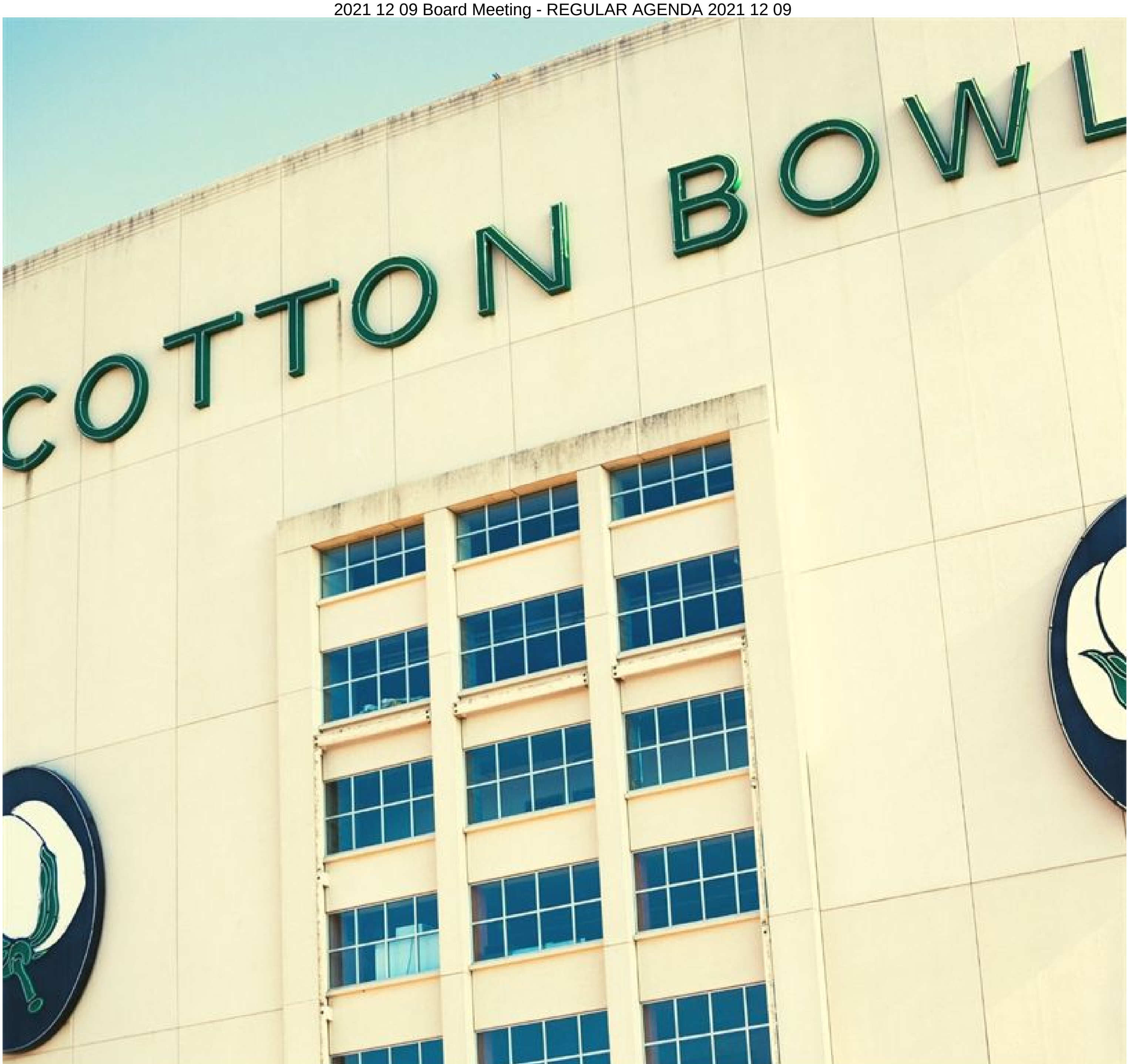


STATISTICAL INFORMATION

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, 2020.

The Distributions by Type schedules present the amount of monthly benefit payments and DROP distributions by type for the 10 years ending December 31, 2020.

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, 2020.

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, 2020.

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, 2020.

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, 2020.

The Membership Count schedules reflect the number of members by status type for the 10 years ending December 31, 2020.

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, 2020.

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

Combined Pension Plan* (In Millions)

YEARS ENDED DECEMBER 31,	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Additions (Reductions)										
Contributions										
City	$ 162.0	$ 155.7	$ 149.4	$ 126.3	$ 119.4	$ 114.9	$ 109.8	$ 106.1	$ 103.9	$ 102.4
Members	57.3	52.3	49.3	33.0	25.5	25.7	29.3	26.2	22.8	19.5
Total contributions	219.3	208.0	198.7	159.3	144.9	140.6	139.1	132.3	126.7	121.9
Investment income (loss)										
Net appreciation (depreciation) in fair value of investments	(30.4)	94.2	5.5	74.8	121.5	(298.8)	(222.1)	93.5	297.6	(44.9)
Interest and dividends	29.6	37.7	44.7	30.9	54.4	72.9	93.8	85.9	60.5	52.4
Total gross investment income (loss)	(0.8)	131.9	50.2	105.7	175.9	(225.9)	(128.3)	179.4	358.1	7.5
Less: Investment expense	(8.4)	(8.1)	(8.0)	(9.0)	(11.7)	(10.0)	(11.2)	(10.0)	(28.6)	(32.1)
Net investment income (loss)	(9.2)	123.8	42.2	96.7	164.2	(235.9)	(139.5)	169.4	329.5	(24.6)
Securities lending income	1.0	0.8	0.3	0.2	0.7	0.7	0.8	1.1	0.7	0.6
Securities lending expense	(1.0)	(0.7)	(0.2)	(0.1)	(0.3)	(0.2)	(0.2)	(0.3)		
Net securities lending income	-	0.1	0.1	0.1	0.4	0.5	0.6	0.8	0.7	0.6
Other income	0.3	0.3	0.5	2.1	0.2	0.1	-	-	2.1	0.4
Total additions (reductions)	**210.4**	**332.2**	**241.5**	**258.2**	**309.7**	**(94.7)**	**0.2**	**302.5**	**459.0**	**98.3**
Deductions										
Benefits paid to members	315.7	307.2	294.4	292.6	821.7	283.2	244.2	218.0	201.6	188.1
Refunds paid to members	2.3	2.6	2.6	3.6	3.4	1.8	1.7	0.9	1.5	0.7
Interest expense	-	-	-	1.3	4.5	6.0	7.4	5.8	-	-
Professional and administrative expenses	6.5	6.5	5.9	8.1	9.5	8.4	8.0	7.4	6.3	6.9
Total deductions	**324.5**	**316.3**	**302.9**	**305.6**	**839.1**	**299.4**	**261.3**	**232.1**	**209.4**	**195.7**
Net increase (decrease) in net position	(114.1)	15.9	(61.4)	(47.4)	(529.4)	(394.1)	(261.1)	70.4	249.6	(97.4)
Net position held in trust restricted for pension benefits										
Beginning of period	2,057.8	2,041.9	2,103.3	2,150.7	2,680.1	3,074.2	3,335.3	3,264.9	3,015.3	3,112.7
End of period	$ 1,943.7	$ 2,057.8	$ 2,041.9	$ 2,103.3	$ 2,150.7	$ 2,680.1	$ 3,074.2	$ 3,335.3	$ 3,264.9	$ 3,015.3

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

Changes in Fiduciary Net Position

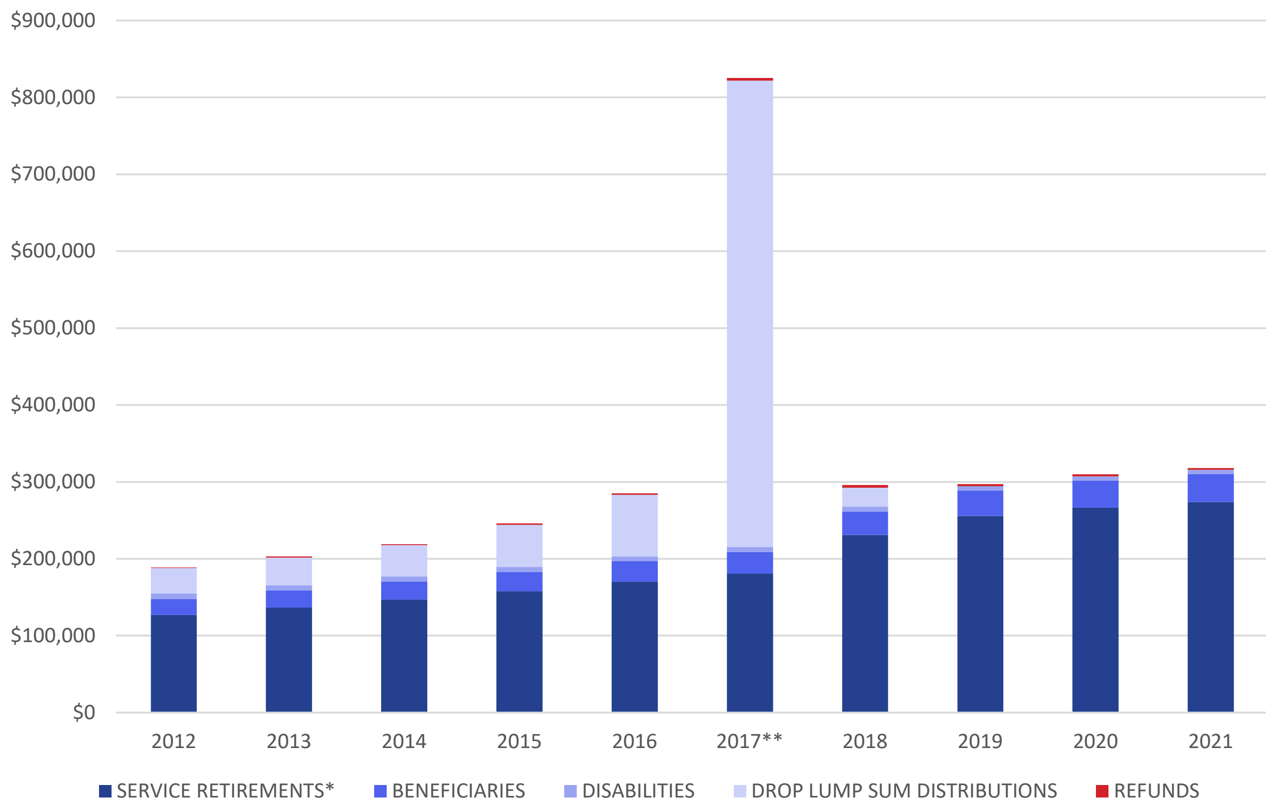
Combined Pension Plan* (In Millions)

YEARS ENDED DECEMBER 31,	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Additions (Reductions)										
Contributions										
City	$ 1.8	$ 1.5	$ 2.0	$ 2.0	$ 3.1	$ 2.5	$ 1.8	$ 1.9	$ 2.0	$ 1.5
Members	0.2	0.1	0.1	0.1	-	-	0.1	0.1	-	-
Total contributions	2.0	16	2.1	2.1	3.1	2.5	1.9	2.0	2.0	1.5
Investment income (loss)										
Net appreciation (depreciation) in fair value of investments	(0.3)	(0.1)	0.9	0.5	0.8	(2.1)	(1.1)	0.7	2.0	(0.3)
Interest and dividends	0.2	0.3	0.4	0.3	0.4	0.5	0.6	0.6	0.4	0.4
Total gross investment income (loss)	(0.1)	0.2	1.3	0.8	1.2	(1.6)	(0.5)	1.3	2.4	0.1
Less: Investment expense	-	-	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)	(0.2)
Net investment income (loss)	(0.1)	0.2	1.2	0.7	1.1	(1.7)	(0.6)	1.2	2.2	(0.1)
Securities lending income	-	-	-	-	-	-	-	-	-	-
Securities lending expense	-	-	-	-	-	-	-	-	-	-
Net securities lending income	-	-	-	-	-	-	-	-	-	-
Other income	-	-	-	-	-	-	-	-	-	-
Total additions (reductions)	**1.9**	**1.8**	**3.3**	**2.8**	**4.2**	**0.8**	**1.3**	**3.2**	**4.2**	**1.4**
Deductions										
Benefits paid to members	-	-	-	-	-	-	-	-	-	-
Refunds paid to members	2.3	2.6	2.6	3.6	3.4	1.8	1.7	0.9	1.5	0.7
Interest expense	-	-	-	-	-	-	-	-	-	-
Professional and administrative expenses	-	-	-	-	-	-	-	-	-	-
Total deductions	**2.8**	**2.8**	**2.8**	**2.7**	**6.0**	**2.7**	**3.5**	**2.3**	**1.9**	**2.1**
Net increase (decrease) in net position	(0.9)	(1.0)	0.5	0.1	(1.8)	(1.9)	(2.2)	0.9	2.3	(0.7)
Net position held in trust restricted for pension benefits										
Beginning of period	17.3	18.3	17.8	17.7	19.5	21.4	23.6	22.7	20.4	21.1
End of period	$ 16.4	$ 17.3	$ 18.3	$ 17.8	$ 17.7	$ 19.5	$ 21.4	$ 23.6	$ 22.7	$ 20.4

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

Distributions by Type

Combined Pension Plan (In Thousands)

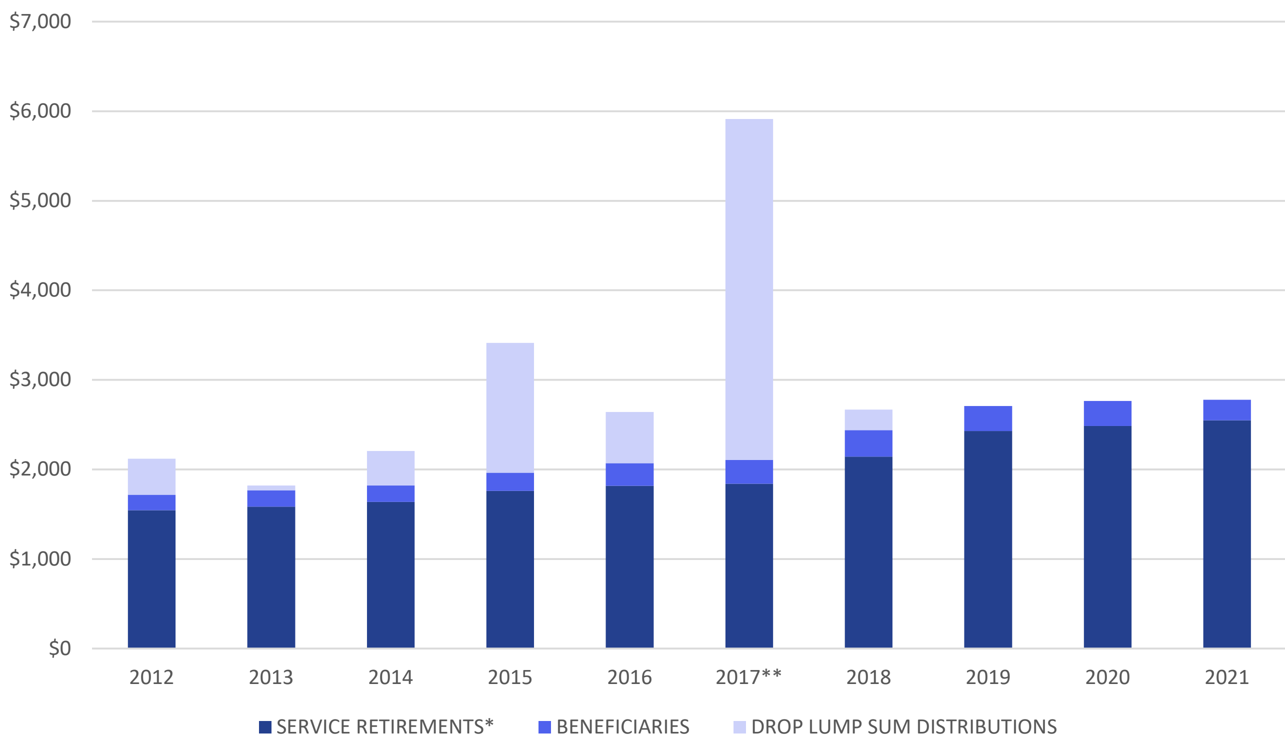


JAN. 1 VALUATION DATE	SERVICE RETIREMENTS*	BENEFICIARIES	DISABILITIES	DROP LUMP SUM DISTRIBUTIONS	REFUNDS	TOTAL
2012	$ 127,048	$ 20,860	$ 6,860	$ 33,325	$ 736	$ 188,829
2013	136,677	22,338	6,724	35,826	1,535	203,100
2014	146,846	23,849	6,543	40,744	900	218,882
2015	157,987	25,104	6,433	54,675	1,733	245,932
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
2020	266,578	35,026	5,609	31	2,617	309,861
2021	273,752	36,580	5,330	13	2,276	317,951

**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
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
2020	2,486	279	-	2,765
2021	2,549	228	-	2,777

**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 CREDIT	DEFERRALS	INTEREST CREDITED	WITHDRAWALS	ADJUSTMENTS	CHANGE	BALANCE	ANNUITY PAYMENTS	ANNUITY BALANCE
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
2020	0.00%	21,184	(1) [6]	(50,005)	(9,804)	(38,626)	155,480	(57,183)	887,294
2021	0.00%	17,876	-	(36,847)	23	(18,948)	136,532	(61,346)	873,717

** 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] 2019 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, 2020)

MONTHLY BENEFIT RANGE	TOTAL NUMBER OF BENEFITS	SERVICE RETIREMENTS	DISABILITIES	BENEFICIARIES	NON-ACTIVE VESTED	ACTIVE DROP
$0 - $500	90	34	2	49	4	1
$501 - $1,000	259	57	-	83	118	1
$1,001 - $1,500	287	85	1	134	63	4
$1,501 - $2,000	560	82	1	439	30	8
$2,001 - $2,500	260	80	9	149	8	14
$2,501 - $3,000	287	160	22	77	14	14
$3,001 - $3,500	254	163	21	47	-	23
$3,501 - $4,000	476	393	40	17	3	23
$4,001 - $4,500	488	387	14	34	-	53
$4,501 - $5,000	530	441	6	32	-	51
$5,001 - $5,500	517	431	2	23	-	61
$5,501 - $6,000	486	412	5	24	2	43
$6,001 - $6,500	336	280	1	16	-	39
$6,501 - $7,000	299	266	1	17	-	15
$7,001 - $7,500	206	185	2	2	-	17
$7,501 - $8,000	117	102	-	5	-	10
$8,001 - $8,500	55	52	-	2	-	1
Over $8,500	74	66	-	3	-	5
Total	**5,581**	**3,676**	**127**	**1,153**	**242**	**383**

** 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
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
2019								
Retirements	3	5	7	28	64	50	2	159
Avg. FAS	$ 3,789	$ 1,563	$ 2,044	$ 2,499	$ 4,468	$ 6,626	$ 6,769	$ 4,618
Avg. benefit	$ 898	$ 426	$ 882	$ 1,612	$ 3,593	$ 6,160	$ 5,092	$ 3,800
2020								
Retirements	2	4	5	20	52	28	20	131
Avg. FAS	$ 3,002	$ 4,612	$ 3,601	$ 3,504	$ 4,956	$ 7,186	$ 7,179	$ 5,458
Avg. benefit	$ 641	$ 1,262	$ 2,320	$ 2,136	$ 3,821	$ 6,221	$ 6,681	$ 4,329

** 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, 2020		NUMBER	ANNUAL BENEFIT	AVERAGE ANNUAL BENEFIT
Retired members				
	Service pensions	3,676	$ 214,178	$ 58
	Disabilities	127	5,464	43
	Total	3,803	$ 219,642	$ 58
Beneficiaries*				
	Total	1,153	$ 31,596	$ 27
Total		**4,956**	**$ 251,238**	**$ 51**

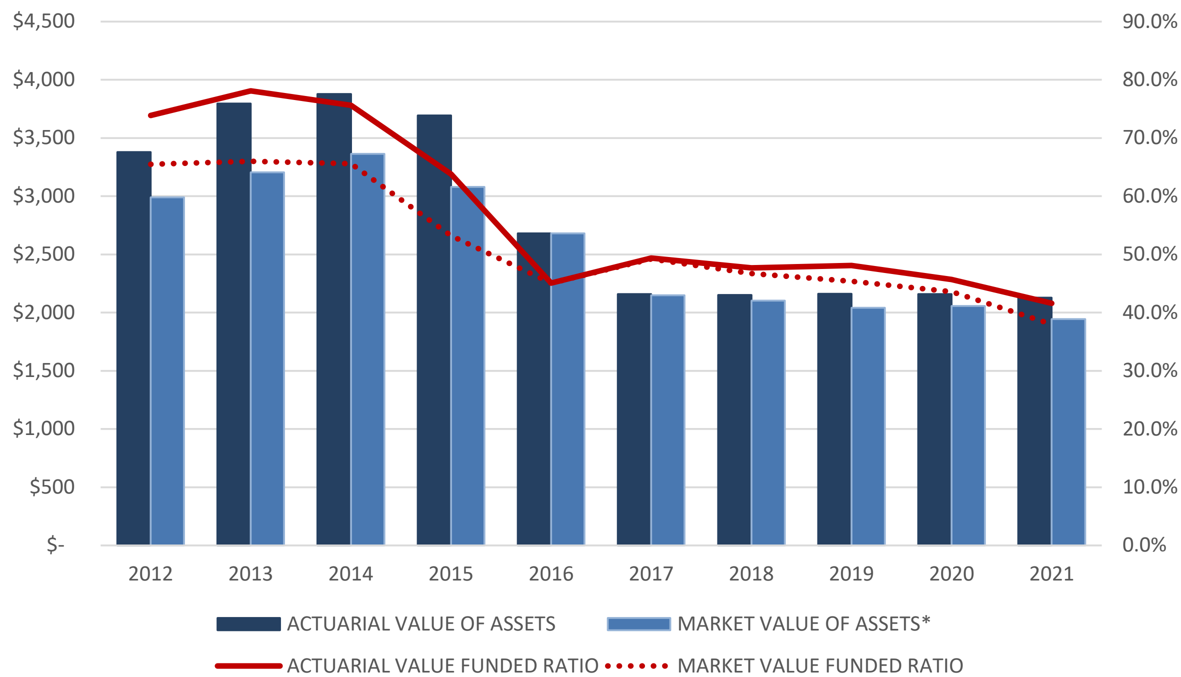
Supplemental Plan (Dollars in Thousands)

DECEMBER 31, 2020		NUMBER	ANNUAL BENEFIT	AVERAGE ANNUAL BENEFIT
Retired members				
	Service pensions	116	$ 2,215	$ 19
	Total	116	$ 2,215	$ 19
Beneficiaries*				
	Total	23	$ 262	$ 11
Total		**139**	**$ 2,477**	**$ 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)

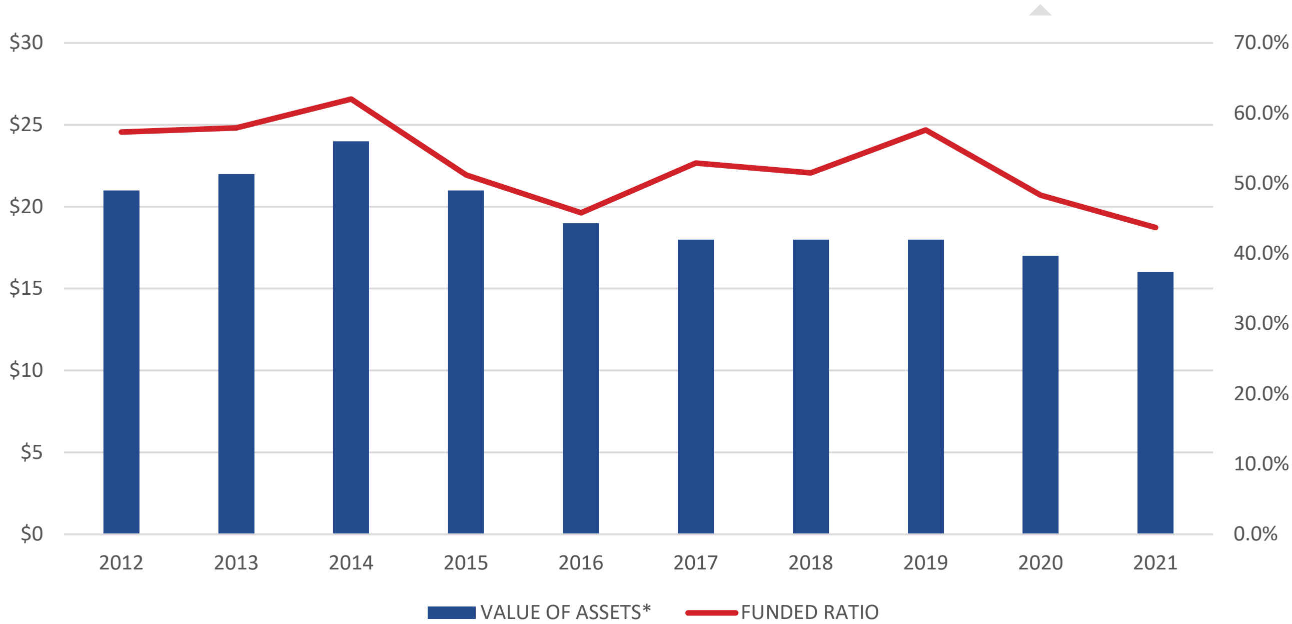


JAN. 1 VALUATION DATE	ACTUARIAL VALUE OF ASSETS	MARKET VALUE OF ASSETS*	ACTUARIAL VALUE FUNDED RATIO	MARKET VALUE FUNDED RATIO
2012	$ 3,378	$ 2,991	73.9%	65.5%
2013	3,795	3,206	78.1%	66.0%
2014	3,877	3,363	75.6%	65.6%
2015	3,695	3,079	63.8%	53.2%
2016	2,680	2,680	45.1%	45.1%
2017	2,158	2,150	49.4%	49.2%
2018	2,151	2,103	47.7%	46.7%
2019	2,162	2,042	48.1%	45.4%
2020	2,160	2,058	45.7%	43.6%
2021	2,128	1,944	41.6%	38.0%

** 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
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%
2020	17	48.3%
2021	16	43.7%

** 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
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
2020	4,738	383	3,803	1,236	242	434	10,836
2021	4,786	320	3,840	1,270	241	442	10,899

Supplemental Plan

JAN. 1 VALUATION DATE	ACTIVE (EXCLUDING DROP)	ACTIVE DROP	RETIREES	BENEFICIARIES	NON-ACTIVE VESTED	TOTAL
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
2020	38	3	116	23	2	182
2021	43	2	118	23	2	188

DROP Participation

Consolidated Plans* (Dollars in Millions)

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Active - DROP Participants										
Beginning of year	383	483	626	1,102	1,33	1,399	1,434	1,44	1,409	1,425
Entrants	11	15	15	17	36	121	107	15	190	176
Withdrawals	(74)	(115)	(158)	(493)	(272)	(182)	(142)	(167)	(153)	(192)
End of year	320	383	483	626	1,102	1,338	1,399	1,434	1,446	1,409
DROP balance at December 31	$ 135	$ 154	$ 192	$ 242	$ 358	$ 479	$ 461	$ 441	$ 434	$ 425

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Retirees and Beneficiaries - DROP Participants										
Beginning of year	12	16	16	1,876	2,085	1,971	1,855	1,718	1,525	1,414
Additions	-	-	3	-	204	168	170	190	215	173
Closures	(2)	(5)	(3)	(1,860)	(413	(54)	(54)	(53)	(22)	(62)
End of year	10	11	16	16	1,876	2,085	1,971	1,855	1,718	1,525
DROP balance at December 31	$ 1	$ 1	$ 2	$ 2	$ 703	$ 1,038	$ 962	$ 858	$ 738	$ 630

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total DROP participants	**330**	**394**	**499**	**642**	**2,978**	**3,423**	**3,370**	**3,289**	**3,164**	**2,934**

** 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

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Retirees and Beneficiaries - DROP Annuities										
Beginning of year	2,342	2,186	1,978	-	-	-	-	-	-	-
Additions	109	173	216	1,978	-	-	-	-	-	-
Closures	(1)	(17)	(8)	-	-	-	-	-	-	-
End of year	2,450	2,342	2,186	1,978	-	-	-	-	-	-
Present Value of Annuities at December 31	$ 870	$ 880	$ 829	$ 810	-	-	-	-	-	-

Supplemental Plan

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Retirees and Beneficiaries - DROP Annuities										
Beginning of year	66	57	55	-	-	-	-	-	-	-
Additions	2	9	2	55	-	-	-	-	-	-
Closures	(1)	-	-	-	-	-	-	-	-	-
End of year	67	66	57	55	-	-	-	-	-	-
Present Value of Annuities at December 31	$ 7	$ 7	$ 4	$ 7	-	-	-	-	-	-

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DALLAS POLICE & FIRE PENSION SYSTEM

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DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C4

Topic: **Chairman's Discussion Item**

2022 Board Calendar

Discussion: The Chairman will brief the Board on the status of this item.

Regular Board Meeting – Thursday, December 9, 2021

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2022 BOARD MEETING DATES

Date	Starting Time	Type of Meeting	Posting/ Publication Date
Jan. 13	8:30 AM	Regular	Jan. 7
Feb. 10	8:30 AM	Regular	Feb. 4
Mar. 10	8:30 AM	Regular	Mar. 4
Apr. 14	8:30 AM	Regular	Apr. 8
May. 12	8:30 AM	Regular and Required Public Meeting	May. 6
Jun. 9	8:30 AM	Regular	Jun. 3
Jul. 14	8:30 AM	Regular	Jul. 8
Aug. 11	8:30 AM	Regular	Aug. 5
Sep. 8	8:30 AM	Regular	Sep. 2
Oct. 13	8:30 AM	Regular	Oct. 7
Nov. 10	8:30 AM	Regular and Required Public Meeting*	Nov. 4
Dec. 8	8:30 AM	Regular	Dec. 2

Board meetings normally are held on the second Thursday of the month in the Second Floor Board Room, 4100 Harry Hines Blvd., Dallas, Texas.

*The second Required Public Meeting date is subject to change; it will coincide with the Actuarial Valuation presentation.

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DISCUSSION SHEET

ITEM #C5

Topic: **Report on Professional Services Provider Meeting**

Discussion: According to the Committee Policy and Procedure, the Professional Services Committee is responsible for meeting privately with the external service providers, without DPFP staff present, at minimum on an annual basis. The purpose of such a meeting is to provide a forum for the service provider to provide candid comments to the Professional Services Committee. The policy provides that the Committee report to the Board any material comments and recommend to the Board any appropriate actions needed as a result of the meeting with the service provider.

The Professional Service Committee had a phone meeting with Chuck Campbell of Jackson Walker LLP on November 30, 2021 and will report on the results of that meeting.

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DISCUSSION SHEET

ITEM #C6

Topic: **Portfolio Update**

Discussion: Investment Staff will brief the Board on recent events and current developments with respect to the investment portfolio.

Regular Board Meeting – Thursday, December 9, 2021

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Portfolio Update

December 9, 2021

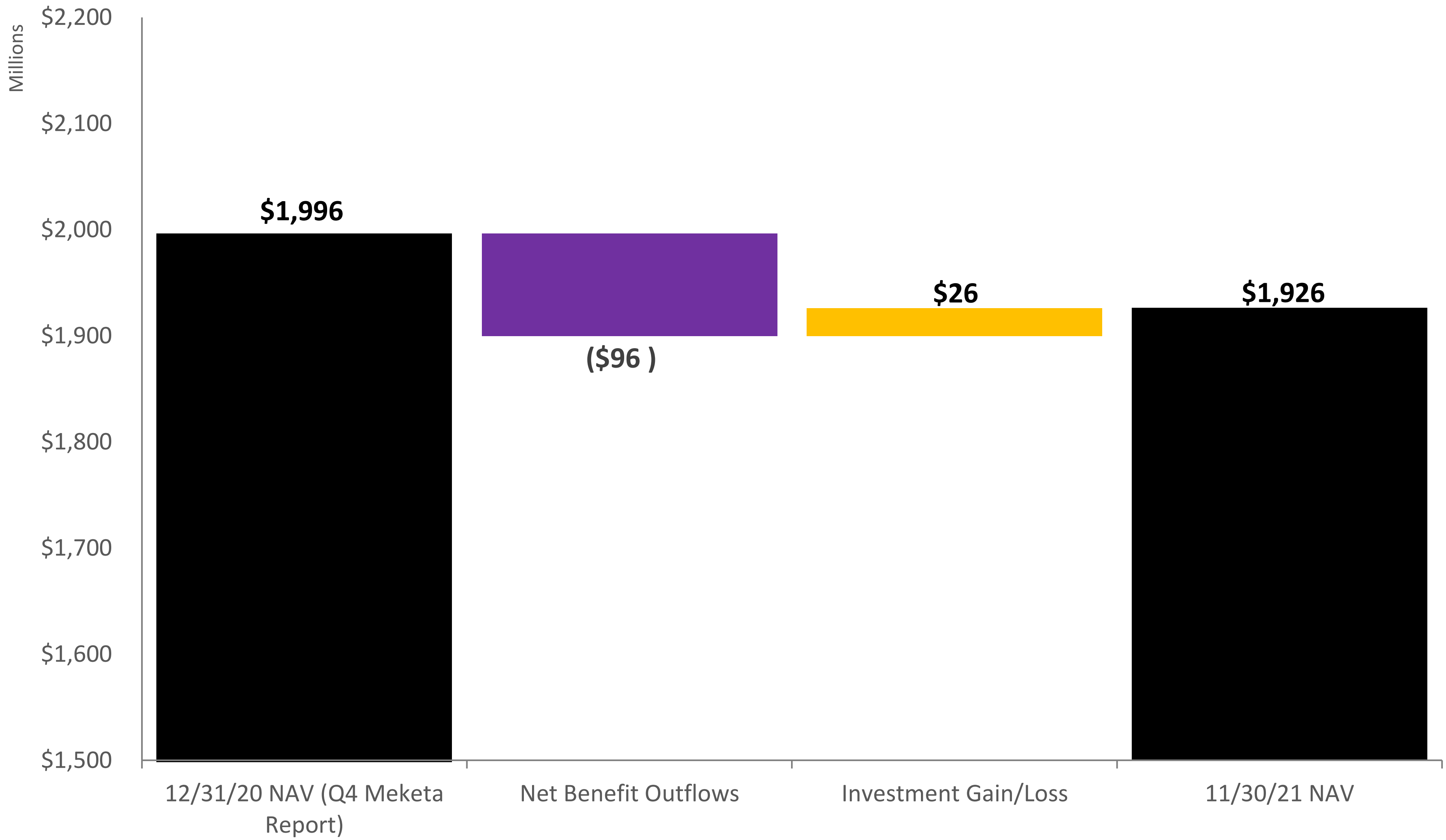
Executive Summary

- Liquidation of private market assets remains the top focus.
  - Received $159M in distributions year to date.
  - ~$10M in additional distributions projected thru year-end.
- Rebalancing Activity: $123M of capital redeployed into Global Equity, EM Equity and EM Debt during 2021, towards new Asset Allocation. An additional ~$35M of rebalancing to occur by year-end.
- International Small Cap Search: RFP's received from six firms. Staff plans to invite 2-3 finalists to present to IAC at December meeting.
- Estimated Year-to-Date Return: 1.3% for DPFP portfolio; 6.8% for Public Markets (ex-Cash) which accounts for 69% of the assets.

2021 YTD Change in Market Value Bridge Chart

In Millions

Annual Investment Return estimated at 1.3% YTD as of 11/30/21



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Public Markets Performance Snapshot - Estimates

Public Markets (ex-Cash) currently make up 69% of DPFP Investment Portfolio.

		Nov-21			YTD as of 11/30/21		
Net of fees	**Index**	**Manager**	**Index**	**Excess**	**Manager**	**Index**	**Excess**
Total Public Portfolio (ex-Cash)	**60% MSCI ACWI IMI / 40% BBG Global AGG**	**-2.6%**	**-1.6%**	**-1.0%**	**6.8%**	**6.2%**	**0.6%**
Global Equity	**MSCI ACWI IMI**	**-3.3%**	**-2.7%**	**-0.6%**	**13.7%**	**13.7%**	**0.0%**
Boston Partners	MSCI World	-4.5%	-2.2%	-2.3%	15.4%	16.8%	-1.4%
Manulife	MSCI ACWI	-3.2%	-2.4%	-0.8%	14.7%	14.0%	0.8%
Invesco (OFI)	MSCI ACWI	-3.6%	-2.4%	-1.2%	11.2%	14.0%	-2.8%
Walter Scott	MSCI ACWI	-3.0%	-2.4%	-0.6%	13.1%	14.0%	-0.9%
Northern Trust ACWI IMI Index	MSCI ACWI IMI	-2.6%	-2.7%	0.0%	10.8%	10.6%	0.2%
Eastern Shore US Small Cap	Russell 2000	-2.5%	-4.2%	1.6%			
EM Equity - RBC	**MSCI EM IMI**	**-3.5%**	**-3.9%**	**0.4%**	**-7.5%**	**-2.4%**	**-5.2%**
Public Fixed Income (ex-Cash)	**BBG Multiverse TR**	**-1.0%**	**-0.4%**	**-0.6%**	**-1.1%**	**-4.5%**	**3.4%**
S/T IG Bonds - IR+M	BBG 1-3YR AGG	-0.2%	-0.1%	-0.1%	-0.3%	-0.3%	0.0%
IG Bonds - Longfellow	BBG US AGG	0.2%	0.3%	-0.1%	-0.5%	-1.3%	0.8%
Bank Loans - Pacific Asset Management	CS Leveraged Loan	-0.4%	-0.5%	0.1%	4.1%	4.3%	-0.2%
High Yield - Loomis Sayles	BBG USHY 2% Cap	-1.6%	-1.0%	-0.6%	1.6%	3.3%	-1.7%
EM Debt - Ashmore	50% JPM EMBI / 25% ELMI / 25% GBI-EM	-3.7%	-3.7%	0.0%	-11.1%	-6.7%	-4.4%

Source: JPM Morgan custody data, manager reports, Investment Staff estimates and calculations. Numbers may not foot due to rounding.

** - Ashmore Benchmark performance for prior month is equal to the manager return due to lag in benchmark reporting*

*** - Eastern Shore performance inception date 09/03/2021*

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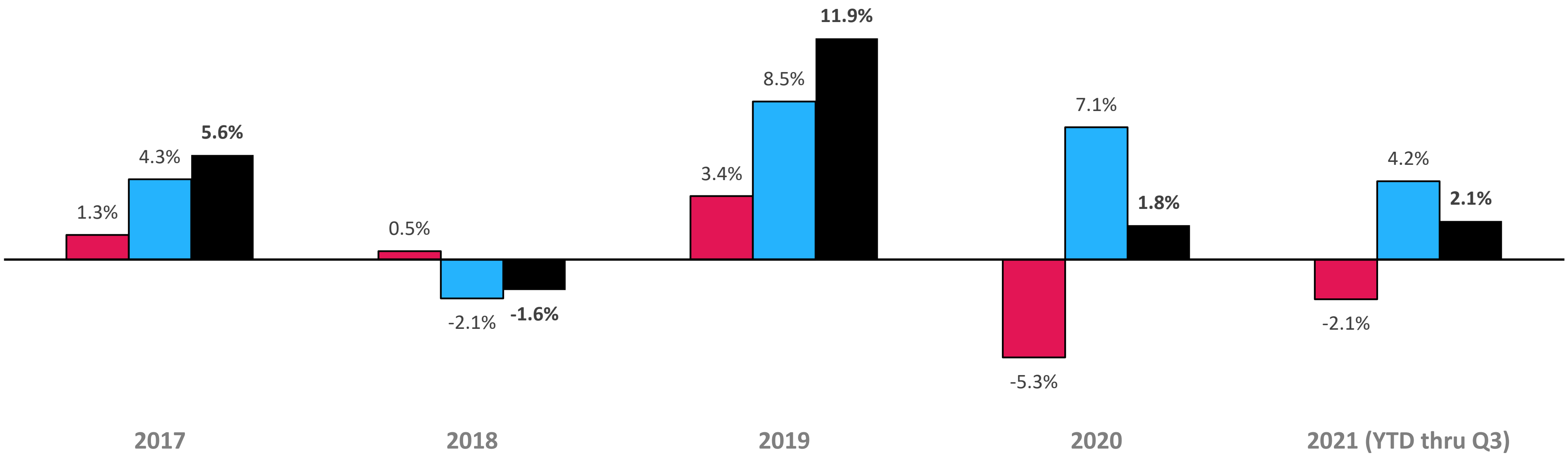
Return Contribution from Public and Private Markets

As of 9/30/2021



	2017	2018	2019	2020	2021 (YTD)
Private Markets Avg. Allocation	62.8%	50.1%	43.2%	41.0%	32.9%
Private Markets Return	2.1%	0.9%	7.9%	-12.9%	-6.5%
Private Markets Return Contribution	1.3%	0.5%	3.4%	-5.3%	-2.1%
Public Markets Avg. Allocation	37.2%	49.9%	56.8%	59.0%	67.1%
Public Markets Return	11.6%	-4.2%	15.0%	12.1%	6.3%
Public Markets Return contribution	4.3%	-2.1%	8.5%	7.1%	4.2%
DPFP Total Return	**5.6%**	**-1.6%**	**11.9%**	**1.8%**	**2.1%**

* - DPFP Total Return is a calculation derived from annual average market value of Public and Private markets, respectively. Typically matches actual DPFP annual return within 50 basis points.

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Asset Allocation Detail

DPFP Asset Allocation	11/30/2021 NAV	%	Target $ mil.	%	Variance $ mil.	%
Equity	**1,023**	**53.1%**	**1,252**	**65%**	**-229**	**-11.9%**
Global Equity	797	41.4%	1,059	55%	-262	-13.6%
Boston Partners	*139*	*7.2%*	*154*	*8%*	*-15*	*-0.8%*
Manulife	*139*	*7.2%*	*154*	*8%*	*-15*	*-0.8%*
Invesco (OFI)	*139*	*7.2%*	*154*	*8%*	*-15*	*-0.8%*
Walter Scott	*140*	*7.3%*	*154*	*8%*	*-14*	*-0.7%*
Northern Trust ACWI IMI Index	*200*	*10.4%*	*289*	*15%*	*-89*	*-4.6%*
Eastern Shore US Small Cap	*40*	*2.1%*	*77*	*4%*	*-37*	*-1.9%*
Future International Small Cap Mandate	*0*	*0.0%*	*77*	*4%*	*-77*	*-4.0%*
Russell Transition	*0*	*0.0%*	*0*	*0%*	*0*	*0.0%*
Emerging Markets Equity - RBC	94	4.9%	96	5%	-3	-0.1%
Private Equity*	132	6.8%	96	5%	36	1.8%
Fixed Income	**508**	**26.4%**	**482**	**25%**	**27**	**1.4%**
Cash	64	3.3%	58	3%	6	0.3%
S/T Investment Grade Bonds - IR+M	137	7.1%	116	6%	21	1.1%
Investment Grade Bonds - Longfellow	76	4.0%	77	4%	-1	0.0%
Bank Loans - Pacific Asset Management	76	4.0%	77	4%	-1	0.0%
High Yield Bonds - Loomis Sayles	76	3.9%	77	4%	-1	-0.1%
Emerging Markets Debt - Ashmore	73	3.8%	77	4%	-4	-0.2%
Private Debt*	7	0.4%	0	0%	7	0.4%
Real Assets*	**395**	**20.5%**	**193**	**10%**	**202**	**10.5%**
Real Estate*	223	11.6%	96	5%	127	6.6%
Natural Resources*	117	6.1%	96	5%	21	1.1%
Infrastructure*	54	2.8%	0	0%	54	2.8%
Total	**1,926**	**100.0%**	**1,926**	**100%**	**0**	**0.0%**
Safety Reserve ~$162M=18 mo net CF	200	10.4%	173	9%	27	1.4%
*Private Mkt. Assets w/NAV Discount	534	27.7%	289	15%	245	12.7%

Source: Preliminary JP Morgan Custodial Data, Staff Estimates and Calculations

Numbers may not foot due to rounding

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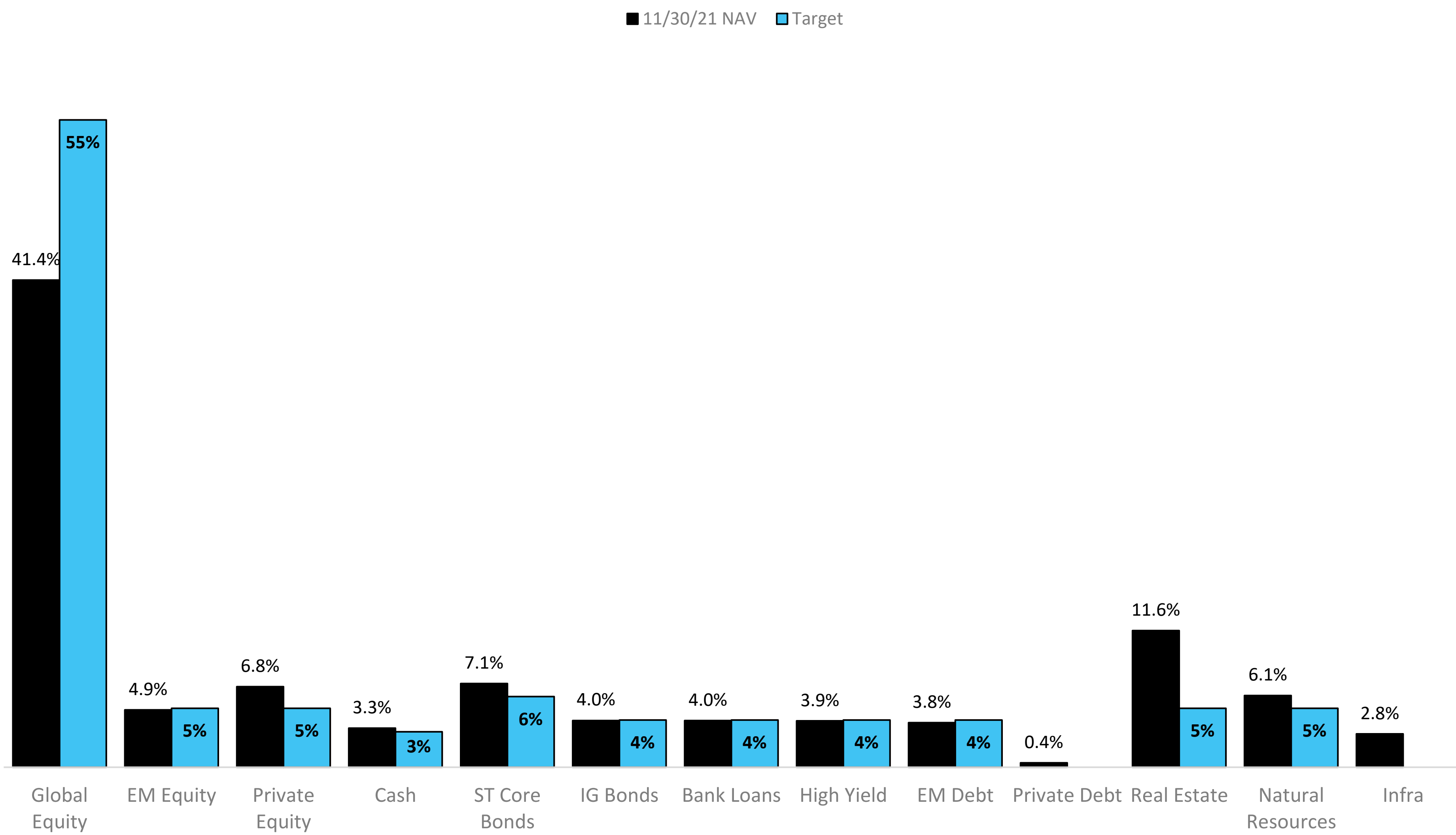
Asset Allocation – Actual vs Target



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Asset Class Returns – JPM Guide to the Markets

																2006 - 2020	
2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	YTD	Ann.	Vol.
REITs 35.1%	EM Equity 39.8%	Fixed Income 5.2%	EM Equity 79.0%	REITs 27.9%	REITs 8.3%	REITs 19.7%	Small Cap 38.8%	REITs 28.0%	REITs 2.8%	Small Cap 21.3%	EM Equity 37.8%	Cash 1.8%	Large Cap 31.5%	Small Cap 20.0%	REITs 28.9%	Large Cap 9.9%	EM Equity 23.3%
EM Equity 32.6%	Comdty. 16.2%	Cash 1.8%	High Yield 59.4%	Small Cap 26.9%	Fixed Income 7.8%	High Yield 19.6%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	High Yield 14.3%	DM Equity 25.6%	Fixed Income 0.0%	REITs 28.7%	EM Equity 18.7%	Large Cap 23.2%	Small Cap 8.9%	REITs 23.1%
DM Equity 26.9%	DM Equity 11.6%	Asset Alloc. -25.4%	DM Equity 32.5%	EM Equity 19.2%	High Yield 3.1%	EM Equity 18.6%	DM Equity 23.3%	Fixed Income 6.0%	Fixed Income 0.5%	Large Cap 12.0%	Large Cap 21.8%	REITs -4.0%	Small Cap 25.5%	Large Cap 18.4%	Comdty. 22.8%	High Yield 7.5%	Small Cap 22.6%
Small Cap 18.4%	Asset Alloc. 7.1%	High Yield -26.9%	REITs 28.0%	Comdty. 16.8%	Large Cap 2.1%	DM Equity 17.9%	Asset Alloc. 14.9%	Asset Alloc. 5.2%	Cash 0.0%	Comdty. 11.8%	Small Cap 14.6%	High Yield -4.1%	DM Equity 22.7%	Asset Alloc. 10.6%	Small Cap 12.3%	REITs 7.1%	DM Equity 19.1%
Large Cap 15.8%	Fixed Income 7.0%	Small Cap -33.8%	Small Cap 27.2%	Large Cap 15.1%	Cash 0.1%	Small Cap 16.3%	High Yield 7.3%	Small Cap 4.9%	DM Equity -0.4%	EM Equity 11.6%	Asset Alloc. 14.6%	Large Cap -4.4%	Asset Alloc. 19.5%	DM Equity 8.3%	Asset Alloc. 10.0%	EM Equity 6.9%	Comdty. 18.8%
Asset Alloc. 15.3%	Large Cap 5.5%	Comdty. -35.6%	Large Cap 26.5%	High Yield 14.8%	Asset Alloc. -0.7%	Large Cap 16.0%	REITs 2.9%	Cash 0.0%	Asset Alloc. -2.0%	REITs 8.6%	High Yield 10.4%	Asset Alloc. -5.8%	EM Equity 18.9%	Fixed Income 7.5%	DM Equity 6.3%	Asset Alloc. 6.7%	Large Cap 16.7%
High Yield 13.7%	Cash 4.8%	Large Cap -37.0%	Asset Alloc. 25.0%	Asset Alloc. 13.3%	Small Cap -4.2%	Asset Alloc. 12.2%	Cash 0.0%	High Yield 0.0%	High Yield -2.7%	Asset Alloc. 8.3%	REITs 8.7%	Small Cap -11.0%	High Yield 12.6%	High Yield 7.0%	Cash 0.0%	DM Equity 5.0%	High Yield 12.2%
Cash 4.8%	High Yield 3.2%	REITs -37.7%	Comdty. 18.9%	DM Equity 8.2%	DM Equity -11.7%	Fixed Income 4.2%	Fixed Income -2.0%	EM Equity -1.8%	Small Cap -4.4%	Fixed Income 2.6%	Fixed Income 3.5%	Comdty. -11.2%	Fixed Income 8.7%	Cash 0.5%	High Yield -0.8%	Fixed Income 4.5%	Asset Alloc. 11.8%
Fixed Income 4.3%	Small Cap -1.6%	DM Equity -43.1%	Fixed Income 5.9%	Fixed Income 6.5%	Comdty. -13.3%	Cash 0.1%	EM Equity -2.3%	DM Equity -4.5%	EM Equity -14.6%	DM Equity 1.5%	Comdty. 1.7%	DM Equity -13.4%	Comdty. 7.7%	Comdty. -3.1%	Fixed Income -1.3%	Cash 1.2%	Fixed Income 3.2%
Comdty. 2.1%	REITs -15.7%	EM Equity -53.2%	Cash 0.1%	Cash 0.1%	EM Equity -18.2%	Comdty. -1.1%	Comdty. -9.5%	Comdty. -17.0%	Comdty. -24.7%	Cash 0.3%	Cash 0.8%	EM Equity -14.2%	Cash 2.2%	REITs -5.1%	EM Equity -4.1%	Comdty. -4.0%	Cash 0.8%

Source: Bloomberg, FactSet, MSCI, NAREIT, Russell, Standard & Poor's, J.P. Morgan Asset Management.
Large cap: S&P 500, Small cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, Comdty: Bloomberg Commodity Index, High Yield: Bloomberg Global HY Index, Fixed Income: Bloomberg US Aggregate, REITs: NAREIT Equity REIT Index, Cash: Bloomberg 1-3m Treasury. The "Asset Allocation" portfolio assumes the following weights: 25% in the S&P 500, 10% in the Russell 2000, 15% in the MSCI EAFE, 5% in the MSCI EME, 25% in the Bloomberg US Aggregate, 5% in the Bloomberg 1-3m Treasury, 5% in the Bloomberg Global High Yield Index, 5% in the Bloomberg Commodity Index and 5% in the NAREIT Equity REIT Index. Balanced portfolio assumes annual rebalancing. Annualized (Ann.) return and volatility (Vol.) represents period from 12/31/2005 to 12/31/2020. Please see disclosure page at end for index definitions. All data represents total return for stated period. The "Asset Allocation" portfolio is for illustrative purposes only. Past performance is not indicative of future returns.
Guide to the Markets – U.S. Data are as of November 30, 2021.

2021 Board Investment Review Plan*

Staff presentations targeted for 15 minutes, Manager presentations 30 – 60 minutes.

January ✓	• Real Estate Reviews: Vista 7, King's Harbor, & Museum Twr.
February ✓	• Real Estate: Clarion Presentation
March ✓	• Natural Resources: Staff Portfolio Review - Forest Investment Associates and BTG Pactual
April ✓	• Real Estate: AEW Presentation
May ✓	• Natural Resources: Hancock Presentation
August ✓	• Infrastructure: Staff review of AIRRO and JPM Maritime
September ✓	• Staff review of Public Fixed Income managers
October ✓	• Staff review of Public Equity managers
November ✓	• Staff review of Private Equity and Debt

*Presentation schedule is subject to change.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C7

Topic: **Third Quarter 2021 Investment Performance Analysis and Second Quarter 2021 Private Markets & Real Assets Review**

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.072 of the Texas Government Code.

Attendees: Leandro Festino, Managing Principal - Meketa Investment Group
Aaron Lally, Principal - Meketa Investment Group

Discussion: Meketa and Investment Staff will review investment performance.

MEKETA INVESTMENT GROUP

Dallas Police & Fire Pension System

September 30, 2021

Fund Evaluation Report

MEKETA

Agenda

Executive Summary

As of September 30, 2021

MEKETA

DPFP Trailing One-Year Flash Summary

Category	Results	Notes
Total Fund Performance Return	Positive	7.7%
Performance vs. Policy Index	Underperformed	7.7% vs. 17.3%
Performance vs. Peers[1]	Underperformed	7.7% vs. 21.1% median (99th percentile in peer group)
Asset Allocation vs. Targets	Detracted	Overweight Real Estate and underweight Public Equities hurt
Public Active Management	Positive	5/9 public managers beat benchmarks
DPFP Public Markets vs. 60/40[2]	Outperformed	17.4% vs. 16.3%
DPFP Public Markets vs. Peers	Underperformed	17.4% vs. 21.1%
Safety Reserve Exposure	Sufficient	$251.9 million (approximately 12.9%)
Compliance with Targets	Yes	All asset classes in compliance

[1] InvestorForce Public DB $1-5 billion net.

[2] Performance of Total Fund excluding private market investments relative to a 60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index.

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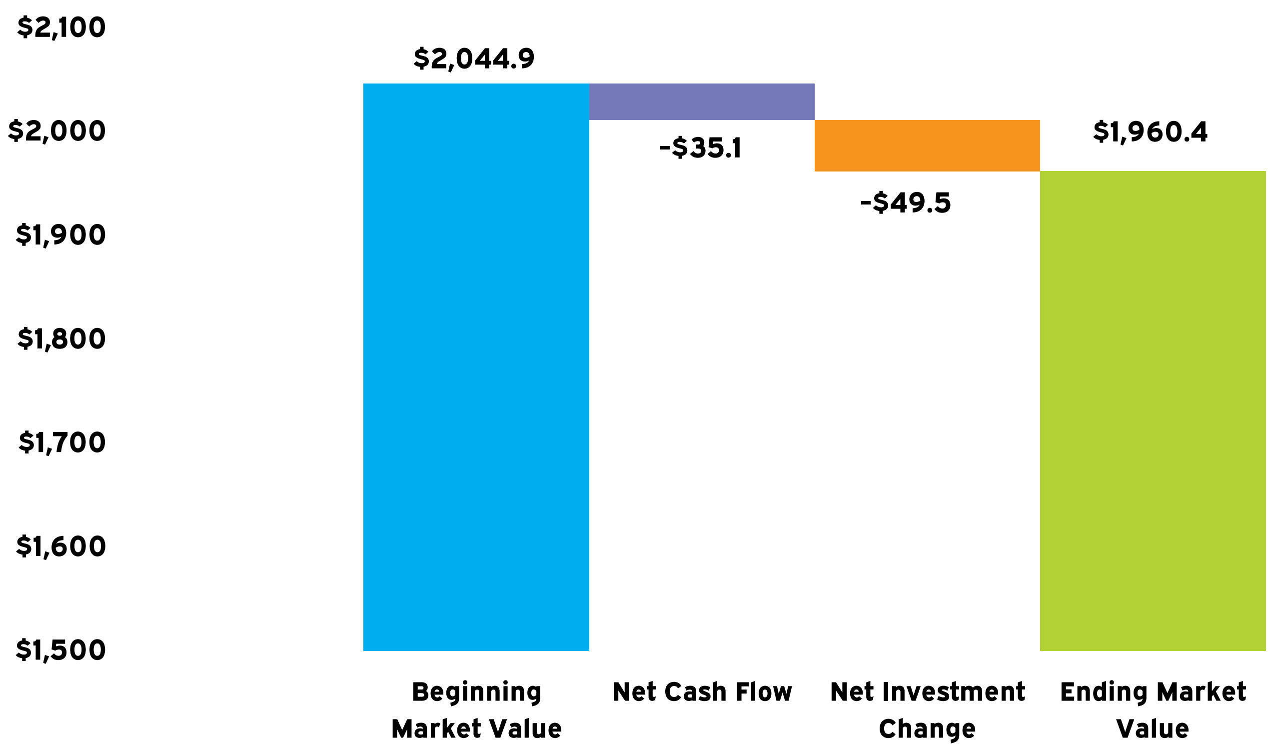
Dallas Police and Fire Pension System

Executive Summary

Quarterly Change in Market Value



- Total market value decreased due to negative investment performance and net outflows.

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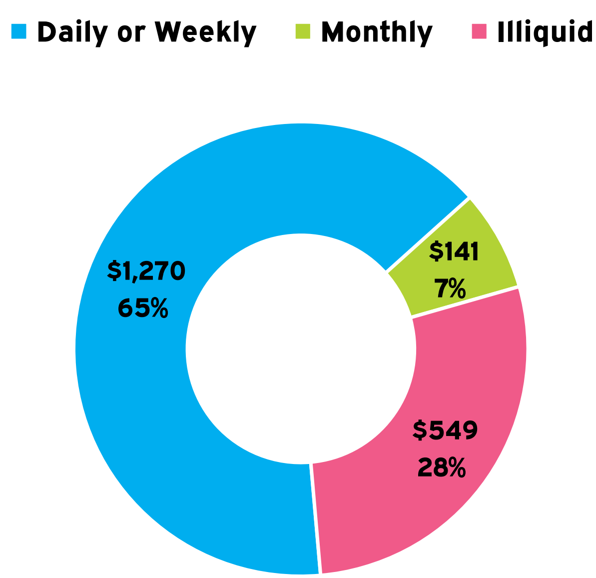
Dallas Police and Fire Pension System

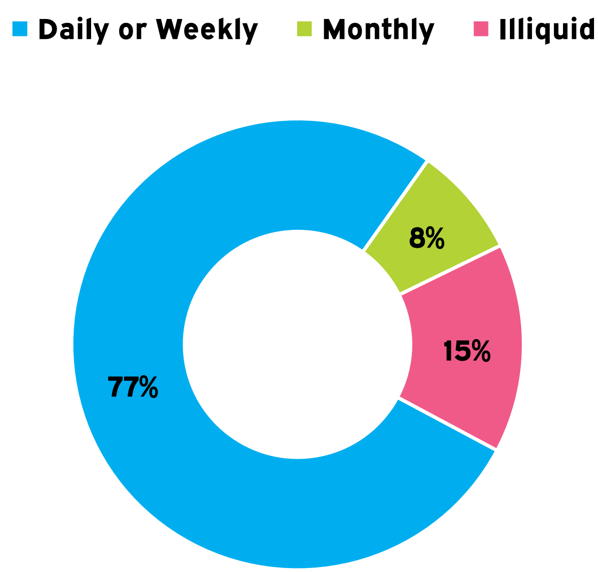
Executive Summary

Liquidity Exposure

As of September 30, 2021

Exposure ($ mm)	Targets





- Approximately 28% of the DPFP's assets are illiquid versus 15% of the target allocation.

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Executive Summary

Quarterly Manager Scorecard

	1 Yr Outperformance vs. Benchmark	3 Yr Outperformance vs. Benchmark	5 Yr Outperformance vs. Benchmark
Boston Partners Global Equity Fund	Yes	No	NA
Manulife Global Equity Strategy	No	No	NA
Invesco (fka OFI) Global Equity	Yes	Yes	Yes
Walter Scott Global Equity Fund	No	Yes	Yes
Eastern Shore US Small Cap	NA	NA	NA
RBC Emerging Markets Equity	No	No	NA
IR&M 1-3 Year Strategy	Yes	Yes	NA
Longfellow Core Fixed Income	Yes	No	NA
Pacific Asset Management Corporate (Bank) Loans	No	No	NA
Loomis US High Yield Fund	NA	NA	NA
Ashmore EM Blended Debt	Yes	No	NA

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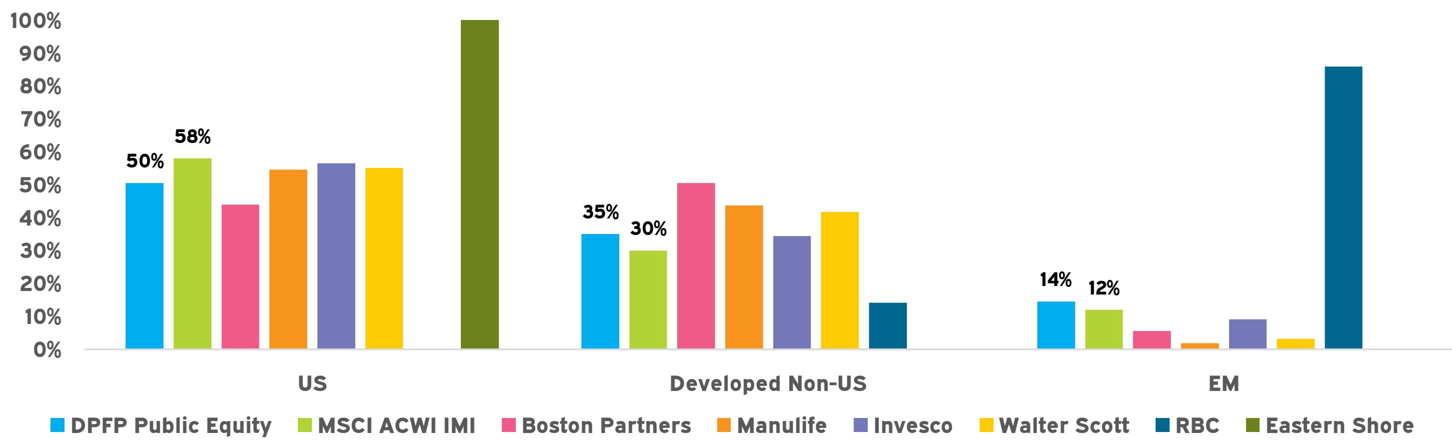
Dallas Police and Fire Pension System

Executive Summary

	Market Value ($)	% of DPFP Public Equity (%)	US (%)	Developed Non-US (%)	EM (%)
NT MSCI ACWI IMI	195,582,420.00	23	58	30	12
Boston Partners	141,634,194.00	16	44	51	6
Manulife	134,899,666.00	16	55	44	2
Invesco	134,220,355.00	16	57	34	9
Walter Scott	132,719,110.00	15	55	42	3
RBC	87,473,010.00	10	0	14	86
Eastern Shore	38,045,874.00	4	100	0	0
Total DPFP Public Equity	$864,574,629.00	100	50	35	14
MSCI ACWI IMI			*58*	*30*	*12*



Performance Update
As of September 30, 2021

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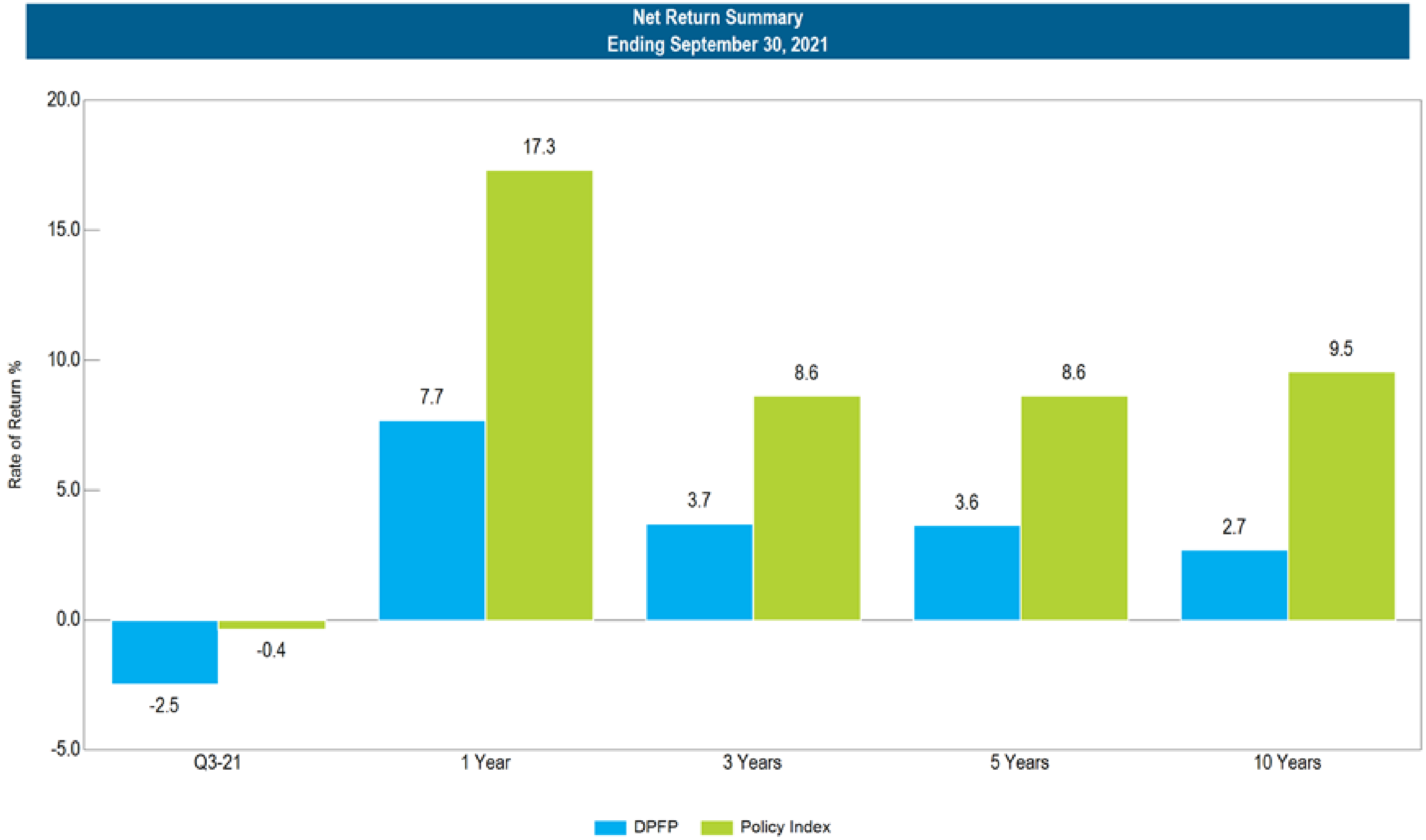
DPFP | As of September 30, 2021



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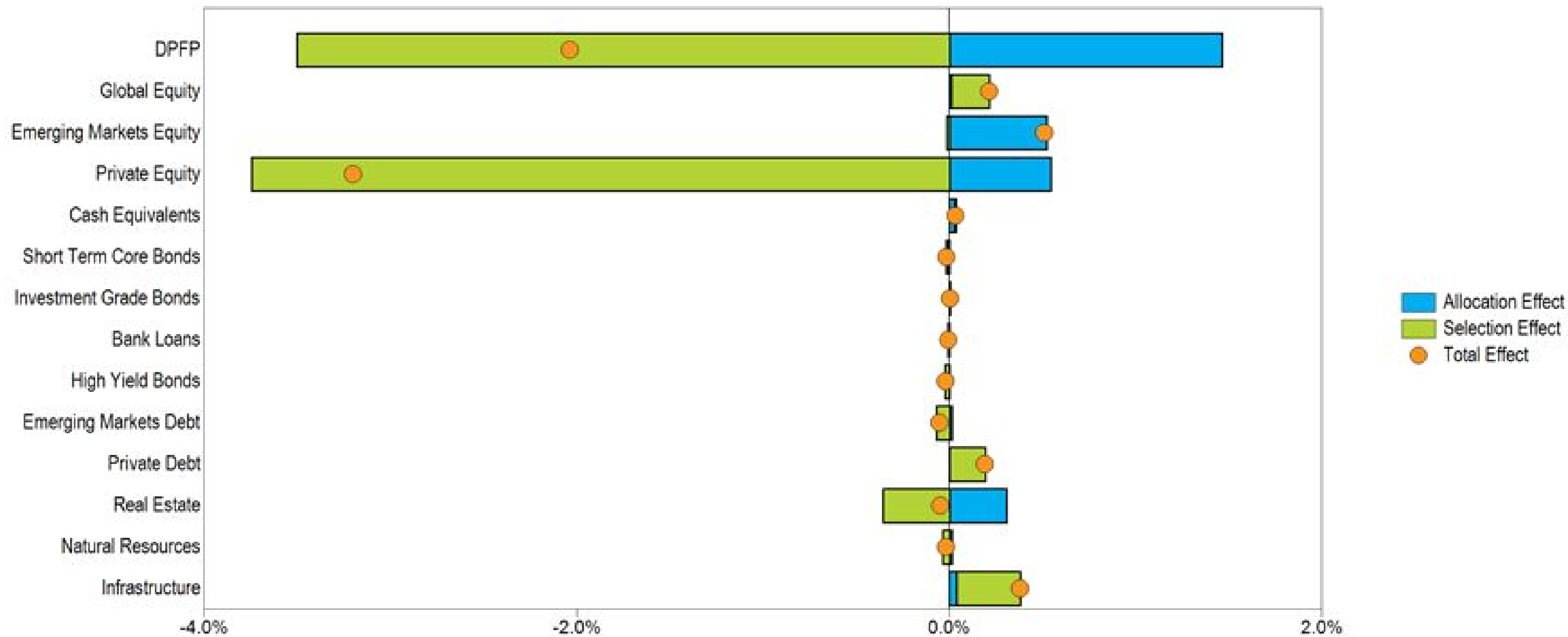
DPFP | As of September 30, 2021

Attribution Effects vs. Policy Benchmark
3 Months Ending September 30, 2021



Attribution Summary
3 Months Ending September 30, 2021

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total	**-2.4%**	**-0.2%**	**-2.1%**	**-3.6%**	**1.5%**	**-2.1%**

The performance calculation methodology in attribution tables is different from the standard time weighted returns (geometric linkage of monthly returns) found throughout the rest of the report. In attribution tables, the average weight of each asset class (over the specified time period) is multiplied by the time period performance of that asset class and summed. Values may not sum due to rounding.

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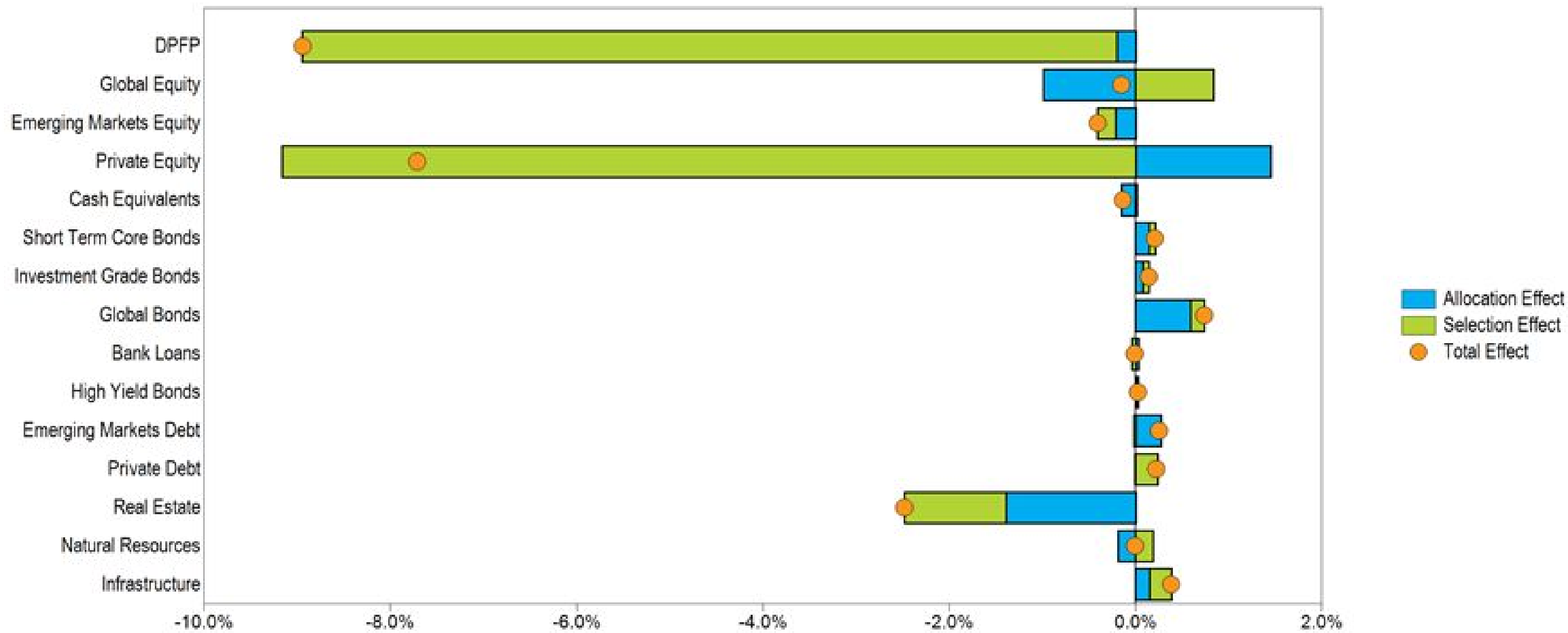
DPFP | As of September 30, 2021

Attribution Effects vs. Policy Benchmark
1 Year Ending September 30, 2021



Attribution Summary
1 Year Ending September 30, 2021

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total	**7.8%**	**16.9%**	**-9.0%**	**-8.8%**	**-0.2%**	**-9.0%**

The performance calculation methodology in attribution tables is different from the standard time weighted returns (geometric linkage of monthly returns) found throughout the rest of the report. In attribution tables, the average weight of each asset class (over the specified time period) is multiplied by the time period performance of that asset class and summed. Values may not sum due to rounding.

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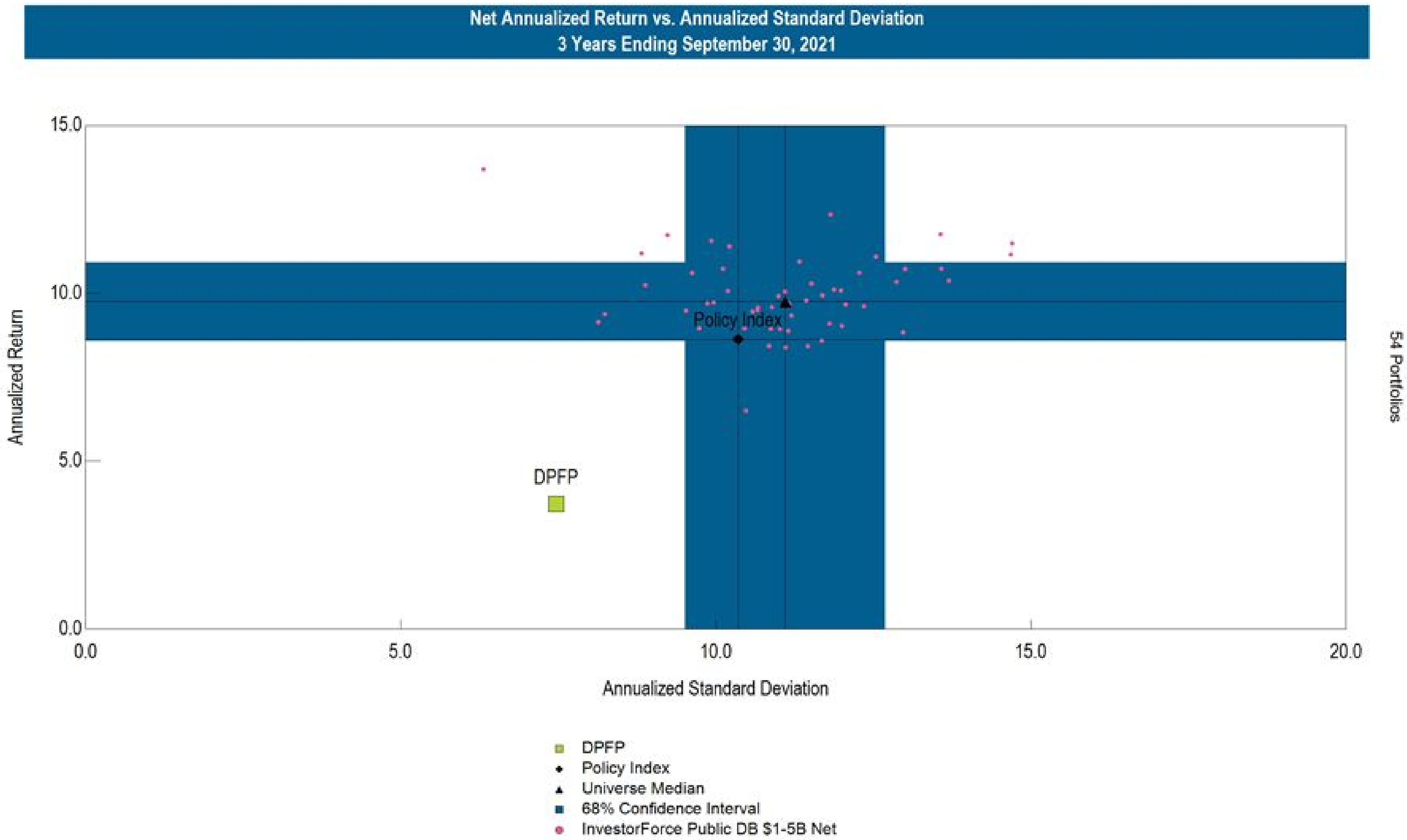
DPFP | As of September 30, 2021



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DPFP | As of September 30, 2021

Asset Class Performance Summary (Net)

	Market Value ($)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
DPFP	**1,960,685,670**	**100.0**	**-2.5**	**2.0**	**7.7**	**3.7**	**3.6**	**2.7**	**5.7**	**Jun-96**
Policy Index			*-0.4*	*6.9*	*17.3*	*8.6*	*8.6*	*9.5*	*--*	*Jun-96*
Allocation Index			*1.4*	*9.7*	*17.9*	*8.5*	*8.5*	*9.3*	*7.5*	*Jun-96*
Total Fund Ex Private Markets			*-0.7*	*6.5*	*17.4*	*9.2*	*8.3*	*8.2*	*6.0*	*Jun-96*
60% MSCI ACWI IMI Net/40% Bloomberg Global Aggregate Index			*-1.0*	*5.0*	*16.3*	*9.5*	*8.8*	*8.0*	*6.5*	*Jun-96*
Global Equity	**777,101,619**	**39.6**	**-0.4**	**12.6**	**30.7**	**13.1**	**14.2**	**12.5**	**8.0**	**Jul-06**
MSCI ACWI IMI Net USD			*-1.1*	*11.4*	*28.9*	*12.4*	*13.1*	*12.0*	*7.5*	*Jul-06*
Emerging Markets Equity	**87,473,010**	**4.5**	**-8.1**	**-4.9**	**12.5**	**8.0**	**--**	**--**	**4.3**	**Jan-18**
MSCI Emerging Market IMI Net			*-7.4*	*0.7*	*20.8*	*9.1*	*9.3*	*6.2*	*4.8*	*Jan-18*
Private Equity	**139,129,535**	**7.1**	**-27.7**	**-33.0**	**-36.7**	**-18.1**	**-17.6**	**-10.0**	**-4.2**	**Oct-05**
Cambridge Associates US All PE (1 Qtr Lag)			*13.0*	*39.1*	*53.9*	*20.8*	*19.5*	*15.2*	*14.4*	*Oct-05*
Cash Equivalents	**82,237,620**	**4.2**	**0.1**	**0.2**	**0.2**	**1.2**	**1.2**	**--**	**1.2**	**Apr-15**
91 Day T-Bills			*0.0*	*0.0*	*0.0*	*1.0*	*1.1*	*0.6*	*0.9*	*Apr-15*
Short Term Core Bonds	**169,624,936**	**8.7**	**0.1**	**0.3**	**0.8**	**3.4**	**--**	**--**	**2.6**	**Jun-17**
Bloomberg US Aggregate 1-3 Yr TR			*0.1*	*0.1*	*0.3*	*2.8*	*1.8*	*1.5*	*2.1*	*Jun-17*
Investment Grade Bonds	**76,206,070**	**3.9**	**0.1**	**-0.7**	**0.7**	**--**	**--**	**--**	**3.9**	**Oct-19**
Bloomberg US Aggregate TR			*0.1*	*-1.6*	*-0.9*	*5.4*	*2.9*	*3.0*	*3.0*	*Oct-19*
Bank Loans	**76,321,849**	**3.9**	**1.1**	**4.0**	**7.4**	**4.2**	**4.9**	**--**	**4.3**	**Jan-14**
Credit Suisse Leveraged Loan			*1.1*	*4.7*	*8.5*	*4.1*	*4.6*	*--*	*4.1*	*Jan-14*
High Yield Bonds	**76,991,170**	**3.9**	**0.4**	**3.2**	**11.5**	**4.7**	**6.2**	**6.5**	**6.2**	**Dec-10**
Bloomberg US Corporate High Yield TR			*0.9*	*4.5*	*11.3*	*6.9*	*6.5*	*7.4*	*6.7*	*Dec-10*
Emerging Markets Debt	**64,985,571**	**3.3**	**-4.5**	**-5.7**	**3.9**	**2.1**	**2.3**	**3.1**	**2.8**	**Dec-10**
50% JPM EMBI/50% JPM GBI-EM			*-1.9*	*-3.9*	*3.5*	*4.7*	*3.0*	*3.4*	*3.2*	*Dec-10*
Private Debt	**6,721,157**	**0.3**	**68.0**	**114.7**	**110.0**	**22.0**	**11.0**	**--**	**9.3**	**Jan-16**
BBg US High Yield+2%			*1.4*	*6.1*	*13.5*	*9.0*	*8.6*	*9.6*	*10.4*	*Jan-16*

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Asset Class Performance Summary (Net)

	Market Value ($)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Real Estate	**231,205,072**	**11.8**	**0.9**	**0.8**	**0.8**	**0.6**	**2.7**	**-3.4**	**3.5**	**Mar-85**
NCREIF Property (1 Qtr Lag)			*3.6*	*6.6*	*7.4*	*5.5*	*6.1*	*8.8*	*7.9*	*Mar-85*
Natural Resources	**118,784,255**	**6.1**	**0.9**	**5.5**	**7.5**	**2.8**	**-0.4**	**2.9**	**3.7**	**Dec-10**
NCREIF Farmland Total Return Index (1 Qtr Lag)			*1.5*	*4.0*	*5.0*	*4.8*	*5.5*	*10.2*	*10.5*	*Dec-10*
Infrastructure	**53,903,088**	**2.7**	**16.0**	**33.9**	**34.1**	**-0.8**	**10.2**	**--**	**5.7**	**Jul-12**
S&P Global Infrastructure TR USD			*1.5*	*7.0*	*23.0*	*6.7*	*6.0*	*7.8*	*7.4*	*Jul-12*

[1] Please see the Appendix for composition of the Custom Benchmarks. [2] As of 9/30/2021, the Safety Reserve exposure was approximately $251.9 million (12.9%).
[3] All private market data is one quarter lagged, unless otherwise noted. [4] Lone Star Funds 12/31/2020 valuation used [5] Museum Tower 12/31/2020 valuation used.

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Trailing Net Performance

	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
DPFP	**1,960,685,670**	**100.0**	**--**	**-2.5**	**2.0**	**7.7**	**3.7**	**3.6**	**2.7**	**5.7**	**Jun-96**
Policy Index				*-0.4*	*6.9*	*17.3*	*8.6*	*8.6*	*9.5*	*--*	*Jun-96*
Allocation Index				*1.4*	*9.7*	*17.9*	*8.5*	*8.5*	*9.3*	*7.5*	*Jun-96*
Total Fund Ex Private Markets				*-0.7*	*6.5*	*17.4*	*9.2*	*8.3*	*8.2*	*6.0*	*Jun-96*
60% MSCI ACWI IMI Net/40% Bloomberg Global Aggregate Index				*-1.0*	*5.0*	*16.3*	*9.5*	*8.8*	*8.0*	*6.5*	*Jun-96*
InvestorForce Public DB $1-5B Net Rank				*99*	*99*	*99*	*99*	*99*	*99*	*98*	*Jun-96*
Total Equity	**1,003,704,164**	**51.2**	**51.2**	**-5.8**	**1.7**	**12.7**	**5.7**	**2.2**	**6.5**	**4.9**	**Dec-10**
MSCI ACWI IMI Net USD				*-1.1*	*11.4*	*28.9*	*12.4*	*13.1*	*12.0*	*9.5*	*Dec-10*
Public Equity	**864,574,629**	**44.1**	**86.1**	**-1.0**	**11.1**	**29.1**	**13.0**	**13.8**	**12.4**	**7.9**	**Jul-06**
MSCI ACWI IMI Net USD				*-1.1*	*11.4*	*28.9*	*12.4*	*13.1*	*12.0*	*7.5*	*Jul-06*
eV All Global Equity Net Rank				*62*	*57*	*46*	*47*	*42*	*45*	*39*	*Jul-06*
Global Equity	**777,101,619**	**39.6**	**89.9**	**-0.4**	**12.6**	**30.7**	**13.1**	**14.2**	**12.5**	**8.0**	**Jul-06**
MSCI ACWI IMI Net USD				*-1.1*	*11.4*	*28.9*	*12.4*	*13.1*	*12.0*	*7.5*	*Jul-06*
eV All Global Equity Net Rank				*43*	*44*	*38*	*45*	*37*	*42*	*37*	*Jul-06*
Boston Partners Global Equity Fund	141,634,194	7.2	18.2	-1.2	17.5	43.6	8.3	--	--	8.7	Jul-17
MSCI World Net				*0.0*	*13.0*	*28.8*	*13.1*	*13.7*	*12.7*	*13.1*	*Jul-17*
MSCI World Value				*-0.8*	*13.8*	*31.7*	*6.7*	*8.6*	*9.6*	*7.0*	*Jul-17*
eV Global Large Cap Value Eq Net Rank				*52*	*14*	*25*	*42*	*--*	*--*	*39*	*Jul-17*
Manulife Global Equity Strategy	134,899,666	6.9	17.4	0.3	14.3	26.8	12.5	--	--	10.6	Jul-17
MSCI ACWI Net				*-1.1*	*11.1*	*27.4*	*12.6*	*13.2*	*11.9*	*12.5*	*Jul-17*
MSCI ACWI Value NR USD				*-1.4*	*12.6*	*31.3*	*6.5*	*8.4*	*8.9*	*6.8*	*Jul-17*
eV Global Large Cap Value Eq Net Rank				*6*	*42*	*72*	*9*	*--*	*--*	*14*	*Jul-17*

[1] All Private Equity market values are one quarter lagged unless otherwise noted.

[2] 60% MSCI ACWI IMI Net/40% Bloomberg Global Aggregate Index composed of 60% MSCI ACWI (Net)/ 40% Bloomberg Global Aggregate in periods before 2/1/1997.

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	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Invesco (fka OFI) Global Equity	134,220,355	6.8	17.3	-0.5	10.7	30.4	16.5	17.8	14.9	8.7	Oct-07
MSCI ACWI Net				*-1.1*	*11.1*	*27.4*	*12.6*	*13.2*	*11.9*	*6.1*	*Oct-07*
MSCI ACWI Growth				*-0.7*	*9.5*	*23.8*	*18.3*	*17.8*	*14.7*	*8.4*	*Oct-07*
eV Global Large Cap Growth Eq Net Rank				*46*	*43*	*20*	*74*	*50*	*69*	*59*	*Oct-07*
Walter Scott Global Equity Fund	132,719,110	6.8	17.1	1.2	10.1	24.8	14.7	15.9	13.5	11.4	Dec-09
MSCI ACWI Net				*-1.1*	*11.1*	*27.4*	*12.6*	*13.2*	*11.9*	*9.9*	*Dec-09*
MSCI ACWI Growth				*-0.7*	*9.5*	*23.8*	*18.3*	*17.8*	*14.7*	*12.5*	*Dec-09*
eV Global Large Cap Growth Eq Net Rank				*19*	*44*	*59*	*91*	*90*	*92*	*87*	*Dec-09*
NT ACWI Index IMI	195,582,420	10.0	25.2	-1.3	--	--	--	--	--	6.0	Apr-21
MSCI ACWI IMI Net USD				*-1.1*	*11.4*	*28.9*	*12.4*	*13.1*	*12.0*	*6.0*	*Apr-21*
Eastern Shore US Small Cap	38,045,874	1.9	4.9	--	--	--	--	--	--	-4.9	Sep-21
Russell 2000				*-4.4*	*12.4*	*47.7*	*10.5*	*13.4*	*14.6*	*-2.9*	*Sep-21*
eV US Small Cap Equity Net Rank				*--*	*--*	*--*	*--*	*--*	*--*	*96*	*Sep-21*
Emerging Markets Equity	**87,473,010**	**4.5**	**10.1**	**-8.1**	**-4.9**	**12.5**	**8.0**	**--**	**--**	**4.3**	**Jan-18**
MSCI Emerging Market IMI Net				*-7.4*	*0.7*	*20.8*	*9.1*	*9.3*	*6.2*	*4.8*	*Jan-18*
eV Emg Mkts Equity Net Rank				*65*	*83*	*88*	*70*	*--*	*--*	*59*	*Jan-18*
RBC Emerging Markets Equity	87,473,010	4.5	100.0	-8.1	-4.9	12.5	8.0	--	--	4.3	Jan-18
MSCI Emerging Market IMI Net				*-7.4*	*0.7*	*20.8*	*9.1*	*9.3*	*6.2*	*4.8*	*Jan-18*
eV Emg Mkts Equity Net Rank				*65*	*83*	*88*	*70*	*--*	*--*	*59*	*Jan-18*
Private Equity	**139,129,535**	**7.1**	**13.9**	**-27.7**	**-33.0**	**-36.7**	**-18.1**	**-17.6**	**-10.0**	**-4.2**	**Oct-05**
Cambridge Associates US All PE (1 Qtr Lag)				*13.0*	*39.1*	*53.9*	*20.8*	*19.5*	*15.2*	*14.4*	*Oct-05*

[1] All Private Equity market values are one quarter lagged unless otherwise noted.

[2] Lone Star Funds 12/31/2020 valuation used.

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	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Total Fixed Income and Cash	**553,089,091**	**28.2**	**28.2**	**0.3**	**1.2**	**4.0**	**3.6**	**3.3**	**4.7**	**5.1**	**Jul-06**
Bloomberg Multiverse TR				*-0.9*	*-3.8*	*-0.4*	*4.3*	*2.2*	*2.1*	*3.7*	*Jul-06*
eV All Global Fixed Inc Net Rank				*28*	*37*	*47*	*88*	*63*	*36*	*39*	*Jul-06*
Cash Equivalents	**82,237,620**	**4.2**	**14.9**	**0.1**	**0.2**	**0.2**	**1.2**	**1.2**	**--**	**1.2**	**Apr-15**
91 Day T-Bills				*0.0*	*0.0*	*0.0*	*1.0*	*1.1*	*0.6*	*0.9*	*Apr-15*
Public Fixed Income	**464,130,314**	**23.7**	**83.9**	**-0.3**	**0.4**	**3.7**	**3.8**	**4.3**	**5.2**	**5.0**	**Dec-10**
Bloomberg Multiverse TR				*-0.9*	*-3.8*	*-0.4*	*4.3*	*2.2*	*2.1*	*2.4*	*Dec-10*
eV All Global Fixed Inc Net Rank				*57*	*42*	*48*	*86*	*43*	*30*	*27*	*Dec-10*
Short Term Core Bonds	**169,625,653**	**8.7**	**36.5**	**0.1**	**0.3**	**0.8**	**3.4**	**--**	**--**	**2.6**	**Jun-17**
Bloomberg US Aggregate 1-3 Yr TR				*0.1*	*0.1*	*0.3*	*2.8*	*1.8*	*1.5*	*2.1*	*Jun-17*
IR&M 1-3 Year Strategy	169,625,653	8.7	100.0	0.1	0.3	0.8	3.4	--	--	2.6	Jul-17
Bloomberg US Aggregate 1-3 Yr TR				*0.1*	*0.1*	*0.3*	*2.8*	*1.8*	*1.5*	*2.1*	*Jul-17*
eV US Short Duration Fixed Inc Net Rank				*44*	*28*	*32*	*30*	*--*	*--*	*31*	*Jul-17*
Investment Grade Bonds	**76,206,070**	**3.9**	**16.4**	**0.1**	**-0.7**	**0.7**	**--**	**--**	**--**	**3.9**	**Oct-19**
Bloomberg US Aggregate TR				*0.1*	*-1.6*	*-0.9*	*5.4*	*2.9*	*3.0*	*3.0*	*Oct-19*
eV US Core Fixed Inc Net Rank				*23*	*20*	*18*	*--*	*--*	*--*	*24*	*Oct-19*
Longfellow Core Fixed Income	76,206,070	3.9	100.0	0.1	-0.7	0.7	--	--	--	1.1	Jul-20
Bloomberg US Aggregate TR				*0.1*	*-1.6*	*-0.9*	*5.4*	*2.9*	*3.0*	*-0.2*	*Jul-20*
eV US Core Fixed Inc Net Rank				*23*	*20*	*18*	*--*	*--*	*--*	*33*	*Jul-20*

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	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Bank Loans	**76,321,849**	**3.9**	**16.4**	**1.1**	**4.0**	**7.4**	**4.2**	**4.9**	**--**	**4.3**	**Jan-14**
Credit Suisse Leveraged Loan				*1.1*	*4.7*	*8.5*	*4.1*	*4.6*	*--*	*4.1*	*Jan-14*
eV US Float-Rate Bank Loan Fixed Inc Net Rank				*23*	*47*	*53*	*15*	*12*	*--*	*16*	*Jan-14*
Pacific Asset Management Corporate (Bank) Loans	76,321,849	3.9	100.0	1.1	4.2	7.3	4.0	--	--	4.3	Aug-17
Credit Suisse Leveraged Loan				*1.1*	*4.7*	*8.5*	*4.1*	*4.6*	*--*	*4.3*	*Aug-17*
eV US Float-Rate Bank Loan Fixed Inc Net Rank				*23*	*36*	*55*	*29*	*--*	*--*	*21*	*Aug-17*
High Yield Bonds	**76,991,170**	**3.9**	**16.6**	**0.4**	**3.2**	**11.5**	**4.7**	**6.2**	**6.5**	**6.2**	**Dec-10**
Bloomberg US Corporate High Yield TR				*0.9*	*4.5*	*11.3*	*6.9*	*6.5*	*7.4*	*6.7*	*Dec-10*
eV US High Yield Fixed Inc Net Rank				*91*	*81*	*32*	*88*	*42*	*75*	*53*	*Dec-10*
Loomis US High Yield Fund	76,991,170	3.9	100.0	0.4	3.5	--	--	--	--	3.5	Jan-21
Bloomberg US High Yield 2% Issuer Cap TR				*0.9*	*4.5*	*11.3*	*6.9*	*6.5*	*7.4*	*4.5*	*Jan-21*
eV US High Yield Fixed Inc Net Rank				*91*	*75*	*--*	*--*	*--*	*--*	*75*	*Jan-21*
Emerging Markets Debt	**64,985,571**	**3.3**	**14.0**	**-4.5**	**-5.7**	**3.9**	**2.1**	**2.3**	**3.1**	**2.8**	**Dec-10**
50% JPM EMBI/50% JPM GBI-EM				*-1.9*	*-3.9*	*3.5*	*4.7*	*3.0*	*3.4*	*3.2*	*Dec-10*
eV All Emg Mkts Fixed Inc Net Rank				*99*	*83*	*77*	*98*	*82*	*68*	*67*	*Dec-10*
Ashmore EM Blended Debt	64,985,571	3.3	100.0	-4.5	-5.7	3.9	2.1	--	--	0.6	Dec-17
Ashmore Blended Debt Benchmark				*-1.5*	*-2.8*	*3.8*	*4.3*	*2.9*	*3.3*	*2.4*	*Dec-17*
eV All Emg Mkts Fixed Inc Net Rank				*99*	*83*	*77*	*98*	*--*	*--*	*88*	*Dec-17*
Private Debt	**6,721,157**	**0.3**	**1.2**	**68.0**	**114.7**	**110.0**	**22.0**	**11.0**	**--**	**9.3**	**Jan-16**
BBg US High Yield+2%				*1.4*	*6.1*	*13.5*	*9.0*	*8.6*	*9.6*	*10.4*	*Jan-16*

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	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Total Real Assets	**403,892,415**	**20.6**	**20.6**	**2.6**	**5.1**	**5.7**	**1.2**	**3.7**	**-1.3**	**-1.3**	**Dec-10**
Total Real Assets Policy Index				*2.5*	*5.3*	*6.2*	*5.2*	*5.8*	*9.5*	*9.9*	*Dec-10*
Real Estate	**231,205,072**	**11.8**	**57.2**	**0.9**	**0.8**	**0.8**	**0.6**	**2.7**	**-3.4**	**3.5**	**Mar-85**
NCREIF Property (1 Qtr Lag)				*3.6*	*6.6*	*7.4*	*5.5*	*6.1*	*8.8*	*7.9*	*Mar-85*
Natural Resources	**118,784,255**	**6.1**	**29.4**	**0.9**	**5.5**	**7.5**	**2.8**	**-0.4**	**2.9**	**3.7**	**Dec-10**
NCREIF Farmland Total Return Index (1 Qtr Lag)				*1.5*	*4.0*	*5.0*	*4.8*	*5.5*	*10.2*	*10.5*	*Dec-10*
Infrastructure	**53,903,088**	**2.7**	**13.3**	**16.0**	**33.9**	**34.1**	**-0.8**	**10.2**	**--**	**5.7**	**Jul-12**
S&P Global Infrastructure TR USD				*1.5*	*7.0*	*23.0*	*6.7*	*6.0*	*7.8*	*7.4*	*Jul-12*

[1] All Private Market market values are one quarter lagged unless otherwise noted.

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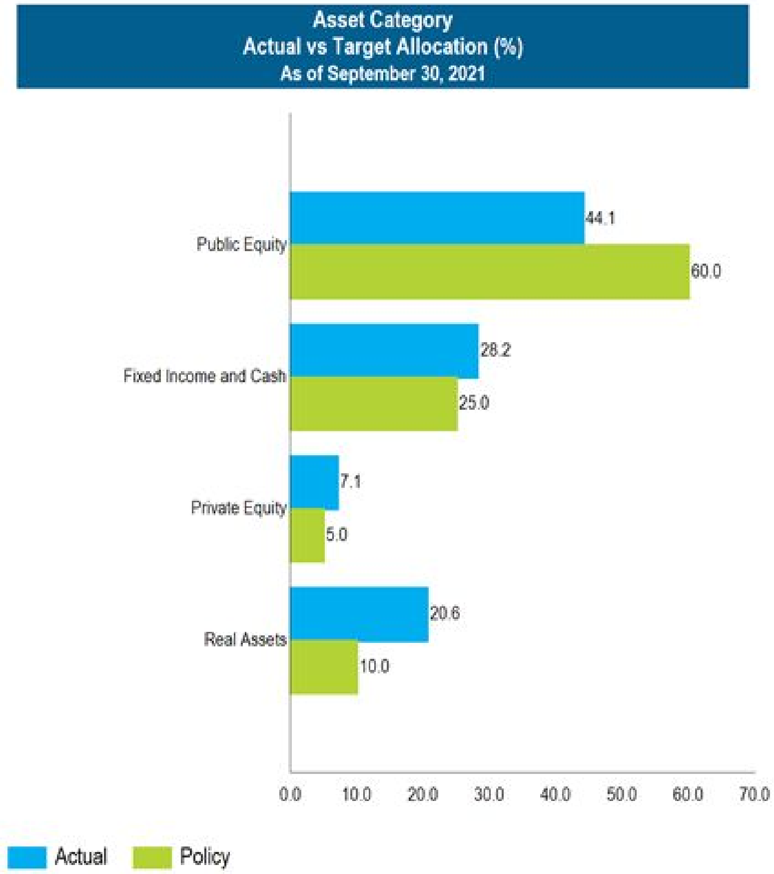

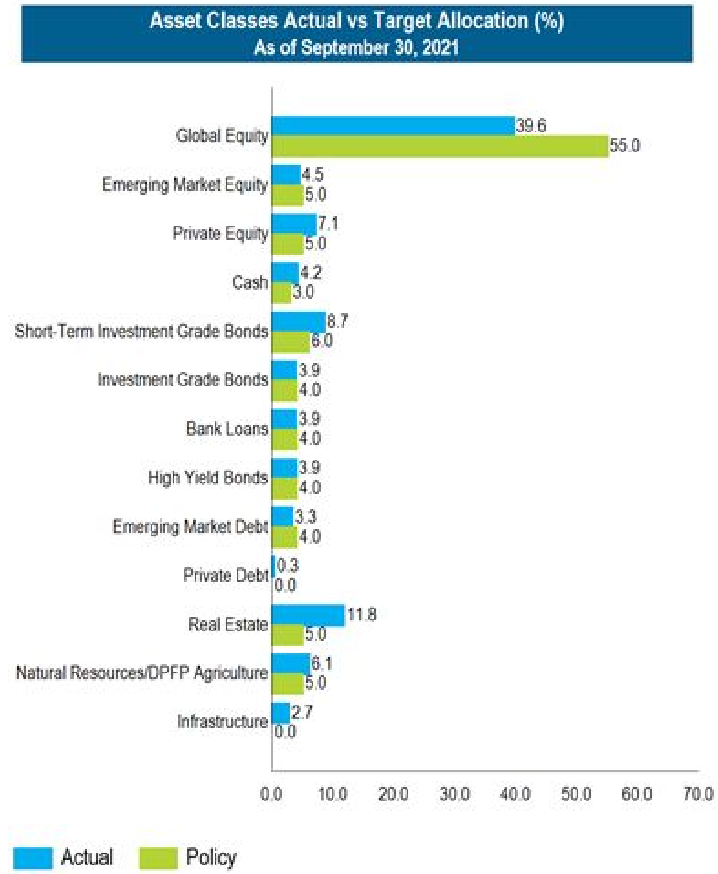

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	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
Equity	**$1,003,704,164**	**51%**	**65%**		
Global Equity	$777,101,619	40%	55%	36% - 60%	Yes
Emerging Market Equity	$87,473,010	4%	5%	3% - 7%	Yes
Private Equity	$139,129,535	7%	5%		
Fixed Income and Cash	**$553,089,091**	**28%**	**25%**		
Cash	$82,237,620	4%	3%	0% - 6%	Yes
Short-Term Investment Grade Bonds	$169,625,653	9%	6%	0% - 9%	Yes
Investment Grade Bonds	$76,206,070	4%	4%	2% - 6%	Yes
Bank Loans	$76,321,849	4%	4%	2% - 6%	Yes
High Yield Bonds	$76,991,170	4%	4%	2% - 6%	Yes
Emerging Market Debt	$64,985,571	3%	4%	2% - 6%	Yes
Private Debt	$6,721,157	0%	0%		
Real Assets	**$403,635,365**	**21%**	**10%**		
Real Estate	$231,205,072	12%	5%		
Natural Resources/DPFP Agriculture	$118,784,255	6%	5%		
Infrastructure	$53,903,088	3%	0%		
Total	**$1,960,685,670**	**100%**	**100%**		

As of 9/30/2021 the Safety Reserve exposure was approximately $251.9 million (12.9%).
Global equity consists of 22% US, 15% developed non-US, and 3% emerging markets.
Allocation of zero previously approved by Board. Target to Global Bonds is being eliminated.
Rebalancing ranges are not established for illiquid assets (Private Equity, Private Debt, Natural Resources, Infrastructure and Real Estate).

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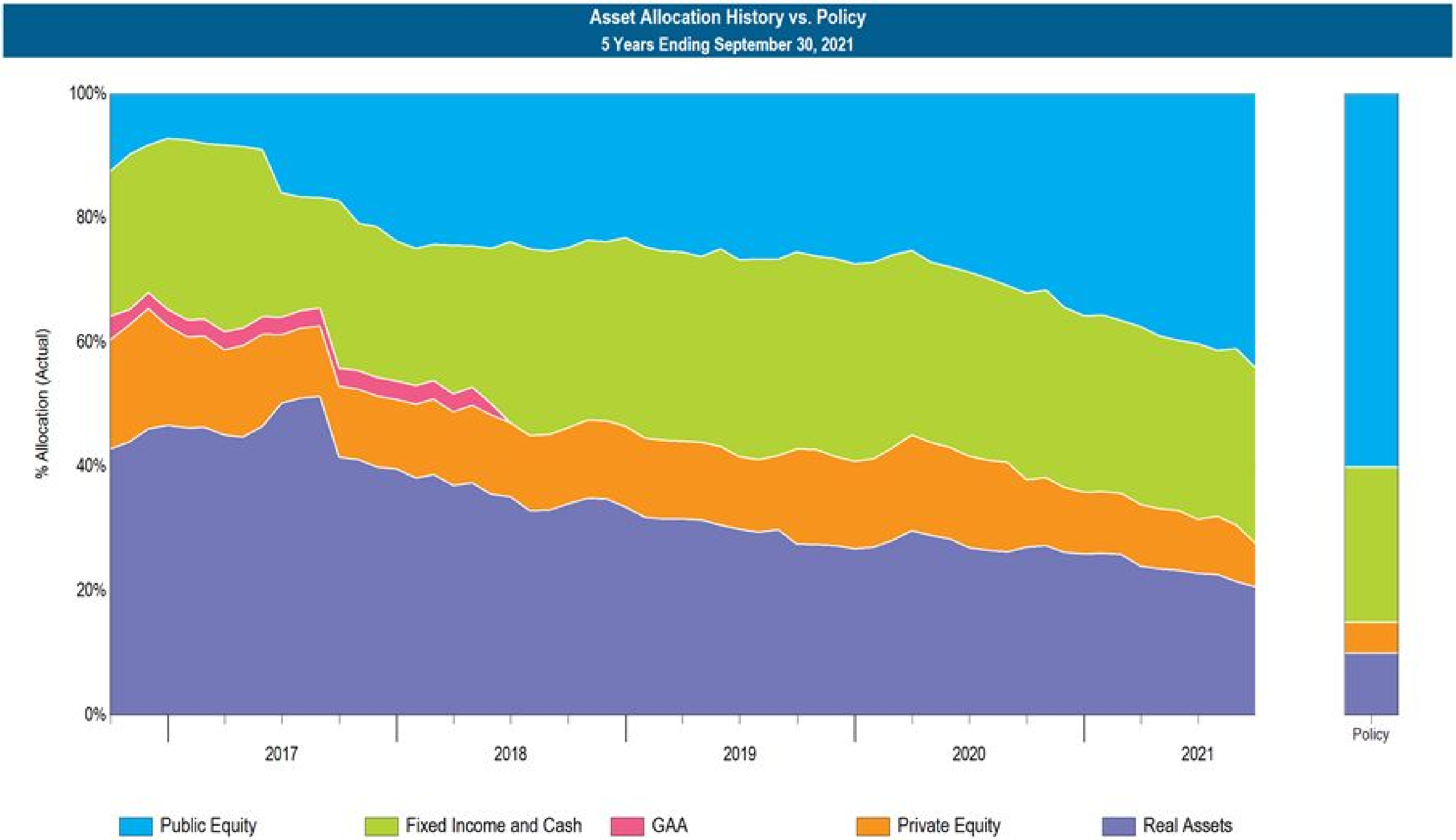
Dallas Police & Fire Pension System

DPFP | As of September 30, 2021



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Dallas Police & Fire Pension System

DPFP | As of September 30, 2021

Statistics Summary

5 Years Ending September 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
DPFP	3.6%	5.9%	-1.0	0.6	0.4	5.1%
Policy Index	8.6%	8.3%	--	1.0	0.9	0.0%
Public Equity	13.8%	14.8%	0.4	1.0	0.9	2.2%
MSCI ACWI IMI Net USD	13.1%	15.0%	--	1.0	0.8	0.0%
Global Equity	14.2%	15.1%	0.5	1.0	0.9	2.3%
MSCI ACWI IMI Net USD	13.1%	15.0%	--	1.0	0.8	0.0%
Private Equity	-17.6%	27.6%	-1.1	-0.9	-0.7	34.6%
Cambridge Associates US All PE (1 Qtr Lag)	19.5%	12.6%	--	1.0	1.5	0.0%
Bank Loans	4.9%	4.4%	0.1	0.6	0.9	2.8%
Credit Suisse Leveraged Loan	4.6%	6.8%	--	1.0	0.5	0.0%
High Yield Bonds	6.2%	8.3%	-0.2	1.1	0.6	2.1%
Bloomberg US Corporate High Yield TR	6.5%	7.3%	--	1.0	0.7	0.0%
Emerging Markets Debt	2.3%	12.8%	-0.2	1.3	0.1	4.3%
50% JPM EMBI/50% JPM GBI-EM	3.0%	9.5%	--	1.0	0.2	0.0%

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Dallas Police & Fire Pension System

DPFP | As of September 30, 2021

Statistics Summary

5 Years Ending September 30, 2021

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Real Estate	2.7%	3.2%	-1.1	0.6	0.5	3.0%
NCREIF Property (1 Qtr Lag)	6.1%	2.9%	--	1.0	1.7	0.0%
Natural Resources	-0.4%	6.7%	-0.9	0.9	-0.2	6.2%
NCREIF Farmland Total Return Index (1 Qtr Lag)	5.5%	2.8%	--	1.0	1.6	0.0%
Infrastructure	10.2%	31.4%	0.1	0.0	0.3	35.4%
S&P Global Infrastructure TR USD	6.0%	16.3%	--	1.0	0.3	0.0%

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Dallas Police & Fire Pension System

DPFP | As of September 30, 2021

Benchmark History
As of September 30, 2021

DPFP		
		DPFP Policy Benchmark is based upon the asset class target weight multiplied by its respective benchmark for every period and was updated when benchmark or asset allocation targets changed. The most recent Policy Benchmark changes are shown below.
8/1/2021	Present	JPM EMBI/50% JPM GBI-EM / 5% NCREIF Farmland Total Return Index (1 Qtr Lag) / 5% NCREIF Property (1 Qtr Lag) / 3% 91 Day T-Bills
1/1/2019	7/31/2021	40% MSCI ACWI IMI Net USD / 10% MSCI Emerging Market IMI Net / 5% Cambridge Associates US All PE (1 Qtr Lag) / 12% Bloomberg US Aggregate 1-3 Yr TR / 4% Bloomberg Global Aggregate TR / 4% Bloomberg US Corporate High Yield TR / 4% Bloomberg US Aggregate TR / 4% S&P/LSTA Leveraged Loan / 4% 50% JPM EMBI/50% JPM GBI-EM / 5% NCREIF Farmland Total Return Index (1 Qtr Lag) / 5% NCREIF Property (1 Qtr Lag) / 3% 91 Day T-Bills
10/1/2018	12/31/2018	40% MSCI ACWI Gross / 10% MSCI Emerging Markets Gross / 5% Private Equity Custom Benchmark / 12% Bloomberg US Aggregate 1-3 Yr TR / 4% Bloomberg Global Aggregate TR / 4% Bloomberg US High Yield 2% Issuer Cap TR / 4% S&P/LSTA Leveraged Loan / 4% Bloomberg US Aggregate TR / 4% 50% JPM EMBI/50% JPM GBI-EM / 5% Natural Resources Benchmark (Linked) / 5% NCREIF Property Index / 3% 91 Day T-Bills
4/1/2016	9/30/2018	20% MSCI ACWI Gross / 5% MSCI Emerging Markets Gross / 5% Private Equity Custom Benchmark / 2% Bloomberg US Aggregate 1-3 Yr TR / 3% Bloomberg Global Aggregate TR / 5% Bloomberg Global High Yield TR / 6% S&P/LSTA Leveraged Loan / 6% HFRI RV: FI (50/50-ABS/Corp) / 6% 50% JPM EMBI/50% JPM GBI-EM / 5% Barclays Global High Yield +2% / 5% 60% MSCI ACWI/40% Barclays Global Agg / 3% 60% MSCI ACWI/40% Barclays Global Agg / 2% HFRX Absolute Return Index / 5% Natural Resources Benchmark (Linked) / 5% S&P Global Infrastructure TR USD / 12% NCREIF Property Index / 3% CPI + 5% (Seasonally Adjusted) / 2% 91 Day T-Bills
4/1/2014	3/31/2016	15% MSCI ACWI / 15% S&P 500 + 2% / 10% Total Global Natural Resources Custom Benchmark / 15% Bloomberg Global Aggregate TR / 20% CPI + 5% (Seasonally Adjusted) / 10% CPI + 5% (Seasonally Adjusted) / 15% NCREIF Property Index
1/1/2014	3/31/2014	15% MSCI ACWI / 15% Private Markets / 10% Total Global Natural Resources Custom Benchmark / 15% Bloomberg Global Aggregate TR / 20% CPI + 5% (Seasonally Adjusted) / 10% Infrastructure / 15% Real Estate
Ashmore EM Blended Debt		
12/1/2017	Present	50% JP Morgan EMBI Global Diversified / 25% JPM ELMI+ TR USD / 25% JP Morgan GBI EM Global Diversified TR USD
Total Real Assets		
12/31/2010	Present	50% NCREIF Property (1 Qtr Lag) / 50% NCREIF Farmland Total Return Index (1 Qtr Lag)

Disclaimer, Glossary, and Notes

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Disclaimer, Glossary, and Notes

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM", "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

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Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security).

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. Portfolio Return- [Risk Free Rate+Beta*(market return-Risk Free Rate)].

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

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Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about is future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.

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Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a "basis book." For example, a 5% bond pays $5 a year interest on each $100 par value. To figure its current yield, divide $5 by $95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay $100 for the bond that can be bought now for $95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{\text{5\% (discount)}}{\text{5 (yrs. to maturity)}} = \text{1\% pro rata, plus 5.26\% (current yield)} = \text{6.26\% (yield to maturity)}$$

Yield to Worst: The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

NCREIF Property Index (NPI): Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE): Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.
The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.

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Dallas Police & Fire Pension System

As of June 30, 2021

Private Markets Review

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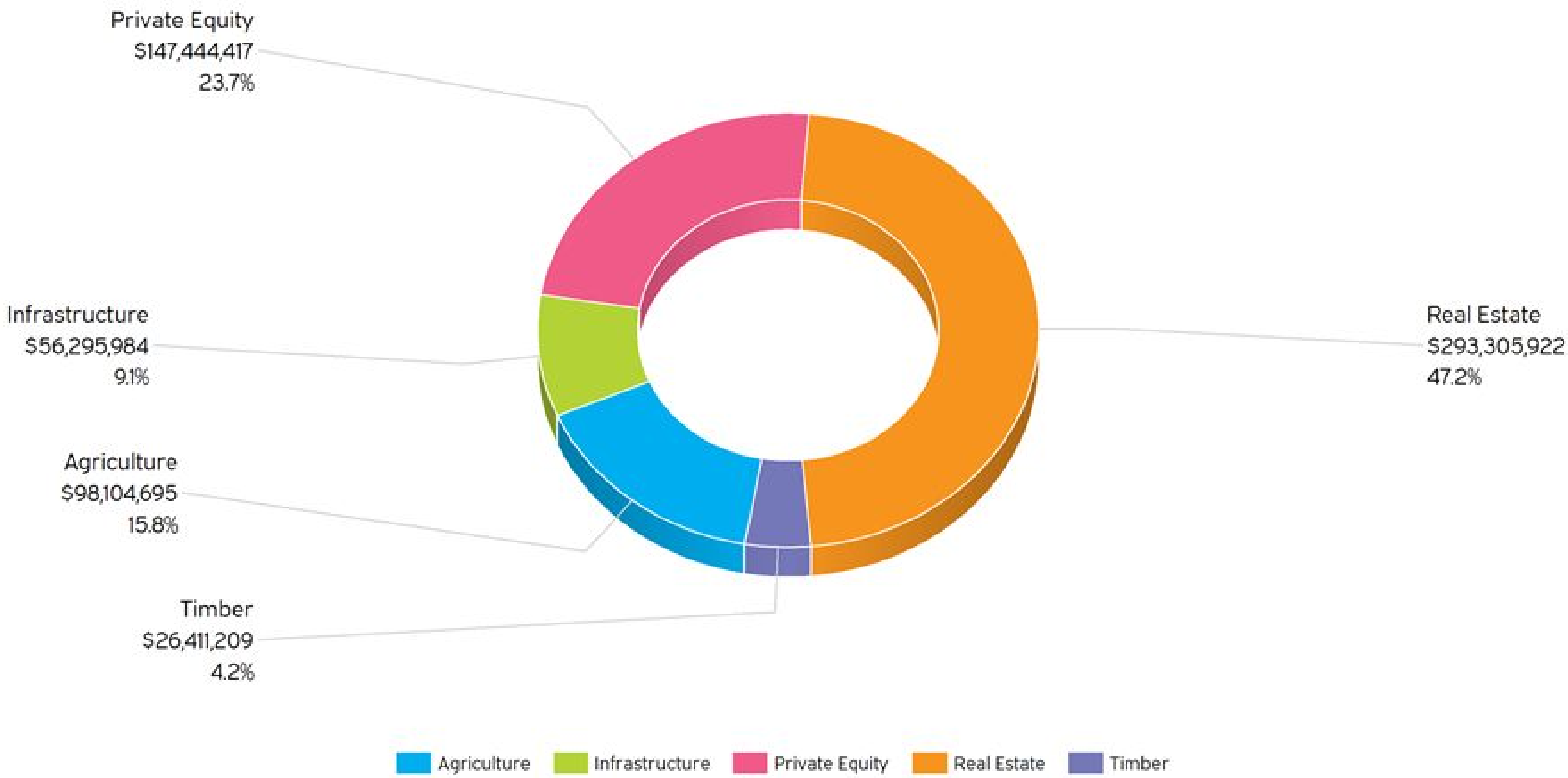
Dallas Police & Fire Pension System

Private Markets Review | As of June 30, 2021

Private Market Investments as of June 30, 2021
Market Value Allocation by Asset Class



1. Private Equity is composed of Private Equity and Private Debt

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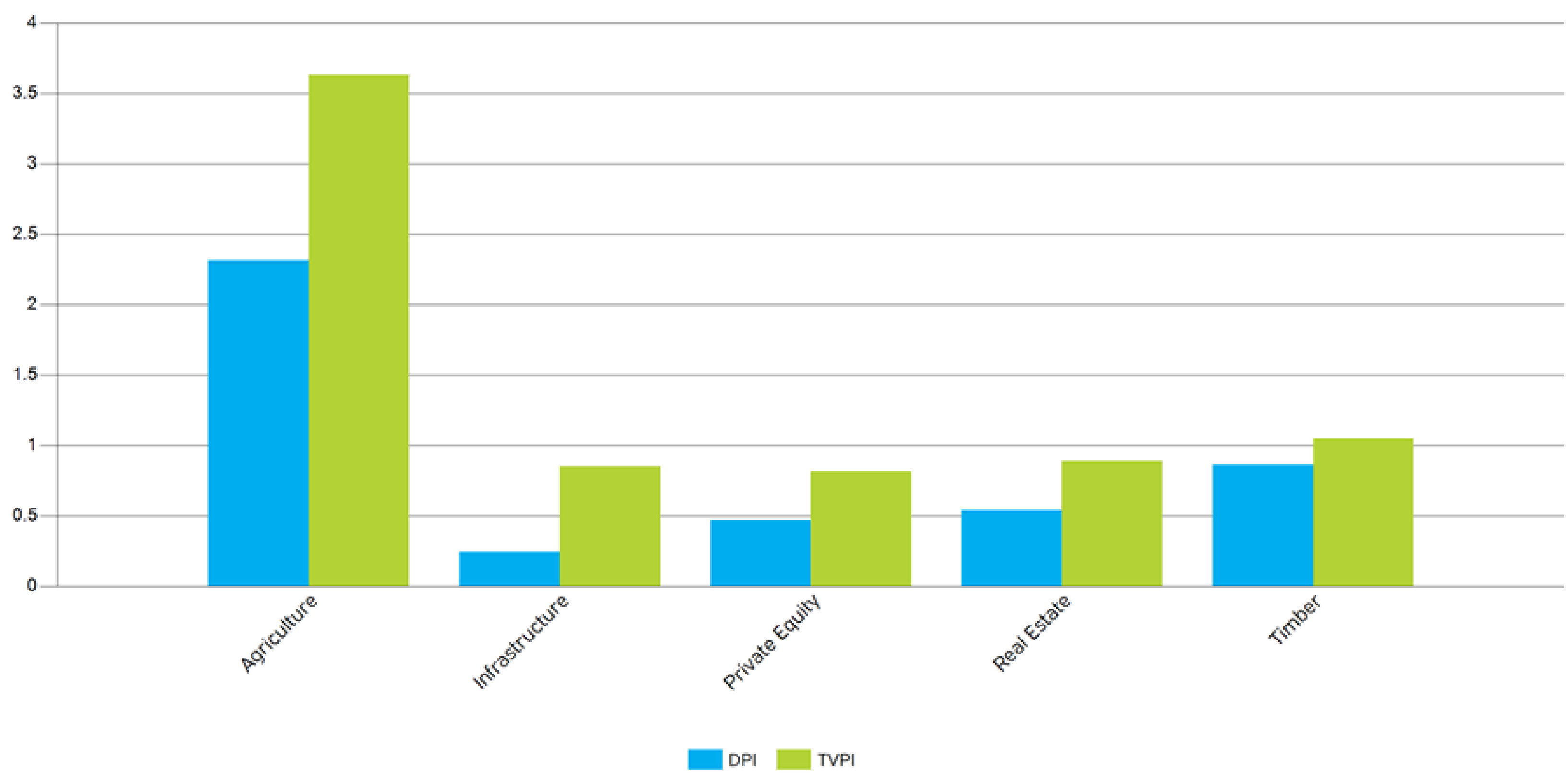
Dallas Police & Fire Pension System

Private Markets Review | As of June 30, 2021

Private Market Investments as of June 30, 2021
DPI and TVPI by Asset Class



1. Private Equity is composed of Private Equity and Private Debt
2. Private markets performance reflected is composed of active investments only

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Dallas Police & Fire Pension System

Private Markets Review | As of June 30, 2021

Private Market Investments Overview

Active Funds	Commitments		Distributions & Valuations				Performance			
Asset Class	Commitment ($)	Paid In Capital ($)	Distributions ($)	Valuation ($)	Total Value ($)	Gain/Loss ($)	Call Ratio	DPI	TVPI	IRR (%)
Total Agriculture	74,420,001	74,420,001	172,092,840	98,104,695	270,197,535	195,777,534	1.00	2.31	3.63	14.81
Total Infrastructure	97,000,000	93,562,482	21,669,031	56,295,984	77,965,015	-15,597,467	0.96	0.23	0.83	-2.42
Total Private Equity	409,251,115	443,139,109	202,512,308	147,444,417	349,956,724	-93,182,385	1.08	0.46	0.79	-4.16
Total Real Estate	826,712,799	816,075,854	437,437,898	293,305,922	730,743,820	-85,332,034	0.99	0.54	0.90	-1.48
Total Timber	142,635,232	142,635,232	122,825,087	26,411,209	149,236,296	6,601,064	1.00	0.86	1.05	0.84
Total	**1,550,019,147**	**1,569,832,678**	**956,537,163**	**621,562,227**	**1,578,099,390**	**8,266,713**	**1.01**	**0.61**	**1.01**	**0.10**

1. Private Equity is composed of Private Equity and Private Debt
2. Private markets performance reflected is composed of active investments only
3. Commitment value is equal to paid in capital for direct investments made outside of a traditional limited partnership fund structure.

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Dallas Police & Fire Pension System

Active Funds with Unfunded Commitments Overview | As of June 30, 2021

Active Funds with Unfunded Commitments				
Active Funds		Commitments		
Investment Name	Vintage Year	Commitment ($)	Paid In Capital ($)	Unfunded Commitment ($)
Infrastructure				
TRG AIRRO	2008	37,000,000	37,758,432	2,569,000
TRG AIRRO II	2013	10,000,000	7,219,074	2,368,615
JPM Maritime Fund, LP	2009	50,000,000	48,584,975	1,365,941
Total Infrastructure		**97,000,000**	**93,562,482**	**6,303,556**
Private Equity				
Huff Energy Fund LP	2006	100,000,000	99,210,178	0
Industry Ventures Partnership IV	2016	5,000,000	3,754,985	700,000
Lone Star Growth Capital	2006	16,000,000	26,679,375	0
Riverstone Credit Partners LP	2016	10,000,000	12,242,390	514,296
Total Private Equity		**131,000,000**	**141,886,928**	**1,214,296**
Real Estate				
Hearthstone MS II Homebuilding Investors	1999	10,000,000	7,973,058	1,005,708
Hearthstone MS III Homebuilding Investors	2003	10,000,000	1,221,446	1,997,675
Total Real Estate		**20,000,000**	**9,194,504**	**3,003,383**
Total		**248,000,000**	**244,643,913**	**10,521,235**

1. Private markets performance reflected is composed of active investments only
2. The funds and figures above represent investments with unfunded capital commitments

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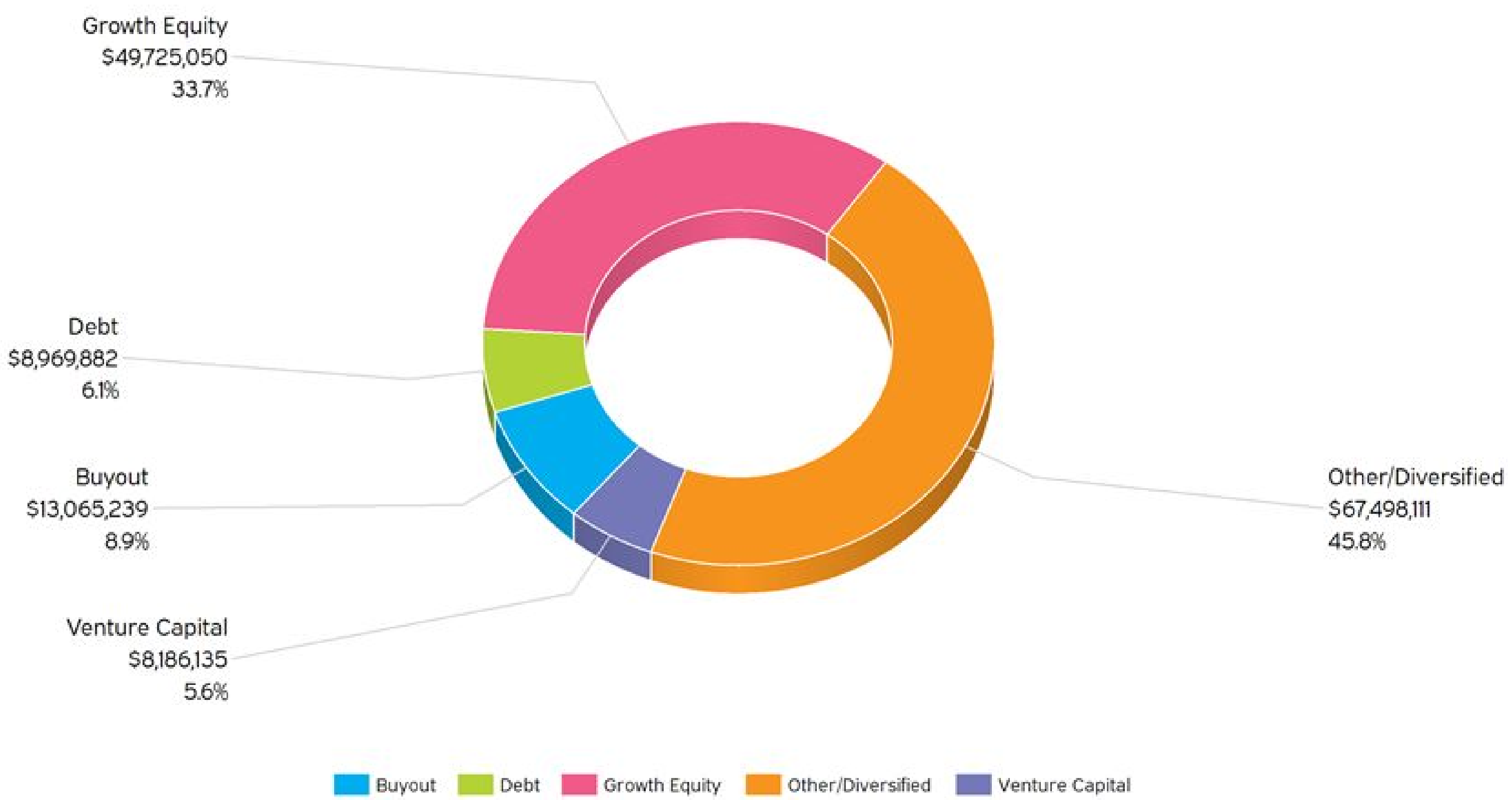
Dallas Police & Fire Pension System

Private Equity and Debt | As of June 30, 2021

Private Equity and Debt Investments as of June 30, 2021
Market Value Allocation by Strategy



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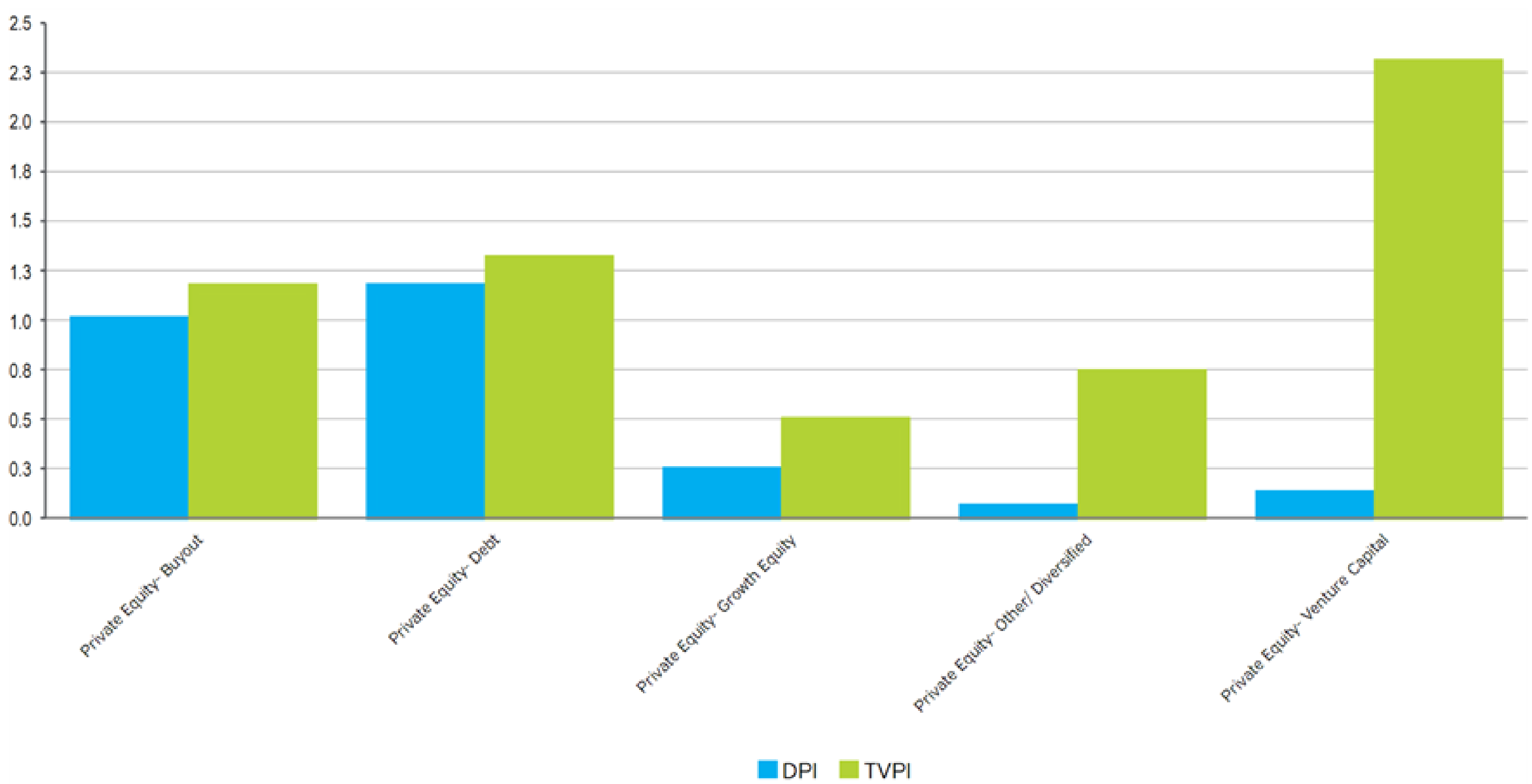
Dallas Police & Fire Pension System

Private Equity and Debt | As of June 30, 2021

Private Equity and Debt Investments as of June 30, 2021
DPI and TVPI by Strategy



1. Private markets performance reflected is composed of active investments only

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Dallas Police & Fire Pension System

Private Equity and Debt | As of June 30, 2021

Private Equity and Debt Investments Overview											
Active Funds		Commitments		Distributions & Valuations				Performance			
Investment Name	Vintage Year	Commitment ($)	Paid In Capital ($)	Distributions ($)	Valuation ($)	Total Value ($)	Gain/Loss ($)	Call Ratio	DPI	TVPI	IRR (%)
Buyout											
Huff Alternative Fund	2000	66,795,718	78,833,017	78,256,890	13,065,239	91,322,129	12,489,112	1.18	0.99	1.16	1.75
Total Buyout		**66,795,718**	**78,833,017**	**78,256,890**	**13,065,239**	**91,322,129**	**12,489,112**	**1.18**	**0.99**	**1.16**	**1.75**
Debt											
Highland Crusader Fund	2003	50,955,397	50,955,397	64,514,016	4,465,640	68,979,656	18,024,259	1.00	1.27	1.35	4.89
Riverstone Credit Partners LP	2016	10,000,000	12,242,390	8,793,642	4,504,242	13,297,884	1,055,494	1.22	0.72	1.09	4.12
Total Debt		**60,955,397**	**63,197,787**	**73,307,658**	**8,969,882**	**82,277,540**	**19,079,753**	**1.04**	**1.16**	**1.30**	**4.85**
Growth Equity											
Hudson Clean Energy	2009	25,000,000	24,994,470	4,732,352	1,002,871	5,735,223	-19,259,247	1.00	0.19	0.23	-21.51
Lone Star CRA	2008	50,000,000	59,838,276	18,811,051	45,732,000	64,543,051	4,704,775	1.20	0.31	1.08	1.94
Lone Star Growth Capital	2006	16,000,000	26,679,375	12,800,000	0	12,800,000	-13,879,375	1.67	0.48	0.48	-52.00
Lone Star Opportunities V	2012	75,000,000	75,153,125	531,444	0	531,444	-74,621,681	1.00	0.01	0.01	-99.30
Lone Star Bridge Loan	2020	500,000	1,275,000	0	1,385,349	1,385,349	110,349	2.55	0.00	1.09	6.60
North Texas Opportunity Fund	2000	10,000,000	10,000,000	9,127,239	1,604,830	10,732,069	732,069	1.00	0.91	1.07	0.77
Total Growth Equity		**176,500,000**	**197,940,246**	**46,002,086**	**49,725,050**	**95,727,136**	**-102,213,110**	**1.12**	**0.23**	**0.48**	**-18.69**
Other/Diversified											
Huff Energy Fund LP	2006	100,000,000	99,210,178	4,477,394	67,498,111	71,975,505	-27,234,673	0.99	0.05	0.73	-2.90
Total Other/Diversified		**100,000,000**	**99,210,178**	**4,477,394**	**67,498,111**	**71,975,505**	**-27,234,673**	**0.99**	**0.05**	**0.73**	**-2.90**
Venture Capital											
Industry Ventures Partnership IV	2016	5,000,000	3,754,985	423,080	8,186,135	8,609,215	4,854,230	0.75	0.11	2.29	29.80
Total Venture Capital		**5,000,000**	**3,754,985**	**423,080**	**8,186,135**	**8,609,215**	**4,854,230**	**0.75**	**0.11**	**2.29**	**29.80**
Unclassified											
Miscellaneous Private Equity Expenses	2016		202,896	45,200							
Total Unclassified			**202,896**	**45,200**							
Total		**409,251,115**	**443,139,109**	**202,512,308**	**147,444,417**	**349,956,724**	**-93,182,385**	**1.08**	**0.46**	**0.79**	**-4.16**

1. Private Markets performance reflected is composed of active investments only.
2. Lone Star valuations are as of 12/31/20, provided by Conway Mackenzie.
3. The "IRRs" listed for Lone Star Growth Capital and Lone Star Opportunities Fund V are since inception total return figures.

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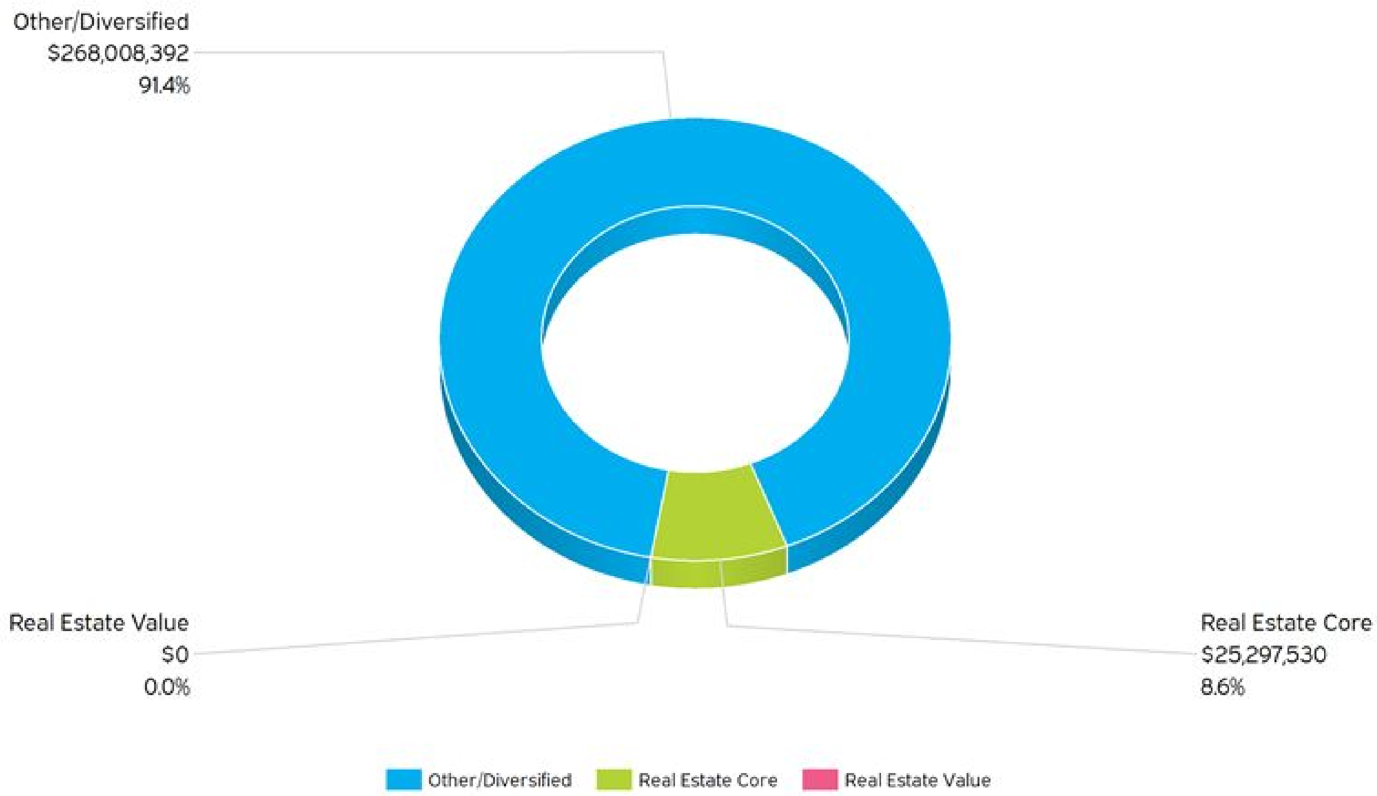
Dallas Police & Fire Pension System

Real Estate | As of June 30, 2021

Real Estate Investments as of June 30, 2021
Market Value Allocation by Strategy



1. Other/Diversified is composed of direct real estate investments made by the fund

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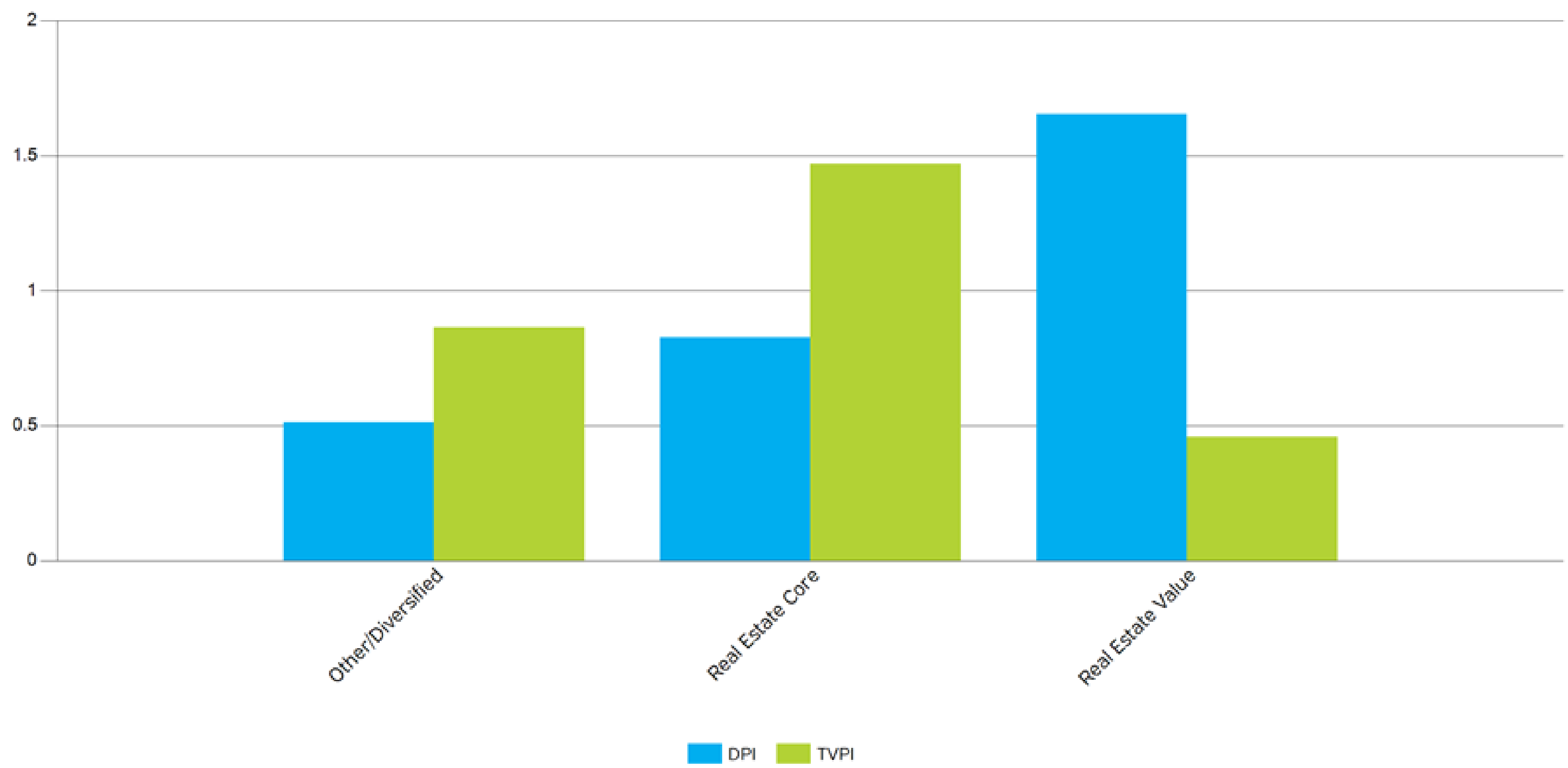
Dallas Police & Fire Pension System

Real Estate | As of June 30, 2021

Real Estate Investments as of June 30, 2021
DPI and TVPI by Strategy



1. Other/Diversified is composed of direct real estate investments made by the fund
2. Private markets performance reflected is composed of active investments only

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Dallas Police & Fire Pension System

Real Estate | As of June 30, 2021

Real Estate Investments Overview											
Active Funds	Commitments		Valuations				Performance				
Investment Name	Commitment ($)	Paid In Capital ($)	Distributions ($)	Valuation ($)	Total Value ($)	Gain/Loss ($)	Call Ratio	DPI	TVPI	IRR (%)
Total Other/Diversified	767,148,695	767,148,695	388,962,796	268,008,392	656,971,188	-110,177,507	1.00	0.51	0.86	-2.01
Real Estate Core										
Total Real Estate Core	39,564,104	39,564,104	32,514,306	25,297,530	57,811,836	18,247,732	1.00	0.82	1.46	5.11
Real Estate Value										
Total Real Estate Value	20,000,000	9,194,504	15,206,576	0	15,206,576	6,012,072	0.46	1.65	1.65	25.93
Total	**826,712,799**	**816,075,854**	**437,437,898**	**293,305,922**	**730,743,820**	**-85,332,034**	**0.99**	**0.54**	**0.90**	**-1.48**

1. Private markets performance reflected is composed of active investments only.
2. Commitment value is equal to paid in capital for direct investments made outside of a traditional limited partnership fund structure.

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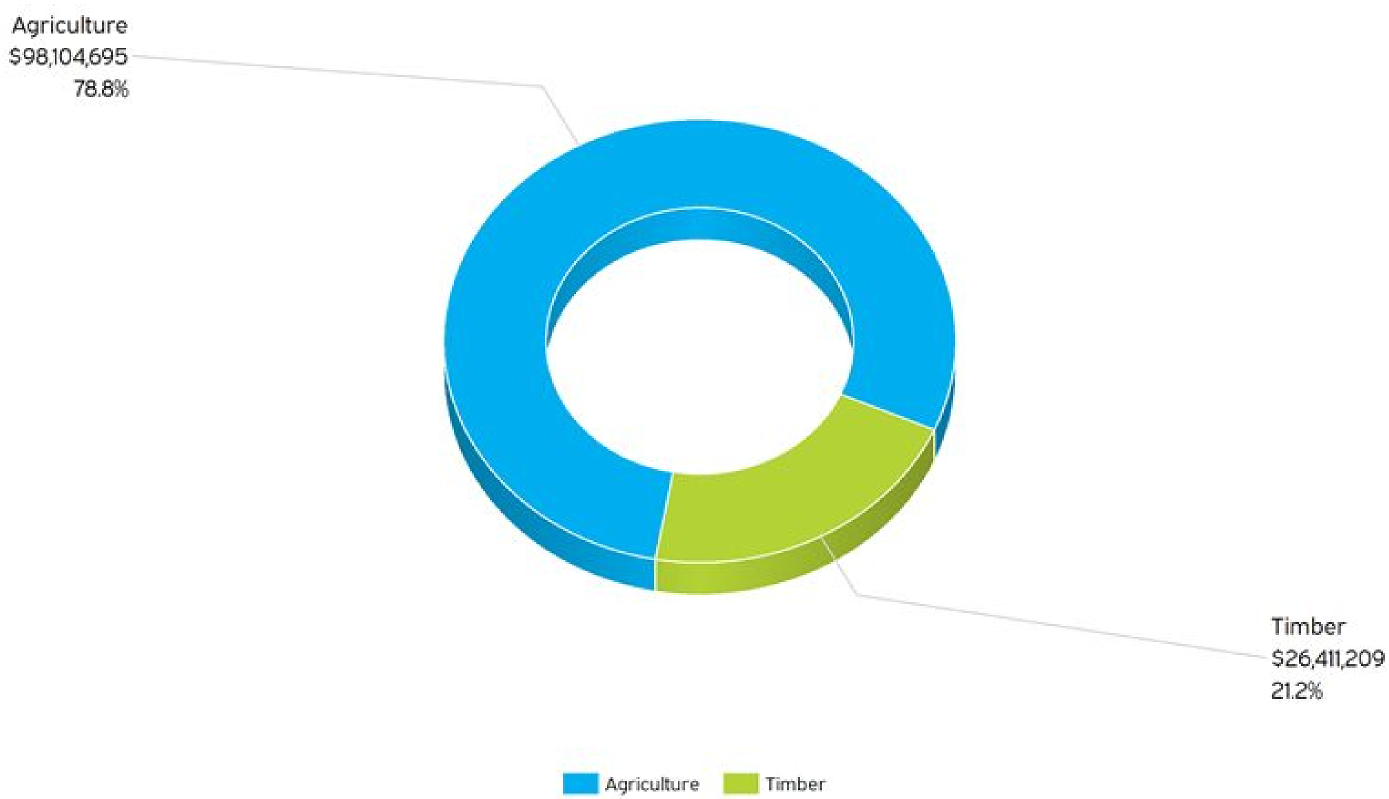
Dallas Police & Fire Pension System

Natural Resources | As of June 30, 2021

Natural Resources Investments as of June 30, 2021
Market Value Allocation by Asset Class



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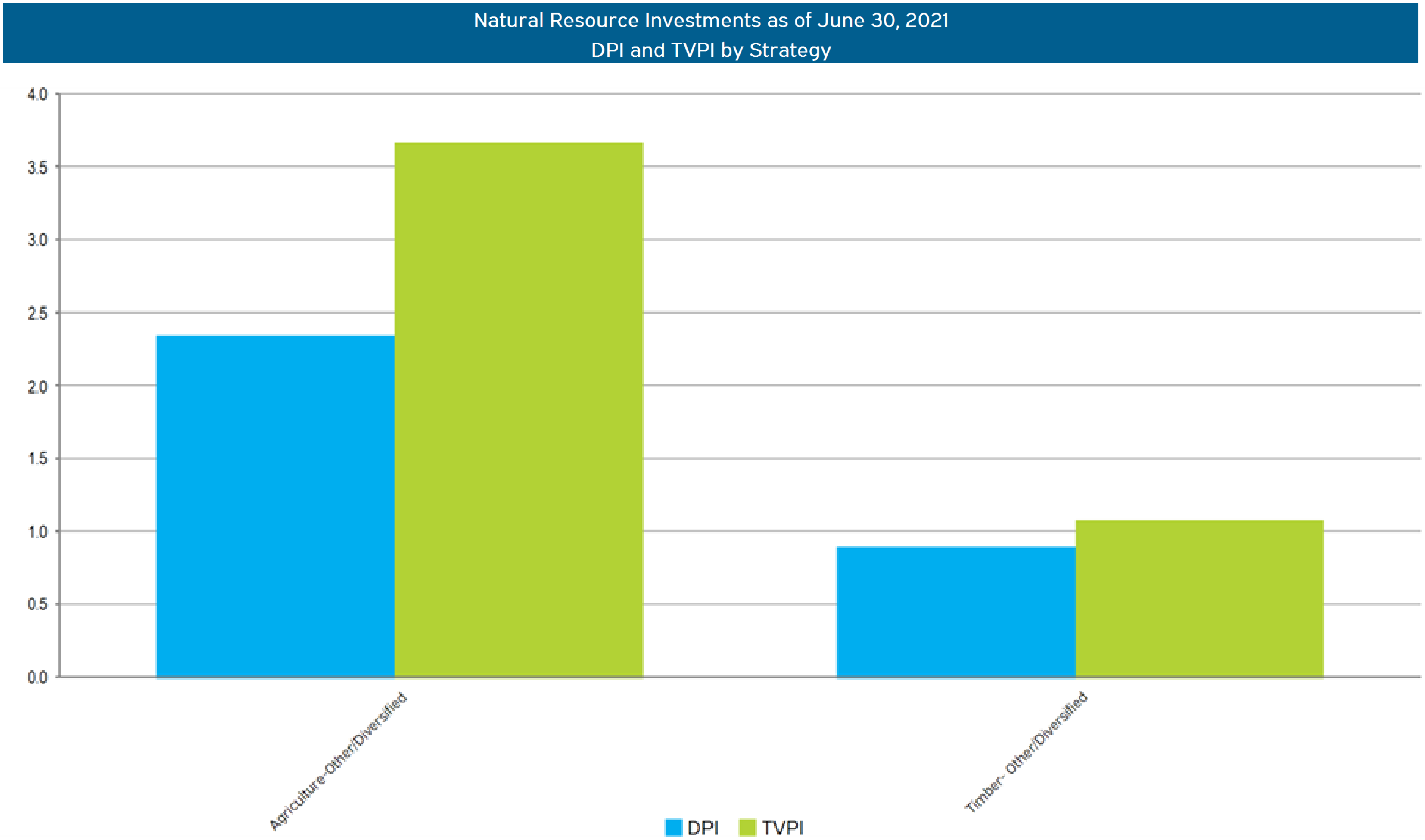
Dallas Police & Fire Pension System

Natural Resources | As of June 30, 2021



1. Agriculture 'Other/Diversified' is composed of permanent and row crops exposure.
2.Timber 'Other/Diversified' is composed of domestic and global timber exposure.
3. Private markets performance reflected is composed of active investments only

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Dallas Police & Fire Pension System

Natural Resources | As of June 30, 2021

Natural Resource Investments Overview

Active Funds		Commitments		Valuations				Performance			
Investment Name	Vintage Year	Commitment ($)	Paid In Capital ($)	Distributions ($)	Valuation ($)	Total Value ($)	Unrealized Gain/Loss ($)	Call Ratio	DPI	TVPI	IRR (%)
Agriculture											
Hancock Agricultural	1998	74,420,001	74,420,001	172,092,840	98,104,695	270,197,535	195,777,534	1.00	2.31	3.63	14.81
Total Agriculture		**74,420,001**	**74,420,001**	**172,092,840**	**98,104,695**	**270,197,535**	**195,777,534**	**1.00**	**2.31**	**3.63**	**14.81**
Timber											
BTG Pactual	2006	82,985,536	82,985,536	18,300,000	26,029,560	44,329,560	-38,655,976	0.99	0.22	0.54	-7.84
Forest Investment Associates	1992	59,649,696	59,649,696	104,525,088	381,649	104,906,737	45,257,041	1.00	1.75	1.76	7.41
Total Timber		**142,635,232**	**142,635,232**	**122,825,088**	**26,411,209**	**149,236,297**	**6,601,065**	**1.00**	**0.86**	**1.05**	**0.84**
Total		**217,055,233**	**217,055,233**	**294,917,928**	**124,515,904**	**419,433,832**	**202,378,599**	**1.00**	**1.36**	**1.94**	**8.70**

1. Private markets performance reflected is composed of active investments only
2. Commitment value is equal to paid in capital for direct investments made outside of a traditional limited partnership fund structure.

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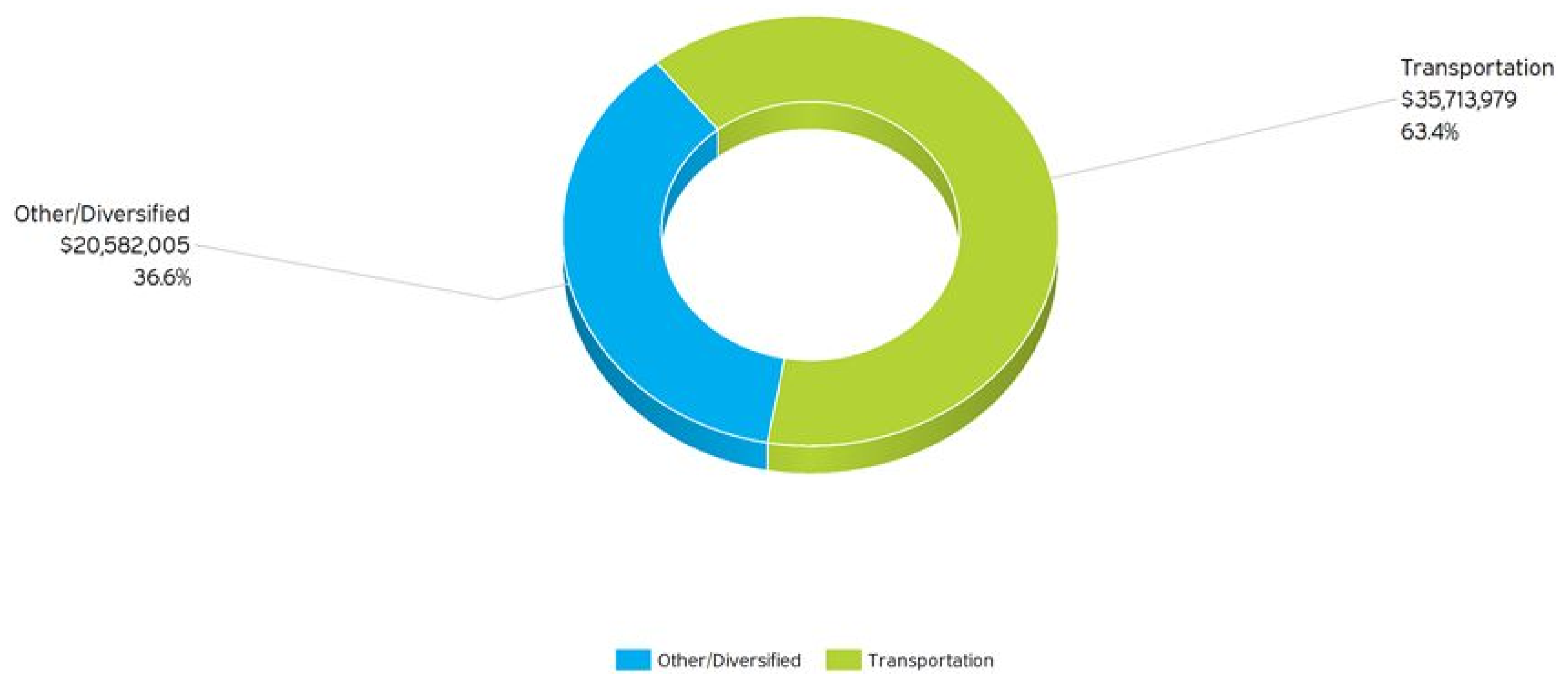
Dallas Police & Fire Pension System

Infrastructure | As of June 30, 2021

Infrastructure Investments as of June 30, 2021
Market Value Allocation by Strategy



1.'Other/Diversified' is composed of various operating and developing infrastructure project exposure

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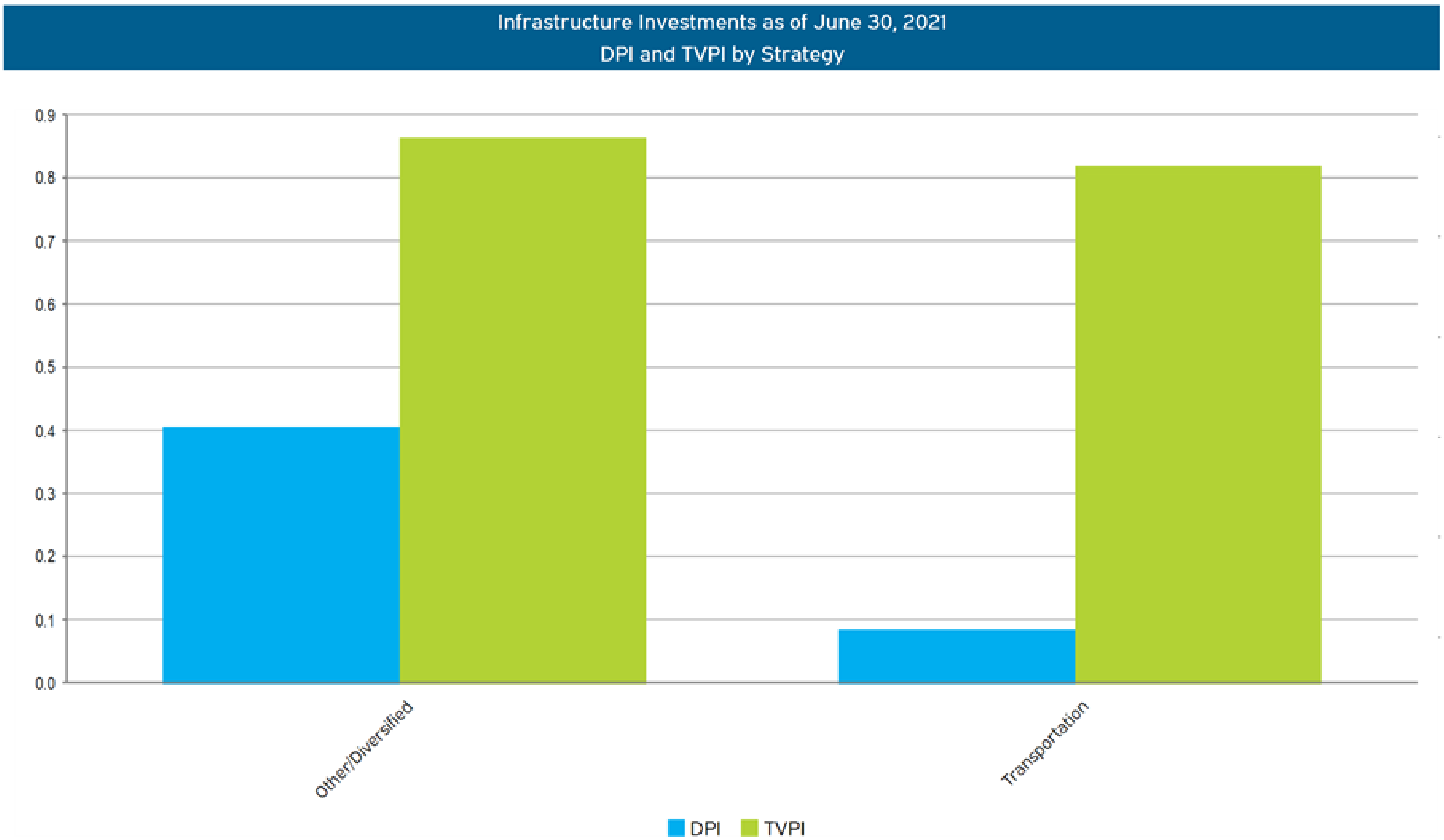
Dallas Police & Fire Pension System

Infrastructure | As of June 30, 2021



1. Other/Diversified' is composed of various operating and developing infrastructure project exposure
2. Private markets performance reflected is composed of active investments only

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Dallas Police & Fire Pension System

Infrastructure | As of June 30, 2021

Infrastructure Investments Overview												
Active Funds		Commitments		Distributions & Valuations				Performance				
Investment Name	Vintage Year	Commitment ($)	Paid In Capital ($)	Distributions ($)	Valuation ($)	Total Value ($)	Gain/Loss ($)	Call Ratio	DPI	TVPI	IRR (%)
Infrastructure											
TRG AIRRO	2008	37,000,000	37,758,432	17,873,234	16,585,459	34,458,693	-3,299,739	1.02	0.47	0.91	-1.31
TRG AIRRO II	2013	10,000,000	7,219,074	58,731	3,996,545	4,055,276	-3,163,797	0.72	0.01	0.56	-7.60
JPM Maritime Fund, LP	2009	50,000,000	48,584,975	3,737,066	35,713,979	39,451,045	-9,133,931	0.97	0.08	0.81	-2.60
Total Infrastructure		**97,000,000**	**93,562,482**	**21,669,031**	**56,295,984**	**77,965,015**	**-15,597,467**	**0.96**	**0.23**	**0.83**	**-2.42**

1. Private markets performance reflected is composed of active investments only

Private Markets Review
List of Completed Funds

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Dallas Police & Fire Pension System

Private Markets Review | As of June 30, 2021

Total Real Assets Program

Completed Funds	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Addtnl Fees	Cummulative Distributions	Valuation	Total Value	Gain/Loss	DPI Ratio	TVPI Ratio	IRR
AEW Creative Holdings	2007	13,035,849	13,035,849	0	0	0	0	0	-13,035,849	0.00	0.00	N/A
Barings Lake Luciana	2006	95,025,191	95,025,191	0	0	17,872,293	0	17,872,293	-77,152,898	0.19	0.19	-19.89%
Barings Lake P&F Real Estate	2010	18,112,486	18,112,486	0	0	4,227,991	0	4,227,991	-13,884,495	0.23	0.23	-15.79%
BTG U.S. Timberland	2007	22,230,000	22,230,000	0	0	33,065,920	0	33,065,920	10,835,920	1.49	1.49	4.82%
CDK Multifamily I	2014	10,559,876	10,617,376	0	0	10,025,434	0	10,025,434	-591,942	0.94	0.94	-1.99%
Clarion 1210 South Lamar	2014	10,500,000	10,201,489	0	0	13,214,065	0	13,214,065	3,012,576	1.30	1.30	12.85%
Clarion 4100 Harry Hines Land	2006	3,088,810	3,092,788	0	0	3,641,946	0	3,641,946	549,158	1.18	1.18	1.69%
Clarion Beat Lofts	2005	8,729,783	8,730,183	0	0	1,137,817	0	1,137,817	-7,592,366	0.13	0.13	-30.76%
Clarion Bryan Street Lofts	2005	5,112,048	5,112,048	0	0	4,163,659	0	4,163,659	-948,389	0.81	0.81	-2.23%
Clarion Four Leaf	2005	16,892,767	16,892,767	0	0	3,733,148	0	3,733,148	-13,159,619	0.22	0.22	-39.69%
Clarion The Tribute	2007	29,929,676	29,929,676	0	0	47,138,778	0	47,138,778	17,209,102	1.57	1.57	4.84%
Hearthstone Dry Creek	2005	52,303,043	52,303,043	0	0	8,973,059	0	8,973,059	-43,329,984	0.17	0.17	-38.78%
Hearthstone Nampa	2006	11,666,284	11,666,284	0	0	2,562,654	0	2,562,654	-9,103,630	0.22	0.22	-31.90%
JP Morgan Infrastructure Investments Fund	2007	37,000,000	37,000,000	0	-5,658	44,302,131	0	44,302,131	7,307,789	1.20	1.20	2.48%
L&B Realty Advsiors Beach Walk	2006	33,013,796	33,013,796	0	0	36,752,690	0	36,752,690	3,738,894	1.11	1.11	2.19%
L&B Realty Advisors KO Olina	2008	28,609,658	28,609,658	0	0	30,529,136	0	30,529,136	1,919,478	1.07	1.07	1.11%
L&B Realty Advisors West Bay Villas	2007	8,712,411	8,712,411	0	0	3,785,480	0	3,785,480	-4,926,931	0.43	0.43	-8.29%
LBJ Infrastructure Group Holdings, LLC (LBJ)	2009	50,000,000	44,346,229	0	0	77,892,000	0	77,892,000	33,545,771	1.76	1.76	12.77%
Lone Star Fund III (U.S.), L.P.	2000	20,000,000	19,827,576	0	0	40,701,250	0	40,701,250	20,873,674	2.05	2.05	31.88%
Lone Star Fund IV (U.S.), L.P.	2001	20,000,000	19,045,866	0	0	43,898,442	0	43,898,442	24,852,576	2.30	2.30	30.15%
Lone Star Fund V (U.S.), L.P.	2005	22,500,000	22,275,229	0	0	20,605,895	0	20,605,895	-1,669,334	0.93	0.93	-1.41%
Lone Star Fund VI (U.S.), L.P.	2008	25,000,000	20,034,018	0	0	31,712,968	0	31,712,968	11,678,950	1.58	1.58	21.76%
Lone Star Real Estate Fund (U.S.), L.P.	2008	25,000,000	20,743,769	0	0	25,403,707	0	25,403,707	4,659,938	1.22	1.22	5.15%
Lone Star Real Estate Fund II	2011	25,000,000	22,169,907	0	0	32,789,371	0	32,789,371	10,619,464	1.48	1.48	24.73%
Lone Star Real Estate Fund III	2014	25,000,000	23,490,784	0	0	26,638,028	0	26,638,028	3,147,244	1.13	1.13	8.20%
M&G Real Estate Debt Fund II	2013	29,808,841	21,523,663	0	0	17,088,107	0	17,088,107	-4,435,556	0.79	0.79	-15.04%
NTE 3a-3b	2012	50,000,000	23,794,565	0	0	28,186,978	0	28,186,978	4,392,413	1.18	1.18	16.03%
NTE Mobility Partners Holding, LLC (NTE)	2009	50,000,000	43,397,054	0	0	105,890,000	0	105,890,000	62,492,946	2.44	2.44	19.33%
Olympus II-Hyphen Solutions	2007	836,511	836,511	0	0	1,418,149	0	1,418,149	581,638	1.70	1.70	5.96%
P&F Housing IV	2006	134,015,889	134,015,889	0	0	83,179,802	0	83,179,802	-50,836,087	0.62	0.62	-8.44%
RREEF North American Infrastructure Fund	2007	50,000,000	50,000,000	0	846,289	55,238,755	0	55,238,755	4,392,466	1.09	1.09	12.59%
Sungate	2005	6,481,568	6,481,568	0	0	308,624	0	308,624	-6,172,944	0.05	0.05	-22.30%
Tucson Loan	2014	4,500,000	4,500,000	0	0	5,082,785	0	5,082,785	582,785	1.13	1.13	5.75%
Total Completed Funds		**942,664,487**	**880,767,673**	**0**	**840,631**	**861,161,062**	**0**	**861,161,062**	**-20,447,242**	**0.98**	**0.98**	

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Dallas Police & Fire Pension System

Private Markets Review | As of June 30, 2021

Private Equity & Debt Funds

Completed Funds	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Addtnl Fees	Cummulative Distributions	Valuation	Total Value	Gain/Loss	DPI Ratio	TVPI Ratio	IRR
Ashmore Global Special Situations Fund IV	2007	70,000,000	70,012,300	0	0	39,652,711	0	39,652,711	-30,359,589	0.57	0.57	-10.12%
BankCap Partners Fund I	2007	20,000,000	20,000,000	0	0	24,960,986	0	24,960,986	4,960,986	1.25	1.25	2.58%
BankCap Partners Opportunity Fund, LP	2013	20,000,000	19,587,052	0	0	18,266,454	0	18,266,454	-1,320,598	0.93	0.93	-5.69%
CDK Southern Cross	2008	1,535,316	1,535,316	0	0	0	0	0	-1,535,316	0.00	0.00	-20.08%
Highland Credit Ops	2006	35,348,165	35,348,165	0	0	29,994,190	0	29,994,190	-5,353,975	0.85	0.85	-2.06%
HM Capital Sector Performance Fund	2008	47,300,000	44,354,248	0	1,933,378	39,792,545	0	39,792,545	-6,495,081	0.86	0.86	-4.01%
Huff Alternative Income Fund	1994	40,000,000	40,000,000	0	2,018,676	66,940,198	0	66,940,198	24,921,522	1.59	1.59	17.82%
Kainos Capital Partners, L.P.	2013	35,000,000	30,316,015	0	0	43,263,688	0	43,263,688	12,947,673	1.43	1.43	24.76%
Levine Leichtman Capital Partners IV	2008	50,000,000	38,009,085	0	0	78,916,788	0	78,916,788	40,907,703	2.08	2.08	20.12%
Levine Leichtman Capital Partners V, L.P.	2013	25,000,000	19,181,272	0	-4,405	24,506,336	0	24,506,336	5,329,469	1.28	1.28	15.26%
Levine Leichtman Deep Value Fund	2006	75,000,000	75,000,000	0	11,025,662	88,688,224	0	88,688,224	2,662,562	1.03	1.03	0.73%
Levin Leichtman Private Capital Solutions II, L.P.	2012	25,000,000	17,961,807	0	-175	18,691,764	0	18,691,764	730,132	1.04	1.04	1.30%
Lone Star Fund IX (U.S.), L.P.	2014	35,000,000	24,241,467	0	0	23,459,730	0	23,459,730	-781,737	0.97	0.97	-3.28%
Lone Star Fund VII (U.S.), L.P.	2011	25,000,000	23,469,024	0	0	41,624,566	0	41,624,566	18,155,542	1.77	1.77	47.54%
Lone Star Fund VIII (U.S.), L.P.	2013	25,000,000	22,564,537	0	0	28,017,551	0	28,017,551	5,453,014	1.24	1.24	16.26%
Merit Energy Partners E-I	2004	7,018,930	7,031,052	0	-1,741	14,975,776	0	14,975,776	7,946,465	2.13	2.13	14.48%
Merit Energy Partners F-I	2005	8,748,346	8,749,275	0	0	3,801,206	0	3,801,206	-4,948,069	0.43	0.43	-17.19%
Merit Energy Partners G, LP	2008	39,200,000	39,320,050	0	0	26,756,651	0	26,756,651	-12,563,399	0.68	0.68	-9.96%
Merit Energy Partners H, LP	2010	10,000,000	10,033,415	0	0	6,870,451	0	6,870,451	-3,162,964	0.68	0.68	-13.78%
Oaktree Fund IV	2001	50,000,000	50,000,000	0	0	82,516,590	0	82,516,590	32,516,590	1.65	1.65	28.36%
Oaktree Loan Fund 2X	2007	60,000,000	60,004,628	0	0	65,066,951	0	65,066,951	5,062,323	1.08	1.08	2.24%
Oaktree Power Fund III	2011	30,000,000	16,167,147	0	0	23,839,959	0	23,839,959	7,672,812	1.47	1.47	12.35%
Pharos Capital Co-Investment, LLC	2007	20,000,000	20,000,000	0	0	10,019,157	0	10,019,157	-9,980,843	0.50	0.50	-9.92%
Pharos Capital Co-Investment, LP	2008	40,000,000	40,000,000	0	0	67,459,271	0	67,459,271	27,459,271	1.69	1.69	8.42%
Pharos Capital Partners IIA, L.P.	2005	20,000,000	20,080,306	0	0	17,715,199	0	17,715,199	-2,365,107	0.88	0.88	-2.39%
Pharos Capital Partners III, LP	2012	50,000,000	28,397,038	0	-54,286	20,196,932	0	20,196,932	-8,145,820	0.71	0.71	-19.95%
Yellowstone Capital	2008	5,283,254	5,112,307	0	0	1,465,725	0	1,465,725	-3,646,582	0.29	0.29	-31.26%
Total Completed Funds		**869,434,011**	**786,475,506**	**0**	**14,917,109**	**907,459,599**	**0**	**907,459,599**	**106,066,984**	**1.13**	**1.13**	

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Disclaimer

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM", "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

DISCUSSION SHEET

ITEM #C8

Topic: **Investment Advisory Committee Appointments**

Discussion: The Investment Policy stipulates that members of the Investment Advisory Committee shall serve two-year terms (Sec. 5.B.1.e). The Investment Advisory Committee terms for Rakesh Dahiya and William Velasco, II expire in December 2021. Mr. Dahiya is willing to continue serving on the Committee. Staff will discuss adding one and possibly multiple new external members to the IAC.

Recommendation: Staff **recommends** reappointing Rakesh Dahiya to serve on the Investment Advisory Committee for a two-year term ending 12/31/23.

Board Member #1	Gilbert Garcia	9/13/18	12/31/22
Board Member #2	Michael Brown	11/12/20	12/31/22
Board Member #3	Ken Haben	11/12/20	12/31/22
External #1	Scott Freeman	9/13/18	12/31/22
External #2	Robert Jones	1/10/19	12/31/22
External #3	Rakesh Dahiya	7/9/20	12/31/23
External #4	William Velasco, II	7/9/20	12/31/21

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

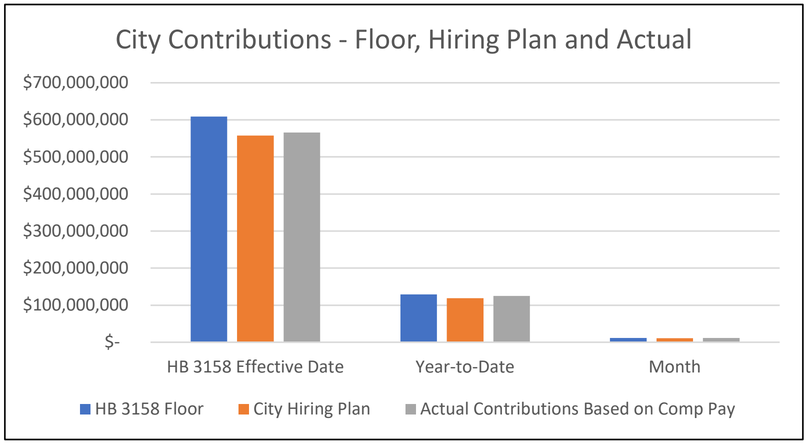
ITEM #C9

Topic: **Monthly Contribution Report**

Discussion: Staff will review the Monthly Contribution Report.

Regular Board Meeting – Thursday, December 9, 2021

Contribution Tracking Summary - December 2021 (October 2021 Data)



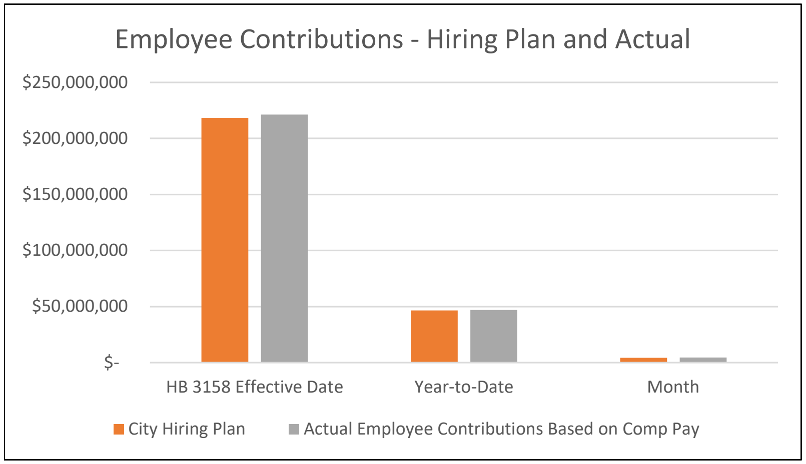
Actual Comp Pay was 101% of the Hiring Plan estimate since the effective date of HB 3158.

In the most recent month Actual Comp Pay was 106% of the Hiring Plan estimate and 97% of the Floor amount.

The Hiring Plan Comp Pay estimate increased by 3.03% in 2021. The Floor increased by 2.76%.

Through 2024 the HB 3158 Floor is in place so there is no City Contribution shortfall.

The combined actual employees was 124 less than the Hiring Plan for the pay period ending November 9, 2021. Fire was over the estimate by 55 fire fighters and Police under by 179 officers.



Employee contributions exceeded the Hiring Plan estimate for the month, the year and since inception.

There is no Floor on employee contributions.

Contribution Summary Data

City Contributions

Oct-21	Number of Pay Periods Beginning in the Month	HB 3158 Floor	City Hiring Plan	Actual Contributions Based on Comp Pay	Additional Contributions to Meet Floor Minimum	Comp Pay Contributions as a % of Floor Contributions	Comp Pay Contributions as a % of Hiring Plan Contributions
Month	2	$ 11,764,000	$ 10,827,692	$ 11,423,730	$ 153,814	97%	106%
Year-to-Date		$ 129,404,000	$ 119,104,615	$ 125,050,005	$ 4,195,995	97%	105%
HB 3158 Effective Date		$ 608,575,000	$ 557,865,000	$ 565,837,869	$ 42,810,838	93%	101%

Due to the Floor through 2024, there is no cumulative shortfall in City Contributions
Does not include the flat $13 million annual City Contribution payable through 2024.
Does not include Supplemental Plan Contributions.

Employee Contributions

Oct-21	Number of Pay Periods Beginning in the Month	City Hiring Plan	Actual Employee Contributions Based on Comp Pay	Actual Contribution Shortfall Compared to Hiring Plan	Actuarial Valuation Contribution Assumption	Actual Contributions as a % of Hiring Plan Contributions	Actual Contributions as a % of Actuarial Val Assumption
Month	2	$ 4,236,923	$ 4,471,515	$ 234,591	$ 4,236,924	106%	106%
Year-to-Date		$ 46,606,154	$ 46,907,502	$ 2,419,810	$ 46,606,164	101%	101%
HB 3158 Effective Date		$ 218,295,000	$ 221,258,947	$ 2,963,947	$ 213,185,806	101%	104%

Potential Earnings Loss from the Shortfall based on Assumed Rate of Return $ (427,963)

Does not include Supplemental Plan Contributions.

Reference Information

City Contributions: HB 3158 Bi-weekly Floor and the City Hiring Plan Converted to Bi-weekly Contributions						
	HB 3158 Bi-weekly Floor	City Hiring Plan-Bi-weekly	HB 3158 Floor Compared to the Hiring Plan	Hiring Plan as a % of the Floor	% Increase/ (decrease) in the Floor	% Increase/ (decrease) in the Hiring Plan
2017	$ 5,173,000	$ 4,936,154	$ 236,846	95%		
2018	$ 5,344,000	$ 4,830,000	$ 514,000	90%	3.31%	-2.15%
2019	$ 5,571,000	$ 5,082,115	$ 488,885	91%	4.25%	5.22%
2020	$ 5,724,000	$ 5,254,615	$ 469,385	92%	2.75%	3.39%
2021	$ 5,882,000	$ 5,413,846	$ 468,154	92%	2.76%	3.03%
2022	$ 6,043,000	$ 5,599,615	$ 443,385	93%	2.74%	3.43%
2023	$ 5,812,000	$ 5,811,923	$ 77	100%	-3.82%	3.79%
2024	$ 6,024,000	$ 6,024,231	$ (231)	100%	3.65%	3.65%
The HB 3158 Bi-weekly Floor ends after 2024						

Employee Contributions: City Hiring Plan and Actuarial Val. Converted to Bi-weekly Contributions				
		City Hiring Plan Converted to Bi-weekly Employee Contributions	Actuarial Valuation Assumption Converted to Bi-weekly Employee contributions	Actuarial Valuation as a % of Hiring Plan
2017		$ 1,931,538	$ 1,931,538	100%
2018		$ 1,890,000	$ 1,796,729	95%
2019		$ 1,988,654	$ 1,885,417	95%
2020		$ 2,056,154	$ 2,056,154	100%
2021		$ 2,118,462	**$ 2,118,462**	100%
2022		$ 2,191,154	**$ 2,191,154**	100%
2023		$ 2,274,231	**$ 2,274,231**	100%
2024		$ 2,357,308	**$ 2,357,308**	100%

The information on this page is for reference. The only numbers on this page that may change before 2025 are the Actuarial Valuation Employee Contributions Assumptions for the years 2020-2024 and the associated percentage.

Reference Information - Actuarial Valuation and GASB 67/68 Contribution Assumptions

Actuarial Assumptions Used in the Most Recent Actuarial Valuation - These assumptions will be reevaluated annually & may change.

City Contributions are based on the Floor through 2024, the Hiring Plan from 2025 to 2037, after 2037 an annual growth rate of 2.75% is assumed

Employee Contributions for 2018 are based on the 2017 actual employee contributions inflated by the growth rate of 2.75% and the Hiring Plan for subsequent years until 2038, when the 2037 Hiring Plan is increased by the 2.75 growth rate for the next 10 years

Actuarial/GASB Contribution Assumption Changes Since the Passage of HB 3158

	Actuarial Valuation	GASB 67/68
YE 2017 (1/1/2018 Valuation)		
2018 Employee Contributions Assumption - based on 2017 actual plus growth rate not the Hiring Plan Payroll	$ (2,425,047)	*
2019 Estimate (1/1/2019 Valuation)		
2019 Employee Contribution Assumption	$ 9,278	*

**90% of Hiring Plan was used for the Cash Flow Projection for future years in the 12/31/2017 GASB 67/68 calculation. At 12-31-17, 12-31-18 and 12-31-2019 this did not impact the pension liability or the funded percentage.*

The information on this page is for reference. It is intended to document contribution related assumptions used to prepare the Actuarial Valuation and changes to those assumptions over time, including the dollar impact of the changes. Contribution changes impacting the GASB 67/68 liability will also be included.

City Hiring Plan - Annual Computation Pay and Numbers of Employees						
	Computation Pay			**Number of Employees**		
Year	**Hiring Plan**	**Actual**	**Difference**	**Hiring Plan**	**Actual EOY**	**Difference**
2017	$ 372,000,000	Not Available	Not Available	5,240	4,935	(305)
2018	$ 364,000,000	$ 349,885,528	$ (14,114,472)	4,988	4,983	(5)
2019	$ 383,000,000	$ 386,017,378	$ 3,017,378	5,038	5,104	66
2020	$ 396,000,000	$ 421,529,994	$ 25,529,994	5,063	4,988	(75)
2021	$ 408,000,000			5,088		
2022	$ 422,000,000			5,113		
2023	$ 438,000,000			5,163		
2024	$ 454,000,000			5,213		
2025	$ 471,000,000			5,263		
2026	$ 488,000,000			5,313		
2027	$ 507,000,000			5,363		
2028	$ 525,000,000			5,413		
2029	$ 545,000,000			5,463		
2030	$ 565,000,000			5,513		
2031	$ 581,000,000			5,523		
2032	$ 597,000,000			5,523		
2033	$ 614,000,000			5,523		
2034	$ 631,000,000			5,523		
2035	$ 648,000,000			5,523		
2036	$ 666,000,000			5,523		
2037	$ 684,000,000			5,523		

Comp Pay by Month - 2021	**Annual Divided by 26 Pay Periods**	**Actual**	**Difference**	**2020 Cumulative Difference**	**Number of Employees - EOM**	**Difference**
January	$ 31,384,615	$ 33,074,493	$ 1,689,878	$ 1,689,878	4960	(128)
February	$ 31,384,615	$ 33,017,462	$ 1,632,847	$ 3,322,725	4926	(162)
March	$ 31,384,615	$ 32,960,217	$ 1,575,602	$ 4,898,327	4929	(159)
April	$ 47,076,923	$ 49,564,745	$ 2,487,822	$ 7,386,148	4935	(153)
May	$ 31,384,615	$ 33,011,653	$ 1,627,037	$ 9,013,186	4913	(175)
June	$ 31,384,615	$ 32,932,804	$ 1,548,189	$ 10,561,374	4904	(184)
July	$ 31,384,615	$ 33,011,207	$ 1,626,592	$ 12,187,966	4939	(149)
August	$ 31,384,615	$ 33,136,708	$ 1,752,092	$ 13,940,059	4918	(170)
September	$ 47,076,923	$ 49,601,625	$ 2,524,701	$ 16,464,760	4936	(152)
October	$ 47,076,923	$ 49,553,179	$ 2,476,256	$ 18,941,016	4964	(124)
November				$ 18,941,016		
December				$ 18,941,016		

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C10

Topic: **Board approval of Trustee education and travel**

a. Future Education and Business-related Travel
b. Future Investment-related Travel

Discussion:

a. Per the Education and Travel Policy and Procedure, planned Trustee education and business-related travel and education which does not involve travel requires Board approval prior to attendance.

Attached is a listing of requested future education and travel noting approval status.

b. Per the Investment Policy Statement, planned Trustee travel related to investment monitoring, and in exceptional cases due diligence, requires Board approval prior to attendance.

There is no future investment-related travel for Trustees at this time.

Future Education and Business Related Travel & Webinars
Regular Board Meeting – December 9, 2021

ATTENDING APPROVED

2022 EVENTS

1. **Conference:** **NAPO Annual Pension & Benefits Seminar**
   Dates: January 23-25, 2022
   Location: Las Vegas, NV
   Est Cost: $1,500

2. **Conference:** **TEXPERS Annual Conference**
   Dates: April 3-6, 2022
   Location: Fort Worth, TX
   Est Cost: TBD

3. **Conference:** **NCPERS Trustee Educational Seminar (TEDS)**
   Dates: May 21 – 22, 2022
   Location: Washington, DC
   Est Cost: TBD

4. **Conference:** **NCPERS Program for Advanced Trustee Studies (PATS)**
   Dates: May 21 – 22, 2022
   Location: Washington, DC
   Est Cost: TBD

Future Education and Business Related Travel & Webinars
Regular Board Meeting – December 9, 2021

ATTENDING APPROVED

2022 EVENTS
(continued)

5. **Conference:** **NCPERS Accredited Fiduciary (NAF) Program**
   Dates: May 21 – 22, 2022
   Location: Washington, DC
   Est Cost: TBD

6. **Conference:** **NCPERS Annual Conference & Exhibition (ACE)**
   Dates: May 22 – 25, 2022
   Location: Washington, DC
   Est Cost: TBD

7. **Conference:** **NCPERS Public Safety Conference**
   Dates: October 25-28, 2022
   Location: Nashville, TN
   Est Cost: **TBD**

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C11

Topic: **Staff Compensation Plan**

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.074 of the Texas Government Code.

Discussion: The Board directed staff to review the staff total compensation. As the first step in this process the Logic Compensation Group conducted an analysis of staff compensation and benefits. As a result of the process, the Board amended the staff retirement plan from the defined contribution plan to participation in TMRS at the November 2021 Board meeting. In addition, staff worked with CBIZ Talent and Compensation Solutions to develop a pay structure and policies related to the administration of the pay structure.

Staff will review the compensation policies and pay structure.

Staff Recommendation: **Adopt** the Compensation Policies and pay structure.

Dallas Police & Fire Pension System

Compensation Study Results

CBIZ TALENT & COMPENSATION SOLUTIONS

DECEMBER 8, 2021

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EXECUTIVE SUMMARY

CBIZ Talent and Compensation Solutions ("CBIZ") was engaged by the Dallas Police & Fire Pension System ("DPFP") to conduct a comprehensive compensation study for its employees, including a review of current compensation practices, and an update of the compensation plan.

In order to assist the DPFP in implementing a compensation system that considers both market and internal factors, CBIZ matched the DPFP's positions to positions in the market, developed a new salary structure, and calculated the cost of implementing the recommendations. In addition to evaluating base salaries, CBIZ assessed total cash compensation.

The remainder of this report will explain the methodology and expand on this summary in order to clearly document the comprehensive approach taken to analyze the DPFP's current compensation practices and develop its new compensation plan.

OBJECTIVE AND SCOPE OF THE STUDY

The objective of the compensation study is to provide the DPFP with a plan that:

- Enhances the ability to attract, retain, and motivate qualified individuals;
- Establishes structures that are flexible in order to meet changing needs; and
- Is well-aligned with broader goals and strategies.

The scope of the study included:

- A competitive market analysis of base salary and total cash compensation;
- Development of a salary structure;
- Reconciliation of actual compensation with market-competitive compensation;
- Calculation of plan implementation costs; and
- Overall recommendations.

METHODOLOGY

Definitions

Base Salary: the annual fixed rate that an individual is paid for performing a job.

Total Cash Compensation: the sum of base salary and annual incentive compensation payments from variable pay programs.

Data Points:

- 25th percentile: the value in an array that falls at the first quarter of the sampled data (75% of the values in the sample are greater than the 25th percentile value).
- 50th percentile: the value in an array that falls in the middle or median of the sampled data (half of the values in the sample fall above this value and half fall below it). This is the data point of reference for the proposed pay grade assignments.
- 75th percentile: the value in an array that falls at the third quarter of the sampled data (25% of the values in the sample are greater than the 75th percentile value).

Compa-ratio: the employee's current salary divided by a market comparison point, which is usually the market 50th percentile. An employee whose salary equals the 50th percentile of the market has a compa-ratio of 100%. A compa-ratio of less than 100% indicates that the employee's salary is less than the 50th percentile of the market, and a compa-ratio greater than 100% indicates that the employee's salary is greater than the 50th percentile of the market.

Range Penetration: the employee's current salary minus the salary grade minimum salary divided by the difference of the salary grade maximum and minimum. An employee whose range penetration equals 50% is paid at the midpoint of the salary grade range, 0% is equal to the salary grade minimum and 100% is equal to the salary grade maximum.

Market Pricing

Competitive Market Analysis

According to a recent WorldatWork survey of market pricing practices, the vast majority of organizations (approximately 85%) utilize a compensation philosophy that strives to compensate employees at the median of the competitive labor market. Median pay is the point at which half of the employers pay more and half pay less.

Based on CBIZ's discussions with the DPFP, it intends to be competitive with its level of pay, which generally corresponds to setting the pay structure at the market median.

The labor market influences described below were considered for the jobs included in the scope of the study.

Labor Market Influences

The three most important labor market characteristics are the size of an organization, geographic scope, and industries from which the DPFP recruits talent. Because surveys focus on different market characteristics (e.g., some focus on size, others focus on geography or industry), CBIZ determined each characteristic as it relates to each position at the DPFP before conducting the market analysis, as follows:

Size of DPFP

A key factor to be considered in determining the market-competitive compensation, particularly for senior management positions, is the size of an organization. While compensation for many positions is based primarily upon location, industry, job tasks, and responsibilities, compensation for upper-level positions is also significantly affected by the size of the organization. CBIZ considered size factors such as assets of $2 Billion.

Geographic Influence

Many jobs in an organization are recruited locally. Professional jobs may be recruited state wide or regionally. Because individuals who work in senior management positions often relocate solely to accept a new job, national searches are commonly conducted for these positions. In contrast, lower-paid salaried employees seldom relocate primarily on the basis of a job. To accurately reflect this market place characteristic, the survey data must be comprised of participants who reflect the geographic scope of the position in question. Too narrow or broad a market area scope either does not consider all necessary factors or introduces irrelevant factors.

However, when considering senior management positions, it is most reasonable to geographically adjust the data to the higher of the local or national market. This is due to the fact that organizations in locations that have greater comparative salaries will provide higher salaries to employees. In addition, the higher (local) rates would be required to compensate an employee moving from an area with a lower cost of living. Conversely, although executives are often recruited on a national basis, in practical application executives rarely are open to reductions in pay, even if they are moving to a lower-cost area.

CBIZ primarily utilized data specific to Dallas, Texas, which is expected to be the primary market for recruiting employees under the scope of the analysis.

Industry Influence

Industry is the final key consideration for matching jobs to the market. Some jobs only exist within a certain industry and are most accurately priced to that industry exclusively. Conversely, some jobs are found in all industries, and the true market for these jobs usually considers this broader market. For example, most clerical and trade jobs can be found in any organization. For this reason, CBIZ focused on pension and retirement funds.

Salary Surveys

The first step in ascertaining the competitiveness of compensation was to determine what competitors pay for jobs comparable to those at the DPFP. CBIZ used its proprietary survey database that aggregates data from hundreds of valid and reliable published salary surveys and includes specific data based on geographic area, size of organization, years of experience, and industry. CBIZ used a database that compiles multiple salary sources because:

- They provide a richer and more complete view of the market.
- Survey sources may focus on different market characteristics to define market peers.
- They allow the DPFP to more closely define peers and peer relationships than is possible using any single survey source.
- Multiple sources allow for statistical validation of the collected data.

CBIZ 2021 Public Pension Survey Peer Group

- Austin Fire Fighters Relief & Retirement Fund
- City of Dallas Employees Retirement Fund
- City of El Paso Employees Retirement Trust
- Denver Employees Retirement Plan
- El Paso Firemen & Policemen's Pension Fund
- Fort Worth Employees Retirement Fund
- Houston Firefighters Relief & Retirement Fund
- Houston Police Officers Pension System
- Jacksonville Police & Fire Pension Fund
- Tacoma Employees Retirement Fund
- Teacher Retirement System of Texas
- Texas Municipal Retirement System

Aging Data

Survey data must be adjusted to account for market pay movement between the time of publication and when the data are to be used. For example, a survey may have been conducted to report salaries effective as of September 1, 2020. In order to market-price the jobs at the DPFP as of July 1, 2021, CBIZ had to age the survey data ten months. In addition, different surveys have different publication dates, and they must be aged to a common point in time. Put simply, aging the data provides up-to-date salary data and allows for an "apples to apples" comparison of survey data. All salary data were aged to reflect estimated market pay as of July 1, 2022. Data were aged using a factor of 3.2%, which is the anticipated salary growth rate. This figure reflects the value for projected pay movement as reported by WorldatWork's Salary Budget Survey.

Job Matching

CBIZ reviewed the content of each job description provided and searched the salary survey job descriptions to find the best possible match. When a valid match was found, the corresponding salary survey market data were recorded. CBIZ recorded the 25th, 50th, and 75th percentiles for both base salary and total cash compensation.

CBIZ

Compensation Study Results

Market Analysis

Exhibit 1 displays the composite market data for the DPFP. The analysis is a comprehensive review of the included positions compared to the market base salary and market total cash compensation. The 25th, 50th, and 75th percentiles are reported. This exhibit provides a summary look at how the DPFP's positions compare to the labor market. A detailed employee analysis with associated implementation costs is provided later in this report.

Market data were also compared graphically to the DPFP's current average compensation by position. Exhibit 2A reveals the trendline for actual base salaries compared to market 50th percentile base salary. Exhibit 2B provides the trendline for actual total cash compensation compared to market 50th percentile total cash compensation.

Salary Structure Development

A critical element of the compensation plan is the salary structure. The salary structure is a compensation framework comprised of multiple grades, each of which has an associated salary range. The salary structure groups jobs with similar market values and/or internal equity into the same grade. The salary structure ensures that each employee receives a salary that is reasonable given their assigned grade and corresponding salary range.

CBIZ developed a unique salary structure for the DPFP, which will provide a system for slotting all jobs and allow for future growth. The structure is provided in Exhibit 3. Exhibit 4 provides a list of each job and their corresponding salary grade minimum, midpoint, and maximum. Exhibits 5A and 5B provide a graphical depiction of employee range penetration and progression at the 50th percentile.

In the proposed salary structure, the salary grade midpoint is designed to approximate the market median for each job. CBIZ slotted each position into a grade in the structure based on the grade midpoint that most closely corresponds to the market 50th percentile identified in Exhibit 1.

Example:

Job Title: Job XYZ

Market Median: $35,455

Salary Grade	Minimum	Midpoint	Maximum
1	$24,778	$30,972	$37,166
2	$27,398	$35,618	$43,837
3	$31,508	$40,960	$50,413

Salary Analysis

Exhibits 6A, 6B, and 6C compare the market data and corresponding salary ranges to actual base pay at the DPFP. Exhibit 6A presents results by grad, Exhibit 6B contains results sorted by department, and Exhibit 6C contains the results by exemption status. These exhibits document the cost of implementing the compensation plan.

SUMMARY OF FINDINGS

- The DPFP's average base salary compa-ratio is 106.6% at the 50th percentile. This indicates that on average base pay is approximately 5.2% above the published survey data market median, which is approximated by the salary range midpoints.
- As presented in Exhibit 6A, the initial cost to implement the new structures would be approximately $6,792. This is the cost to bring all employees to the minimum of their respective proposed ranges and represents 0.3% of payroll.
  - In the analysis, 3 employees are above the maximum of the ranges by a total of $11,343.
  - Among the 22 employees included in the scope of the analysis, there are 2 below their respective salary grade minimums.
  - There are many reasons that an individual employee's pay may be above or below market median pay levels. New employees or poor performers should be paid below the market, while experienced employees with excellent performance should be paid well above the market.

RECOMMENDATIONS

- Increase the compensation of all employees to the minimum of their respective proposed salary ranges. The range minimum represents the level at which entry-level pay can be considered market-competitive.
- Implementation of the compensation plan should occur uniformly across all positions. While different implementation scenarios may recognize budget constraints, partial or sporadic implementation can result in pay equity issues.
- Update the structure annually. In order to reduce the administrative burden associated with salary structure maintenance, CBIZ will provide update factors that will allow the DPFP to update the recommended salary structures for five years after the study.
- Temporarily freeze pay for employees above the maximum of their respective proposed grade. The pay freeze should remain in place until the point at which the range maximum surpasses actual pay.
- Conduct a comprehensive market review every three to five years to ensure that the ranges remain market-competitive.

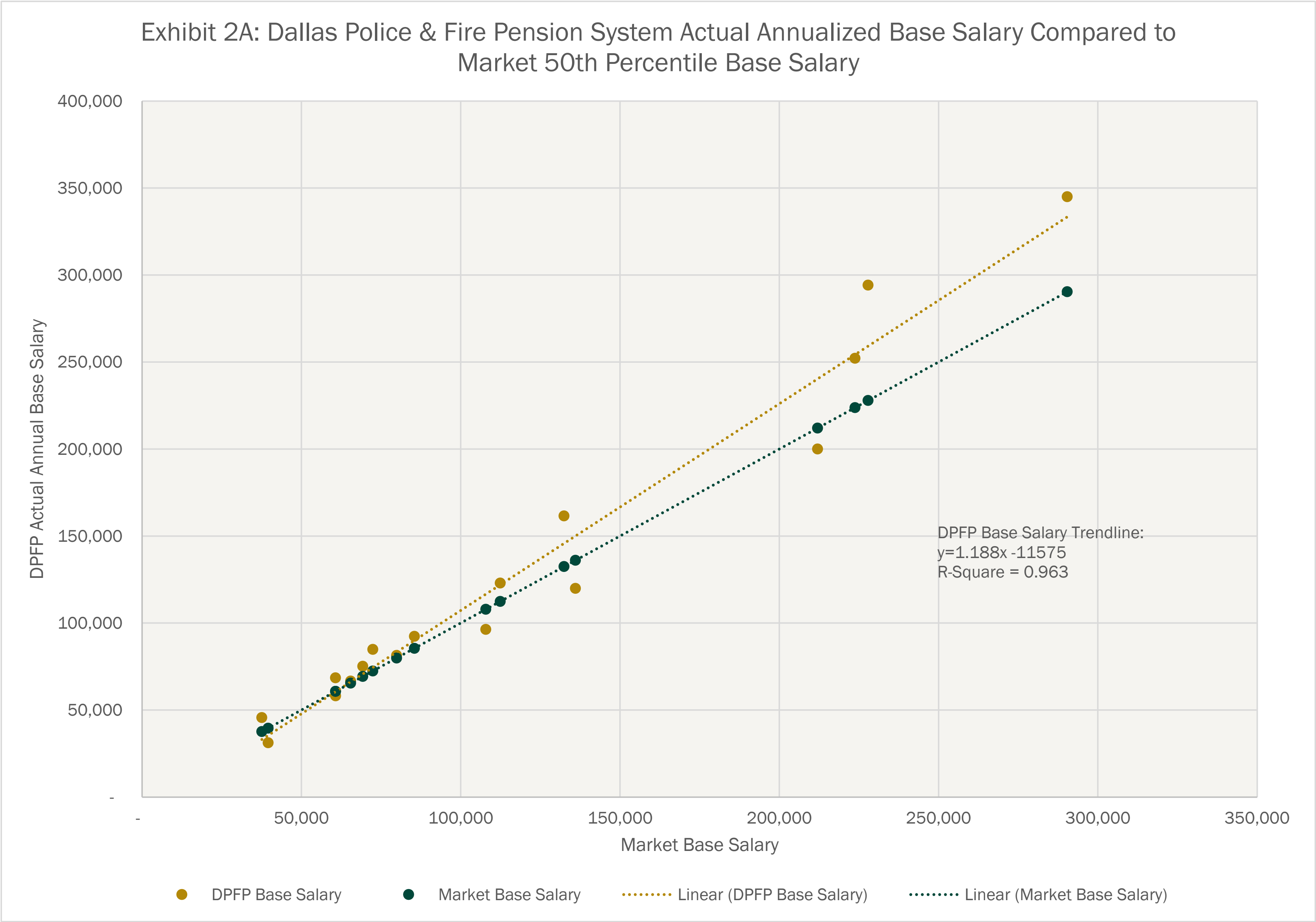


Exhibit 2A: Dallas Police & Fire Pension System Actual Annualized Base Salary Compared to Market 50th Percentile Base Salary
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
-
DPFP Actual Annual Base Salary
-
50,000
100,000
150,000
200,000
250,000
300,000
350,000
Market Base Salary
DPFP Base Salary Trendline:
y=1.188x -11575
R-Square = 0.963
DPFP Base Salary
Market Base Salary
Linear (DPFP Base Salary)
Linear (Market Base Salary)

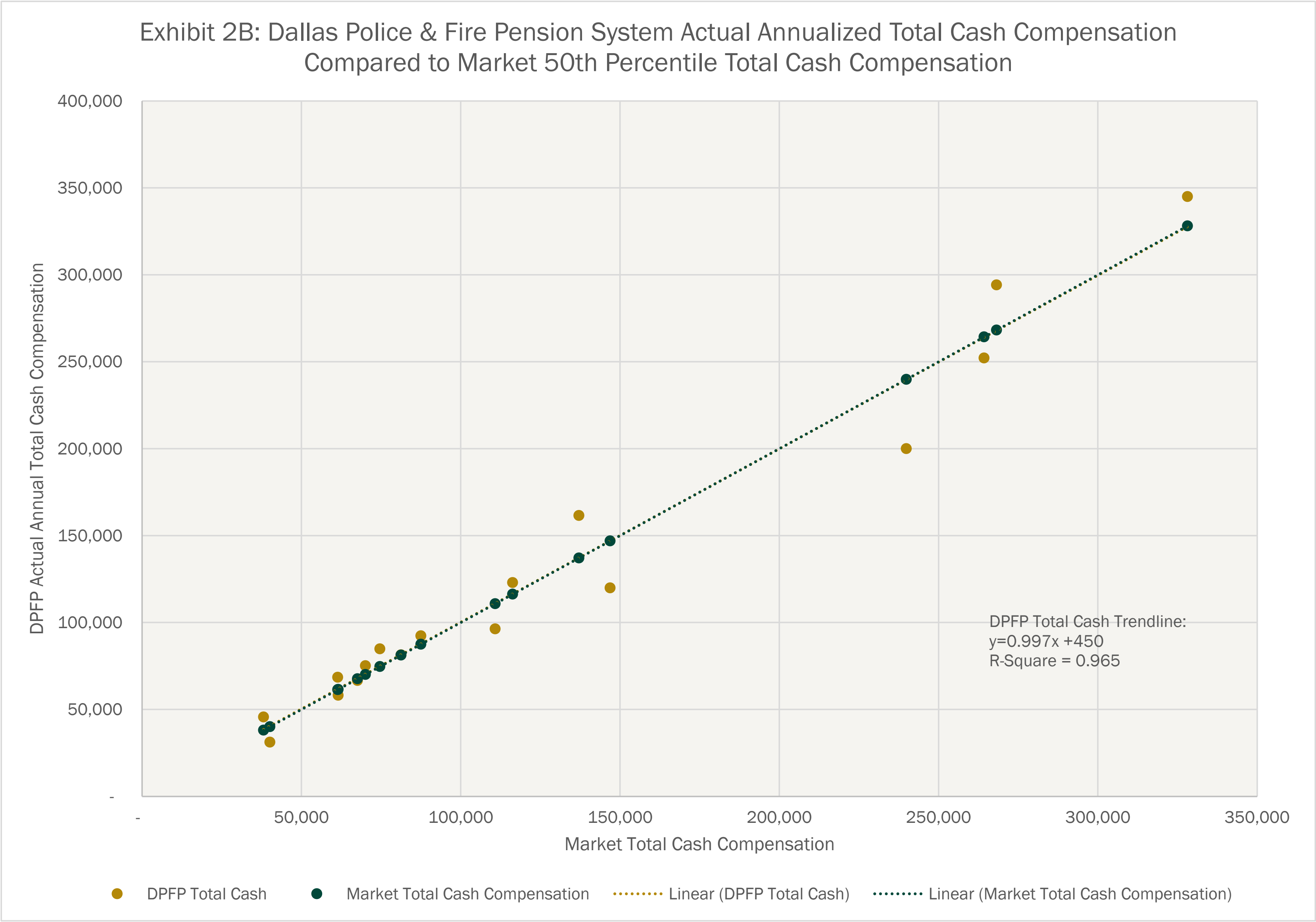


Exhibit 2B: Dallas Police & Fire Pension System Actual Annualized Total Cash Compensation Compared to Market 50th Percentile Total Cash Compensation
DPFP Actual Annual Total Cash Compensation
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
-
-
50,000
100,000
150,000
200,000
250,000
300,000
350,000
Market Total Cash Compensation
DPFP Total Cash Trendline:
y=0.997x +450
R-Square = 0.965
DPFP Total Cash
Market Total Cash Compensation
Linear (DPFP Total Cash)
Linear (Market Total Cash Compensation)

Dallas Police & Fire Pension System
Compensation Study Results
Exhibit 3 - Proposed Salary Ranges
Structures Effective January 1, 2022 to December 31, 2022

Salary Range - Annual					
Grade	Minimum	Midpoint	Maximum	Range Spread	Midpoint Differential
1	$30,086	$33,846	$37,607	25%	
2	$33,094	$37,231	$41,368	25%	10.0%
3	$35,612	$40,954	$46,296	30%	10.0%
4	$39,530	$45,459	$51,388	30%	11.0%
5	$42,050	$50,459	$58,869	40%	11.0%
6	$47,095	$56,515	$65,934	40%	12.0%
7	$51,670	$63,296	$74,922	45%	12.0%
8	$57,871	$70,892	$83,913	45%	12.0%
9	$65,394	$80,108	$94,821	45%	13.0%
10	$72,417	$90,522	$108,626	50%	13.0%
11	$81,832	$102,290	$122,748	50%	13.0%
12	$94,106	$117,633	$141,160	50%	15.0%
13	$108,222	$135,278	$162,334	50%	15.0%
14	$124,668	$158,952	$193,235	55%	17.5%
15	$152,095	$193,921	$235,747	55%	22.0%
16	$178,554	$236,584	$294,614	65%	22.0%
17	$223,192	$295,730	$368,267	65%	25.0%

Dallas Police & Fire Pension System
Compensation Study Results
Exhibit 3 - Proposed Salary Ranges
Structures Effective January 1, 2022 to December 31, 2022

Salary Range - Hourly					
Grade	Minimum	Midpoint	Maximum	Range Spread	Midpoint Differential
1	$14.46	$16.27	$18.08	25%	
2	$15.91	$17.90	$19.89	25%	10.0%
3	$17.12	$19.69	$22.26	30%	10.0%
4	$19.00	$21.86	$24.71	30%	11.0%
5	$20.22	$24.26	$28.30	40%	11.0%
6	$22.64	$27.17	$31.70	40%	12.0%
7	$24.84	$30.43	$36.02	45%	12.0%
8	$27.82	$34.08	$40.34	45%	12.0%
9	$31.44	$38.51	$45.59	45%	13.0%
10	$34.82	$43.52	$52.22	50%	13.0%
11	$39.34	$49.18	$59.01	50%	13.0%
12	$45.24	$56.55	$67.87	50%	15.0%
13	$52.03	$65.04	$78.05	50%	15.0%
14	$59.94	$76.42	$92.90	55%	17.5%
15	$73.12	$93.23	$113.34	55%	22.0%
16	$85.84	$113.74	$141.64	65%	22.0%
17	$107.30	$142.18	$177.05	65%	25.0%

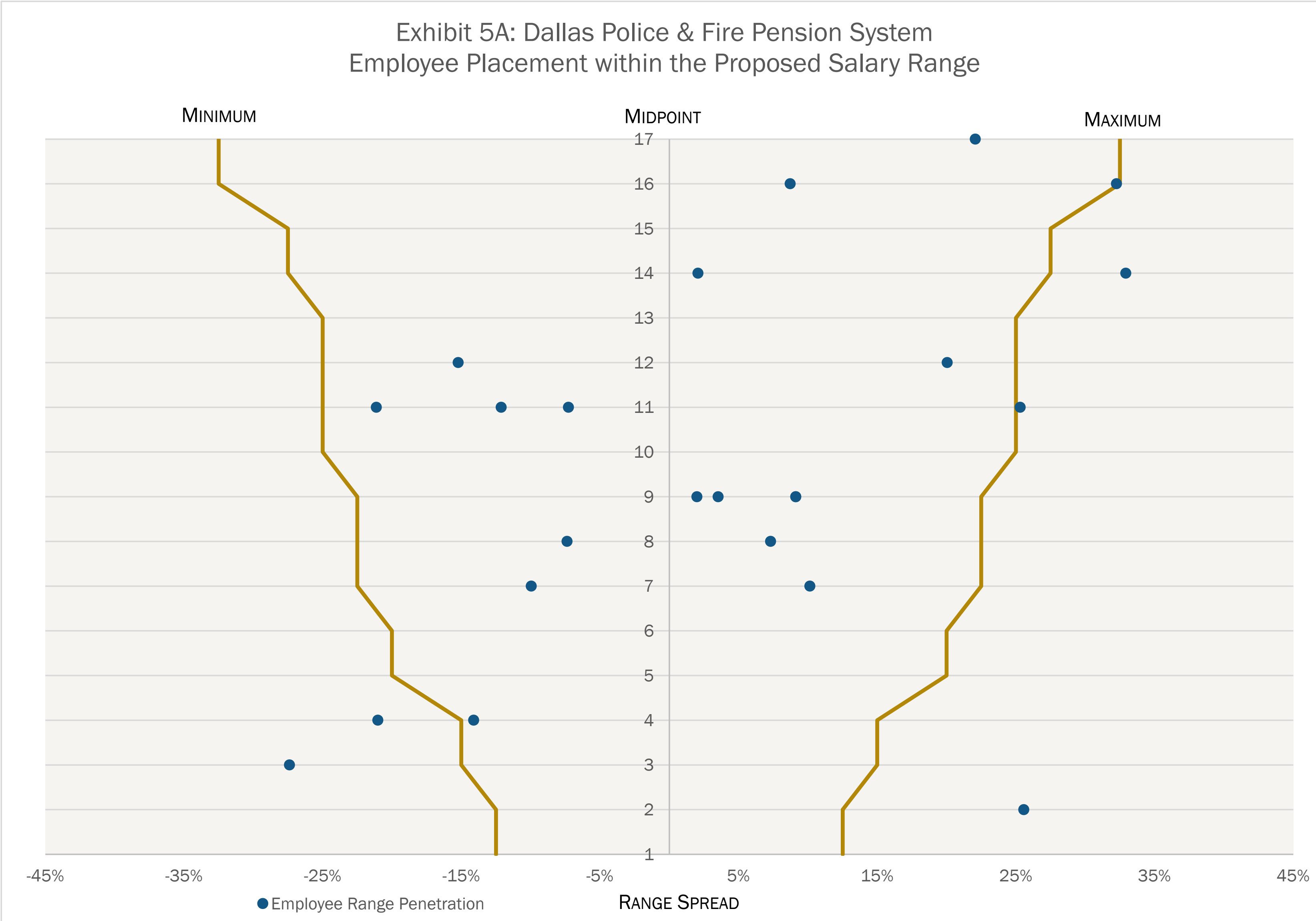


Exhibit 5A: Dallas Police & Fire Pension System
Employee Placement within the Proposed Salary Range
MINIMUM
MIDPOINT
MAXIMUM
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
-45%
-35%
-25%
-15%
-5%
5%
15%
25%
35%
45%
Employee Range Penetration
RANGE SPREAD

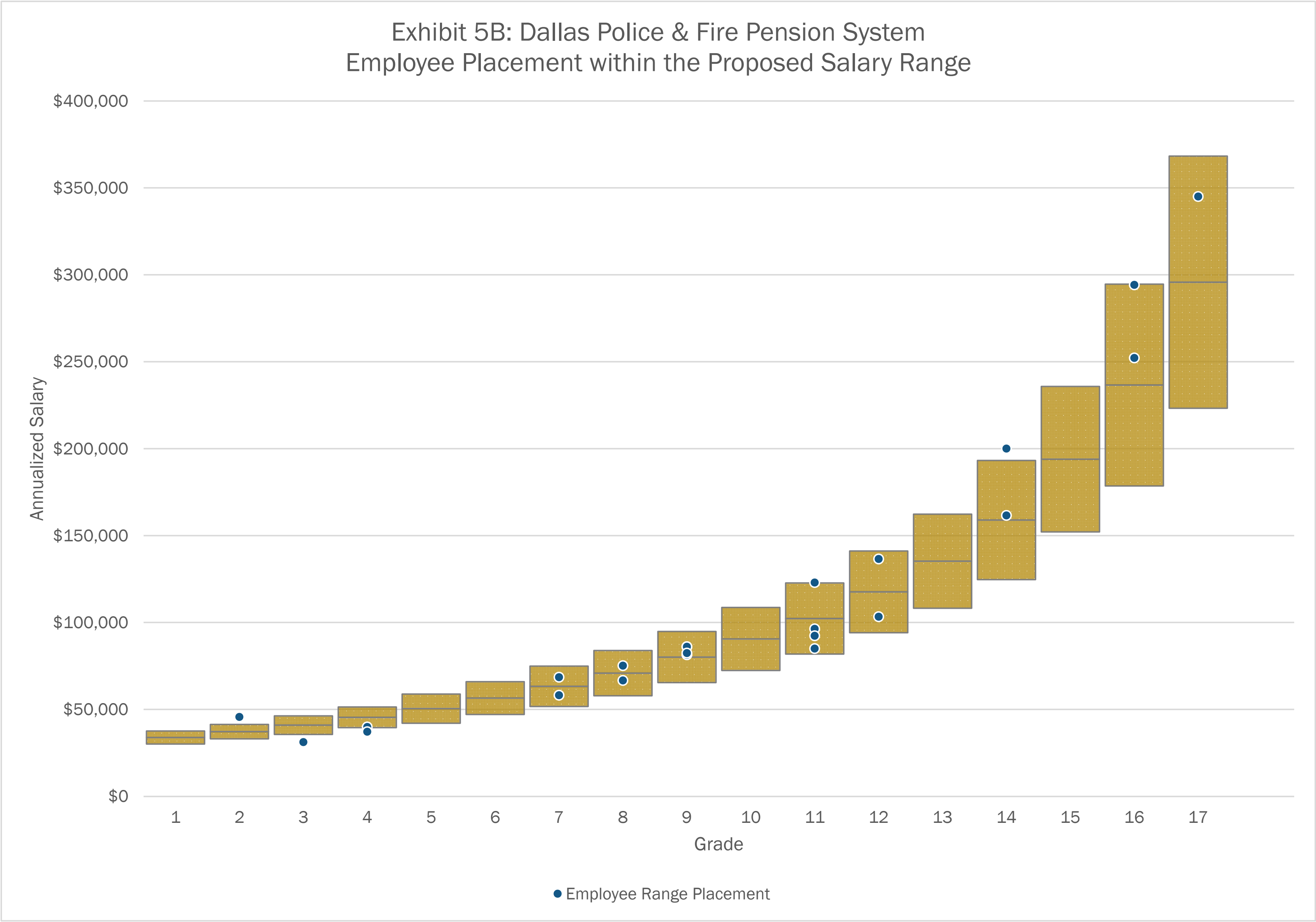


Exhibit 5B: Dallas Police & Fire Pension System
Employee Placement within the Proposed Salary Range
$400,000
$350,000
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
Annualized Salary
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
Grade
Employee Range Placement

DALLAS POLICE & FIRE PENSION SYSTEM COMPENSATION POLICY DRAFT

PURPOSE OF THE COMPENSATION SYSTEM

The overall purpose of DPFP's compensation system is to provide a means to assist in recruiting, retaining and rewarding employees. It seeks to establish salary grades that are competitive with the labor markets in which DPFP recruits talented employees and reflect the value of positions to DPFP, as determined by a job review which takes into account the duties and level of responsibility of each job.

Objectives of the system are as follows:

1. To ensure a pay philosophy that is reflective of the values and goals of DPFP.
2. To ensure DPFP's financial resources are used in the most effective and efficient manner.
3. To provide a rational basis for making pay decisions and thereby establishing internal fairness and a consistent approach.
4. To increase transparency and set realistic employee salary expectations.
5. To maintain salary ranges that are competitive with labor markets from which employees are recruited.
6. To establish job titles and descriptions that are consistently used throughout DPFP.
7. To clarify the knowledge, skills and abilities ("KSAs") required to competently perform the position and aid in the development of career paths.
8. To assist in evaluating and rewarding employee job performance.

The Executive Director is responsible for the administration and maintenance of the compensation system. Human Resources ("HR") will assist the Executive Director in the administration of the compensation system. These responsibilities include assignment of proposed new jobs to salary grades, reassignment of existing jobs to salary grades, preparation and maintenance of job descriptions, review and approval of pay adjustments and maintenance and updating of pay structures.

ASSIGNMENT OF A NEW JOB TO A SALARY GRADE

All jobs will be assessed according to DPFP's compensation plan based on published salary data and internal comparable value. This plan establishes a consistent basis for measuring and ranking the relative market value of each job.

Assignment of New Positions to a Salary Grade Procedures

1. Following approval to create a new position, the department manager, or a designee, completes a job analysis questionnaire ("JAQ") or drafts a job description describing the duties to be assigned to the position.
2. The department manager submits the JAQ/job description to HR for assessment.

DALLAS POLICE & FIRE PENSION SYSTEM COMPENSATION POLICY DRAFT

3. All new and existing jobs are to be assigned to a salary grade based on their relative value as determined by both published salary survey data (if available) and DPFP's determination of relative internal value.

REQUESTED REVIEW OF A JOB'S SALARY GRADE ASSIGNMENT

A job reassignment occurs when a job is moved to a different grade because the essential job functions have significantly changed. Department managers and employees may request a review of the evaluation of their job by July 1st for consideration in the upcoming budget process. Specific requests to HR must be approved by the employee's department manager.

Reassignment of an Existing Position Procedures

1. Except in unusual circumstances, requests for reassessment may be made annually in concert with budget preparation. A review of a position's classification is warranted when there has been a material, significant and permanent change in job duties. The direct supervisor or department manager is responsible for recognizing such job changes. Additionally, an employee who believes his or her job is not properly evaluated may request of his or her supervisor or manager a reassessment.
2. When the supervisor and department manager concludes that a material, significant, and permanent change in job duties has occurred, a JAQ should be completed by the employee, reviewed by the supervisor and sent to HR. Not all changes in job duties justify a grade change, duties of similar complexity or increased volume generally will not result in a change.
3. Upon receipt of a newly completed JAQ, an assessment of the duties and responsibilities of the position will be made using a review of relative internal value and a review of published salary surveys. This process may include an interview with the employee and/or supervisor. Following this evaluation, HR will recommend to the Executive Director if the job should remain as presently assigned or if a new assignment is appropriate. The department manager is notified in writing of the results.
4. If upon the evaluation of a job, it is determined that a job is still within the same salary grade, no salary adjustment will be made. In the instance where an employee's job is reassigned to a lower salary grade, the employee's salary will not be changed; however, the reclassified grade maximum will define the limit of future pay increases. In the instance where an employee's job is reassigned to a higher salary grade, the employee's pay may be adjusted. Generally, an increase of five percent (5%) for each salary grade shift may be awarded or the minimum of the new salary grade. However, an increase is not guaranteed and other factors such as internal equity, compression and job performance may be considered in determining the increase.

DALLAS POLICE & FIRE PENSION SYSTEM COMPENSATION POLICY DRAFT

ESTABLISHING INITIAL PAY FOR NEW HIRES

It is the goal of DPFP to offer wages that attract the best possible employees. It is also the goal of DPFP to ensure pay fairness among employees within similar job titles. Therefore, a new employee's initial pay should be set in consideration of the candidate's qualifications as defined by KSAs, the pay of other similarly employed individuals, the pay and pay scales of supervised employees and external market factors.

Typically, the initial wage should be set between the minimum and the midpoint of the salary grade. Exceptions to this policy may be made in cases with unusual circumstances, where market conditions prohibit hiring within the authorized hiring grade and/or the current pay or pay scales of employees does not stimulate significant interest in upward career movement. The Executive Director will approve the initial pay of all new hires.

Establishing Pay for New Hire Procedures:

1. The department manager and HR will carefully review the applicant's qualifications in relation to the job's KSAs, external market factors and the current wages of individuals employed in similar titles and recommend a salary placement to the Executive Director. It is anticipated that most salary offers will be between the minimum and the midpoint of the salary grade.
2. Salary offers will be prepared by HR and approved by the Executive Director. The hiring manager may then communicate the offer to the prospective employee or defer to HR.

DETERMINING PAY FOR PROMOTIONS AND DEMOTIONS

A promotion occurs when an employee moves to a job in a higher salary grade or range.

A transfer occurs when an employee transfers to another position in the same salary grade as the position previously occupied. In such cases, the employee shall not be eligible for a pay increase at the time of such transfer.

A demotion occurs when an employee's position is reassessed to a lower salary grade or when an employee is transferred to a position in a lower salary grade typically due to reorganization. A demotion also occurs when an employee voluntarily accepts a position in a lower salary grade than the position occupied.

Determining Pay for Promotion Procedures

1. The employee's salary will be adjusted to compensate for the promotion. Generally, a promotion will include an increase of 10% but it may be different depending on internal equity, compression, range minimum and maximum and other factors.

DALLAS POLICE & FIRE PENSION SYSTEM COMPENSATION POLICY DRAFT

Determining Pay for Demotion Procedures

1. In the case of a demotion resulting from poor performance or employee choice, the employee's current salary is reduced to reflect the demotion. Generally, the reduction will be ten percent (10%) but may be different considering the range minimum, maximum, internal equity and other factors.
2. In the case of a demotion resulting from an organizational change or development assignment, all attempts will be made to keep the individual at the current salary.

MARKET-BASED PAY ADJUSTMENTS

DPFP strives to pay at levels that are competitive with the market. Salary adjustments may be made to employee salaries to address significant discrepancies between DPFP's level of pay and market pay levels for jobs. Actual adjustment amounts will be based on DPFP's budget as well as individual performance.

Market-based Pay Adjustment Procedures

1. HR will periodically compare current employee pay levels to the market pay for similar jobs.
2. If a particular job at DPFP becomes exceedingly difficult to recruit and retain because of compensation requirements, HR will recommend salary adjustments to address the demand for greater pay because of extreme market competitiveness.
3. Individual employee pay will be reviewed in consideration of market survey data and recruiting requirements. Based upon this review, individual employee pay may be adjusted to better reflect market rates, decrease compensation-related turnover or match a job offer. The actual percentage an employee's pay is adjusted will be based on the employee's KSAs in comparison to the job's KSAs, and the extent of external market pay factors. Market adjustments will only be considered for employees with at least a satisfactory performance rating.

SALARY STRUCTURE ADJUSTMENTS

DPFP's salary structures will be adjusted on a periodic basis to ensure that they remain competitive with markets from which it attracts talented employees.

Salary Structure Adjustment Procedures

1. On an annual basis, HR will receive a salary structure recommendation letter from CBIZ Talent and Compensation Solutions, or anther compensation consulting expert and review the pay structures in consideration of changing economic and competitive factors as determined by published salary surveys and other data sources, such as the federal Bureau of Labor Statistics Employment Cost Index and Consumer Price Index.

DALLAS POLICE & FIRE PENSION SYSTEM COMPENSATION POLICY DRAFT

2. HR will recommend an appropriate salary structure adjustment to the Executive Director.
3. Salary structures will be adjusted as approved by the Executive Director.
4. Any employee whose salary is below the assigned updated salary range will receive a pay adjustment at least equal to the difference between actual salary and the salary range minimum. Such pay increases will be provided only if the Board has approved sufficient budget to make the adjustment.

ANNUAL SALARY INCREASE REVIEW

DPFP will evaluate annually the appropriateness and affordability of salary increases to ensure that salaries remain competitive and reward employee contributions.

The factors that DPFP will consider when approving a salary review budget, include, but are not limited to the following:

1. The budget, including the short- and long-term implications of salary increases.
2. Salary increase trends, as measured through third-party surveying firms.
3. Wage inflation, as measured by the federal Bureau of Labor Statistics Employment Cost Index.
4. Overall inflation, as measured by the Consumer Price Index.

Upon approval of a budget, the following factors will be considered when awarding salary increases

1. The budget approved by DPFP Board.
2. An employee's performance.
3. An employee's placement within the salary range.

Pay above Grade Maximum

The compensation system is a tool used by DPFP to provide a rational basis for pay decisions. It helps to ensure that positions are not underpaid or overpaid based on job responsibilities and the competitive labor markets from which employees are recruited. The salary grade assigned to each position indicates the value of the position within DPFP. For any employee whose pay is at or above the maximum for his or her salary grade, future increases will be frozen so long as the current pay is greater than the salary grade maximum. Lump-sum compensation bonuses may be awarded to employees that do not add to the base pay when current pay is above the salary grade maximum.

EXECUTIVE DIRECTOR DISCRETION

The Executive Director can deviate from the policy when deemed to be appropriate for the situation and in the best interest of DPFP.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C12

Topic: **Legal issues - In accordance with Section 551.071 of the Texas Government Code, the Board will meet in executive session to seek and receive the advice of its attorneys about pending or contemplated litigation or any other legal matter in which the duty of the attorneys to DPFP and the Board under the Texas Disciplinary Rules of Professional Conduct clearly conflicts with Texas Open Meeting laws.**

Discussion: Counsel will brief the Board on these issues.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C13

Topic: **Executive Director Performance Evaluation**

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.074 of the Texas Government Code.

Discussion: The Board will meet with the Executive Director to review performance and provide recommendations concerning yearly objectives, goals, and performance.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D1

Topic: **Public Comment**

Discussion: Comments from the public will be received by the Board.

Regular Board Meeting – Thursday, December 9, 2021

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D2

Topic: **Executive Director's report**

a. Associations' newsletters
- NCPERS Monitor (December 2021)
- NCPERS PERSist (Fall 2021)
- TEXPERS Pension Observer (Vol. 4, 2021) https://online.anyflip.com/mxfu/znio/mobile/index.html

b. Open Records

c. CIO Recruitment

Discussion: The Executive Director will brief the Board regarding the above information.

THE NCPERS

MONITOR

The Latest in Legislative News

December 2021

In This Issue

Milliman Funding Survey Highlights Impact of Past Year's Market Surge

Photo illustration © 2021, istock.com

Propelled by surging financial markets, public pensions achieved an aggregate funded ratio of 85% in the fiscal year that ended June 30, according to an analysis of the 100 largest U.S. plans by actuarial and consulting firm Milliman.

The results are a big jump from a funded ratio of 70.7% a year earlier and reflected an average annual return on assets of 27% among the 100 largest plans, Milliman said in a white paper, *2021 Public Pension Funding Study*.

"While the significant improvement in funded status is welcome news to public pension plan stakeholders, it is important to remember that a market correction could quickly send plan assets down to more typical levels," the Milliman white paper said.

The firm estimated that assets of the 100 largest plans stood at $4.82 trillion as of June 30, up from $3.90 trillion a year earlier. Liabilities rose to $5.67 trillion as of June 30, up from $5.50 trillion a year earlier. As a result, Milliman's estimate of the gap between current assets and long-term liabilities declined to $850 billion at midyear-2021, down from $1.60 trillion a year earlier.

CONTINUED ON PAGE 5

The Year in Review

By Tony Roda

Photo Illustration © 2021, iStock.com

It's always good to pause and take stock during the holiday season. For NCPERS and its members that includes a review of what Congress and the President are doing that could affect our public pension community.

On the broader front, the $1.2 trillion bipartisan infrastructure bill was recently signed into law. The bill will provide much-needed improvements to our core infrastructure assets and add jobs to jumpstart the economy. The House also approved a $1.75 trillion spending bill, called the Build Back Better Act, which includes funding for child care and universal pre-K, direct negotiations on drug prices between the federal government and manufacturers, increased deductibility of state and local taxes, and policies aimed at mitigating the effects of climate change.

On the pension front, early this year legislation was enacted to provide financial relief to struggling multiemployer pension plans, "Taft-Hartley" plans. This legislation was years in the making and will provide retirees in these private sector plans with the financial security they were promised.

The most comprehensive retirement legislation now pending in Congress is commonly known as the SECURE Act 2.0 (H.R. 2954). You will recall that the original SECURE Act was signed into law in 2019. The SECURE Act 2.0 was approved in May unanimously by the House Ways and Means Committee. It is designed to increase opportunities to save for retirement. Many of the provisions would affect retirement plans sponsored by state and local governments, such as the following:

- Increase the age trigger for Required Minimum Distributions incrementally to age 75 by 2032;
- Allow 403(b) plans to invest in collective investment trusts and join multiple employer plans;
- Provide additional flexibility for plan fiduciaries when seeking to recoup inadvertent retirement plan overpayments;
- Allow employer matching contributions on account of student loan payments for 457(b), 403(b), and 401(k) plans;
- Eliminate the first-day-of-the-month rule for 457(b) plans to provide more flexibility to participants to make changes in elective deferral amounts;
- Exclude from tax certain disability payments for first responders;
- Increase the annual limits on catch-up contributions to $10,000 for those age 62-64 for 457(b), 403(b), and 401(k) plans; and

CONTINUED ON PAGE 6

NCPERS Executive Directors Corner

NCPERS Research Identifies New Approach for Evaluating Sustainability

Photo Illustration © 2021, istock.com

As public pension professionals, we all spend a lot of time addressing simplistic criticisms. Patiently, we explain that pensions are an earned benefit, that no one is getting rich on a retirement paycheck that averages $28,851 a year, and that funded ratios aren't the last word on a pension plan's health.

The absolutist mindset is that if a pension fund can't pay out every dime of future benefits today, it's not adequately funded.

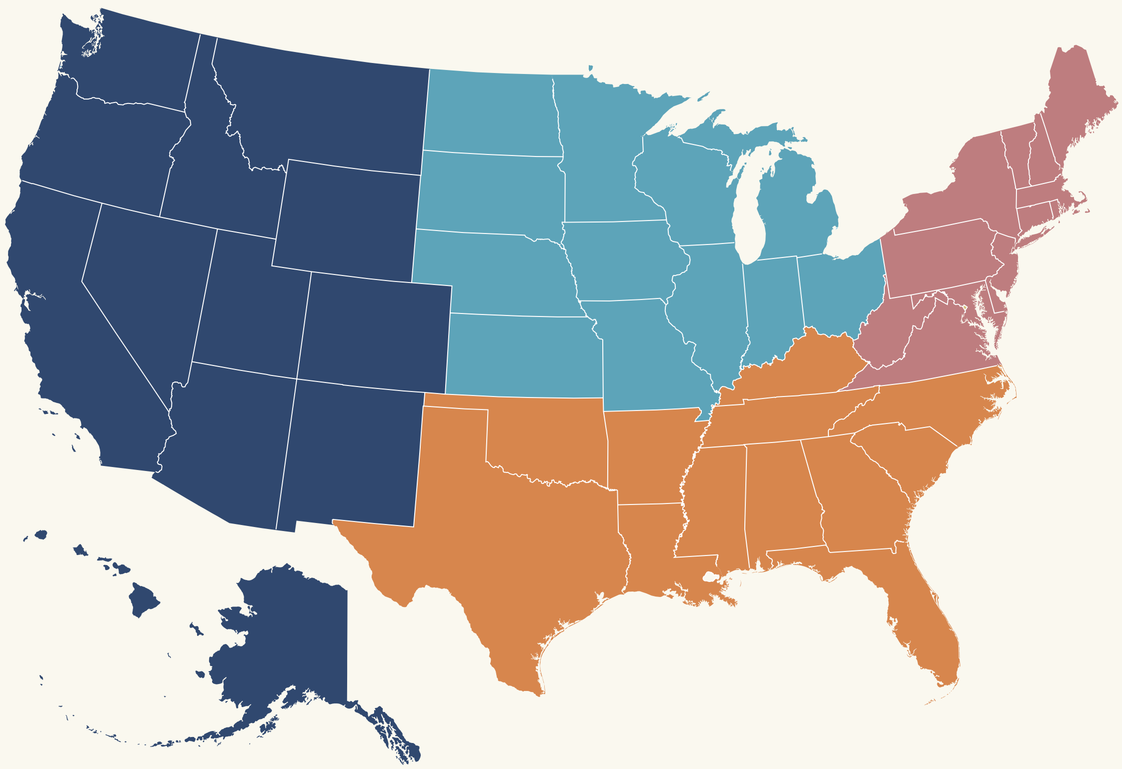
We also talk about sustainability because it is the key to understanding pensions. For over a century, governments have entered a compact with their employees by offering pensions. They promise that they can and will pay the benefits for which public servants have worked so hard—and to which workers have also contributed. Governments have to be systematic and disciplined in accumulating funds for future benefit payments to honor this pledge.

That's what we mean by sustainability. It's a common-sense concept that unfortunately gets tangled up with absolutist thinking of people who wish pensions would go away. The absolutist mindset is that if a pension fund can't pay out every dime of future benefits today, it's not adequately funded. This, of course, is as ludicrous as thinking your mortgage is in default if you can't pay off the entire balance today. Mortgages don't work like that, and neither do pensions. Just as mortgages are paid off slowly and steadily from ongoing income, pension assets are accumulated through regular contributions made over a long time.

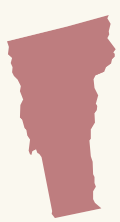
CONTINUED ON PAGE 5

NCPERS Around the Regions

This month, we will highlight Vermont, Minnesota, Mississippi and New Mexico.



NORTHEAST: Vermont



In December, a Vermont task force is preparing to issue a final report containing recommendations on the benefits, design, and funding of retirement and retiree health benefit plans for state employees and teachers.

The report, which will culminate meetings and public hearings that have been ongoing since July to collect stakeholder feedback, is expected to set the stage for action during the 2022 legislative session.

Unfunded liabilities in Vermont's pension system are projected to increase by over $600 million between state employees and teachers next year, according to the Pension Benefits, Design, and Funding Task Force.

In April, the legislature formed the task force after a public pension overhaul bill attracted a strong backlash from teachers and employees, including public demonstrations in opposition. As a result, the legislature pulled back on a plan that would have had teachers working longer into their retirement, among other unpopular features, saying that more study was needed.

In an interview with WFFF-TV in Burlington, task force member Kate McCann said many principles had guided the task force. These include "honoring state commitments to employees, pension system sustainability, minimizing impacts of any changes to employees who are near retirement, making no changes to already retired employees, and ensuring that employees don't have to work longer to qualify for a benefit," said McCann, who is a teacher in Montpelier.

McCann added that Vermont's current budget surplus creates an opportunity to stabilize pensions by putting as much one-time funding as possible toward reducing unfunded liabilities.

CONTINUED ON PAGE 7

MILLIMAN FUNDING SURVEY CONTINUED FROM PAGE 1

Milliman warned that the recent strong market performance might not provide any budgetary relief because most pension systems use one or more smoothing procedures to limit the impact of market volatility on contribution levels.

The analysis also noted that there is little correlation between the generosity of the benefits paid and the plan's funded status. In other words, "plans with generous benefits are neither better-funded nor more poorly funded than plans with modest benefits."
In other key findings:

- Total pension liability of the top 100 plans ranging from $11 billion to $521 billion.
- Some 47% of the pension plans studied had funded ratios of 90% or better as of June 30, up from 13% a year earlier.
- In all, 19% of the pension plans had funded ratios of 60% or less as of June 30, down from 30% a year earlier.
- The number of active plan members remained steady at 12.5 million in the year ended June 30, while the number of inactive and retired members rose 2.8% to 14.8 million.
- Member contributions rose 4%, to $52 billion, in the 12 months through June 30, while employer contributions rose 9%, to $157 billion.
- Overall asset allocation has changed very little over the recent years, "with just a modest, gradual shift from equities to alternative investments." Private equity, real estate, and alternatives (i.e., not equities, fixed-income, or cash) rose to 28% of holdings in 2021 versus 23% in 2013.
- Reflecting a consensus on long-term future investment returns, 95% of the plans had a rate of return assumptions of 7.5% or less, down from 90% a year earlier. Nearly a quarter of the plans (24%) reduced their assumptions since the year-ago report.
- In the 12 months leading up to June 30, 2022, the plans are projected to receive $225 billion in contributions from employers and members and payout $323 billion in benefits and administrative expenses, for a net cash outflow of $98 billion. ◆

EXECUTIVE DIRECTORS CORNER CONTINUED FROM PAGE 3

Enhancing Sustainability of Public Pensions, new research from NCPERS will focus on gauging the fiscal adjustments governments could make to ensure the sustainability of public pensions, building on our previous research briefs.

We've developed a new tool—Sustainability Valuation—that we believe can be incorporated into prevailing funding policies and practices. Using Sustainability Valuation, pension systems can monitor their fiscal resources and identify any needed adjustments to remain on track.

I started by noting that there are people who would like to see a world without pensions for reasons grounded in political dogma. They have deep faith in the ability to free markets to right all wrongs, and they throw around irresponsibly high "funding shortfall" numbers to undermine the tried-and-true approach of pensions.

What our research shows is that their focus on big, scary numbers is misplaced. Pension funds can be brought into fiscal balance by making relatively small adjustments, on the order of 3% of assets. And while there's no denying that 3% of a multi-trillion-dollar figure is still a lot of money, it works out to be about one-seventh of the $1 trillion shortfalls that is frequently bandied about, and it can be replenished from governmental cash flows over several years.

Our research shows that maintaining a stable ratio between unfunded liabilities and the economy is more important to a plan's sustainability and ability to pay benefits than focusing on unfunded liabilities and funding levels in isolation. Pension systems can use our Sustainability Valuation formula to monitor their fiscal well-being on an ongoing basis and make fiscal adjustments to make and keep them fiscally sustainable for the long haul.

You'll be hearing more from NCPERS about Sustainability Valuation early next year. The *Enhancing Sustainability of Public Pensions* report will be released in January 2022. Then Dr. Michael Kahn, author of the report and NCPERS Research Director, and I will host a webinar to highlight significant takeaways from the report. We look forward to answering your questions about this novel tool and how it can help you tell your own pension-funded ratio story.

Till then, I wish you a Happy Holidays and a healthy and prosperous New Year! ◆

THE YEAR IN REVIEW CONTINUED FROM PAGE 2

- Require the Roth method for catch-up contributions, i.e. contributions must be made with after-tax dollars, for the plans listed above.

In addition, efforts are being made to attach to the SECURE Act 2.0 modifications to the Healthcare Enhancement for Local Public Safety Act, known as HELPS. This provision, Section 402(l) of the federal tax code, allows retired public safety officers to exclude from gross income up to $3,000 per year from governmental retirement plan distributions, provided the monies are paid directly from the retirement plan to a health care or long-term care provider. The proposed changes would increase the annual exclusion amount, index the exclusion amount in subsequent years, and repeal the direct payment requirement.

The revenue-producing provisions of the Build Back Better Act include new limitations on certain high-income taxpayers, which are defined as single filers or married taxpayers filing separately with taxable income over $400,000, heads of households with taxable income over $425,000, and married taxpayers filing jointly with taxable income over $450,000.

For these taxpayers the bill would prohibit further contributions to a Roth or traditional IRA for a taxable year if the total value of the individual's IRA and defined contribution retirement accounts, e.g., IRC Section 401(a) defined contribution plans (including 401(k) plans), 403(b) plans, and governmental 457(b) plans, generally exceeds $10 million as of the end of the prior tax year.

In such cases a special required minimum distribution (RMD) would be mandated. The RMD generally would be 50 percent of the amount by which the individual's prior year aggregate traditional IRA, Roth IRA, and defined contribution account balance exceeds $10 million. If the aggregate account balance exceeds $20 million, the RMD would be 100 percent of the amount needed to lower the balance to $20 million. In addition, Roth conversions would not be permitted for these high-income taxpayers.

Finally, the legislation would add a new annual reporting requirement for employer-sponsored defined contribution plans on aggregate account balances in excess of $2.5 million. The reporting would be both to the IRS and the plan participant. It is unclear why this data would be collected. However, it is reasonable to conclude that changes to the tax rules affecting aggregate retirement account balances in excess of $2.5 million may be proposed in the future.

Of interest to many public sector workers is the Social Security penalty known as the Windfall Elimination Provision (WEP), which reduces your Social Security benefit if you earn a retirement benefit from non-Social Security covered employment. Twenty five percent of all public employees are not covered by Social Security and may be impacted by the WEP penalty, which could result in receiving up to almost $6,000 less in their Social Security benefit each year.

Legislation has been introduced in Congress to repeal WEP and the Government Pension Offset (GPO) penalties – S. 1302 by Sen. Sherrod Brown (D-OH) and H.R. 82 by Rep. Rodney Davis (R-IL). In addition, WEP-only legislation by House Ways and Means Committee Chairman Richard Neal (D-MA) and Kevin Brady (R-TX) would provide rebates to those currently hit by the penalty and subject new Social Security recipients to a proportional formula – H.R. 2337 and H.R. 5834, respectively. Finally, House Social Security Subcommittee Chairman John Larson (D-CT) has introduced a comprehensive Social Security reform bill, which will shore up the funding structure for the entire program, make enhancements to benefits, and repeal both WEP and GPO – H.R. 5723.

Before the end of the 117th Congress, which will occur in January 2023, we should see a resolution of many of these pending issues. The Build Back Better Act is likely to be enacted in the next few weeks, the SECURE 2.0 Act is expected to be finalized sometime next year, and while Social Security legislation is not expected to be completed in this Congress, there is hope that substantial progress can be made.

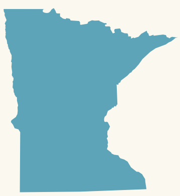
Please know that NCPERS will keep its members apprised of significant developments on these and other key issues for public pension plans. Happy Holidays! ◆

Tony Roda is a partner at the Washington, D.C. law and lobbying firm Williams & Jensen, where he specializes in federal legislative and regulatory issues affecting state and local governmental pension plans. He represents NCPERS and statewide, county, and municipal pension plans in California, Colorado, Georgia, Kentucky, Ohio, Tennessee, and Texas. He has an undergraduate degree in government and politics from the University of Maryland, J.D. from Catholic University of America, and LL.M (tax law) from Georgetown University.

AROUND THE REGIONS CONTINUED FROM PAGE 4

She said the concept of later retirement ages had not been scrapped, but if adopted, there needs to be more carrot and less stick in the approach. McCann said that the task force has "looked at ways to incentivize people to work just a little longer if they choose to," McCann said. "This must be a choice and would be awarded some additional benefit."

MIDWEST: Minnesota



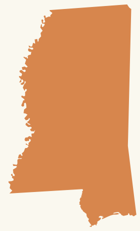
A small Minnesota city with a well-funded pension plan has approved an increase in the retirement benefits offered to its volunteer firefighters.

The Long Lake City Council approved paying firefighters $7,000 per year of service in retirement, up from $6,000 previously. The increase was sought by the Long Lake Fire Department Relief Association. The fire department provides service in the cities of Long Lake, Medina, and Orono.

Vesting in the pension begins at 60% for employees with ten years of service, rising to 100% at 20 years.

The city council has approved increases in the benefit level five times since 2014, raising the level to $3,400 per year of service. However, the Long Lake Fire Department Relief Association did not ask for increases in 2016, when the rate of return was negative, and the funding ratio dropped below 110%, or in 2019.

SOUTH: Mississippi



The Public Employees' Retirement System of Mississippi board voted to reduce the pension fund's expected rate of return to 7.55%, from 7.75%, the *Northside Sun* newspaper reported.

The board approved the reduction unanimously at PERS's October 26 board meeting, the newspaper said. The change comes on the heels of a spectacular 32.71% rate of return for the fiscal year that ended June 30. The board's funding policy is that when actual returns exceed the assumed rate by 12% or more, return on investment assumptions must be reduced by 20 basis points.

The *Northside Sun* reported that the fund managed more than $35 billion as of June 30. PERS' latest investment report showed the figure had increased to $35.9 billion as of September 30.

PERS executive director Ray Higgins told the board that PERS paid $110 million in investment fees, which was less than the year before when PERS didn't meet its investment goals, the *Northside Sun* noted. There are 34 managers with 62 portfolios for PERS, according to Higgins.

CONTINUED ON PAGE 8

AROUND THE REGIONS CONTINUED FROM PAGE 7

WEST:
New Mexico

Legislation to reform the Public Employees Retirement Association is likely to come before the New Mexico legislature in 2022, and revamping the membership of the board of trustees is shaping up as a focal point, the *Santa Fe New Mexican*, a daily newspaper, reported.

During the 2021 session, Rep. Phelps Anderson, an independent, sponsored legislation to change the composition from a 12-member elected panel to a 12-member appointed board. In addition, in a bid to professionalize the board, his bill would require at least six members who have a background in investments, finance, or pension fund administration.

It will be Gov. Michelle Lujan Grisham's decision to determine to push such reforms during the brief 30-day regular legislative session, Anderson told the newspaper. However, the Investments and Pensions Oversight Committee (IPOC), created by the Legislative Council in May, has homed in on professionalism during a series of oversight hearings aimed at crafting legislation.

The *Santa Fe New Mexican* reported on testimony to IPOC by PERS board member Lawrence Davis, who works in Albuquerque's budget office. He described petty behavior, infighting, and a "lack of technical proficiency" and urged lawmakers to consider overhauling the board structure. He noted that 10 of the 12 members are elected by other city, county, and state government workers and retirees.

Also pending is in the New Mexico legislature, the discussion draft of a House bill to create a Public Pension Investment Task Force is also pending. According to a bill filed on November 18, the 13-member panel would be tasked with evaluating whether the separate pension investment functions of the pension funds for teachers and public employees should be consolidated. ◆

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Calendar of Events 2022

May

Trustee Educational Seminar (TEDS)
May 21 – 22
Washington, DC

Program for Advanced Trustee Studies (PATS)
May 21 – 22
Washington, DC

NCPERS Accredited Fiduciary (NAF) Program
May 21 – 22
Washington, DC

Annual Conference & Exhibition (ACE)
May 22 – 25
Washington, DC

June

Chief Officers Summit
June 27 – 29, 2022
San Francisco, CA

August

Public Pension Funding Forum
August 21 – 23
Los Angeles, CA

October

Public Safety Conference
October 25 – 28
Nashville, TN

2021-2022 Officers

Kathy Harrell
President

Dale Chase
First Vice President

James Lemonda
Second Vice President

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The Voice for Public Pensions

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NCPERS Message

NCPERS has concluded our first in-person Financial, Actuarial, Legislative & Legal (FALL) Conference! The inaugural FALL conference took place September 26-28 in Scottsdale, Arizona, at the Westin Kierland Hotel. Attended by 225 public pension trustees, staff, and industry partners, it provided participants with timely and relevant information and tools on the most pressing issues facing public pensions. And the in-person format provided attendees with much craved real human interactions and networking in a safe and responsible environment.

Michael Hunstad, head of quantitative strategies at Northern Trust Asset Management, opened the conference with the financial track and discussed what public pensions could expect in the next five years. The actuarial track opened with Paul Angelo from Segal and a presentation on expected returns and asset allocation. The first legislative/legal track was a securities litigation panel with Adam Savett from Levi & Korsinsky LLP, Serena Hallowell from Motley Rice, and Chad Johnson from Robbins Geller Rudman & Dowd.

The morning continued with Vivian Lin Thurston from William Blair's financial presentation on the investment case for Chinese equities. Pension obligation bonds with Brad Heinrichs from Foster & Foster, Inc, was the second actuarial presentation. The afternoon began with a legislative/legal panel on benefit design basics and legislative trends with Anna Petrini from the National Conference on State Legislatures. The first afternoon concluded with two general sessions; James Martinez from Arthur J. Gallagher and Greg Bautista from Mullen Coughlin discussed proactive cyber security risk mitigation strategies. The final session of the day was from Dan Doonan from National Institute on Retirement Security and William (Flick) Fornia from Pension Trustee Advisors, discussing how interest rates and age at hire impact the economic efficiency of defined benefit and defined contribution plans.

The schedule for the second day was equally informative for public pension plans. The program began with a financial presentation from Maureen O'Brien and Julian Regan from Segal Marco Advisors, discussing the environmental, social, and governance (ESG) incorporation in retirement plans. In the actuarial track, Todd Tauzer from Segal discussed sound funding practices, avoiding pitfalls, and navigating quick fixes. The final legislative/legal panel with Rob Gauss from Ice Miller, Peter Mixon from Nossaman LLP, and Tony Roda from Williams & Jensen PLLC gave a legal, legislative, and regulatory update.

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Take the PERSist Quiz on pages 5, 6 and 7 | **Submit Completed Quiz Here**

NCPERS Asset Manager

TAKE THE QUIZ

After challenging year, infrastructure debt enjoys positive outlook

By: Paul David

Photo Illustration © 2021 istock.com

Core fixed-income investors are used to juggling interest rate risk and credit risk, but the past year produced a novel concern: Fear of a lockdown-induced wave of infrastructure defaults and downgrades.

That nightmare never materialized. Instead, infrastructure debt lived up to its reputation as an asset class that is resilient and stable through the economic cycle, reinforcing the case that it can optimize institutional fixed-income portfolios. Spreads on infrastructure debt widened significantly last spring but have since tightened as fear of defaults receded amid unprecedented fiscal stimulus and monetary policy support.

This underlines why investors favor infrastructure: It is essential, typically monopolistic, has minimal performance/operating risk and little market risk, helps diversify core fixed-income allocations, and historically, has achieved a modest yield pick-up over public corporate credits.

While some infrastructure was challenged in 2020, particularly toll roads and airports, even these segments remain creditworthy and activity is now recovering because investors still believe in the long-term essentiality of infrastructure. Over the past year, infrastructure downgrades have typically been only one notch and have largely been limited to the transport sector. Even for airports, where recovery is taking longer, rating agencies have maintained positive long-term outlooks.

While few new deals were done last year, investor confidence has returned, and investors in the US and Latin America are now being rewarded with new deal flow. Whereas spreads have tightened again, with public bonds roughly at pre-pandemic levels and many private deals offering little or no pickup over publics, spreads on US and Latin American infrastructure debt still maintain a premium and an attractive pickup. In a sign that investors don't view the asset class as riskier than before, covenants are largely unchanged.

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Paul David *is a Director at Allianz Global Investors, based in New York, and leads the firm's infrastructure debt team for the Americas, which has invested more than $6 billion in infrastructure projects in the United States and Latin America, ranging from roads to renewable energy projects.*

Why Industrials Can Be "Growth" Stocks

TAKE THE QUIZ

By: Kenneth J. McAtamney

Photo Illustration © 2021 istock.com

Overweighting industrials is unique for growth investors, but there are good reasons to do so.

These companies offer high barriers to entry, strong and durable competitive advantages, and a long runway for growth. Moreover, environmental, social, and governance (ESG) considerations can strengthen their advantages.

In an earlier post, we discussed three reasons we're overweight industrials: long-duration growth, strong cash generation, and value-creating capital allocation, and strategic use of financial leverage. Here are five more reasons we seek to overweight industrials.

1. High Barriers to Entry

Industry structure is important because it influences how value is created and distributed and how it can be destroyed, and a hallmark of industrial companies is high barriers to entry and consolidated markets.

Railways offer a good example of a highly consolidated market with high barriers to entry. The cost of building a rail network is prohibitive at today's real-estate prices, resulting in a consolidated market structure with lower overlap on individual shipping lanes.

Favorable market structures also exist in aircraft production, airlines, and HVAC manufacturing.

2. Value Proposition Strengthened by ESG Considerations

An increasing focus on environmental and social considerations has also strengthened the industrial value proposition. Energy efficiency and safety have been cornerstones of most industrial companies' value proposition from the beginning.

Many of these companies, for example, are reducing emissions and waste through more efficient products. Consider airlines. Fuel is

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Kenneth J. McAtamney, Partner *is the head of the global equity team and a portfolio manager for William Blair's International Growth, Global Leaders, and International Leaders strategies. He is also a member of the Investment Management leadership team. He was previously co-director of research and a mid-large-cap industrials and healthcare analyst. Before joining William Blair in 2005, Ken was a vice president at Goldman Sachs and Co., where he was responsible for institutional equity research coverage for both international and U.S. equity. Before that, he was a corporate banking officer with NBD Bank. Ken received a B.A. from Michigan State University and an M.B.A. from Indiana University.*

Crafting an Optimal Shareholder Recovery Effort

TAKE THE QUIZ

By: Mike Lange

Photo illustration © 2021 istock.com

Each year FRT helps hundreds of institutional investors participate in non-US securities litigation. As a result, we have a landscape view of how suits in different countries are prosecuted by different organizers.

Below we discuss four positive trends we're seeing and encourage organizers to take advantage of them when structuring future recovery efforts.

1. Representative suits: Half of the twenty-four countries where securities cases get filed have passive participation routes to recovery. We're seeing greater use of them by organizers, particularly in European countries like Germany, which uses KapMuG model case proceedings, and the Netherlands, with prosecutions by Foundations.

2. Claim preservation:

- **Court registrations:** In Germany, the appointment of a model claimant in KapMuG proceedings starts a six-month window for investors to register claims with the court. Registration is an administrative process that prevents claims from becoming time-barred over time without forcing claimants to become parties to the litigation. It essentially permits them to sit on the sidelines, filing suit later if the KapMuG proceedings go well. Other nations, such as the Netherlands, have similar registration processes.
- **Extending the time clock:** Some countries have long limitations periods, making claim preservation unnecessary. In Australia, for example, there is a six-year statute of limitations that typically exceeds the time necessary for parties to reach the merits of cases.

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*As Senior Vice President of Worldwide Litigation, **Mike Lange** is primarily responsible for FRT's Non-US Opt-In, Antitrust, and US Opt-Out services. In that role, he helps clients navigate the many challenges in evaluating recovery opportunities, analyze the associated risks, and build a comprehensive shareholder litigation program that maximizes returns while minimizing risk. He has a deep working knowledge of securities litigation worldwide, and a rich network of relationships in the US and abroad with lawyers, funders, and other professionals involved in recovery efforts, all of which he brings to bear for FRT clients. A licensed attorney since 1991, before joining FRT, Mike was a Partner at Berman DeValerio & Pease, one of the country's leading law firms prosecuting securities, consumer, and antitrust litigation for institutional investors. Mike holds a J.D., cum laude, from Harvard Law School and a B.A. in Economics, magna cum laude, from Swarthmore College.*

NCPERS MESSAGE CONTINUED FROM PAGE 1

The morning education continued with two financial presentations. First, Nicholas Moller from J.P. Morgan Asset Management and Paul David from Allianz Global Investors discussed why infrastructure debt and equity investing make sense for public pensions. Second, a presentation about the opportunities for institutional investors and the value-based investing in today's real estate markets, from Sabrina Unger from American Realty Advisors and Steve Hagenbuckle from TerraCap Management LLC.

The conference wrapped up with an actuarial presentation from Anne Harper from Cheiron and Paul Wood from Gabriel, Roeder, Smith & Co. on the pandemic and retirement plans. Next, Scott McCarty from the Town of Queen Creek, Arizona, and Arizona Public Safety Personnel Retirement System, discussed best practices and the importance of creating change through education. Finally, Elizabeth Parisian from the American Federation of Teachers and Andrew Park from Americans for Financial Reform wrapped up the conference discussing hedge funds, private equity fees, and transparency.

The full presentations from the conference can be viewed at www.NCPERS.org/fall-education. You can also view the presentations on Facebook Live on the NCPERS Facebook page.

NCPERS will start our slate of 2022 programs with in-person NCPERS University, an educational offering with tailored education for new trustees, advanced trustees, and those who wish to demonstrate their mastery by pursuing a challenging credential, and the Annual Conference & Exhibition (ACE), NCPERS tentpole program. NCPERS University and ACE will be held in Washington, D.C. May 21-25, 2022. ◆

ASSET MANAGER CONTINUED FROM PAGE 2

The renewed deal flow is especially evident in Latin America, where six investment-grade nations—Peru, Chile, Mexico, Uruguay, Colombia, and Panama—offer investors a yield pickup. Investors are backing such deals as gas-fired power plants and renewable energy projects in deals that have offered investors compelling coupons.

Investor appetite remains robust, not least because Latin America's investment grade-rated countries on average have better ratings now than before the last major crisis (2007-2009.) With the asset class offering diversification, stable cash flows and a yield pick-up compared to corporate debt, some observers have even called infrastructure debt the asset class of the moment because it offers yield and security, long-term, contractually-secured cash flows, regulated operating and capital expense environments, and its low correlation with other asset classes.

Today, in my view, investors should favor credit over rates, whether interest rates rise or fall. Our analysis finds that credit has historically outperformed US Treasuries when rates rise. Should rates fall, investors are holding safe assets and are being compensated with a yield pick-up.

Investors should also prefer infrastructure over corporate credit, especially *core infrastructure*, because historical default data suggests that investors that avoid projects with merchant or volume risk can potentially improve risk-adjusted-performance.

For these reasons, investors looking to diversify core fixed-income holdings should consider infrastructure debt. ◆

PERSist Quiz — Asset Manager

Which Latin American countries offer investment grade infrastructure debt?

- ❍ **A.** Chile, Ecuador, Mexico, Uruguay, Colombia, Panama
- ❍ **B.** Peru, Chile, Mexico, Uruguay, Colombia, Panama
- ❍ **C.** Peru, Chile, Mexico, Uruguay, Colombia, Bolivia

Answer: B

ASSET MANAGER CONTINUED FROM PAGE 3

typically an airline's largest expense, giving these companies high incentives to lower fuel burn. The industry has delivered nearly 60% to 70% improvement in efficiency over the past four decades. In a competitive industry, these savings have largely been passed on to consumers in the form of lower fares, which has driven industry growth.

3. Company-Specific Drivers Can Add Value

Idiosyncratic company drivers—including portfolio management, business model transformation, and intangibles such as corporate cultures, brand equity, and process and domain knowledge—can be another source of value creation.

4. Stock-Specific Drivers Can Add Value

Many industrial companies' stocks can be volatile because the market tends to overreact to the economic cycles that influence industrial companies. This can create opportunities for active managers to deploy capital into mispriced value creators and protect value when the market is too enthusiastic over the near term.

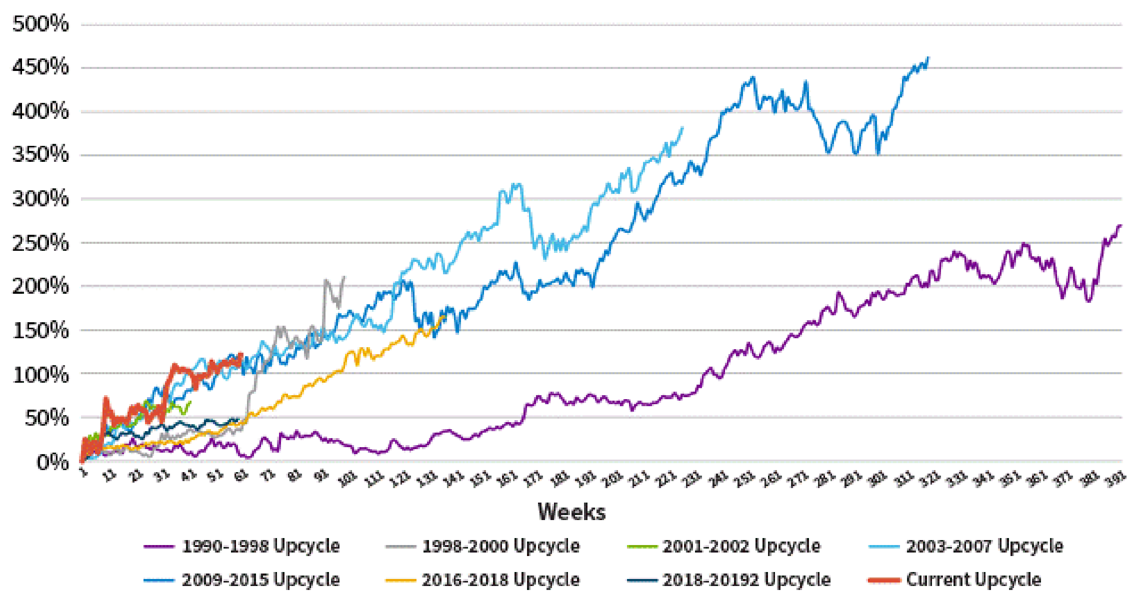
Aerospace is a good example. The COVID-19 crisis nearly halted air travel, and market values of aerospace stocks fell 60% in a month. This created a once-in-a-generation opportunity to buy what we believe are some of the best industrial assets in the world at a significant discount to intrinsic value. We expect growth in aerospace to return to trend as health concerns recede and the removal of restrictions releases pent-up demand for travel. Over the longer term, we believe secular growth in aerospace will be driven by a growing middle class in emerging markets, greater affordability, and an overall shift in spending to services.

5. Strong and Durable Competitive Advantages

We believe the strength and durability of competitive advantages in industrials provide a strong foundation for long-term value creation.

We use a proprietary framework to analyze the competitive advantages of the companies we are considering for our portfolios. This framework is informed by a number of drivers, such as hard-to-develop products that require domain knowledge, scale, manufacturing expertise, route to market, capital allocation, and installed base (a measure of the number of units of a product or service in use). ◆

Aerospace Upcycle Performance



Source: Bloomberg and William Blair, as of June 2021.

PERSist Quiz Asset Manager

Which of the following is NOT a reason to consider industrials?

❍ A. Energy efficiency and safety ❍ B. Hard-to-develop products ❍ C. Slow innovation

Answer: C

LEGAL CONTINUED FROM PAGE 4

- In other jurisdictions where limitations periods are shorter, parties can create more time using other legal processes or private negotiations including, demand letters, protective filings, and tolling agreements.

3. Filing no more suits than necessary to resolve common issues: In a German KapMuG, common issues are resolved via the model claimant suit. Other plaintiffs remain largely passive, and their claims rise or fall based on rulings in that suit. Similarly, in the UK, courts often use test cases to resolve common questions when faced with multiple litigant groups. Last year we saw at least one recovery effort in which the organizer planned to file individual suits, which if successful, could be leveraged on behalf of the broader group. It's a spear approach: pierce with one case win and then expand.

4. Follow-on efforts: We've seen these in the Netherlands, with the Fortis and Steinhoff settlements. Both were opened up at later stages to claimants, not active earlier in litigations. Claimants joining after the settlements were announced received less than those previously active due, in part, to their claims being less viable due to limitations. Had these late-joining claimants preserved their claims, the defendants may not have been able to reduce their amounts.

Follow-on strategies are employed in the US, where investors prioritize participation in opt-out matters when parties appear to be trying to settle class actions. Settlement attempts can often be seen in court docket entries. In the UK, we saw a variation recently in the Tesco case, where multiple organizers organized follow-on groups as cases litigated by others for years headed to trial. They did so to make their claims known to the defendants and potentially capitalize on a positive outcome. If defendants wanted global peace, they'd have to resolve all claims.

Again, the key to successful follow-on efforts is ensuring claims of non-litigating parties do not become time-barred before those litigating reach settlement discussions or positive outcomes on the merits. ◆

PERSist Quiz | Legal

Which of the following is not a method of claim preservation?

❍ **A.** Tolling agreements ❍ **B.** Formal timeouts ❍ **C.** Court registrations

Answer: B

Don't Miss NCPERS' Social Media

The Voice for Public Pensions

Calendar of Events 2022

May

Trustee Educational Seminar (TEDS)
May 21 – 22
Washington, DC

Program for Advanced Trustee Studies (PATS)
May 21 – 22
Washington, DC

NCPERS Accredited Fiduciary (NAF) Program
May 21 – 22
Washington, DC

Annual Conference & Exhibition (ACE)
May 22 – 25
Washington, DC

October

Public Safety Conference
October 25 – 28
Nashville, TN

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