

AGENDA



Date: December 8, 2023

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 14, 2023, 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/83364156526?pwd=OG5CbEFhajN5V0hWaUFJMlhYcHQ2Zz09> Passcode: 923237.** Items of the following agenda will be presented to the Board:

A. MOMENT OF SILENCE

B. APPROVAL OF MINUTES

- 1. Required Public meeting of November 9, 2023**
- 2. Regular meeting of November 9, 2023**

C. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

- 1. January 1, 2023 Actuarial Valuation**
- 2. Contract for Financial Auditing Services**
- 3. Financial Audit Status**
- 4. Report on Professional Service Provider Meeting**
- 5. Executive Director Approved Pension Ministerial Actions**
- 6. Monthly Contribution Report**
- 7. Board approval of Trustee education and travel**
 - a. Future Education and Business-related Travel
 - b. Future Investment-related Travel
- 8. Portfolio Update**
- 9. Public Equity Portfolio Review**

10. Third Quarter 2023 Investment Performance Analysis and Second Quarter 2023 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.

11. Update on Activities involving Section 2.025 of Article 6243a-1

12. Information Technology Security

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.076 of the Texas Government Code.

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 DFPF and the Board under the Texas Disciplinary Rules of Professional Conduct clearly conflicts with Texas Open Meeting laws.

14. 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 2023)
- TEXPERS Pension Observer (Vol. 4 2023)

<https://online.anyflip.com/mxfu/retw/mobile/index.html>

b. Open Records

c. Board Meeting 2024 Calendar

d. Staffing Update

e. Employee Service Awards

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, Section 551.076 for deliberation regarding security devices or security audits, and Section 551.078 for review of medical records.



MOMENT OF SILENCE

In memory of our Members and Pensioners who recently passed away

NAME	ACTIVE/ RETIRED	DEPARTMENT	DATE OF DEATH
Rhonda R. Westbrook	Retired	Fire	09/14/2023
Guzman G. Natal	Retired	Fire	11/09/2023
Franklin A. Dorough	Retired	Fire	11/10/2023
Wilburn W. Sims	Retired	Fire	11/14/2023
Richard K. Bramblitt	Retired	Fire	11/19/2023
Raymond E. Sweeney	Retired	Fire	11/19/2023
Kenneth R. Johnson	Retired	Police	11/16/2023
Alfred M. Cessna	Retired	Police	11/19/2023
Robert W. Cole	Retired	Fire	11/26/2023
Robert P. Spence	Retired	Police	11/30/2023
Gregory J. Dugger	Retired	Police	12/04/2023

Regular Board Meeting –Thursday, December 14, 2023

**Dallas Police and Fire Pension System
Thursday, November 9, 2023
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 8:33 a.m. Nicholas Merrick, Michael Brown, Tina Hernandez Patterson, Steve Idoux, Mark Malveaux, Nancy Rocha, Anthony Scavuzzo, Matthew Shomer, Marcus Smith, Michael Taglienti, Tom Tull

Absent None

Staff

Kelly Gottschalk, Josh Mond, Brenda Barnes, Ryan Wagner, Christina Wu, Akshay Patel, John Holt, Nien Nguyen, Milissa Romero, Cynthia J. Thomas, Chelsea Abbott, Aubrey Rosalez

Others

Bill Hallmark, Elizabeth Wiley, Jake Libauskas, Jeff Williams, Janis Elliston, David Elliston, Larry Willaims, Rick Salinas, Jesika Jones, Mike Barela, Anna Holmes, Bill Quinn, Gay Willis, Jack Ireland, Paula Blackmon, Brett Shipp, Cara Mendelsohn, Andre Taylor

By telephone Caitlin Grice, Ron Pastore, Mark Morrison, Ken Haben, Aaron Lally

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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.

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The Required Public meeting was called to order at 8:33 a.m.

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**Required Public Meeting
Thursday, November 9, 2023**

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

- a. Independent Preliminary Actuarial Analysis and Recommendations
- b. Quarterly Financial Reports

a. Section 2.025 of Article 6243a-1 requires the Texas Pension Review Board to select, and DFPF to hire, an independent actuary to perform an actuarial analysis of DFPF’s most recently completed actuarial valuation to (i) determine if DFPF meets Texas statutory funding requirements and (ii) recommend changes to benefits and contribution rates for employees and the City of Dallas. This analysis is due on or before October 1, 2024.

Cheiron, Inc. was hired as the independent actuary as required by Section 2.025 of Article 6243a-1. Bill Hallmark, Jake Libauskas, and Elizabeth Wiley of Cheiron reviewed their preliminary report based upon DFPF’s January 1, 2022 actuarial valuation. Jeff Williams and Caitlin Grice (by telephone) of Segal Consulting, DFPF’s actuary since 2016, were present to answer questions. Cheiron’s official report under Section 2.025 will be based upon DFPF’s January 1, 2023 actuarial valuation and is expected to be completed by March 31, 2024.

b. The Chief Financial Officer presented the third quarter 2023 financial statements.

No motion was made.

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2. Public Comment

Prior to commencing items for Board discussion and deliberation, the Board received public comments during the open forum.

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**Required Public Meeting
Thursday, November 9, 2023**

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. Smith, the meeting was adjourned at 9:53 a.m.

Nicholas A. Merrick,
Chairman

ATTEST:

Kelly Gottschalk
Secretary

DRAFT

**Dallas Police and Fire Pension System
Thursday, November 9, 2023
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 8:33 a.m. Nicholas Merrick, Michael Brown, Tina Hernandez Patterson, Steve Idoux, Mark Malveaux, Nancy Rocha, Anthony Scavuzzo, Matthew Shomer, Marcus Smith, Michael Taglienti, Tom Tull

Absent None

Staff

Kelly Gottschalk, Josh Mond, Brenda Barnes, Ryan Wagner, Christina Wu, Akshay Patel, John Holt, Nien Nguyen, Milissa Romero, Cynthia J. Thomas, Chelsea Abbott, Aubrey Rosalez

Others

Bill Hallmark, Elizabeth Wiley, Jake Libauskas, Jeff Williams, Janis Elliston, David Elliston, Larry Willaims, Rick Salinas, Jesika Jones, Mike Barela, Anna Holmes, Bill Quinn, Gay Willis, Jack Ireland, Paula Blackmon, Brett Shipp, Cara Mendelsohn, Andre Taylor

By telephone Caitlin Grice, Ron Pastore, Mark Morrison, Ken Haben, Aaron Lally

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The meeting was called to order and recessed at 8:33 a.m.

The meeting was reconvened at 9:53 a.m.

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A. MOMENT OF SILENCE

The Board observed a moment of silence in memory of retired police officers Donald R. Richie, Thomas E. Pugh, C R. Benefield, and retired firefighters Luther J. Smith Jr., Allen Heckard, Guillermo Luna

No motion was made.

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**Regular Board Meeting
Thursday, November 9, 2023**

B. APPROVAL OF MINUTES

Regular meeting of October 12, 2023

After discussion, Mr. Taglienti made a motion to approve the minutes of the meeting of October 12, 2023. 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. Independent Actuarial Valuation Preliminary Report

Section 2.025 of Article 6243a-1 requires the Texas Pension Review Board to select, and DFPF to hire, an independent actuary to perform an actuarial analysis of DFPF’s most recently completed actuarial valuation to (i) determine if DFPF meets Texas statutory funding requirements and (ii) recommend changes to benefits and contribution rates for employees and the City of Dallas. This analysis is due on or before October 1, 2024.

Cheiron, Inc. was hired as the independent actuary. Bill Hallmark, Jake Libauskas, and Elizabeth Wiley of Cheiron reviewed their preliminary report based upon DFPF’s January 1, 2022 actuarial valuation. Jeff Williams and Caitlin Grice of Segal Consulting, DFPF’s actuary since 2016, were present to answer questions. Cheiron’s official report under Section 2.025 will be based upon DFPF’s January 1, 2023 actuarial valuation and is expected to be completed by March 31, 2024.

No motion was made.

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2. Quarterly Financial Reports

The Chief Financial Officer presented the third quarter 2023 financial statements.

No motion was made.

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**Regular Board Meeting
Thursday, November 9, 2023**

3. Board Officer Election

The Board Vice Chairman (William Quinn) and the Board Deputy Vice Chairman (Armando Garza) are no longer on the Board of Trustees. Board action is needed to elect their replacements.

After discussion, Mr. Merrick made a motion to elect Tina Hernandez Patterson as Vice Chairman and Michael Taglienti as Deputy Vice Chairman. Mr. Tull seconded the motion, which was unanimously approved by the Board.

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4. Report on Professional Services Committee Meeting.

The Professional Services Committee Chair reported to the Board on its meeting with Leandro Festino and Aaron Lally of Meketa Investment Group, DPFPP's Investment Consultant, and its meeting with Jeff Williams and Caitlin Grice of Segal, DPFPP's actuary. The Committee reported that no issues of concern were raised by Meketa or Segal.

No motion was made.

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5. Second Reading and Discussion of the 2024 Budget

The Chief Financial Officer presented the second reading of the 2024 budget, prepared in total for both the Combined Pension Plan and the Supplement Plan.

After discussion, Mr. Taglienti made a motion to approve the proposed 2024 budget. Mr. Smith seconded the motion, which was unanimously approved by the Board.

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6. Financial Audit Status

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

No motion was made.

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**Regular Board Meeting
Thursday, November 9, 2023**

7. Benefit Underpayment Notification

Staff briefed the Board regarding an underpayment, notification of which is required to be given to the Board under the Correction of Errors in Benefits Payments Policy.

No motion was made.

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8. Required Training Manual Delivery

Section 3.013(c) of Article 6243a-1 requires the Executive Director to 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 questions concerning the training manual. Each Trustee signed the Trustee acknowledgment form to acknowledge receipt of the electronic training manual accessible in Diligent.

No motion was made.

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9. Executive Director Approved Pension Ministerial Actions

The Executive Director reported on the October pension ministerial actions.

No motion was made.

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10. Monthly Contribution Report

The Executive Director reviewed the Monthly Contribution Report.

No motion was made.

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11. 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 9, 2023**

12. 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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13. Real Estate Overview – AEW Portfolio Update

The Board went into closed executive session – Real Estate at 10:28 a.m.

The meeting reopened at 11:42 a.m.

Ron Pastore and Mark Morrison of AEW Capital Management updated the Board on the status and plans for DPF’s investments they manage.

No motion was made.

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14. 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 DPF 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 – Legal at 10:28 a.m.

The meeting reopened at 11:42 a.m.

The Board and staff discussed legal issues.

No motion was made.

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**Regular Board Meeting
Thursday, November 9, 2023**

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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2. Executive Director’s report

- a. Associations’ newsletters
 - NCPERS Monitor (November 2023)
 - NCPERS PERSist (Fall 2023)
- b. Open Records

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. Idoux and a second by Ms. Hernandez Patterson, the meeting was adjourned at 11:43 a.m.

Nicholas A. Merrick,
Chairman

ATTEST:

Kelly Gottschalk
Secretary



DISCUSSION SHEET

ITEM #C1

- Topic:** January 1, 2023 Actuarial Valuation
- Attendees:** Jeff Williams, Vice President and Consulting Actuary, Segal Consulting
- Discussion:** Jeff Williams of Segal Consulting, DPFP's actuarial firm, will discuss results of the January 1, 2023 actuarial valuation report.
- Staff**
- Recommendation:** **Approve** issuance of the January 1, 2023 actuarial valuation report, subject to final review by the auditors (BDO) and review and approval by the Executive Director.

Regular Board Meeting – Thursday, December 14, 2023



Dallas Police and Fire Pension System

Annual Valuation Summary as of January 1, 2023

Board of Trustees Meeting

December 14, 2023 / Jeff Williams

Agenda

Portrait of a Pension Valuation

Summary of January 1, 2023 Actuarial Valuation Results

Summary of Data

Historical Results

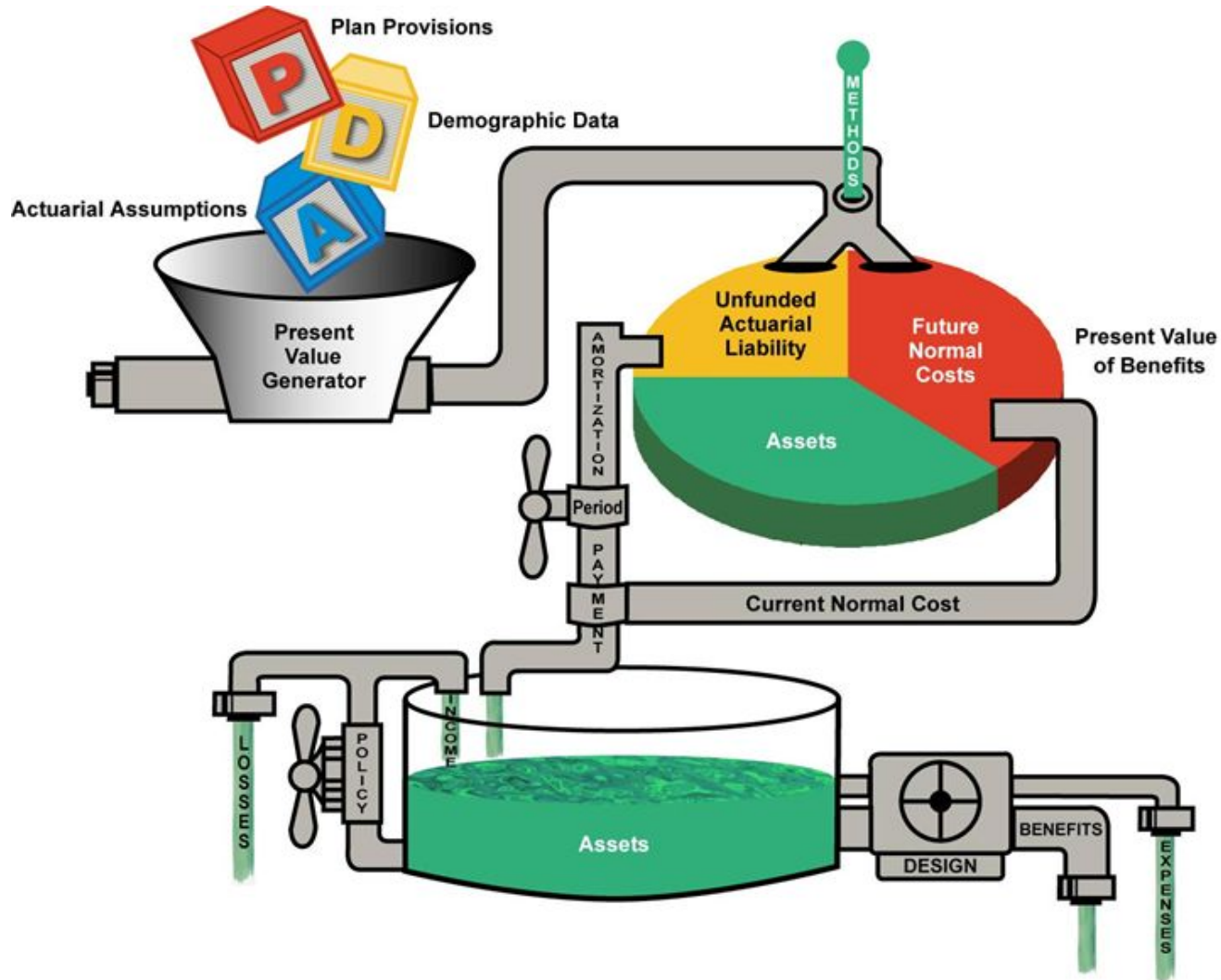
Solvency Projection

Risk

Importance of Accurate Payroll Projections

GASB Accounting Disclosures

Portrait of a Pension Valuation



Summary of 2023 Actuarial Valuation Results

Actuarial Determined Contribution (ADC)

- Board's funding policy adopted December 2019 and amended July 2020 first reflected in 2020 valuation
 - Initial 2020 UAL amortized over closed 25-year period
 - In 2021 and thereafter, future gains/losses amortized over separate, closed 20-year periods
 - Effective amortization period for 2023 ADC is 22 years, in accordance with Texas Code section 802.101
- City's ADC for 2023 is \$251.6M (54.4% of computation pay)
 - Increased from \$228.5M (52.3% of computation pay) in 2022, primarily due to assumption changes, the 2022 investment loss, and actual 2022 contributions less than ADC
 - Actual City contributions for 2022 were \$169.9M, or 74.3% of the 2022 ADC
 - Contributions were expected to be approximately \$170.1M (\$6.043M for 26 pay periods, plus \$13M)
- ADC will continue to grow as expected City contributions are less than ADC
 - City contributions for 2023 are expected to be approximately \$164.1M (\$5.812M for 26 pay periods, plus \$13M), 65.2% of the 2023 ADC
 - If City's actual contributions differ from ADC by more than 2% for two consecutive years, the Board can recommend change in City's contribution rate
 - Based on expected City contributions and the City's Hiring Plan, unfunded liability is projected to be paid off in **82** years (up from **68** years in the 2022 valuation); this is not considered a reasonable amortization period

Summary of 2023 Actuarial Valuation Results

Funded ratios

- On an actuarial basis, decreased from 41.06% in 2022 to 39.12%
- On a market basis, decreased from 41.83% in 2022 to 34.42%

Financial information

- Actuarial value of assets decreased from \$2.12B to \$2.05B
- Market value of assets decreased from \$2.16B to \$1.81B
- Cash outflow increased from \$106.9M in 2021 to \$110.4M in 2022
- Rates of return
 - Assumed return of 6.50%
 - Market return of -11.46%
 - Actuarial return of 2.22%

Assumption changes

- The assumed retirement rate for DROP actives was lowered from 100% to 75% after ten years in DROP
- Salary scale assumption was updated based on the 2023 Meet and Confer agreement

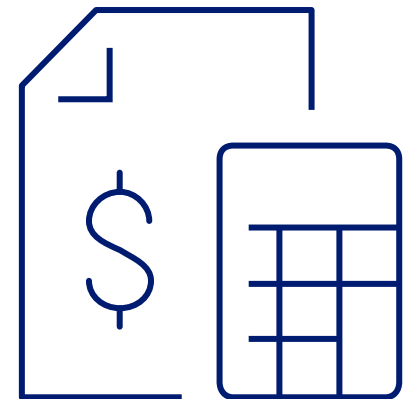


Summary of 2023 Actuarial Valuation Results

Reconciliation of City's ADC

- **2022 ADC**
 - \$228.5M** or **52.3%** of computation pay
 - +\$5.1M due to expected payroll growth increase
 - +\$4.5M due to actual 2022 contributions less than ADC
 - +\$6.4M due to investment loss
 - \$3.7M due to demographic experience gain
- **2023 ADC, prior to assumption changes**
 - \$240.8M** or **54.3%** of computation pay
 - +10.8M due to assumption changes
- **2023 ADC, after assumption changes**
 - \$251.6M** or **54.4%** of computation pay

Note: Total computation pay shown in the valuation report is the active members' actual payroll for the preceding year, increased by the salary scale applicable for each member to account for their anticipated salary increases in the upcoming year.



Summary of 2023 Actuarial Valuation Results

	2023	2022
Total normal cost	\$83,659,661	\$74,657,001
Administrative expense assumption	6,783,022	6,783,022
Expected member contributions	<u>-62,480,730</u>	<u>-58,991,137</u>
Employer normal cost	\$27,961,953	\$22,448,886
Total normal cost as % of computation pay	18.08%	17.09%
Employer normal cost as a % of computation pay	6.04%	5.14%
Actuarial accrued liability	\$5,249,014,813	\$5,158,782,340
Actuarial value of assets	<u>-2,053,388,065</u>	<u>-2,117,978,431</u>
Unfunded liability	\$3,195,626,728	\$3,040,803,909
Funded ratio (AVA/AAL)	39.12%	41.06%
Computation pay	\$462,820,226	\$436,971,384
Actuarial Determined Contribution, in dollars	\$251,606,424	\$228,530,758
Actuarial Determined Contribution, as a % of computation pay	54.36%	52.30%
Projected year of full funding, based on City's Hiring Plan Payroll	2105	2090

Summary of Data

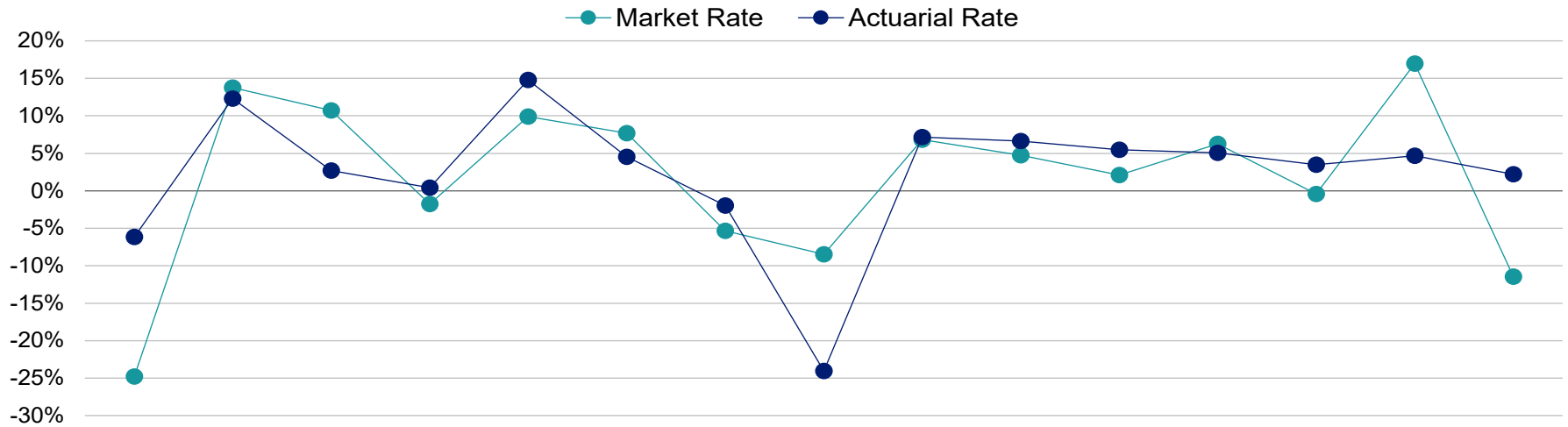
	Year Ended December 31,		Change
	2022	2021	
Active members			
Number	5,085	5,088	-0.1%
Average age	40.1	40.1	0.0
Average service	12.6	12.6	0.0
Average computation pay	\$91,017	\$85,883	6.0%
Number in DROP	230	276	-16.7%
Total DROP accounts	\$96.5M	\$113.6M	-16.1%
Retirees and beneficiaries			
Number ¹	5,142	5,071	1.4%
Average monthly payment ²	\$4,335	\$4,311	0.6%
Inactive vested members			
Number	252	233	8.2%

¹ Excludes beneficiaries with DROP accounts only

² Includes benefit supplement, excludes annuitization of DROP balances

Historical Results

Asset Returns



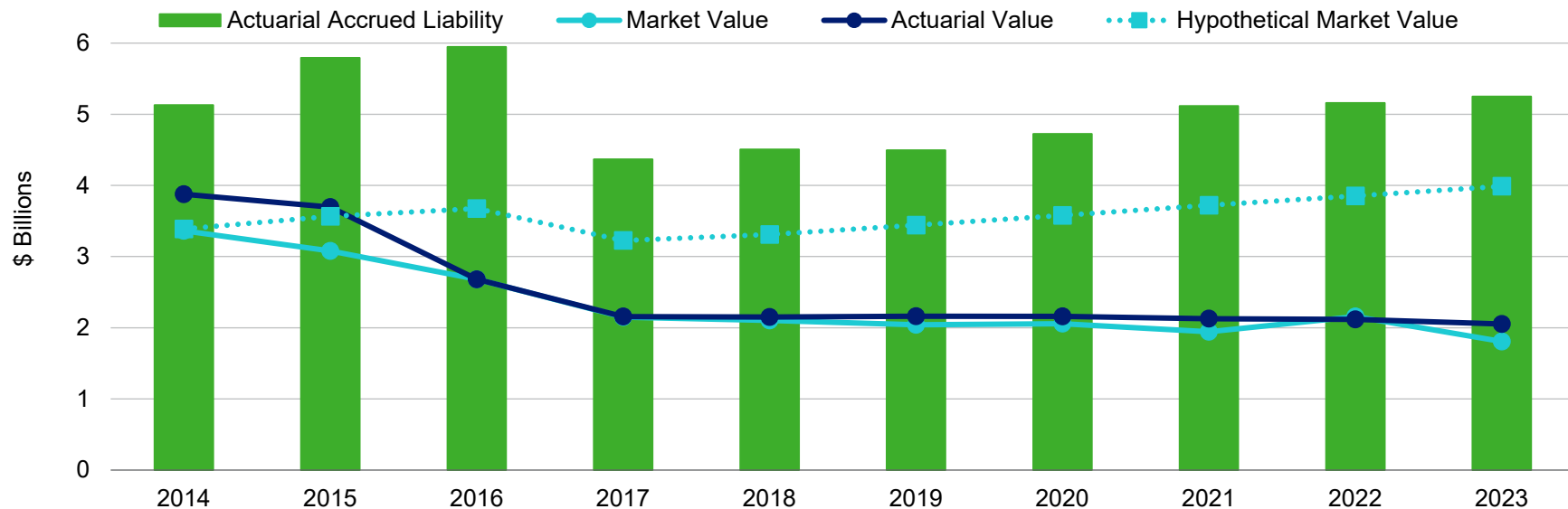
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
MVA	-24.8%	13.8%	10.7%	-1.8%	9.9%	7.7%	-5.4%	-8.5%	6.8%	4.7%	2.1%	6.3%	-0.5%	17.0%	-11.46%
AVA	-6.1%	12.3%	2.7%	0.4%	14.8%	4.5%	-2.0%	-24.0%	7.2%	6.6%	5.5%	5.1%	3.5%	4.7%	2.22%
Assumed	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	7.25%	7.25%	7.25%	7.25%	7.25%	7.0%	6.5%	6.50%

Average Rates of Return	Actuarial Value	Market Value
Most recent five-year average return:	4.19%	2.37%
Most recent ten-year average return:	-2.24%	1.29%
15-year average return:	0.50%	0.92%

Note: The actuarial returns for 2012 and 2015 include effects of changes in asset method. The returns for 2014 and 2015 include significant write-downs of the Plan's assets.

Historical Results

Asset and Actuarial Accrued Liability Values as of January 1 (*\$ billions*)



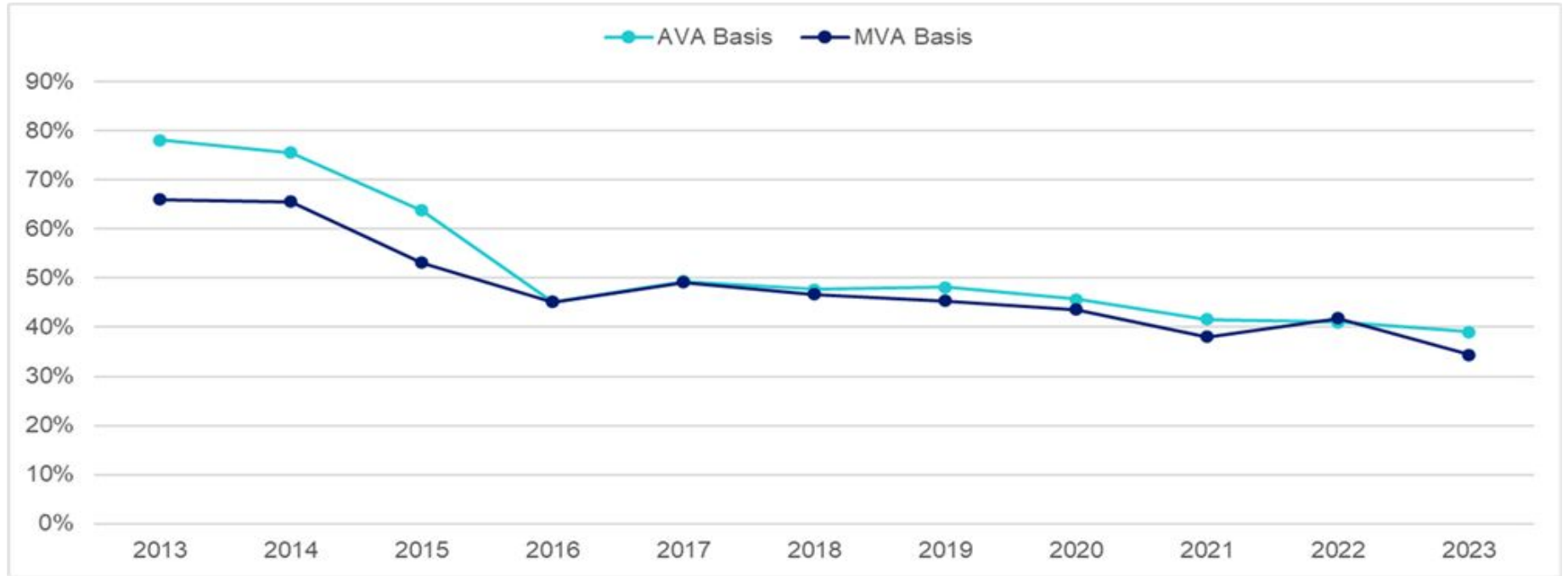
Notes: The significant increase in liability in 2015 is due to the change in discount rate, from 8.50% to 7.25%.
The liability decrease in 2017 is attributable to the plan changes implemented following the adoption of HB 3158.

As mentioned previously, the decline in assets from January 1, 2014 through January 1, 2016 is primarily the result of write-downs. The actuarial value of assets was set equal to market value as of January 1, 2016. The decline during 2016 reflects the unusually large number of DROP payments made in that year.

The hypothetical market value of assets assumes investment returns were equal to the assumed rates of return (8.5% in 2012-2014, 7.25% in 2015-2019, 7% in 2020 and 6.5% since 2021).

Historical Results

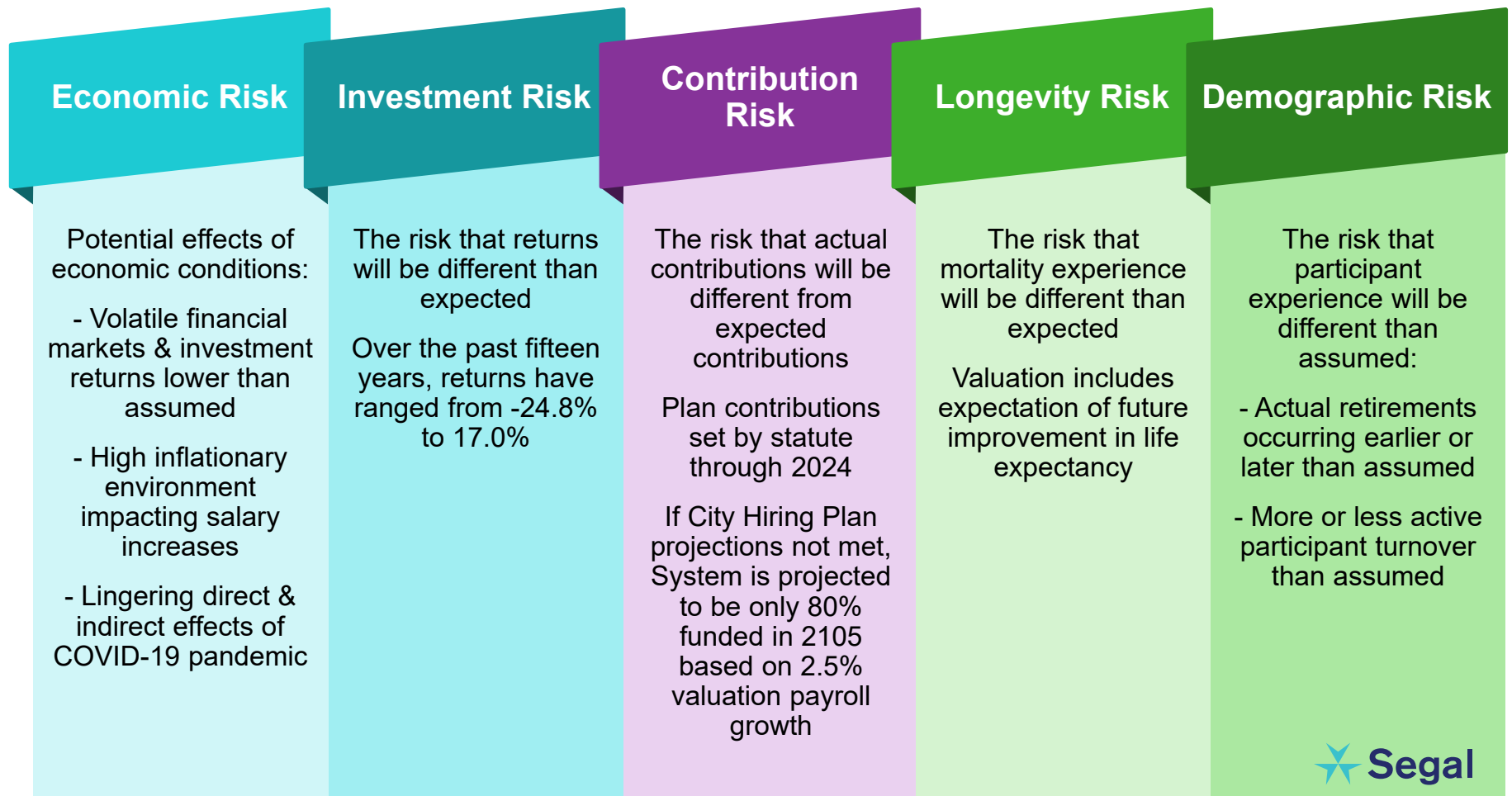
Funded Percentage as of January 1



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
AVA	78.1%	75.6%	63.8%	45.1%	49.4%	47.7%	48.1%	45.7%	41.6%	41.1%	39.1%
MVA	66.0%	65.6%	53.2%	45.1%	49.2%	46.7%	45.4%	43.6%	38.0%	41.8%	34.4%

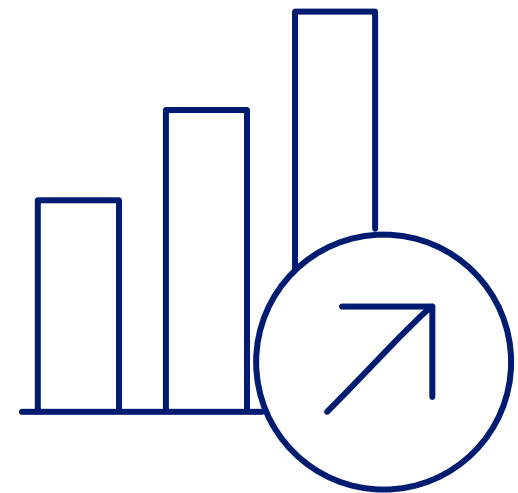
Risk

The actuarial valuation results are dependent on a single set of assumptions; however, there is a risk that emerging results may differ significantly as actual experience proves to be different from the current assumptions.



The Importance of Accurate Payroll Projections

- Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability
- Payments should be enough to cover normal cost, interest on the unfunded actuarial accrued liability and, ultimately, the principal balance
- The funding policy adopted by the State in HB 3158 meets this standard, **if** the City's Hiring Plan payroll projections come to fruition
- Assuming the City's Hiring Plan payroll projection is met, the expected full-funding date is 2105, 15 years later than the expected full-funding date from the 2022 valuation
 - Full-funding date may vary on an annual basis due to demographic experience, economic experience, and contributions other than assumed



The Importance of Accurate Payroll Projections

- City's long-term contribution rate is scheduled to be 34.50% of computation pay
 - Through 2024 there is a floor on the City's contribution levels
 - Beginning in 2025, City expected to contribute based solely on pay
- City's Hiring Plan reflects significant growth in payroll over 20 years, from \$372M in 2017 to \$684M in 2037 (average annual growth of 3.1%)
 - Through the first seven years of the policy (2017-2023), valuation payroll based on participant data is cumulatively \$7.8M more than the City's projections. This is the first year Hiring Plan payroll is cumulatively greater than valuation pay.
 - Differences between actual payroll and City's Hiring Plan payroll will have an impact on when the System is projected to become fully funded
- If payroll growth is more modest, or if there is adverse experience in the System that leads to losses, the period required to achieve 100% funding could be significantly longer

If the City's Hiring Plan projections are not met and instead the current valuation payroll of \$462.8M increases by the assumed 2.5% payroll growth and City and member contributions are based on this projected payroll beginning in 2025, the System is projected to be only 80% funded in 2105, rather than 100%.

City's Hiring Plan Payroll vs. Projected Valuation Payroll

Year	City's Hiring Plan Payroll	Projected Valuation Payroll ¹	\$ Difference
2017	\$372,000,000	\$357,414,472	-\$14,585,528
2018	364,000,000	346,036,690	-17,963,310
2019	383,000,000	363,117,415	-19,882,585
2020	396,000,000	396,954,743	954,743
2021	408,000,000	427,440,530	19,440,530
2022	422,000,000	436,971,384	14,971,384
2023	438,000,000	462,820,226	24,820,226
2024	454,000,000	474,390,372	20,390,732
2025	471,000,000	486,250,500	15,250,500
2026	488,000,000	498,406,732	10,406,762
2027	507,000,000	510,866,932	3,866,932
2028	525,000,000	523,638,605	-1,361,395
2029	545,000,000	536,729,570	-8,270,430
2030	565,000,000	550,147,809	-14,852,191
2031	581,000,000	563,901,504	-17,098,496
2032	597,000,000	577,999,042	-19,000,958
2033	614,000,000	592,449,018	-21,550,982
2034	631,000,000	607,260,243	-23,739,757
2035	648,000,000	622,441,750	-25,558,250
2036	666,000,000	638,002,793	-27,997,207
2037	684,000,000	653,952,863	-20,047,137
			-\$131,806,417

¹ Valuation payroll is the active members' actual payroll for the preceding year, increased by the salary scale applicable for each member to account for their anticipated salary increases in the upcoming year.

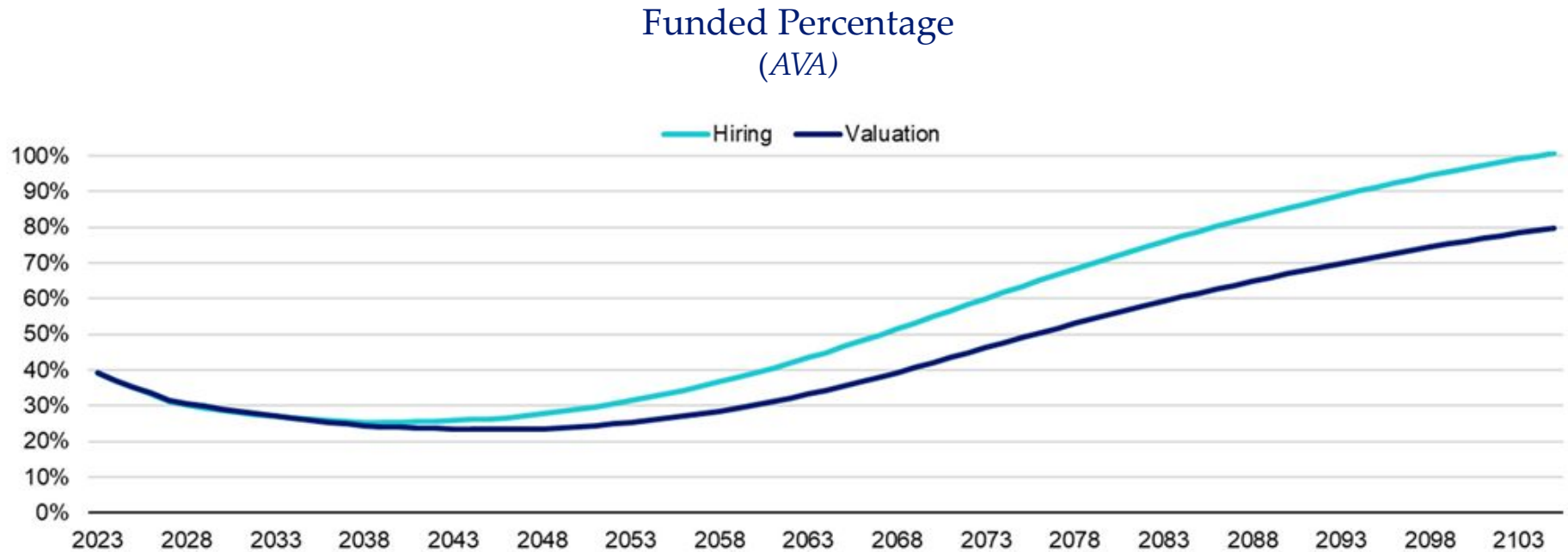
Assumptions

- Valuation payroll projected at 2.5% per year
- Beginning in 2025, the statutory contributions cease and City contributions equal 34.5% of actual computation pay
- Member contributions: 13.5% of computation pay

Findings

- Total City and Member contributions between 2025 and 2037, based on the City's Hiring Plan payroll projections: **\$3.61B**
- Total City and Member contributions between 2025 and 2037, based on projected valuation payroll: **\$3.53B**
- Difference in total contributions based on these two projections, just for the period of 2025 through 2037: **\$76.8M**
- The **\$76.8M** gap is down from **\$191M** last year, because the 2023 projected valuation payroll is higher than expected based on projecting the 2022 computation pay by the payroll growth assumption

Funded Percentage Projection



The projection above anticipates that all actuarial assumptions are met in the future and all contributions are made as expected. Projections are based on the City’s Hiring Plan payroll projections through 2037 for the “City’s Hiring Plan Payroll” projection. The “Projected Valuation Payroll” uses the actual January 1, 2023 payroll projected forward each year at the 2.50% growth assumption.

Based on the City’s Hiring Plan payroll projections, 100% funding is projected by January 1, 2105. Based on the projected valuation payroll, the funded percent is projected to be 80% on January 1, 2105.

GASB 67 Accounting Disclosures – Net Pension Liability

- The Pension System is required to provide disclosures under GASB Statement 67. The components of the net pension liability are as follows:

	Year Ended December 31, 2023	Year Ended December 31, 2022
Total Pension Liability (TPL)	\$5.25 billion	\$5.16 billion
Plan's Fiduciary Net Position	\$1.81 billion	\$2.16 billion
City's Net Pension Liability (NPL)	\$3.45 billion	\$3.01 billion
Plan Fiduciary Net Position as a percentage of the TPL	34.38%	41.79%

- In the event that a pension plan has a projected insolvency date, GASB requires that the unfunded benefits be discounted using a 20-year, tax-exempt general obligation bonds rate rather than the Plan's funding rate
- Based on HB 3158 contribution requirements and the City's Hiring Plan (90% of which was used for projecting computation pay for GASB purposes), City and member contributions are projected be able to pay the benefits of current members. Therefore, GASB liabilities are determined using the valuation discount rate (6.5%).

Caveats

- This presentation is intended for the use of the Board of Trustees for the Dallas Police and Fire Pension System, and is a supplement to Segal's full valuation reports for the System as of January 1, 2023.
- Please refer to the full valuation reports for a description of assumptions and plan provisions reflected in the results shown in this presentation. The reports also include more comprehensive information regarding the System's membership, assets, and experience during the most recent plan year.
- Projections, by their nature, are not a guarantee of future results. They are intended to serve as estimates of future financial outcomes that are based on assumptions about future experience and the information available to us at the time the modeling is undertaken and completed. The projected future results included in this presentation show how the System would be affected if specific investment return, salary, mortality, turnover, disability and retirement assumptions are met. Actual results may differ due to such variables as demographic experience, the economy, contribution patterns, stock market performance and the regulatory environment.
- The calculations included in this presentation were completed under the supervision of Jeffrey S. Williams, FCA, ASA, MAAA, EA.

Questions?

Jeffrey S. Williams, FCA, ASA, MAAA, EA
Vice President and Consulting Actuary
jwilliams@segalco.com
678.306.3147

Caitlin Grice, FCA, ASA, MAAA, EA
Consulting Actuary
cgrice@segalco.com
202.222.5187



Dallas Police and Fire Pension System

Actuarial Valuation and Review as of January 1, 2023



This report has been prepared at the request of the Board of Trustees to assist in administering the System. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Trustees and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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Segal



2727 Paces Ferry Road SE, Building One Suite 1400
Atlanta, GA 30339-4053
segalco.com
T 678.306.3100

December 8, 2023

Board of Trustees
Dallas Police and Fire Pension System
4100 Harry Hines Blvd., Suite 100
Dallas, TX 75219-3207

Dear Board of Trustees Members:

We are pleased to submit this Actuarial Valuation and Review as of January 1, 2023. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for fiscal 2023; actual funding is determined by State law.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board of Trustees to assist in administering the Pension System. The census information on which our calculations were based was provided by the System's IT Department, under the supervision of John Holt, and financial information on which our calculations were based was prepared by the System's Finance Department. That assistance is gratefully acknowledged.

Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

The actuarial calculations were directed under the supervision of Jeffrey Williams. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this

Board of Trustees
December 8, 2023
Page 3

actuarial valuation were selected by the Board based upon my analysis and recommendations. In my opinion, the assumptions are reasonable and take into account the experience of the Plan and reasonable expectations.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,
Segal



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



Caitlin E. Grice, FCA, ASA, MAAA, EA
Consulting Actuary

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Section 1: Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present a valuation of the Dallas Police and Fire Pension System as of January 1, 2023. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to provide information for required disclosures under Governmental Accounting Standards Board (GASB) Statement No. 67.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Plan, as administered by the Board;
- The characteristics of covered active members, inactive members, and retired members and beneficiaries as of December 31, 2022, provided by the System's IT Department;
- The assets of the Plan as of December 31, 2022, provided by the System's Finance Department;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc.;
- Article 6243a-1, as amended by House Bill 3158 (HB 3158), signed into law by the Governor of Texas on May 31, 2017; and
- The funding policy adopted by the Board of Trustees of the Pension System on December 12, 2019 as amended through July 9, 2020.

The majority of assumptions and methods used to value the Plan were set by the Board based on recommendations made by Segal following a five-year experience study for the period ended December 31, 2019.

Certain disclosure information required by GASB Statement No. 68 as of September 30, 2023 for the City is provided in a separate report.

Section 1: Actuarial Valuation Summary

Valuation highlights

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability (UAL), and the principal balance.
 - a. The Board's funding policy was adopted in December 2019 and amended in July 2020. In the Board's amended policy, the UAL as of January 1, 2020 was amortized over a closed, 25-year period, with future gains or losses each year thereafter amortized over separate, closed, 20-year periods. Amortization remains on a level percentage of pay basis. If the City's actual contributions differ from the actuarially determined contribution (ADC) by more than 2%, the Board can recommend a change in the City's contribution rate. The Board's funding policy meets the standard of targeting 100% funding of the actuarial accrued liability if the ADC is contributed.
 - b. Through 2024, there is a floor on the City's contributions levels. This floor is expected to override the long-term contribution rate of 34.50% of computation pay. Beginning in 2025, the City is expected to contribute based solely on computation pay. If future payroll matches the City's Hiring Plan payroll projection, the System is projected to be 100% funded in 2105.
 - c. The effective amortization period of 82 years based on current funding methodology is not a reasonable period for paying off the UAL.
2. Actual contributions made by the City during the year ending December 31, 2022 were \$169.9 million, 74.3% of the 2022 ADC. In 2021, actual contributions were \$165.5 million, 74.8% of the 2021 ADC. The total contributions made during the plan year were insufficient to reduce the UAL. The Board was advised previously that because the funding policy contributions, as outlined in HB 3158, result in a long effective amortization period; the UAL will continue to increase even after the funded percentage begins to increase. It is currently projected that the UAL will continue to increase as a dollar amount for more than 50 years before it starts to decline.
3. The System's normal cost (for benefits accruing each year) plus expenses is 19.55% of computation pay. Members contribute 13.50% of computation pay, and the City covers the balance. All remaining City contributions pay down the UAL. Although it is important for the System to meet its 6.50% annual rate of return assumption, the assets currently cover a relatively low percentage of the liabilities and investment returns alone cannot close the funding gap. It is therefore vital that the City's payroll projections are accurate, or that the long-term level of contributions is at least 34.50% of those payroll projections, for the System to have a chance to ever achieve full funding.
4. The rate of return on the market value of assets, as calculated by the actuary, was -11.46% for the 2022 plan year. The return on the actuarial value of assets was 2.22% for the 2022 plan year. This resulted in an actuarial loss when measured against the assumed rate of return of 6.50%. This actuarial investment loss increased the ADC by \$6.4 million.

Section 1: Actuarial Valuation Summary

5. There was a net experience loss for the year of \$104.8 million, or 2.0% of the actuarial accrued liability. This loss was primarily due to the investment loss and the loss due to actual contributions less than the ADC, partially offset by a demographic experience gain. The investment loss was equivalent to 1.7% of the actuarial accrued liability and the loss due to contributions less than the ADC was equivalent to 1.2% of the actuarial accrued liability. This net experience loss is amortized over 20 years.
6. The following actuarial assumptions were changed with this valuation:
 - The assumed retirement rate for DROP actives was lowered from 100% to 75% after ten years in DROP.
 - The salary scale assumption was update based on the 2023 Meet and Confer agreement.

As a result of these assumption changes, the total normal cost increased by \$8.5 million and the actuarial accrued liability increased by \$64.3 million. This change in the actuarial accrued liability was amortized over 20 years. The total impact was an increase in the ADC of \$10.8 million, or 2.34% of computation pay.

Changes from prior valuation

7. The funded ratio (the ratio of the actuarial value of assets to actuarial accrued liability) is 39.12%, compared to the prior year funded ratio of 41.06%. This ratio is one measure of funding status, and its history is a measure of funding progress. Using the market value of assets, the funded ratio is 34.42%, compared to 41.83% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of the plan assets to cover the estimated cost of settling the System's benefit obligation or the need for or the amount of future contributions. As shown in prior projections, the System should expect the funded ratio to continue to decline for the foreseeable future; current projections estimate the funded ratio will continue to decline through 2039.
8. The City's ADC for the 2023 plan year is \$251.6 million, an increase of \$23.1 million from last year. The ADC as a percentage of computation pay increased from 52.30% to 54.36%. Page 30 contains a reconciliation of the ADC from the prior valuation to this year.
9. The actuarial value of assets as of the valuation date is 113.7% of the market value of assets. The investment experience in recent years has only been partially recognized in the actuarial value of assets. As the deferred net loss of \$246.8 million is recognized in future years, the System's ADC is likely to increase unless the net loss is offset by future experience. If the net deferred losses were recognized immediately in the actuarial value of assets, the ADC would increase from 54.36% to 58.23% of computation pay.

Section 1: Actuarial Valuation Summary

Risk

10. The City's Hiring Plan reflects significant growth in payroll over 20 years, from \$372 million in 2017 to \$684 million in 2037. The average annual growth in the City's Hiring Plan payroll projections is 3.09%, compared to the valuation assumption of 2.50%. If payroll growth is more modest, or if there is adverse actuarial experience, it will significantly impact the progress towards improved funding.
 - a. With 100% funding projected in 2105, the effective amortization period for the UAL is 82 years. This period can vary on an annual basis due to actuarial experience, changes in assumptions, contributions higher or lower than expected, and assumed short-term market value asset returns provided by System staff. In the 2022 actuarial valuation, the projected full funding year was 2090 and the effective period was 68 years.
 - b. If the City's Hiring Plan projections are not met and instead the current valuation payroll of \$462.8 million increases by the assumed payroll growth of 2.50% each year, and City and member contributions are based on this level of payroll beginning in 2025, the System is projected to be only 80% funded in 2105, rather than 100%.
 - c. The City's Hiring Plan payroll projections are shown in *Section 4, Exhibit I*. From 2017 through 2023, valuation payroll based on participant data was cumulatively \$7.8 million greater than the City's projections, or 0.28% higher. This is the first year the accumulated valuation payroll has exceeded the City's cumulative Hiring Plan payroll since the Hiring Plan was put in place in 2017.
11. It is important to note that this actuarial valuation is based on plan assets as of December 31, 2022. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.
12. Since the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Plan's future financial condition but have included a brief discussion of some risks that may affect the Plan in *Section 2*. A more detailed assessment would provide the Board with a better understanding of the inherent risks and could be important for the Plan because:
 - The Plan's assets allocation has potential for a significant amount of investment return volatility.
 - Retired participants account for most of the System's liabilities, leaving limited option for reducing costs in the event of adverse experience.
 - The current political and social environment could impact the turnover and retirement patterns of public safety employees, as well as the availability of new hires.

Section 1: Actuarial Valuation Summary

GASB

13. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution under the Plan's funding policy and measuring the progress of that funding policy. The information contained in *Section 5* provides the accounting information for Governmental Accounting Standards Board (GASB) Statement No. 67, for inclusion in the Plan's and employer's financial statements as of December 31, 2022.
14. The Net Pension Liability (NPL) and Pension Expense under GASB statement No. 68 for inclusion in the plan and employer's financial statements as of September 30, 2023 will be provided separately.
15. The NPL is equal to the difference between the Total Pension Liability (TPL) and the Plan's fiduciary net position (equal to the market value of assets). The NPL as of December 30, 2022 is \$3.4 billion, an increase from \$3.0 billion as of December 31, 2021.

Section 1: Actuarial Valuation Summary

Summary of key valuation results

		2023	2022
Contributions for plan year beginning January 1	• City's actuarially determined contributions (ADC)	\$251,606,424	\$228,530,758
	• City's ADC as a percent of computation pay	54.36%	52.30%
	• Actual City contributions	--	\$169,911,420
Actuarial accrued liability for plan year beginning January 1	• Retired members and beneficiaries	\$3,566,237,397	\$3,554,266,474
	• Inactive vested members	29,125,817	24,985,278
	• Inactive members due a refund of employee contributions	2,258,087	1,986,450
	• Active members	1,651,393,512	1,577,544,138
	• Total actuarial accrued liability	5,249,014,813	5,158,782,340
	• Total normal cost including administrative expenses	90,442,683	81,440,023
Assets for plan year beginning January 1	• Market value of assets (MVA)	\$1,806,567,341	\$2,157,840,430
	• Actuarial value of assets (AVA)	2,053,388,085	2,117,978,431
	• Actuarial value of assets as a percentage of market value of assets	113.66%	98.15%
Funded status for plan year beginning January 1	• Unfunded actuarial accrued liability on market value of assets	\$3,442,447,472	\$3,000,941,910
	• Funded percentage on MVA basis	34.42%	41.83%
	• Unfunded actuarial accrued liability on actuarial value of assets	\$3,195,626,728	\$3,040,803,909
	• Funded percentage on AVA basis	39.12%	41.06%
	• Effective amortization period for determination of ADC ¹	22 years	23 years
Key assumptions	• Net investment return	6.50%	6.50%
	• Inflation rate	2.50%	2.50%
GASB information	• Discount rate	6.50%	6.50%
	• Total Pension Liability	\$5,254,660,197	\$5,163,731,692
	• Plan Fiduciary Net Position	1,806,567,341	2,157,840,430
	• Net Pension Liability	3,448,092,856	3,005,891,262
	• Plan Fiduciary Net Position as a percentage of Total Pension Liability	34.38%	41.79%
Demographic data for plan year beginning January 1	• Number of retired members and beneficiaries	5,142	5,071
	• Number of DROP only beneficiaries	147	125
	• Number of inactive vested members	252	233
	• Number of inactive members due a refund of employee contributions	474	462

¹ The unfunded actuarial accrued liability as of January 1, 2020 was amortized over a closed, 25-year period. Beginning on January 1, 2021, each year's experience due to actuarial gains and losses or plan, assumption, or method changes are amortized over closed, 20-year periods. These amortization periods are based on the ADC being paid in full.

Section 1: Actuarial Valuation Summary

	2023	2022
• Number of active members	5,085	5,088
• Total computation pay ¹	\$462,820,226	\$436,971,384
• Average compensation	\$91,017	\$85,883

¹ Total computation pay is the active members' actual payroll for the preceding year, increased by the salary scale applicable for each member to account for their anticipated salary increases in the upcoming year.

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant information	An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	Part of the cost of a plan will be paid from existing assets — the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the System. A snapshot as of a single date may not be an appropriate value for determining a single year's contribution requirement, especially in volatile markets. Plan sponsors often use an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared at the request of the System. Segal is not responsible for the use or misuse of its report, particularly by any other party.

An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.

If the System is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.

Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan provisions, but they may be subject to alternative interpretations. The System should look to their other advisors for expertise in these areas.

While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

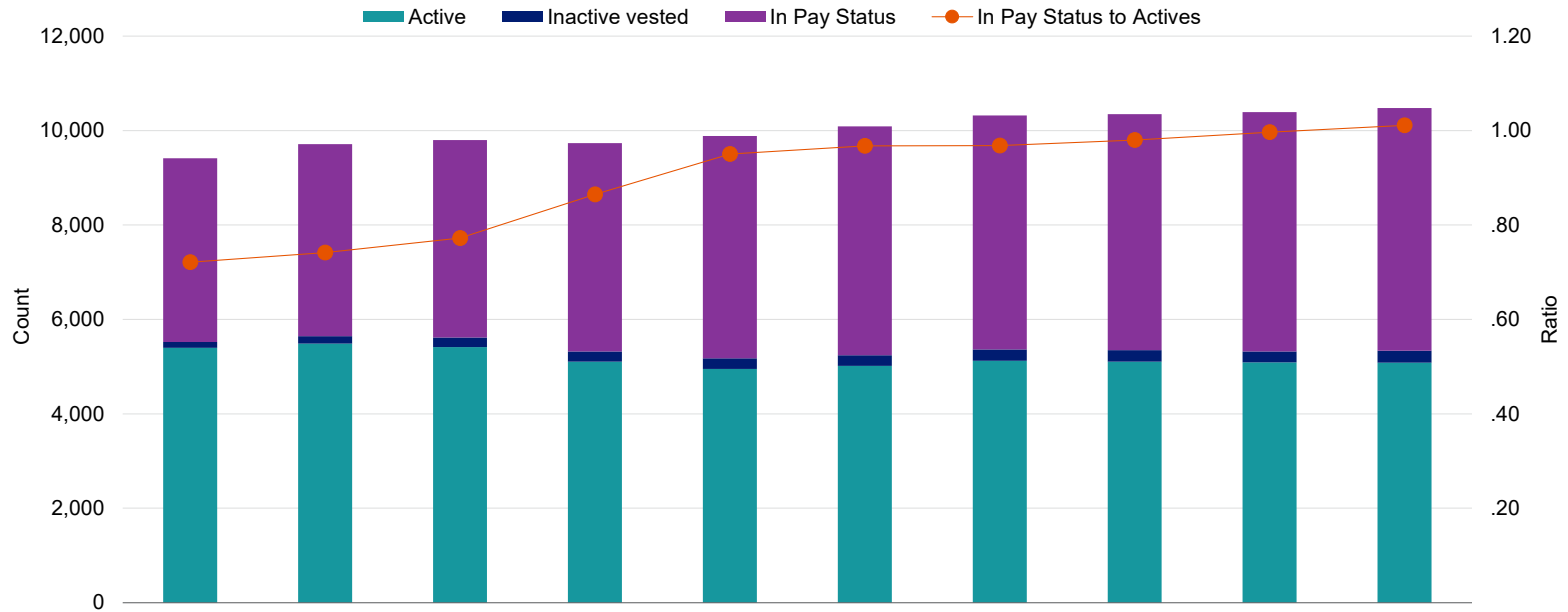
Segal's report shall be deemed to be final and accepted by the System upon delivery and review. Trustees should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management or assets of the Pension System, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Pension System.

Section 2: Actuarial Valuation Results

Member information

Member Population as of December 31



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
In Pay Status ¹	3,890	4,069	4,182	4,414	4,706	4,849	4,956	5,003	5,071	5,142
Inactive Vested ²	122	157	200	215	226	230	242	241	233	252
Active	5,397	5,487	5,415	5,104	4,952	5,012	5,121	5,106	5,088	5,085
Ratio	0.72	0.74	0.77	0.86	0.95	0.97	0.97	0.98	1.00	1.06

¹ Counts for years ending 2015 through 2020 have been restated to remove beneficiaries who only have a DROP account.

² Excluding non-vested terminated participants due a refund of employee contributions

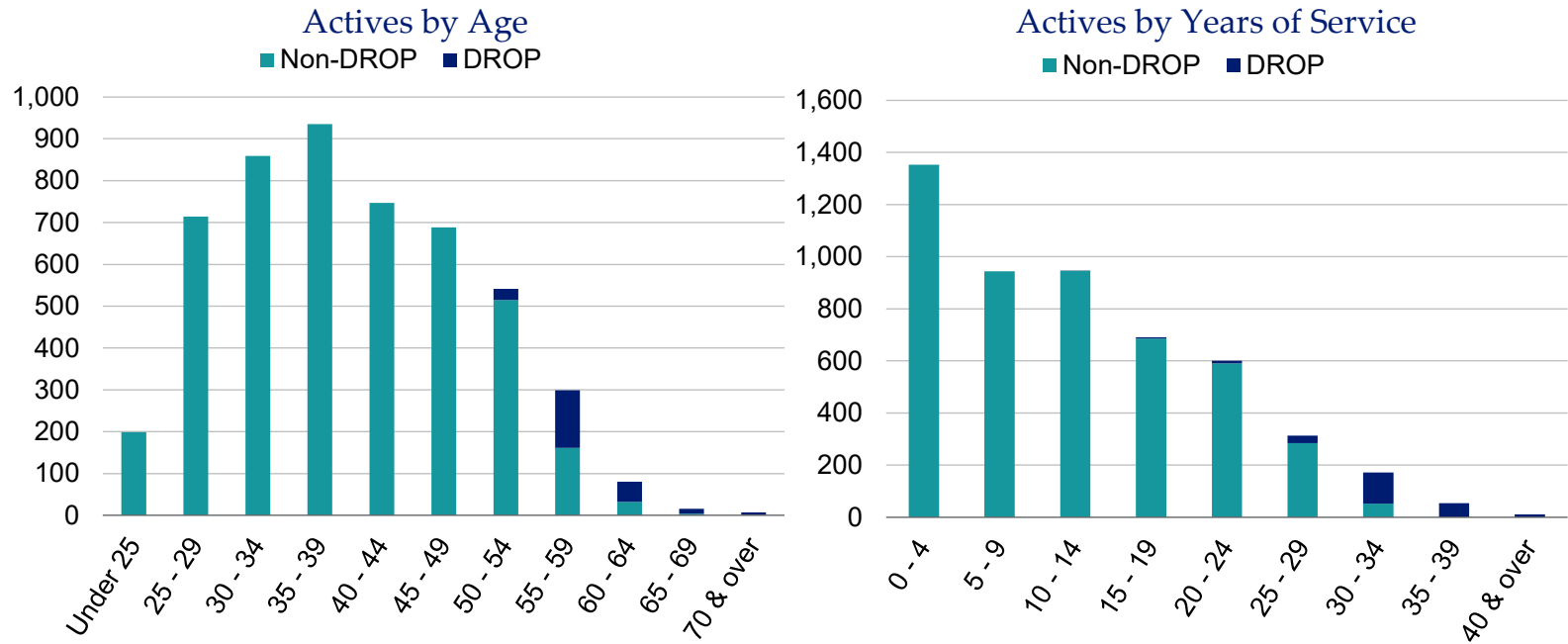
Section 2: Actuarial Valuation Results

Active members

As of December 31,	2022	2021	Change
Firefighters			
Active participants	2,011	1,996	0.8%
Average age	40.1	40.1	0.0
Average years of service	12.4	12.4	0.0
Average computation pay	\$92,065	\$86,575	6.3%
Police Officers			
Active participants	3,074	3,092	-0.6%
Average age	40.1	40.1	0.0
Average years of service	12.8	12.8	0.0
Average computation pay	\$90,331	\$85,436	5.7%
Total			
Active participants	5,085	5,088	-0.1%
Average age	40.1	40.1	0.0
Average years of service	12.6	12.6	0.0
Average computation pay	\$91,017	\$85,883	6.0%

Section 2: Actuarial Valuation Results

Distribution of Active Members as of December 31, 2022



The number of active participants in the DROP decreased from 276 at the end of 2021 to 230 at the end of 2022.

Inactive members

In this year's valuation, there were 252 inactive members with a vested right to a deferred or immediate vested benefit. In addition, there were 474 inactive non-vested members entitled only to a return of their employee contributions.

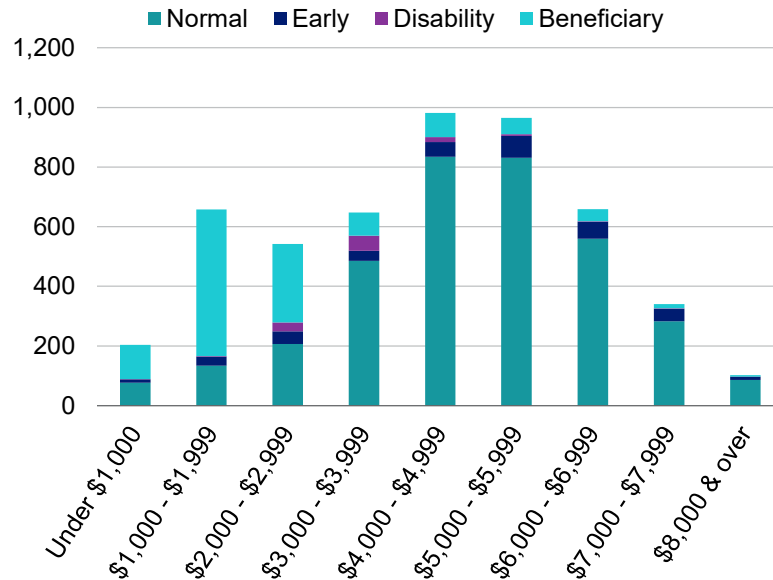
Section 2: Actuarial Valuation Results

Retired members and beneficiaries

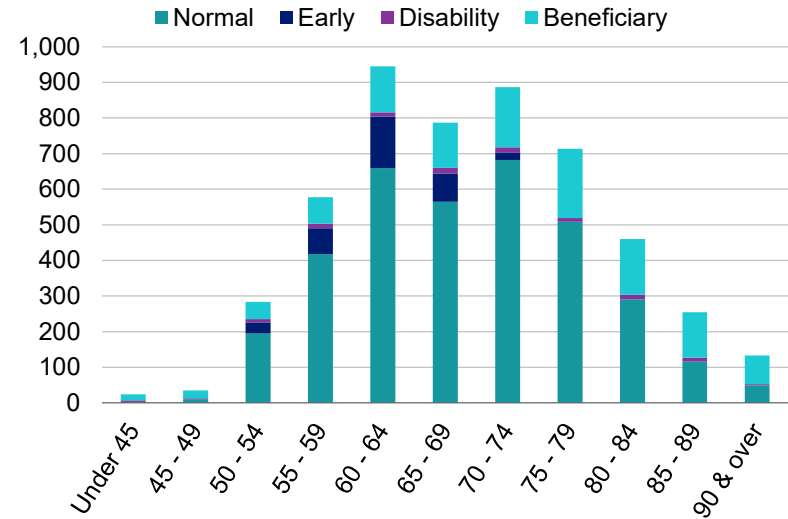
As of December 31,	2022	2021	Change
Retired participants	3,955	3,902	1.4%
Beneficiaries ¹	1,187	1,169	1.5%
Average age	69.2	69.0	-0.2
Average amount	\$4,335	\$4,311	0.6%
Total monthly amount	22,291,338	21,858,592	2.0%

Distribution of Retired Participants as of December 31, 2022

By Type and Monthly Amount



By Type and Age



¹ Does not include beneficiaries with annuitized DROP accounts only and no lifetime annuity (147 for 2022 and 125 for 2021)

Section 2: Actuarial Valuation Results

Historical plan population

Member Data Statistics: 2013 – 2022

Year Ended December 31	Active Members			Retired Members and Beneficiaries ¹		
	Count	Average Age	Average Service	Count	Average Age ²	Average Monthly Amount ³
2013	5,397	41.3	14.4	3,890	--	\$3,543
2014	5,487	41.2	14.2	4,069	68.8	3,699
2015	5,415	41.4	14.3	4,182	69.0	3,826
2016	5,104	41.4	13.0	4,414	68.7	4,102
2017	4,952	40.6	13.4	4,706	67.7	4,171
2018	5,012	40.1	12.8	4,849	68.4	4,217
2019	5,121	39.8	12.3	4,956	68.7	4,250
2020	5,106	40.0	12.6	5,003	68.9	4,273
2021	5,088	40.1	12.6	5,071	69.0	4,311
2022	5,085	40.1	12.6	5,142	69.2	4,335

¹ Does not include DROP only beneficiaries

² Information for December 31, 2013 is not available

³ Average benefits for December 31, 2013 include terminated vested members; average benefits for December 31, 2014 and later include the benefit supplement

Section 2: Actuarial Valuation Results

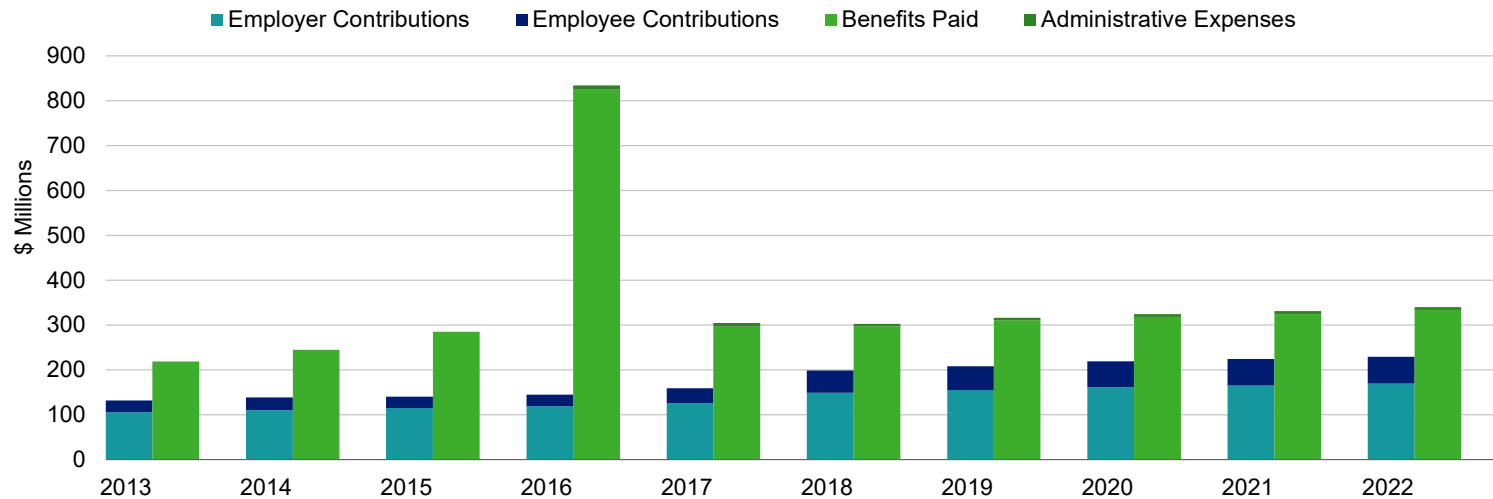
Financial information

Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and investment earnings (less investment fees) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

Benefit payments in 2016 totaled \$825.1 million, of which \$606.3 million were DROP lump-sum payments. This was a one-time event, as members reacted to pending changes in the plan provisions. DROP balances have since been annuitized, resulting in more stable projected benefit payment levels in the future.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits D, E and F.*

Comparison of Contributions Made with Benefits and Expenses Paid for Years Ended December 31



Section 2: Actuarial Valuation Results

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Determination of Actuarial Value of Assets for Year Ended December 31, 2022

1	Market value of assets, December 31, 2022				\$1,806,567,341
2	Calculation of unrecognized return	Original Amount¹	Percent Deferred²	Unrecognized Amount³	
	(a) Year ended December 31, 2022	-\$377,563,609	80%	-\$302,050,887	
	(b) Year ended December 31, 2021	198,197,350	60%	118,918,410	
	(c) Year ended December 31, 2020	-149,294,320	40%	-59,717,728	
	(d) Year ended December 31, 2019	-19,852,697	20%	-3,970,539	
	(e) Total unrecognized return				-\$246,820,744
3	Preliminary actuarial value: (1) - (2e)				2,053,388,085
4	Adjustment to be within 20% corridor				0
5	Final actuarial value of assets as of December 31, 2022: (3) + (4)				\$2,053,388,085
6	Actuarial value as a percentage of market value: (5) ÷ (1)				113.7%
7	Amount deferred for future recognition: (1) - (5)				-\$246,820,744

¹ Total return minus expected return on a market value basis

² Percent deferred applies to the current valuation year

³ Recognition at 20% per year over five years

Deferred return as of December 31, 2022 recognized in each of the next four years:

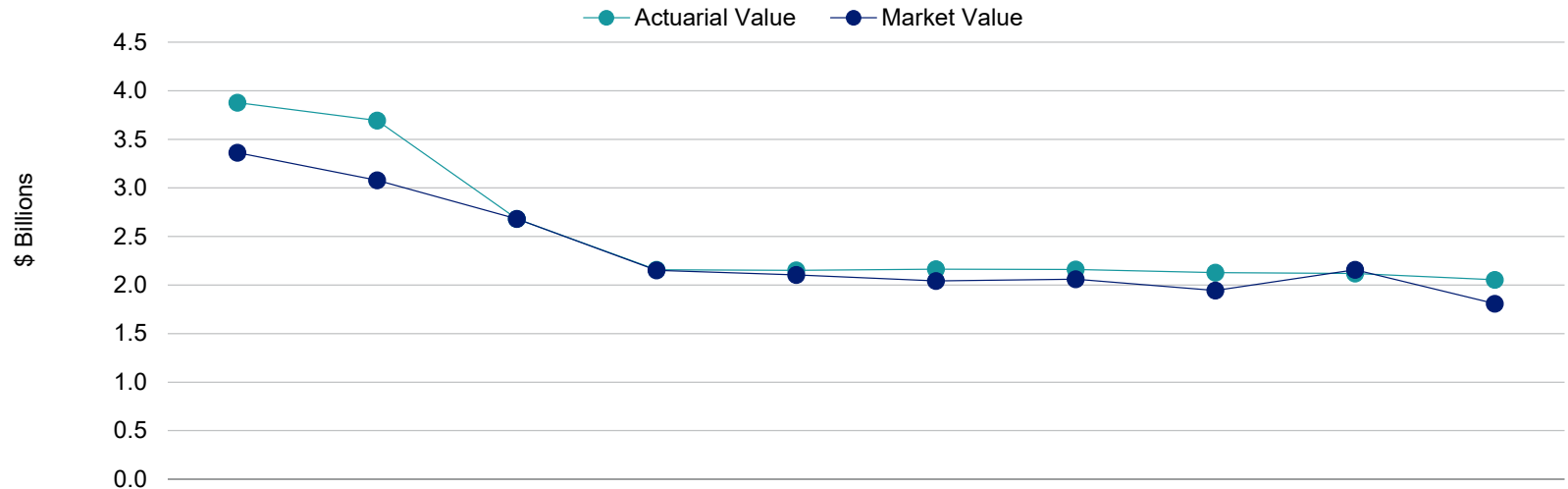
(a) Amount recognized on December 31, 2023	-\$69,702,654
(b) Amount recognized on December 31, 2024	-65,732,116
(c) Amount recognized on December 31, 2025	-35,873,252
(d) Amount recognized on December 31, 2026	-75,512,722

Section 2: Actuarial Valuation Results

Asset history for years ended December 31

The decline in asset values from 2013 to 2015 was primarily the result of significant write-downs in the System’s asset holdings. The decline from 2015 to 2016 reflects the unusually large number of DROP payments made in 2016.

Actuarial Value of Assets vs Market Value of Assets



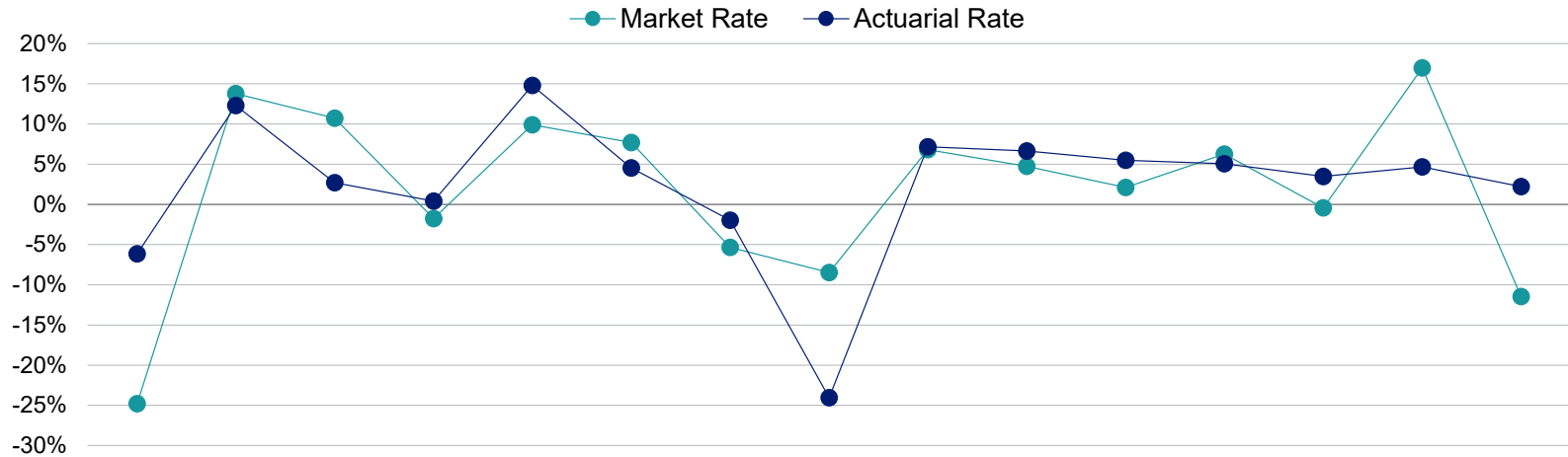
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Actuarial value ¹	\$3.88	\$3.70	\$2.68	\$2.16	\$2.15	\$2.16	\$2.16	\$2.13	\$2.12	\$2.05
Market value ¹	3.36	3.08	2.68	2.15	2.10	2.04	2.06	1.94	2.16	1.81
Ratio	1.15	1.20	1.00	1.00	1.02	1.06	1.05	1.09	0.98	1.14

¹ In \$ billions

Section 2: Actuarial Valuation Results

Historical investment returns

Market and Actuarial Rates of Return for Years Ended December 31



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Market rate ¹	-24.80%	13.78%	10.72%	-1.78%	9.92%	7.70%	-5.35%	-8.47%	6.82%	4.74%	2.09%	6.25%	-0.45%	16.99%	-11.46%
Actuarial rate ²	-6.14%	12.29%	2.69%	0.43%	14.79%	4.52%	-1.98%	-24.03%	7.16%	6.63%	5.48%	5.05%	3.46%	4.68%	2.22%
Assumed rate	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	7.25%	7.25%	7.25%	7.25%	7.25%	7.00%	6.50%	6.50%

Average Rates of Return	Actuarial Value	Market Value
Most recent five-year average return:	4.19%	2.37%
Most recent ten-year average return:	-2.24%	1.29%
15-year average return:	0.50%	0.92%

¹ Returns for 2014 and 2015 include significant write-downs in the System's assets

² Includes a change in asset method for plan years 2012 and 2015

Section 2: Actuarial Valuation Results

Actuarial experience

Assumptions should consider experience and should be based on reasonable expectations for the future.

Each year actual experience is compared to that projected by the assumptions. Differences are reflected in the actuarial valuation.

Assumptions are not changed if experience is believed to be a short-term development that will not continue over the long term. On the other hand, if experience is expected to continue, assumptions are changed.

Actuarial Experience for Year Ended December 31, 2022

1	Loss from investments ¹	-\$88,289,836
2	Gain from administrative expenses	658,410
3	Loss from contributions less than actuarial determined contribution	-61,664,659
4	Net gain from other experience	<u>44,515,238</u>
5	Net experience loss: 1 + 2 + 3 + 4	-\$104,780,847

¹ Details on next page

Section 2: Actuarial Valuation Results

Investment experience

Actuarial planning is long term. The obligations of a pension plan are expected to continue for the lifetime of all its participants.

The assumed long-term rate of return of 6.50% considers past experience, the asset allocation policy of the Board and future expectations.

Investment Experience

		Year Ended December 31, 2022	
		Market Value	Actuarial Value
1	Net investment income	-\$240,891,386	\$45,791,357
2	Average value of assets	2,102,649,579	2,062,787,580
3	Rate of return: 1 ÷ 2	-11.46%	2.22%
4	Assumed rate of return	6.50%	6.50%
5	Expected investment income: 2 x 4	136,672,223	134,081,193
6	Investment loss: 1 - 5	-\$377,563,609	-\$88,289,836

Section 2: Actuarial Valuation Results

Contributions

Contributions for the year ended December 31, 2022 totaled \$229,617,994, compared to the recommended contribution amount of \$280,438,165. This resulted in a loss of \$61,664,659, when adjusted for timing, or 1.2% of the actuarial accrued liability.

Non-investment experience

Administrative expenses

Administrative expenses for the year ended December 31, 2022 totaled \$6,361,999, as compared to the assumption of \$7,000,000. This resulted in an experience gain of \$658,410 for the year, when adjusted for timing.

Other experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- Mortality experience (more or fewer than expected deaths)
- The extent of turnover among members
- Retirement experience (earlier or later than projected)
- The number of disability retirements (more or fewer than projected)
- Salary increases (greater or smaller than projected)

The net gain from this other experience for the year ended December 31, 2022 amounted to \$44,515,238, which is 0.9% of the actuarial accrued liability.

Actuarial assumptions

- The assumption changes reflected in this report are:
 - The assumed retirement rate for DROP actives was lowered from 100% to 75% after ten years in DROP.
 - The salary scale assumption as updated based on the 2023 Meet and Confer agreement.
- These changes increased the actuarial accrued liability by 1.2% and increased the total normal cost by 11.4%.

Section 2: Actuarial Valuation Results

- Details on actuarial assumptions and methods are in *Section 4, Exhibit I*.

Plan provisions

- There were no changes in plan provisions since the prior valuation.

Section 2: Actuarial Valuation Results

Unfunded actuarial accrued liability

Development of Unfunded Actuarial Accrued Liability for Year Ended December 31, 2022

1	Unfunded actuarial accrued liability at beginning of year		\$3,040,803,909
2	Total normal cost at beginning of year, including administrative expense assumption		81,440,023
3	Total contributions		-229,617,994
4	Interest on 1, 2 & 3		<u>195,561,863</u>
5	Expected unfunded actuarial accrued liability		\$3,088,187,801
6	Changes due to:		
	(a) Net experience loss	\$43,116,189	
	(b) Assumptions	<u>64,322,738</u>	
	Total changes		<u>\$107,438,927</u>
7	Unfunded actuarial accrued liability at end of year		\$3,195,626,728

Section 2: Actuarial Valuation Results

Actuarially determined contribution

The actuarially determined contribution is equal to the City normal cost payment and a payment on the unfunded actuarial accrued liability. As of January 1, 2023, the actuarially determined contribution is \$251,606,424, or 54.36% of computation pay. The funding policy used to calculate the actuarially determined contribution is based on a closed, 25-year amortization of the UAL as of January 1, 2020 and a closed, 20-year amortization of any changes in the UAL thereafter. Amortization is on a level-percentage-of-pay basis.

Under the provisions of HB 3158, the City contributes mandated biweekly amounts through 2024 (but no less than 34.50% of computation pay), plus \$13 million per year. Beginning January 1, 2025, the City will contribute 34.50% of computation pay. The effective amortization period, based on the City's Hiring Plan payroll projections, is 82 years.

The contribution requirement as of January 1, 2023 is based on the data previously described, the actuarial assumptions and plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

Actuarially Determined Contribution for Year Beginning January 1

	2023		2022	
	Amount	% of Computation Pay	Amount	% of Computation Pay
1 Total normal cost	\$83,659,661	18.08%	\$74,657,001	17.09%
2 Administrative expenses	6,783,022	1.47%	6,783,022	1.55%
3 Expected member contributions	<u>-62,480,730</u>	<u>-13.50%</u>	<u>-58,991,137</u>	<u>-13.50%</u>
4 Employer normal cost: (1) + (2) + (3)	\$27,961,953	6.04%	\$22,448,886	5.14%
5 Actuarial accrued liability	\$5,249,014,813		\$5,158,782,340	
6 Actuarial value of assets	<u>2,053,388,085</u>		<u>2,117,978,431</u>	
7 Unfunded actuarial accrued liability: (5) - (6)	\$3,195,626,728		\$3,040,803,909	
8 Payment on unfunded actuarial accrued liability	\$215,845,468	46.64%	\$198,998,142	45.54%
9 Adjustment for timing ¹	7,799,003	1.69%	7,083,730	1.62%
10 Actuarially determined contribution: (4) + (8) + (9)	\$251,606,424	54.36%	\$228,530,758	52.30%
11 Total computation pay ²	\$462,820,226		\$436,971,384	

¹ Actuarially determined contributions are assumed to be paid at the middle of every month.

² Total computation pay, or valuation pay, is the active members' actual payroll for the preceding year, increased by the salary scale applicable for each member to account for their anticipated salary increases in the upcoming year.

Section 2: Actuarial Valuation Results

Reconciliation of actuarially determined contribution

Reconciliation of Actuarially Determined Contribution
from January 1, 2022 to January 1, 2023

	Amount
1 Actuarially determined contribution as of January 1, 2022	\$228,530,758
2 Effect of expected change in amortization payment due to payroll growth	5,134,094
3 Effect of change in actuarial assumptions	10,809,324
4 Effect of contributions less than actuarially determined contribution	4,467,821
5 Effect of investment loss	6,396,908
6 Effect of other gains and losses on accrued liability	-3,272,989
7 Net effect of other changes, including composition and number of members	<u>-459,491</u>
8 Total change	\$23,075,666
9 Actuarially determined contribution as of January 1, 2023	\$251,606,424

Section 2: Actuarial Valuation Results

History of employer contributions

History of Employer Contributions: 2016 – 2023

Year Ended December 31	Actuarially Determined Employer Contribution (ADC)		Actual Employer Contribution		Percent Contributed
	Amount	Percentage of Pay	Amount	Percentage of Pay	
2016	\$261,859,079	71.70%	\$119,423,106	32.70%	45.61%
2017	168,865,484	47.25%	126,318,005	35.34%	74.80%
2018	157,100,128	45.40%	149,356,565	43.16%	95.07%
2019	152,084,297	41.88%	155,721,087	42.88%	102.39%
2020	185,428,764	46.71%	161,950,183	40.80%	87.34%
2021	221,285,746	51.77%	165,541,265	38.73%	74.81%
2022	228,530,758	52.30%	169,911,420	38.88%	74.35%
2023	251,606,424	54.36%	TBD	N/A	N/A

Section 2: Actuarial Valuation Results

Risk

The actuarial valuation results are dependent on a single set of assumptions; however, there is a risk that emerging results may differ significantly as actual experience proves to be different from the current assumptions.

We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Plan's future financial condition but have included a brief discussion of some risks that may affect the Plan.

- **Economic and Other Related Risks.** Potential implications for the Plan due to the following economic effects (that were not reflected as of the valuation date) include:
 - Volatile financial markets and investment returns lower than assumed
 - High inflationary environment impacting salary increases
 - Lingering direct and indirect effects of the COVID-19 pandemic

- **Investment Risk** (the risk that returns will be different than expected)

The System has experienced some of the challenges associated with investment risk and has had to write down the value of its assets significantly in recent years. Recognized market returns have been well below the long-term assumption as the System rebalances the investment portfolio and are expected to continue to be below average in the short-term.

The market value rate of return over the last 15 years has ranged from a low of -24.80% to a high of 16.99%.

- **Longevity Risk** (the risk that mortality experience will be different than expected)

The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution.

- **Contribution Risk** (the risk that actual contributions will be different from actuarially determined contribution)

Plan contributions are set by statute. Periodic projections are prepared by the actuary to determine if expected statutory contributions are sufficient to fund the system and to ensure the payment of promised benefits.

Although State law establishes minimum City contributions through 2024, the contribution is scheduled to be a flat 34.50% of computation pay beginning in 2025. If the payroll growth matches the City's Hiring Plan projections, and if all other assumptions are met, the System is projected to be fully funded in 82 years. The City's plan reflects significant growth in payroll over 20 years, from \$372 million in 2017 to \$684 million in 2037. The annual average growth in the City's Hiring Plan is 3.09%, compared to the valuation assumption of 2.50%. If payroll growth is more modest, or if there is adverse experience in the System that leads to losses, the period required to achieve 100% funding could be significantly longer.

Section 2: Actuarial Valuation Results

If the City's Hiring Plan projections are not met and instead the current valuation payroll of \$462.8 million increases by the assumed payroll growth of 2.50% each year, and City and member contributions are based on this level of payroll beginning in 2025, the System is projected to be only 80% funded in 82 years, rather than 100%.

- **Demographic Risk** (the risk that participant experience will be different than assumed)

Examples of this risk include:

- Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any early retirement subsidies that apply.
- More or less active participant turnover than assumed.
- There are external factors including legislative or financial reporting changes that could impact the plan's funding and disclosure requirements. While we do not assume any changes in such external factors, it is important to understand that they could have significant consequences for the System.
- **Actual Experience over the last ten years**

Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience. Over the past ten years:

- The annual market value investment experience has ranged from a loss of \$473 million (including write-downs) to a gain of \$198 million. If all investment returns were equal to the assumed rates of return over the last ten years, the market value of assets as of the current date would be approximately \$4.0 billion as opposed to the actual value of \$1.8 billion.
- The funded percentage on the actuarial value of assets has ranged from a low of 39.1% to a high of 75.6%.
- **Maturity Measures**

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities.

Currently the Plan has a non-active to active participant ratio of 1.06. For the prior year, benefits and administrative expenses paid were \$110.4 million more than contributions received. As the Plan matures, more cash will be needed from the investment portfolio to meet benefit payments.

- **Detailed Risk Assessment**

A more detailed assessment of the risks would provide the Board with a better understanding of the risks inherent in the System. This assessment may include scenario testing, sensitivity testing, stress testing, and stochastic modeling.

Section 2: Actuarial Valuation Results

A detailed risk assessment could be important for the Plan because:

- The Plan’s asset allocation has potential for a significant amount of investment return volatility.
- Inactive and retired participants account for most of the Plan’s liabilities, leaving limited options for reducing plan costs in the event of adverse experience.
- Potential changes in the covered population may result in participant choices that vary from those assumed.
- The Board has not had a detailed risk assessment in several years.

Section 2: Actuarial Valuation Results

GFOA funded liability by type

The Actuarial Accrued Liability represents the present value of benefits earned, calculated using the Plan's actuarial cost method. The Actuarial Value of Assets reflects the financial resources available to liquidate the liability. The portion of the liability covered by assets reflects the extent to which accumulated plan assets are sufficient to pay future benefits, and is shown for liabilities associated with employee contributions, pensioner liabilities, and other liabilities. The Government Finance Officers Association (GFOA) recommends that the funding policy aim to achieve a funded ratio of 100 percent.

GFOA Funded Liability by Type as of December 31

	2022	2021
Actuarial accrued liability (AAL)		
Active member contributions	\$410,982,253	\$382,198,948
Retirees and beneficiaries	3,566,237,397	3,554,266,474
Inactive vested members	29,125,817	24,985,278
Active and inactive non-vested members (employer-financed)	<u>1,242,669,346</u>	<u>1,197,331,640</u>
Total	\$5,249,014,813	\$5,158,782,340
Actuarial value of assets	2,053,388,085	2,117,978,431
Cumulative portion of AAL covered		
Active member contributions	100.00%	100.00%
Retirees and beneficiaries	46.05%	48.84%
Active and inactive members (employer-financed)	0.00%	0.00%

Section 2: Actuarial Valuation Results

Actuarial balance sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Plan for current members is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the "liability" of the Plan.

Second, this liability is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet

	Year Ended	
	December 31, 2022	December 31, 2021
Liabilities		
Present value of benefits for retired members and beneficiaries (non-DROP)	\$2,720,594,387	\$2,690,126,664
Present value of benefits for retired members and beneficiaries (DROP)	845,643,010	864,139,810
Present value of benefits for inactive members	31,383,904	26,971,728
Present value of benefits for active members	<u>2,490,609,201</u>	<u>2,293,640,796</u>
Total liabilities	\$6,088,230,502	\$5,874,878,998
Assets		
Total valuation value of assets	\$2,053,388,085	\$2,117,978,431
Present value of future contributions by members	636,975,115	573,986,447
Present value of future employer contributions for:		
Entry age cost	202,240,574	142,110,211
Unfunded actuarial accrued liability	<u>3,195,626,728</u>	<u>3,040,803,909</u>
Total of current and future assets	\$6,088,230,502	\$5,874,878,998

Section 3: Supplemental Information

Exhibit A: Table of plan demographics

Category	Year Ended December 31		Change From Prior Year
	2022	2021	
Active members in valuation:			
Number	5,085	5,088	-0.1%
Average age	40.1	40.1	0.0
Average years of service	12.6	12.6	0.0
Total computation pay	\$462,820,226	\$436,971,384	5.9%
Average computation pay	\$91,017	85,883	6.0%
Account balances	\$410,982,253	382,198,948	7.5%
Total active vested members	3,732	3,661	1.9%
Active members (excluding DROP):			
Number	4,855	4,812	0.9%
Average age	39.2	39.0	0.2
Average years of service	11.7	11.5	0.2
Total computation pay	\$439,656,973	\$410,752,408	7.0%
Average computation pay	90,558	85,360	6.1%
Active members (DROP only):			
Number	230	276	-16.7%
Average age	58.9	58.3	0.6
Average years of service	32.7	31.8	0.9
Total computation pay	\$23,163,253	\$26,218,976	-11.7%
Average computation pay	100,710	94,996	6.0%
DROP account balances	96,505,872	113,584,279	-15.0%
Inactive vested members:			
Number	252	233	8.2%
Average age	42.1	41.7	0.4
Average monthly benefit	\$1,316	\$1,219	8.0%
Inactive nonvested members due a refund:			
Number	474	462	2.6%
Accumulated contribution balance	\$2,258,087	\$1,986,450	13.7%

Section 3: Supplemental Information

Retired members:			
Number in pay status	3,845	3,786	1.6%
Average age	68.1	67.9	0.2
Average monthly benefit	\$4,935	\$4,919	0.3%
Disabled members:			
Number in pay status	110	116	-5.2%
Average age	68.8	69.1	-0.3
Average monthly benefit	\$3,575	\$3,619	-1.2%
Beneficiaries:			
Number in pay status	1,187	1,169	1.5%
Average age	72.9	72.9	0.0
Average monthly benefit	\$2,462	\$2,408	2.2%
Beneficiaries with DROP only:			
Number	147	125	17.6%

Section 3: Supplemental Information

Exhibit B: Members in active service as of December 31, 2022 by age, years of service, and average pay¹

Age	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	199	198	1	--	--	--	--	--	--	--
	\$66,624	\$66,566	\$78,060	--	--	--	--	--	--	--
25 - 29	714	569	145	--	--	--	--	--	--	--
	\$74,021	\$71,825	\$82,639	--	--	--	--	--	--	--
30 - 34	859	394	376	89	--	--	--	--	--	--
	\$81,568	\$73,342	\$86,590	\$96,765	--	--	--	--	--	--
35 - 39	935	135	266	431	103	--	--	--	--	--
	\$92,640	\$74,181	\$87,453	\$99,593	\$101,134	--	--	--	--	--
40 - 44	747	38	108	244	280	77	--	--	--	--
	\$97,771	\$73,669	\$88,740	\$98,300	\$102,073	\$105,007	--	--	--	--
45 - 49	688	15	31	123	180	288	51	--	--	--
	\$102,120	\$73,035	\$87,865	\$97,783	\$102,405	\$105,831	\$107,843	--	--	--
50 - 54	541	2	12	41	90	170	185	41	--	--
	\$103,067	\$57,504	\$91,113	\$97,147	\$100,587	\$104,655	\$105,758	\$101,427	--	--
55 - 59	299	1	4	14	22	48	70	107	33	--
	\$101,474	\$79,736	\$98,771	\$98,111	\$99,383	\$103,302	\$102,678	\$100,361	\$103,679	--
60 - 64	80	--	1	4	13	17	6	21	17	1
	\$103,281	--	\$99,503	\$93,215	\$98,796	\$102,295	\$103,280	\$104,013	\$108,289	\$121,909
65 - 69	16	1	--	1	2	1	1	3	3	4
	\$98,058	\$69,663	--	\$95,736	\$93,998	\$100,239	\$111,031	\$95,300	\$95,865	\$107,691
70 & over	7	--	--	--	1	--	--	--	--	6
	\$114,515	--	--	--	\$110,885	--	--	--	--	\$115,120
Total	5,085	1,353	944	947	691	601	313	172	53	11
	\$91,017	\$71,780	\$86,628	\$98,600	\$101,668	\$105,081	\$105,378	\$100,973	\$104,715	\$113,036

¹ Compensation is annualized for those hired during the prior plan year

Section 3: Supplemental Information

Police members in active service as of December 31, 2022 by age, years of service, and average pay¹

Age	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	123	123	--	--	--	--	--	--	--	--
	\$65,898	\$65,898	--	--	--	--	--	--	--	--
25 - 29	469	381	88	--	--	--	--	--	--	--
	\$73,774	\$71,799	\$82,323	--	--	--	--	--	--	--
30 - 34	496	209	233	54	--	--	--	--	--	--
	\$81,929	\$72,968	\$86,818	\$95,520	--	--	--	--	--	--
35 - 39	532	67	139	252	74	--	--	--	--	--
	\$92,577	\$72,433	\$87,756	\$98,297	\$100,389	--	--	--	--	--
40 - 44	457	27	52	131	194	53	--	--	--	--
	\$97,446	\$73,602	\$88,328	\$97,398	\$101,860	\$102,502	--	--	--	--
45 - 49	404	10	24	67	102	168	33	--	--	--
	\$100,410	\$74,322	\$85,824	\$98,373	\$100,982	\$103,128	\$107,455	--	--	--
50 - 54	344	2	9	39	61	89	112	32	--	--
	\$101,394	\$57,504	\$91,707	\$97,122	\$102,180	\$101,183	\$105,074	\$98,280	--	--
55 - 59	186	--	1	14	15	28	38	77	13	--
	\$100,181	--	\$100,885	\$98,111	\$100,475	\$103,483	\$102,119	\$97,525	\$104,975	--
60 - 64	50	--	--	4	6	14	4	14	8	--
	\$101,941	--	--	\$93,215	\$99,715	\$100,108	\$106,635	\$103,425	\$106,238	--
65 - 69	9	--	--	1	1	1	1	2	1	2
	\$104,715	--	--	\$95,736	\$93,501	\$100,239	\$111,031	\$100,912	\$102,385	\$118,858
70 & over	4	--	--	--	--	--	--	--	--	4
	\$108,151	--	--	--	--	--	--	--	--	\$108,151
Total	3,074	819	546	562	453	353	188	125	22	6
	\$90,331	\$71,318	\$86,539	\$97,703	\$101,372	\$102,444	\$104,960	\$98,433	\$105,316	\$111,720

¹ Compensation is annualized for those hired during the prior plan year

Section 3: Supplemental Information

Fire members in active service as of December 31, 2022 by age, years of service, and average pay¹

Age	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	76	75	1	--	--	--	--	--	--	--
	\$67,798	\$67,661	\$78,060	--	--	--	--	--	--	--
25 - 29	245	188	57	--	--	--	--	--	--	--
	\$74,494	\$71,877	\$83,128	--	--	--	--	--	--	--
30 - 34	363	185	143	35	--	--	--	--	--	--
	\$81,074	\$73,764	\$86,219	\$98,687	--	--	--	--	--	--
35 - 39	403	68	127	179	29	--	--	--	--	--
	\$92,723	\$75,903	\$87,120	\$101,417	\$103,035	--	--	--	--	--
40 - 44	290	11	56	113	86	24	--	--	--	--
	\$98,282	\$73,832	\$89,123	\$99,345	\$102,555	\$110,540	--	--	--	--
45 - 49	284	5	7	56	78	120	18	--	--	--
	\$104,553	\$70,461	\$94,865	\$97,077	\$104,266	\$109,614	\$108,555	--	--	--
50 - 54	197	--	3	2	29	81	73	9	--	--
	\$105,988	--	\$89,329	\$97,625	\$97,235	\$108,470	\$106,808	\$112,614	--	--
55 - 59	113	1	3	--	7	20	32	30	20	--
	\$103,602	\$79,736	\$98,067	--	\$97,043	\$103,049	\$103,342	\$107,640	\$102,836	--
60 - 64	30	--	1	--	7	3	2	7	9	1
	\$105,514	--	\$99,503	--	\$98,008	\$112,497	\$96,569	\$105,189	\$110,112	\$121,909
65 - 69	7	1	--	--	1	--	--	1	2	2
	\$89,499	\$69,663	--	--	\$94,494	--	--	\$84,075	\$92,605	\$96,524
70 & over	3	--	--	--	1	--	--	--	--	2
	\$123,000	--	--	--	\$110,885	--	--	--	--	\$129,058
Total	2,011	534	398	385	238	248	125	47	31	5
	\$92,065	\$72,489	\$86,750	\$99,910	\$102,231	\$108,836	\$106,008	\$107,726	\$104,288	\$114,615

¹ Compensation is annualized for those hired during the prior plan year

Section 3: Supplemental Information

Exhibit C: Reconciliation of member data

	Active Members	Inactive Vested Members ¹	Disableds	Retired Members	Beneficiaries ²	Total
Number as of January 1, 2022	5,088	233	116	3,786	1,169	10,392
New members	307	N/A	N/A	N/A	N/A	307
Terminations – with vested rights	-40	40	0	0	0	0
Terminations – without vested rights	-36	N/A	N/A	N/A	N/A	-36
Retirements	-142	-11	N/A	153	N/A	0
New disabilities	-3	0	3	N/A	N/A	0
Died with beneficiary	0	0	0	0	84	84
Died without beneficiary	-4	0	-9	-96	-62	-171
Lump sum cash-outs	-107	-9	0	0	0	-116
Rehire	22	-1	N/A	0	N/A	21
Certain period expired	N/A	N/A	0	0	-4	-4
Data adjustments	0	0	0	2	0	2
Number as of January 1, 2023	5,085	252	110	3,845	1,187	10,479

¹ Excludes non-vested terminated members due a refund of contributions

² Excludes beneficiaries with DROP only

Section 3: Supplemental Information

Exhibit D: Summary statement of income and expenses on a market value basis

	Year Ended December 31, 2022	Year Ended December 31, 2021
Net assets at market value at the beginning of the year	\$2,157,840,430	\$1,943,700,593
Contribution and other income:		
City contributions	\$169,911,420	\$165,541,265
Member contributions	<u>59,706,574</u>	<u>58,559,980</u>
<i>Total contribution income</i>	\$229,617,994	\$224,101,245
Investment income:		
Investment income	\$23,529,597	\$28,758,381
Recognition of capital appreciation/(depreciation)	-255,777,638	303,367,916
Less investment fees	<u>-8,643,345</u>	<u>-11,063,408</u>
<i>Net investment income</i>	<u>-\$240,891,386</u>	<u>\$321,062,889</u>
Total income available for benefits	-\$11,273,392	\$545,164,134
Less benefit payments and administrative expenses:		
Benefit payments	-\$329,187,721	-\$321,348,320
Refunds	-4,449,977	-3,285,148
Administrative expenses	<u>-6,361,999</u>	<u>-6,390,829</u>
<i>Net benefit payments and administrative expenses</i>	<u>-\$339,999,697</u>	<u>-\$331,024,297</u>
Change in market value of assets	-\$351,273,089	\$214,139,837
Net assets at market value at the end of the year	\$1,806,567,341	\$2,157,840,430

Section 3: Supplemental Information

Exhibit E: Summary statement of plan assets

	December 31, 2022	December 31, 2021
Cash equivalents and prepaid expenses	\$74,996,415	\$59,924,644
Capital assets	11,499,772.00	11,745,139
Total accounts receivable	11,897,407	9,925,407
Investments:		
Equity securities	\$819,431,503	\$960,008,108
Real assets	344,739,510	405,937,634
Fixed income securities	318,424,211	416,490,402
Private equity	217,177,506	287,199,831
Other	<u>14,753,672</u>	<u>12,828,802</u>
Total investments at market value	\$1,714,526,402	\$2,082,464,777
Total assets	1,812,919,996	2,164,059,967
Total accounts payable	-6,352,655	-6,219,537
Net assets at market value	\$1,806,567,341	\$2,157,840,430
Net assets at actuarial value	\$2,053,388,085	\$2,117,978,431

Section 3: Supplemental Information

Exhibit F: Development of the fund through December 31, 2022

Year Ended December 31	City Contributions	Employee Contributions	Net Investment Return ¹	Admin. Expenses ²	Benefit Payments	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2013	\$105,711,435	\$26,044,579	\$243,514,011	\$0	\$218,884,493	\$3,362,750,503	\$3,877,321,261	115.3%
2014	109,791,512	28,969,429	-176,940,296	0	245,176,251	3,079,394,897	3,695,273,876	120.0%
2015	114,885,723	25,676,327	-254,829,470	0	285,003,174	2,680,124,303	2,680,124,303	100.0%
2016	119,423,106	25,518,317	159,355,111	9,492,445	825,092,132	2,149,836,260	2,157,799,730	100.4%
2017	126,318,005	32,977,425	98,457,176	8,089,584	296,153,811	2,103,345,471	2,151,039,343	102.3%
2018	149,356,565	49,332,262	42,822,297	5,861,410	297,081,055	2,041,914,130	2,161,899,662	105.9%
2019	155,721,087	52,268,293	124,259,607	6,445,251	309,860,549	2,057,857,317	2,160,125,611	105.0%
2020	161,950,183	57,305,399	-8,927,336	6,534,350	317,950,620	1,943,700,593	2,127,834,406	109.5%
2021	165,541,265	58,559,980	321,062,889	6,390,829	324,633,468	2,157,840,430	2,117,978,431	98.2%
2022	169,911,420	59,706,574	-240,891,386	6,361,999	333,637,698	1,806,567,341	2,053,388,085	113.7%

¹ On a market basis, net of investment fees

² Administrative expenses were subtracted from net investment return prior to the 2016 valuation

Section 3: Supplemental Information

Exhibit G: Table of amortization bases

Type	Date Established	Initial Period	Initial Amount	Annual Payment ¹	Years Remaining	Outstanding Balance
2020 unfunded liability	01/01/2020	25	\$2,563,846,869	\$168,616,287	22	\$2,555,558,543
Experience loss	01/01/2021	20	163,324,136	12,047,105	18	159,723,369
Change in assumptions	01/01/2021	20	256,721,167	18,936,251	18	251,061,299
Experience loss	01/01/2022	20	65,011,468	4,678,412	19	64,376,230
Change in assumptions	01/01/2022	20	-4,237,706	-304,957	19	-4,196,298
Experience loss	01/01/2023	20	104,780,847	7,356,420	20	104,780,847
Change in assumptions	01/01/2023	20	64,322,738	4,515,950	20	64,322,738
Total				\$215,845,468		\$3,195,626,728

¹ Level percentage of payroll

Section 4: Actuarial Valuation Basis

Exhibit I: Actuarial assumptions, methods and models

Rationale for assumptions	The information and analysis used by the Board in selecting each assumption that has a significant effect on this actuarial valuation is shown in the Experience Study Report for the five-year period ended December 31, 2019, with subsequent changes related to updated capital market assumptions, retirement rates, and the salary scale.																		
Net investment return	6.50%. The net investment return assumption was chosen by the System's Board of Trustees, with input from the actuary. This assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes, as well as the System's target asset allocation.																		
Salary increases	<table border="1"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="3">Rate (%)</th> </tr> <tr> <th>Officers</th> <th>Corporals, Drivers & Senior Officers</th> <th>Sergeants, Lieutenants, Captains, Majors, Deputy Chiefs, Assistant Chiefs & Chiefs</th> </tr> </thead> <tbody> <tr> <td>2023</td> <td>7.25%</td> <td>6.75%</td> <td>6.25%</td> </tr> <tr> <td>2024+</td> <td>3.00%</td> <td>3.00%</td> <td>2.50%</td> </tr> </tbody> </table> <p>The salary scale assumption is based on the City's pay plan, along with analysis completed in conjunction with an Experience Study Report for the five-year period ended December 31, 2019 and the 2019 and 2023 Meet and Confer Agreements.</p>				Year	Rate (%)			Officers	Corporals, Drivers & Senior Officers	Sergeants, Lieutenants, Captains, Majors, Deputy Chiefs, Assistant Chiefs & Chiefs	2023	7.25%	6.75%	6.25%	2024+	3.00%	3.00%	2.50%
Year	Rate (%)																		
	Officers	Corporals, Drivers & Senior Officers	Sergeants, Lieutenants, Captains, Majors, Deputy Chiefs, Assistant Chiefs & Chiefs																
2023	7.25%	6.75%	6.25%																
2024+	3.00%	3.00%	2.50%																
Payroll growth	2.50%, used to amortize the unfunded actuarial accrued liability as a level percentage of payroll.																		
Cost-of-living adjustments	<p><i>Prior to October 1, 2073: 0.00%</i> <i>Beginning October 1, 2073: 1.50%, on original benefit</i></p> <p>The assumption for the year the COLA begins is updated periodically and set equal to the year the System is projected to be 70% funded on a market value basis after the COLA is reflected.</p> <p>The COLA assumption will automatically be updated as needed to remain five percentage points less than the net investment return assumption.</p>																		

Section 4: Actuarial Valuation Basis

<p>Funding projections</p>	<p><i>Payroll growth:</i> For purposes of projecting the System’s funded status to project when the System will reach 70% funded on a market value basis (and therefore meet COLA requirements), City contributions beginning January 1, 2025 are assumed to be 34.50% of the City’s Hiring Plan projections. Beginning in 2038, after the end of the City’s Hiring Plan projection, payroll is assumed to increase by 2.50%.</p> <p style="text-align: center;"><u>City’s Hiring Plan Payroll Projection (in millions)</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Year</th> <th style="text-align: center;">Payroll</th> <th style="text-align: center;">Year</th> <th style="text-align: center;">Payroll</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">2017</td><td style="text-align: center;">\$372</td><td style="text-align: center;">2028</td><td style="text-align: center;">\$525</td></tr> <tr><td style="text-align: center;">2018</td><td style="text-align: center;">364</td><td style="text-align: center;">2029</td><td style="text-align: center;">545</td></tr> <tr><td style="text-align: center;">2019</td><td style="text-align: center;">383</td><td style="text-align: center;">2030</td><td style="text-align: center;">565</td></tr> <tr><td style="text-align: center;">2020</td><td style="text-align: center;">396</td><td style="text-align: center;">2031</td><td style="text-align: center;">581</td></tr> <tr><td style="text-align: center;">2021</td><td style="text-align: center;">408</td><td style="text-align: center;">2032</td><td style="text-align: center;">597</td></tr> <tr><td style="text-align: center;">2022</td><td style="text-align: center;">422</td><td style="text-align: center;">2033</td><td style="text-align: center;">614</td></tr> <tr><td style="text-align: center;">2023</td><td style="text-align: center;">438</td><td style="text-align: center;">2034</td><td style="text-align: center;">631</td></tr> <tr><td style="text-align: center;">2024</td><td style="text-align: center;">454</td><td style="text-align: center;">2035</td><td style="text-align: center;">648</td></tr> <tr><td style="text-align: center;">2025</td><td style="text-align: center;">471</td><td style="text-align: center;">2036</td><td style="text-align: center;">666</td></tr> <tr><td style="text-align: center;">2026</td><td style="text-align: center;">488</td><td style="text-align: center;">2037</td><td style="text-align: center;">684</td></tr> <tr><td style="text-align: center;">2027</td><td style="text-align: center;">507</td><td></td><td></td></tr> </tbody> </table>	Year	Payroll	Year	Payroll	2017	\$372	2028	\$525	2018	364	2029	545	2019	383	2030	565	2020	396	2031	581	2021	408	2032	597	2022	422	2033	614	2023	438	2034	631	2024	454	2035	648	2025	471	2036	666	2026	488	2037	684	2027	507		
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2027	507																																																
<p>Administrative expenses</p>	<p>\$7,000,000 per year, payable monthly (equivalent to \$6,783,022 at the beginning of the year), or 1% of computation pay, if greater</p>																																																
<p>Mortality rates</p>	<p><i>Healthy pre-retirement:</i> Pub-2010 Public Safety Employee Amount-Weighted Mortality Table, set forward five years for males, projected generationally using Scale MP-2019</p> <p><i>Healthy annuitants and dependent spouses:</i> Pub-2010 Public Safety Retiree Amount-Weighted Mortality Table, set back one year for females, projected generationally using Scale MP-2019</p> <p><i>Healthy contingent beneficiaries:</i> Pub-2010 Public Safety Contingent Survivor Amount-Weighted Mortality Table, set back one year for females, projected generationally using Scale MP-2019</p> <p><i>Disabled annuitants:</i> Pub-2010 Public Safety Disabled Retiree Amount-Weighted Mortality Table, set forward four years for males and females, projected generationally using Scale MP-2019</p> <p>The tables above, with adjustments as shown and projected to the measurement date, reasonably reflect the mortality experience of the System as of the measurement date. The mortality tables are then generationally projected using Scale MP-2019 to anticipate future mortality improvement.</p>																																																

Section 4: Actuarial Valuation Basis

Annuitant mortality rates	Rate (%) ¹				
	Age	Healthy		Disabled	
		Male	Female	Male	Female
	55	0.306	0.231	0.670	0.643
	60	0.508	0.399	1.078	0.976
	65	0.881	0.690	1.732	1.481
	70	1.568	1.191	2.893	2.248
	75	2.826	2.057	5.057	3.552
	80	5.103	3.552	8.308	6.134
	85	9.135	6.134	14.238	10.592
	90	15.860	10.592	22.306	17.403

¹ Mortality rates shown for base table.

Mortality and disability rates before retirement	Rate (%)				
	Age	Mortality ¹		Disabled ²	
		Male	Female	Male	Female
	20	0.037	0.016	0.010	0.010
	25	0.041	0.020	0.015	0.015
	30	0.047	0.027	0.020	0.020
	35	0.059	0.036	0.025	0.025
	40	0.082	0.049	0.030	0.030
	45	0.120	0.067	0.035	0.035
	50	0.175	0.091	0.040	0.040
	55	0.264	0.123	--	--
	60	0.410	0.168	--	--

¹ Mortality rates shown for base table
² 100% of disabilities are assumed to be service-related

Section 4: Actuarial Valuation Basis

Withdrawal rates before retirement	Years of Service	Rate (%)	
		Police	Fire
	0	20.0	10.0
	1	5.5	5.5
	2	5.5	5.5
	3	5.5	5.5
	4	5.5	5.5
	5	5.5	5.5
	6	3.5	5.5
	7	3.5	1.0
	8	3.5	1.0
	9	3.5	1.0
	10	3.5	1.0
	11-14	2.0	1.0
	15-24	1.0	1.0
	25 & over	0.0	0.0

Section 4: Actuarial Valuation Basis

Retirement rates	<i>DROP active members:</i>		
	Age	Rate (%)	
		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 & over	100.00	100.00
	75% retirement rate after ten years in DROP.		
	<i>Non-DROP active members:</i>		
	Age	Rate (%)	
		Member hired prior to March 1, 2011 with at least 20 years of service as of September 1, 2017	Member 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
	Under 50	1.0	1.0
	50-51	8.0	2.0
	52	10.0	2.0
	53	15.0	2.0
	54	20.0	2.0
	55	35.0	2.0
	56-57	40.0	2.0
	58-60	75.0	25.0
	61	75.0	50.0
	62	100.0	100.0
	100% retirement rate once benefit multiplier hits 90% maximum.		

Section 4: Actuarial Valuation Basis

Weighted average retirement age	Age 58, determined as follows: The weighted average retirement age for each participant is calculated as the sum of the product of each potential current or future retirement age times the probability of surviving from current age to that age and then retiring at that age, assuming no other decrements. The overall weighted retirement age is the average of the individual retirement ages based on all the active members included in the January 1, 2023 actuarial valuation.
Retirement rates for inactive vested participants	Terminated vested members who terminated prior to September 1, 2017 are assumed to retire at age 50 Terminated vested members who terminated on or after September 1, 2017 are assumed to retire at age 58 75% of members who terminated prior to age 40 are assumed to take a lump sum cash out at age 40
DROP utilization	No members are assumed to elect to enter DROP
Interest on DROP accounts	2.75% on account balances as of September 1, 2017, payable upon retirement 0.00% on account balances accrued after September 1, 2017
DROP payment period	Based on expected lifetime as of the later of September 1, 2017 or retirement date. Expected lifetime determined based on an 85% male/15% female blend of the current healthy annuitant mortality tables.
DROP annuitization interest	2.75%. Based on United States Department of Commerce Daily Treasury Yield Curve Rates for durations between 5 and 30 years.
Actuarial equivalence	Actuarial equivalence for optional forms of benefit payments are based on an 85% male/15% female blend of the current healthy annuitant mortality tables, along with an interest rate of 6.50%
Unknown data for members	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Family composition	75% of members are assumed to be married. Females are assumed to be three years younger than males. The youngest child is assumed to be ten years old.
Benefit election	Married participants are assumed to receive the Joint and Survivor annuity form of payment and non-married participants are assumed to receive a Life Only annuity.
Actuarial value of assets	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.
Actuarial cost method	Entry Age Actuarial Cost Method. Entry Age is the age at the time the member commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis, with Normal Cost determined using the plan of benefits applicable to each participant. Actuarial Liability is allocated by salary.
Amortization methodology	The unfunded actuarial accrued liability as of January 1, 2020 is amortized on a closed, 25-year period. Beginning January 1, 2021, each year's gains and losses are amortized over a closed, 20-year period. Amortization is on a level-percentage-of-pay basis.

Section 4: Actuarial Valuation Basis

<p>Models</p>	<p>Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Deterministic cost projections are based on a proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.</p> <p>The blended discount rate used for calculating total pension liability for GASB is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.</p>															
<p>Justification for change in actuarial assumptions</p>	<p>Based on past experience and future expectations, the following actuarial assumptions were changed:</p> <ul style="list-style-type: none"> • The assumed retirement rate for DROP active members after ten years in DROP was lowered from 100% to 75%. • The salary scale assumption was updated based on the 2023 Meet and Confer Agreement. Previously, the rates were as follows: <table border="1" data-bbox="680 860 1801 1083"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="3">Rate (%)</th> </tr> <tr> <th>Officers</th> <th>Corporals, Drivers, Senior Officers & Chiefs</th> <th>Sergeants, Lieutenants, Captains, Majors, Deputy Chiefs & Assistant Chiefs</th> </tr> </thead> <tbody> <tr> <td>2020 – 2022</td> <td>3.25</td> <td>3.00</td> <td>2.50</td> </tr> <tr> <td>2023+</td> <td>2.50</td> <td>2.50</td> <td>2.50</td> </tr> </tbody> </table>	Year	Rate (%)			Officers	Corporals, Drivers, Senior Officers & Chiefs	Sergeants, Lieutenants, Captains, Majors, Deputy Chiefs & Assistant Chiefs	2020 – 2022	3.25	3.00	2.50	2023+	2.50	2.50	2.50
Year	Rate (%)															
	Officers	Corporals, Drivers, Senior Officers & Chiefs	Sergeants, Lieutenants, Captains, Majors, Deputy Chiefs & Assistant Chiefs													
2020 – 2022	3.25	3.00	2.50													
2023+	2.50	2.50	2.50													

Section 4: Actuarial Valuation Basis

Exhibit II: Summary of plan provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan year	January 1 through December 31
Plan status	Ongoing

Members whose participation began before March 1, 2011

Normal retirement	<p><i>Benefit earned prior to September 1, 2017:</i></p> <p>Age Requirement: 50 Service Requirement: 5 Amount: Greater of 3.0% of Average Computation Pay times years of Pension Service (maximum 96.0%) and \$2,200 per month. The \$2,200 per month minimum benefit is prorated if the Member retires with less than 20 years of service. Average Computation Pay: 36 consecutive months that reflect the highest civil service rank held by a member, plus Educational Incentive Pay, Longevity Pay and City Service Incentive Pay</p> <p><i>Benefit earned beginning September 1, 2017:</i></p> <p>Age Requirement: 58 Service Requirement: 5 Amount: Greater of 2.5% of Average Computation Pay times years of Pension Service (maximum 90.0%) and \$2,200 per month. The \$2,200 per month minimum benefit is prorated if the Member retires with less than 20 years of service. Average Computation Pay: 60 consecutive months that reflect the highest civil service rank held by a member, plus Educational Incentive Pay, Longevity Pay and City Service Incentive Pay</p>
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Section 4: Actuarial Valuation Basis

20 and out reduced retirement

If eligible as of September 1, 2017:

Age Requirement: None

Service Requirement: 20 years

Amount: 20 & Out Multiplier times 36-month (Table 1 Benefit) or 60-month (Table 2 Benefit) Average Computation Pay times years of Pension Service

Benefit Accrued Before September 1, 2017 20 & Out Table 1		Benefit Accrued Beginning September 1, 2017 20 & Out Table 2	
Age	20 & Multiplier	Age	20 & Multiplier
45 & under	2.00%	53 & under	2.00%
46	2.25%	54	2.10%
47	2.50%	55	2.20%
48	2.75%	56	2.30%
49	2.75%	57	2.40%
50 & above	3.00%	58 & above	2.50%

If not eligible as of September 1, 2017:

Age Requirement: None

Service Requirement: 20 years

Amount: 20 & Out Multiplier times 60-month Average Computation Pay times years of Pension Service

20 & Out Table 2	
Age	20 & Multiplier
53 & under	2.00%
54	2.10%
55	2.20%
56	2.30%
57	2.40%
58 & above	2.50%

Section 4: Actuarial Valuation Basis

Early retirement	<p><i>If at least age 45 as of September 1, 2017 and less than age 50:</i> Age Requirement: 45 Service Requirement: 5 Amount: Normal pension accrued prior to September 1, 2017 plus the benefit accrued based on the 20 & Out Table 2 for service beginning September 1, 2017, reduced by 2/3 of 1% for each whole month by which the benefit commencement date precedes age 50.</p>
Non-service-connected disability	<p>Eligibility: Injury or illness (lasting more than 90 days) not related to or incurred while in the performance of the member's job, preventing the member from performing their departmental duties. Amount: 3% of Average Computation Pay for service earned prior to September 1, 2017 and the applicable benefit multiplier from 20 & Out Table 2 times Average Computation Pay for service earned beginning September 1, 2017</p>
Service-connected disability	<p>Eligibility: Injury or illness (lasting more than 90 days) obtained while on duty in the performance of the member's job. Amount: 3% of Average Computation Pay for service earned prior to September 1, 2017 and the applicable benefit multiplier from 20 & Out Table 2 times Average Computation Pay for service earned beginning September 1, 2017; if the member has less than 20 years of service, the benefit will be calculated as if they had 20 years at the time of disability.</p>
Benefit supplement	<p>Age Requirement: 55 Service Requirement: 20 years, waived if member is receiving a service-connected disability Amount: 3% of the total monthly benefit (including any applicable COLA's) payable to the Member when the Member attains age 55. The benefit supplement shall not be less than \$75 per month. Beginning September 1, 2017, only those annuitants and their survivors already receiving the supplement will be eligible to maintain their current supplement, which will not change ongoing; no additional retirees will be eligible for the supplement.</p>
Termination benefit	<p><i>With less than five years of pension service:</i> Upon request, the member's contributions will be returned without interest <i>With at least five years of pension service:</i> The member may either withdraw contributions or leave contributions in the Plan and receive a monthly benefit to commence no earlier than the member's earliest eligibility for retirement benefits. Retirement benefit is equal to the accrued benefit as of the date of termination.</p>
Pre-retirement death benefit	<p><i>While in active service:</i> The greater of 50% of the Member's accrued benefit or a benefit based on 20 years of service. The benefit may not exceed 45% of Average Computation Pay. <i>After leaving active service, with fewer than five years:</i> A lump sum benefit equal to the return of member contributions without interest <i>After leaving active service, with at least five years:</i> 50% of the Member's accrued benefit, with no early retirement reduction, or a refund of member contributions</p>

Section 4: Actuarial Valuation Basis

Post-retirement death benefit	50% or 100% of the pension the Member was receiving at the time of their death, depending on the form of joint and survivor annuity chosen; if there are no qualifying survivors, no further benefits will be paid
Qualified surviving children benefit	50% of the pension the Member was receiving at the time of their death, divided equally among the children, paid until the youngest child is 19 years old or for life if the child becomes disabled prior to age 23
Minimum survivor benefit	\$1,100 per month, not to exceed the actual amount the Member was receiving upon their death. If there are no Qualified Surviving Children, the minimum benefit to a spouse who is a Qualified Survivor shall be \$1,200 per month. If the Member had less than 20 years of Pension Service, the minimum benefit will be prorated based on actual years of Pension Service.
Special survivor benefit	<p>Eligibility: Upon leaving active service or joining DROP: a) the Member was at least 55 years old with at least 20 years of pension service, or b) the sum of the Member's age plus Pension Service was at least 78; and Has no Qualified Surviving Children or disabled children currently eligible for survivor benefits; and Whose Qualified Surviving Spouse is at least 55 years old. The Qualified Surviving Spouse does not have to be 55 years old at the time of the Member's death.</p> <p>Amount: Once all the eligibility conditions are met, the amount the Qualified Surviving Spouse will receive increases from 50% of the Member's pension benefit to a percentage of the Member's pension benefit based on the Member's applicable benefit multiplier times the number of years of Pension Service the Member worked.</p>
Survivor benefit if no qualified surviving spouse	A lump sum that is the actuarial equivalent of 120 monthly payments of the greater of: 50% of the Member's pension benefit at the time of their death, or a benefit based on 20 years of the Member's service.
DROP	<p>Eligibility: Members in active service who are retirement eligible may elect to enter the Deferred Retirement Option Plan (DROP).</p> <p>Distribution: The DROP account balance will be paid over the expected future lifetime of annuitants.</p> <p>Interest: Based on 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.</p>

Section 4: Actuarial Valuation Basis

Members whose Participation Began on or After March 1, 2011

<p>Normal retirement</p>	<p>Age Requirement: 58 Service Requirement: 5 Amount: 2.5% of Average Computation Pay for each year of Pension Service, maximum 90% The minimum monthly benefit is \$110 times the number of years of Pension Service at retirement, but not greater than \$2,200. Average Computation Pay: Average Computation Pay uses the 60 consecutive months that reflects the highest civil service rank held by a member plus Educational Incentive Pay plus Longevity Pay plus City Service Incentive Pay.</p>																
<p>Early retirement</p>	<p>Age Requirement: 53 Service Requirement: 5 Amount: Normal pension accrued, reduced by 2/3 of 1% for each whole month by which the benefit commencement date precedes the normal retirement date.</p>																
<p>20 and out reduced retirement</p>	<p>Age Requirement: None Service Requirement: 20 years Amount: 20 & Out Multiplier times Average Computation Pay times years of Pension Service</p> <table border="1" data-bbox="1129 834 1472 1203"> <thead> <tr> <th colspan="2" style="text-align: center;">20 & Out Table 2</th> </tr> <tr> <th style="text-align: center;">Age</th> <th style="text-align: center;">20 & Multiplier</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">53 & under</td> <td style="text-align: center;">2.00%</td> </tr> <tr> <td style="text-align: center;">54</td> <td style="text-align: center;">2.10%</td> </tr> <tr> <td style="text-align: center;">55</td> <td style="text-align: center;">2.20%</td> </tr> <tr> <td style="text-align: center;">56</td> <td style="text-align: center;">2.30%</td> </tr> <tr> <td style="text-align: center;">57</td> <td style="text-align: center;">2.40%</td> </tr> <tr> <td style="text-align: center;">58 & above</td> <td style="text-align: center;">2.50%</td> </tr> </tbody> </table>	20 & Out Table 2		Age	20 & Multiplier	53 & under	2.00%	54	2.10%	55	2.20%	56	2.30%	57	2.40%	58 & above	2.50%
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<p>Non-service-connected disability</p>	<p>Eligibility: Injury or illness (lasting more than 90 days) not related to or incurred while in the performance of the member's job, preventing the member from performing their departmental duties. Amount: The Member's accrued benefit, but not less than a pro-rated minimum benefit.</p>																
<p>Service-connected disability</p>	<p>Eligibility: Injury or illness (lasting more than 90 days) obtained while on duty in the performance of the member's job.</p>																

Section 4: Actuarial Valuation Basis

	Amount: The greater of 50% of Average Computation Pay and the Member's accrued benefit; if the member has less than 20 years of service, the benefit will be calculated as if they had 20 years of service at the time of disability.
Termination benefit	<p><i>With less than five years of pension service:</i> Upon request, the member's contributions will be returned without interest</p> <p><i>With at least five years of pension service:</i> The member may either withdraw contributions or leave contributions in the Plan and receive a monthly benefit to commence no earlier than the member's earliest eligibility for retirement benefits. Retirement benefit is equal to the accrued benefit as of the date of termination.</p>
Pre-retirement death benefit	<p><i>While in active service:</i> The greater of 50% of the Member's accrued benefit or a benefit based on 20 years of service. The benefit may not exceed 45% of Average Computation Pay.</p> <p><i>After leaving active service, with fewer than five years:</i> A lump sum benefit equal to the return of member contributions without interest</p> <p><i>After leaving active service, with at least five years:</i> 50% of the Member's accrued benefit, with no early retirement reduction, or a refund of member contributions</p>
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Survivor benefit if no qualified surviving spouse	A lump sum that is the actuarial equivalent of 120 monthly payments of the greater of: 50% of the Member's pension benefit at the time of their death, or a benefit based on 20 years of the Member's service.
DROP	<i>Eligibility:</i> Members in active service who are retirement eligible may elect to enter the Deferred Retirement Option Plan (DROP).

Section 4: Actuarial Valuation Basis

Distribution: The DROP account balance will be paid over the expected future lifetime of annuitants.
 Interest: Based on 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.

All Members

Cost of living	The Board may grant an ad hoc COLA based on the actual market return over the prior five years less 5%, not to exceed 4% of the base benefit, if, after granting a COLA, the funded ratio on a market value of assets basis is no less than 70%.
Member contributions	13.5% of computation pay for all members
City contributions	The City will contribute 34.5% of computation payroll each year. However, in no case shall the City's total contribution amount be less than: \$5,173,000 for the biweekly pay periods beginning with the first biweekly pay period that begins after September 1, 2017 and ends on the last day of the first biweekly pay period that ends after December 31, 2017; \$5,344,000 for the following 26 pay periods; \$5,571,000 for the following 26 pay periods; \$5,724,000 for the following 26 pay periods; \$5,882,000 for the following 26 pay periods; \$6,043,000 for the following 26 pay periods; \$5,812,000 for the following 26 pay periods; and \$6,024,000 for the following 26 pay periods. An additional 1/26th of \$13 Million will be paid biweekly beginning with the first biweekly pay period that begins after September 1, 2017 and ending with the last biweekly pay period that ends after December 31, 2024.
Forms of benefits	50% or 100% Joint and Survivor Pension

Section 5: GASB Information

Exhibit 1: Net Pension Liability

Measurement date and reporting date for the Plan under GASB 67	December 31, 2022	December 31, 2021
Components of the Net Pension Liability		
Total Pension Liability	\$5,254,660,197	\$5,163,731,692
Plan Fiduciary Net Position	1,806,567,341	2,157,840,430
Net Pension Liability	3,448,092,856	3,005,891,262
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	34.38%	41.79%

Actuarial assumptions. The Total Pension Liability as of January 1, 2023, which was determined based on the results of an actuarial valuation as of January 1, 2023, used the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Real rate of return	4.00%
Net investment rate of return	6.50%, net pension plan investment expense, including inflation

Other assumptions used to determine the total pension liability are based on the results of an experience study for the period January 1, 2015 through December 31, 2019 and are detailed in *Section 4, Exhibit 1* of this report.

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns 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, adding expected inflation. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Section 5: GASB Information

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return ¹
Global Equity	55%	7.01%
Emerging Market Equity	5%	8.71%
Private Equity	5%	9.96%
Short-Term Investment Grade Bonds	6%	0.96%
Investment Grade Bonds	4%	1.61%
High Yield Bonds	4%	3.71%
Bank Loans	4%	3.21%
Emerging Markets Debt	4%	3.71%
Real Estate	5%	3.61%
Natural Resources	5%	4.86%
Cash	3%	0.71%
Total	100%	

Discount rate. The discount rates used to measure the Total Pension Liability (TPL) 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 House Bill 3158, 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 TPL. The normal cost rate for future members is assumed to be 16.75% 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 TPL.

Actuarial cost method: In accordance with GASB 67, the TPL for active members is valued as the total present value of benefits once they enter the DROP. For the funding valuation, the liability for these members accumulates from their entry age until they are assumed to leave active service.

¹ The real rates of return are provided by Segal Macro Advisors and are net of inflation.

Section 5: GASB Information

Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the Net Pension Liability (NPL), of the Pension System as of December 31, 2022, calculated using the discount rate of 6.50%, as well as what the System's NPL would be if it were calculated using a discount rate that is one-percentage-point lower (5.50%) or one-percentage-point higher (7.50%) than the current rate.

	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)
Pension Systems' Net Pension Liability as of December 31, 2022	\$4,080,685,916	\$3,448,092,856	\$2,923,062,610

Section 5: GASB Information

Exhibit 2: Schedule of changes in Net Pension Liability

	December 31, 2022	December 31, 2021
Total Pension Liability		
Service cost	\$71,625,266	\$69,962,845
Interest	329,454,977	326,951,204
Change of benefit terms	0	0
Differences between expected and actual experience	-42,455,842	-26,683,292
Changes of assumptions	65,941,802	-4,238,016
Benefit payments, including refunds of member contributions	<u>-333,637,698</u>	<u>-324,633,468</u>
Net change in Total Pension Liability	\$90,928,505	\$41,359,273
Total Pension Liability – beginning	<u>5,163,731,692</u>	<u>5,122,372,419</u>
Total Pension Liability – ending	\$5,254,660,197	\$5,163,731,692
Plan Fiduciary Net Position		
Contributions – employer	\$169,911,420	\$165,541,265
Contributions – employee	59,706,574	58,559,980
Net investment income	-240,891,386	321,062,889
Benefit payments, including refunds of member contributions	-333,637,698	-324,633,468
Administrative expense	<u>-6,361,999</u>	<u>-6,390,829</u>
Net change in Plan Fiduciary Net Position	-\$351,273,089	\$214,139,837
Plan Fiduciary Net Position – beginning	<u>2,157,840,430</u>	<u>1,943,700,593</u>
Plan Fiduciary Net Position – ending	\$1,806,567,341	\$2,157,840,430
Net Pension Liability – ending	\$3,448,092,856	\$3,005,891,262
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	34.38%	41.79%
Covered payroll ¹	\$462,820,226	\$436,971,384
Plan Net Pension Liability as percentage of covered payroll	745.02%	687.89%

Notes to Schedule:

Benefit changes: None.

Change of Assumptions: The assumption changes in 2021 include lowering the COLA from 2.0% to 1.5% and updating the expected COLA start date from October 1, 2069 to October 1, 2073. The assumption changes in 2022 include updating the salary scale for the 2023 Meet and Confer agreement and lowering DROP Active retirement rates for participants in DROP for ten years from 100% to 75%.

¹ Covered payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of the retirement benefits are included.

Section 5: GASB Information

Exhibit 3: Schedule of employer contributions

Year Ended December 31	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions ¹	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2015 ²	--	\$114,885,723	--	\$383,006,330	30.00%
2016	\$261,859,079	119,345,000	\$142,514,079	365,210,426	32.68%
2017	168,865,484	126,318,005	42,547,479	357,414,472	35.34%
2018	157,100,128	149,356,565	7,743,563	346,036,690	43.16%
2019	152,084,297	155,721,087	-3,636,790	363,117,415	42.88%
2020	185,428,764	161,950,183	23,478,581	396,954,743	40.80%
2021	221,285,746	165,541,265	55,744,481	427,440,530	38.73%
2022	228,530,758	169,911,420	58,619,338	436,971,384	38.88%

¹ The City's contributions are based on statutory rates set by State law and not Actuarially Determined Contributions

² The Actuarially Determined Contribution was not directly calculated as a dollar amount by the prior actuary for 2015

Section 5: GASB Information

Notes to Schedule:

Methods and assumptions used to establish "actuarially determined contribution" rate for year ended December 31, 2022 (these are not the same assumptions used in the January 1, 2023 actuarial valuation or for the Total Pension Liability measured as of December 31, 2022):

Valuation date	Actuarially determined contribution is calculated using a January 1, 2022 valuation date as of the beginning of the fiscal year in which contributions are reported
Actuarial cost method	Entry age
Amortization method	25-year level percent of payroll for UAL as of January 1, 2020, 20-year level percent of payroll for changes to the UAL thereafter, using 2.50% annual increases
Remaining amortization period	68 years as of January 1, 2022
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 actuarial value, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.
Investment rate of return	6.50%, including inflation, net of pension plan investment expense
Inflation rate	2.50%
Projected salary increases	Inflation plus merit increases, varying by group and year
Retirement rates	Group-specific rates based on age
Mortality:	
<i>Pre-retirement</i>	Pub-2010 Public Safety Employee Amount-Weighted Mortality Table, set forward five years for males, projected generationally using Scale MP-2019
<i>Healthy annuitant and dependent spouses</i>	Pub-2010 Public Safety Retiree Amount-Weighted Mortality Table, set back one year for females, projected generationally using Scale MP-2019
<i>Healthy contingent beneficiaries</i>	Pub-2010 Public Safety Contingent Survivor Amount-Weighted Mortality Table, set back one year for females, projected generationally using Scale MP-2019
<i>Disabled</i>	Pub-2010 Public Safety Disabled Retiree Amount-Weighted Mortality Table, set forward four years for males and females, projected generationally using Scale MP-2019
Other information:	See <i>Section 4</i> of the January 1, 2022 actuarial valuation for a full outline of assumptions. See <i>Exhibit 2</i> of this section for the history of changes to plan provisions and assumptions over the last two years.
<i>DROP Utilization</i>	0% of Police and Fire members are assumed to elect to enter DROP

Section 5: GASB Information

Interest on DROP Accounts

Beginning January 1, 2018, 2.75% payable upon retirement on active account balances as of September 1, 2017

Appendix: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial accrued liability for actives	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial accrued liability for retirees and beneficiaries	Actuarial Present Value of lifetime benefits to existing retirees and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial cost method	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial gain or loss	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
Actuarially equivalent	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial present value	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.
Actuarial present value of future benefits	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund of

Appendix: Definition of Pension Terms

	member contributions or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial valuation	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan, as well as Actuarially Determined Contributions.
Actuarial value of assets	The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution.
Actuarially determined	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the Plan.
Actuarially determined contribution	The employer's contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization method	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization payment	The portion of the pension plan contribution, or ADC, that is intended to pay off the Unfunded Actuarial Accrued Liability.
Assumptions or actuarial assumptions	The estimates upon which the cost of the Plan is calculated, including: <u>Investment return</u> - the rate of investment yield that the Plan will earn over the long-term future; <u>Mortality rates</u> - the rate or probability of death at a given age for employees and retirees; <u>Retirement rates</u> - the rate or probability of retirement at a given age or service; <u>Disability rates</u> - the rate or probability of disability retirement at a given age; <u>Withdrawal rates</u> - the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; <u>Salary increase rates</u> - the rates of salary increase due to inflation, real wage growth and merit and promotion increases.

Appendix: Definition of Pension Terms

Closed amortization period	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See Open Amortization Period.
Decrements	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined benefit plan	A retirement plan in which benefits are defined by a formula based on the member's compensation, age and/or years of service.
Defined contribution plan	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer normal cost	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience study	A periodic review and analysis of the actual experience of the Plan that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified based on recommendations from the Actuary.
Funded ratio	The ratio of the Actuarial Value of Assets (AVA) to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the AVA.
GASB 67 and GASB 68	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
Investment return	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Net Pension Liability (NPL)	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.
Normal cost	The portion of the Actuarial Present Value of Future Benefits and expenses, if applicable, allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of member contributions and employer Normal Cost unless otherwise specifically stated.

Appendix: Definition of Pension Terms

Open amortization period	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the Amortization Period.
Plan Fiduciary Net Position	Market value of assets.
Service costs	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Total Pension Liability (TPL)	The actuarial accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded actuarial accrued liability	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation date or actuarial valuation date	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

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DISCUSSION SHEET

ITEM #C2

Topic: Contract for Financial Auditing Services

Discussion: BDO has been the auditor for DPFP since 2014.

The Board has a policy to conduct a competitive selection process for certain services every five years unless the Board explicitly waives the requirement.

In 2019, the Board waived the requirement for a competitive selection process for the 2019 audit.

DPFP conducted an RFP process for the audit for five years (2020 – 2024). At that time, staff and the audit committee recommended retaining BDO USA, LLP as the audit service provider for the years 2020, 2021 and 2022 and the Board approved this recommendation.

Staff will discuss the contract for future auditing services.

Staff Recommendation: Available at the meeting.

Regular Board Meeting – Thursday, December 14, 2023



DISCUSSION SHEET

ITEM #C3

Topic: **Financial Audit Status**

Discussion: The Chief Financial Officer will provide a status update on the annual financial audit.

Regular Board Meeting – Thursday, December 14, 2023



DISCUSSION SHEET

ITEM #C4

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 DFPF staff present, at a 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 met with Chuck Campbell of Jackson Walker LLP on December 5, 2023.

Staff Recommendation: The Professional Services Committee shall **report** to the Board any material comments and **recommend** to the Board any appropriate actions needed as a result of the meeting with Chuck Campbell of Jackson Walker LLP.

Regular Board Meeting – Thursday, December 14, 2023



DISCUSSION SHEET

ITEM #C5

Topic: Executive Director Approved Pension Ministerial Actions

Discussion: The Executive Director approved ministerial membership actions according to the Retirement and Payments Approval Policy. Membership actions approved are summarized in the provided report.

Regular Board Meeting – Thursday, December 14, 2023

Membership Actions -2023

	January	February	March	April	May	June	July	August	September	October	November	December	YTD Totals
Refunds	26	19	12	13	17	14	23	13	57	53	18	21	286
DROP - Join	3	3	0	2	2	2	0	0	3	0	3	0	18
Estate Payments	0	5	7	5	1	2	4	92	5	3	5	9	138
Survivor Benefits	1	6	8	6	4	3	5	6	6	2	3	6	56
Retirements	12	16	11	14	11	12	10	13	10	17	6	12	144
Alternate Payees	0	2	1	0	2	3	1	3	2	0	0	1	15
Spouse Wed After Retirement	1	0	0	0	0	0	0	0	1	1	1	0	4
Service Purchases	2	0	0	1	0	2	0	1	0	0	2	0	8
Earnings Test	0	0	0	0	0	9	0	0	0	0	0	0	9

Data is based on Agenda/Executive Approval Date
 Service purchases include Military, DROP Revocation, and Previously Withdrawn Contributions
 The increase in Refunds in September and October is due to the Refund Project
 87 of the Estate Payments in August are approvals for the Pending Death Project



DISCUSSION SHEET

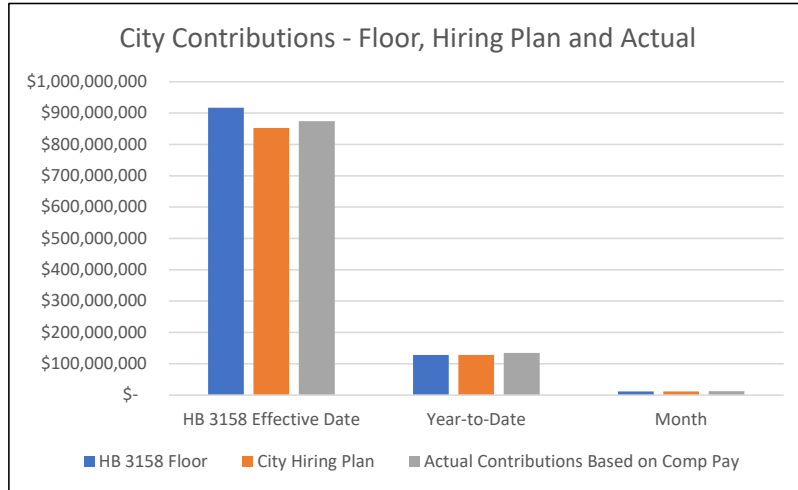
ITEM #C6

Topic: **Monthly Contribution Report**

Discussion: Staff will review the Monthly Contribution Report.

Regular Board Meeting – Thursday, December 14, 2023

Contribution Tracking Summary - December 2023 (October 2023 Data)

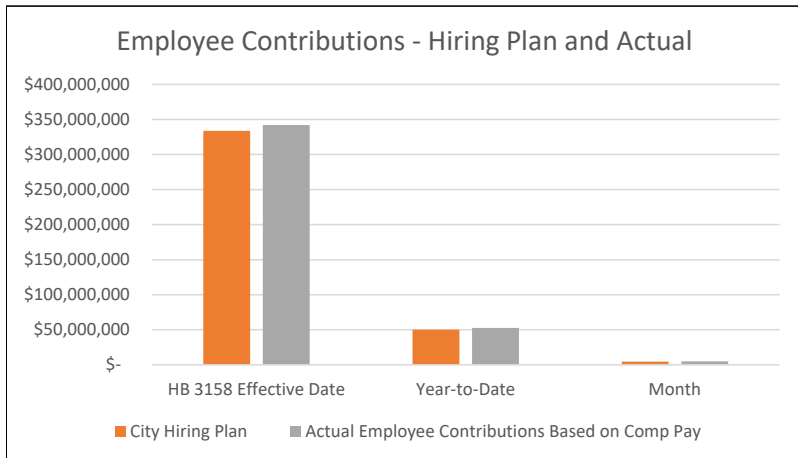


Actual Comp Pay was 102% of the Hiring Plan estimate since the effective date of HB 3158.

The Floor decreased for 2023 to equal the Hiring Plan, this was a decreased by 3.82% in 2023 for the Floor. The Hiring Plan increased by 3.79% in 2023. It is expected that actual contributions will exceed the Floor through 2024.

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

The combined actual employees was 14 less than the Hiring Plan for the pay period ending November 7, 2023. Fire was over the estimate by 199 Fire Fighters and Police under by 213 Police 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-23	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	\$ 11,624,000	\$ 11,623,846	\$ 12,289,321	\$ -	106%	106%
Year-to-Date		\$ 127,864,000	\$ 127,862,308	\$ 134,297,929	\$ -	105%	105%
HB 3158 Effective Date		\$ 917,085,000	\$ 852,972,692	\$ 874,601,820	\$ 48,990,866	95%	103%

*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-23	Number of Pay Periods Beginning in the Month	City Hiring Plan	Actual Employee Contributions Based on Comp Pay	Actual Contribution Excess 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	\$ 4,548,462	\$ 4,810,451	\$ 261,990	\$ 4,236,924	106%	114%
Year-to-Date		\$ 50,033,077	\$ 52,567,101	\$ 2,534,024	\$ 46,606,164	105%	113%
HB 3158 Effective Date		\$ 333,771,923	\$ 342,057,313	\$ 8,285,390	\$ 323,345,830	102%	106%

Potential Earnings Loss from the Shortfall based on Assumed Rate of Return \$ 228,408

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	*
<i>*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.</i>		

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						
Year	Computation Pay			Number of Employees		
	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	\$ 429,967,675	\$ 21,967,675	5,088	4,958	(130)
2022	\$ 422,000,000	\$ 439,104,541	\$ 17,104,541	5,113	5,074	(39)
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 - 2023	Annual Divided by 26 Pay Periods	Actual	Difference	2022 Cumulative Difference	Number of Employees EOM	Difference
January	\$ 33,692,308	\$ 35,387,168	\$ 1,694,860	\$ 1,694,860	4922	(241)
February	\$ 33,692,308	\$ 35,344,223	\$ 1,651,915	\$ 3,346,776	5045	(118)
March	\$ 50,538,462	\$ 53,203,452	\$ 2,664,991	\$ 6,011,766	5080	(83)
April	\$ 33,692,308	\$ 35,355,815	\$ 1,663,507	\$ 7,675,273	5060	(103)
May	\$ 33,692,308	\$ 35,314,654	\$ 1,622,347	\$ 9,297,620	5046	(117)
June	\$ 33,692,308	\$ 35,226,620	\$ 1,534,312	\$ 10,831,932	5044	(119)
July	\$ 33,692,308	\$ 35,244,675	\$ 1,552,367	\$ 12,384,299	5056	(107)
August	\$ 50,538,462	\$ 53,134,804	\$ 2,596,342	\$ 14,980,641	5058	(105)
September	\$ 33,692,308	\$ 35,436,729	\$ 1,744,422	\$ 16,725,063	5081	(82)
October	\$ 33,692,308	\$ 35,621,220	\$ 1,928,912	\$ 18,653,975	5149	(14)
November	\$ 33,692,308					
December	\$ 33,692,308					



DISCUSSION SHEET

ITEM #C7

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.

Regular Board Meeting – Thursday, December 14, 2023

**Future Education and Business Related Travel & Webinars
Regular Board Meeting – December 14, 2023**

ATTENDING APPROVED

- | | | | |
|-----------|--------------------|---|---------------|
| 1. | Conference: | TEXPERS Basic Trustee Training | NR, MT |
| | Dates: | April 6, 2024 | |
| | Location: | Dallas, TX | |
| | Est Cost: | \$225 | |
| | | | |
| 2. | Conference: | TEXPERS Advance Trustee Training | NR, MT |
| | Dates: | April 6, 2024 | |
| | Location: | Dallas, TX | |
| | Est Cost: | TBD | |
| | | | |
| 3. | Conference: | TEXPERS Annual Conference | MT |
| | Dates: | April 7-10, 2024 | |
| | Location: | Dallas, TX | |
| | Est Cost: | TBD | |
| | | | |
| 4. | Conference: | NCPERS Trustee Educational Seminar (TED) | |
| | Dates: | May 18-19, 2024 | |
| | Location: | Seattle, WA | |
| | Est Cost: | TBD | |

**Future Education and Business Related Travel & Webinars
Regular Board Meeting – December 14, 2023**

ATTENDING APPROVED

- 5. **Conference:** NCPERS Annual Conference
Dates: May 19-22, 2024
Location: Seattle, WA
Est Cost: TBD

- 6. **Conference:** TEXPERS Summer Educational Forum
Dates: August 18-20, 2024
Location: San Antonio, TX
Est Cost: TBD



DISCUSSION SHEET

ITEM #C8

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 14, 2023



D A L L A S
POLICE & FIRE
PENSION SYSTEM



Portfolio Update

December 14, 2023

Board Meeting

Executive Summary

- **Liquidation of private market assets remains the top focus.**
 - \$68M in distributions received YTD, with vast majority coming from AEW Camel Square and JPM Maritime fund.
- **Safety Reserve & Rebalancing:** At the September 2023 Board meeting, staff notified the Board that the Safety Reserve would be restored to target through rebalancing.
 - In October, \$43M was withdrawn from Global Equity and \$42M from Public Fixed Income (\$20M from Aristotle redeemed on 11/1) to restore the Safety Reserve to the full 9% target allocation.
- **Estimated Year-to-Date Return (as of 11/30/23):** 7.9% for DPFP portfolio; 11.7% for Public Portfolio which makes up 69% of the assets.

Investment Initiatives – 2023/24 Plan

Q4 2023

- ~~Global Growth Manager Approval~~
- ~~IPS Updates~~
- WCM ~~Contracting and~~ Funding

Q1 2024

- Begin Custodian Search
- Asset Allocation Study

Q2 2024 & Beyond

- Private Market Planning – Update IPS provision, pacing studies, etc.

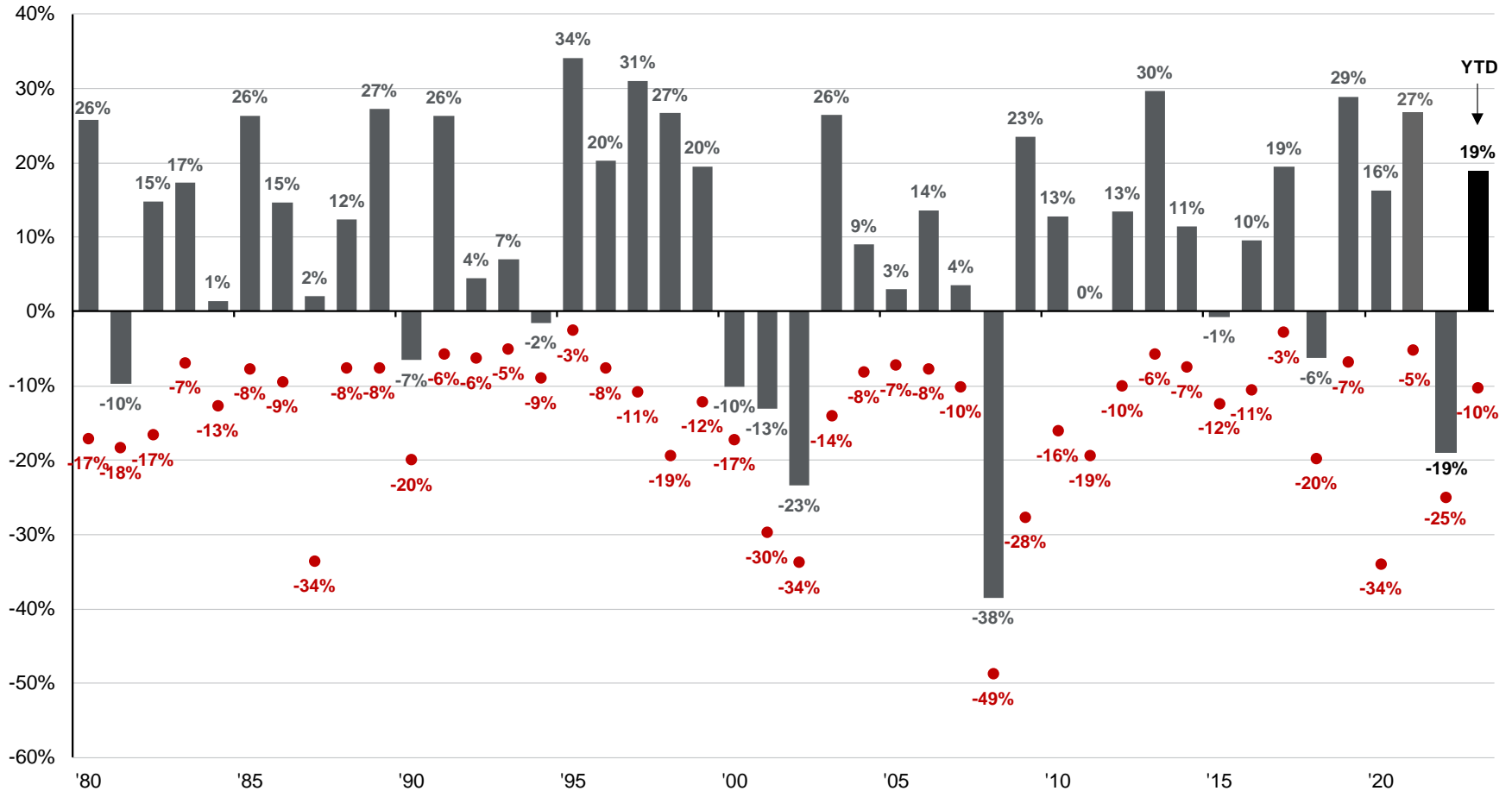
Equity Market Drawdown (1/1/22 to 12/7/23)



S&P Annual Returns and Intra-Year Declines

S&P intra-year declines vs. calendar year returns

Despite average intra-year drops of 14.3%, annual returns were positive in 32 of 43 years



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1980 to 2022, over which time period the average annual return was 8.7%.

Guide to the Markets – U.S. Data are as of November 30, 2023.

Asset Class Returns

2008 - 2022		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD
Large Cap	REITs	Fixed Income	EM Equity	REITs	REITs	REITs	Small Cap	REITs	REITs	Small Cap	EM Equity	Cash	Large Cap	Small Cap	REITs	Comdty.	Large Cap
8.8%	23.4%	5.2%	79.0%	27.9%	8.3%	19.7%	38.8%	28.0%	2.8%	21.3%	37.8%	1.8%	31.5%	20.0%	41.3%	16.1%	20.8%
Small Cap	Small Cap	Cash	High Yield	Small Cap	Fixed Income	High Yield	Large Cap	Large Cap	Large Cap	High Yield	DM Equity	Fixed Income	REITs	EM Equity	Large Cap	Cash	DM Equity
7.2%	23.2%	1.8%	59.4%	26.9%	7.8%	19.6%	32.4%	13.7%	1.4%	14.3%	25.6%	0.0%	28.7%	18.7%	28.7%	1.5%	12.8%
REITs	EM Equity	Asset Alloc.	DM Equity	EM Equity	High Yield	EM Equity	DM Equity	Fixed Income	Fixed Income	Large Cap	Large Cap	REITs	Small Cap	Large Cap	Comdty.	High Yield	High Yield
6.6%	23.0%	-25.4%	32.5%	19.2%	3.1%	18.6%	23.3%	6.0%	0.5%	12.0%	21.8%	-4.0%	25.5%	18.4%	27.1%	-12.7%	9.6%
Asset Alloc.	Comdty.	High Yield	REITs	Comdty.	Large Cap	DM Equity	Asset Alloc.	Asset Alloc.	Cash	Comdty.	Small Cap	High Yield	DM Equity	Asset Alloc.	Small Cap	Fixed Income	Asset Alloc.
6.1%	20.2%	-26.9%	28.0%	16.8%	2.1%	17.9%	14.9%	5.2%	0.0%	11.8%	14.6%	-4.1%	22.7%	10.6%	14.8%	-13.0%	8.8%
High Yield	DM Equity	Small Cap	Small Cap	Large Cap	Cash	Small Cap	High Yield	Small Cap	DM Equity	EM Equity	Asset Alloc.	Large Cap	Asset Alloc.	DM Equity	Asset Alloc.	Asset Alloc.	EM Equity
5.4%	20.0%	-33.8%	27.2%	15.1%	0.1%	16.3%	7.3%	4.9%	-0.4%	11.6%	14.6%	-4.4%	19.5%	8.3%	13.5%	-13.9%	6.1%
Fixed Income	Large Cap	Comdty.	Large Cap	High Yield	Asset Alloc.	Large Cap	REITs	Cash	Asset Alloc.	REITs	High Yield	Asset Alloc.	EM Equity	Fixed Income	DM Equity	DM Equity	Cash
2.7%	17.7%	-35.6%	26.5%	14.8%	-0.7%	16.0%	2.9%	0.0%	-2.0%	8.6%	10.4%	-5.8%	18.9%	7.5%	11.8%	-14.0%	4.6%
DM Equity	High Yield	Large Cap	Asset Alloc.	Asset Alloc.	Small Cap	Asset Alloc.	Cash	High Yield	High Yield	Asset Alloc.	REITs	Small Cap	High Yield	High Yield	High Yield	Large Cap	Small Cap
2.3%	13.0%	-37.0%	25.0%	13.3%	-4.2%	12.2%	0.0%	0.0%	-2.7%	8.3%	8.7%	-11.0%	12.6%	7.0%	1.0%	-18.1%	4.2%
EM Equity	Asset Alloc.	REITs	Comdty.	DM Equity	DM Equity	Fixed Income	Fixed Income	EM Equity	Small Cap	Fixed Income	Fixed Income	Comdty.	Fixed Income	Cash	Cash	EM Equity	REITs
1.0%	12.4%	-37.7%	18.9%	8.2%	-11.7%	4.2%	-2.0%	-1.8%	-4.4%	2.6%	3.5%	-11.2%	8.7%	0.5%	0.0%	-19.7%	2.3%
Cash	Fixed Income	DM Equity	Fixed Income	Fixed Income	Comdty.	Cash	EM Equity	DM Equity	EM Equity	DM Equity	Comdty.	DM Equity	Comdty.	Comdty.	Fixed Income	Small Cap	Fixed Income
0.6%	4.2%	-43.1%	5.9%	6.5%	-13.3%	0.1%	-2.3%	-4.5%	-14.6%	1.5%	1.7%	-13.4%	7.7%	-3.1%	-1.5%	-20.4%	1.6%
Comdty.	Cash	EM Equity	Cash	Cash	EM Equity	Comdty.	Comdty.	Comdty.	Comdty.	Cash	Cash	EM Equity	Cash	REITs	EM Equity	REITs	Comdty.
-2.6%	0.4%	-53.2%	0.1%	0.1%	-18.2%	-1.1%	-9.5%	-17.0%	-24.7%	0.3%	0.8%	-14.2%	2.2%	-5.1%	-2.2%	-24.9%	-5.4%

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 12/31/2007 to 12/31/2022. 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, 2023.

Public Markets Performance Snapshot

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

DFPF | As of November 30, 2023

Performance Summary					
Ending November 30, 2023					
	Market Value (\$)	1 Mo (%)	YTD (%)	3 Yrs (%)	5 Yrs (%)
Total Public Portfolio (ex-Cash)	1,314,015,141	7.2	11.7	2.7	5.8
<i>60% MSCI ACWI IMI Net/40% Bloomberg Global Aggregate Index</i>		7.6	9.8	0.7	5.1
Public Equity	956,551,716	8.7	13.7	4.9	8.8
<i>MSCI ACWI IMI Net USD</i>		9.2	15.5	5.4	8.7
Global Equity	867,808,469	8.9	14.5	5.6	9.4
<i>MSCI ACWI IMI Net USD</i>		9.2	15.5	5.4	8.7
Boston Partners Global Equity Fund	110,285,456	8.9	9.1	11.3	8.8
<i>MSCI World Net</i>		9.4	18.0	7.0	10.0
Manulife Global Equity Strategy	110,590,424	7.4	15.5	8.1	9.5
<i>MSCI ACWI Net</i>		9.2	16.6	5.7	9.1
Russell Investments ACWI Growth	112,219,130	10.8	--	--	--
<i>MSCI ACWI Growth NR USD</i>		11.0	27.8	3.9	12.0
Walter Scott Global Equity Fund	110,651,900	8.6	16.2	5.1	10.0
<i>MSCI ACWI Net</i>		9.2	16.6	5.7	9.1
NT ACWI Index IMI	317,251,867	9.4	16.1	--	--
<i>MSCI ACWI IMI Net USD</i>		9.2	15.5	5.4	8.7
Eastern Shore US Small Cap	55,568,384	8.5	4.5	--	--
<i>Russell 2000</i>		9.1	4.2	1.1	4.8
Global Alpha International Small Cap	51,241,307	7.1	-1.2	--	--
<i>MSCI EAFE Small Cap</i>		10.1	5.5	-0.8	3.7

Public Markets Performance Snapshot

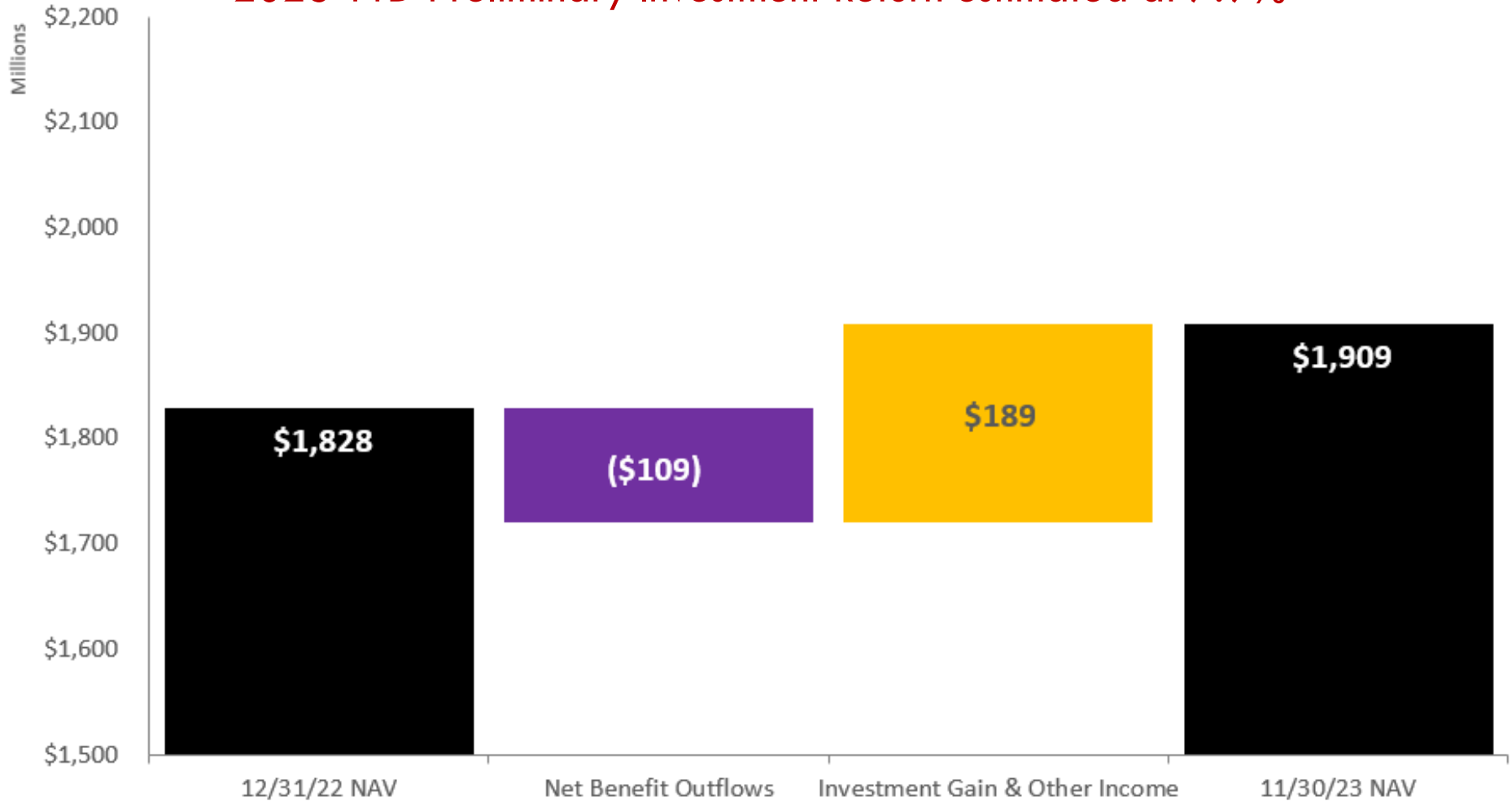
DPFP | As of November 30, 2023

	Ending November 30, 2023				
	Market Value (\$)	1 Mo (%)	YTD (%)	3 Yrs (%)	5 Yrs (%)
Emerging Markets Equity	88,743,247	6.8	6.4	-2.3	3.3
<i>MSCI Emerging Markets IMI Net</i>		8.2	7.4	-2.7	3.1
RBC Emerging Markets Equity	88,743,247	6.8	6.4	-2.3	3.3
<i>MSCI Emerging Markets IMI Net</i>		8.2	7.4	-2.7	3.1
Public Fixed Income	357,463,425	3.4	6.5	-1.0	1.5
<i>Bloomberg Multiverse TR</i>		5.1	1.8	-6.1	-0.6
IR&M 1-3 Year Strategy	113,203,041	1.3	3.9	0.0	1.9
<i>Bloomberg US Aggregate 1-3 Yr TR</i>		1.2	3.4	-0.3	1.4
Longfellow Core Fixed Income	61,271,927	4.7	2.0	-4.3	--
<i>Bloomberg US Aggregate TR</i>		4.5	1.6	-4.5	0.7
Aristotle Pacific Capital Bank Loan	60,073,059	1.4	11.0	5.6	4.8
<i>Credit Suisse Leveraged Loan</i>		1.2	11.3	5.5	4.7
Loomis US High Yield Fund	60,453,659	4.2	7.1	-0.8	--
<i>Bloomberg US High Yield 2% Issuer Cap TR</i>		4.5	9.4	1.4	4.1
Metlife Emerging Markets Debt Blend	62,461,739	7.0	8.7	--	--
<i>35% JPMEBI Global Index/35% JPM CEMBI Broad Diversified Index/ 30% JPMGBI-EM Diversified Global Index</i>		4.9	6.7	--	--

2023 - Change in Market Value Bridge Chart

In Millions

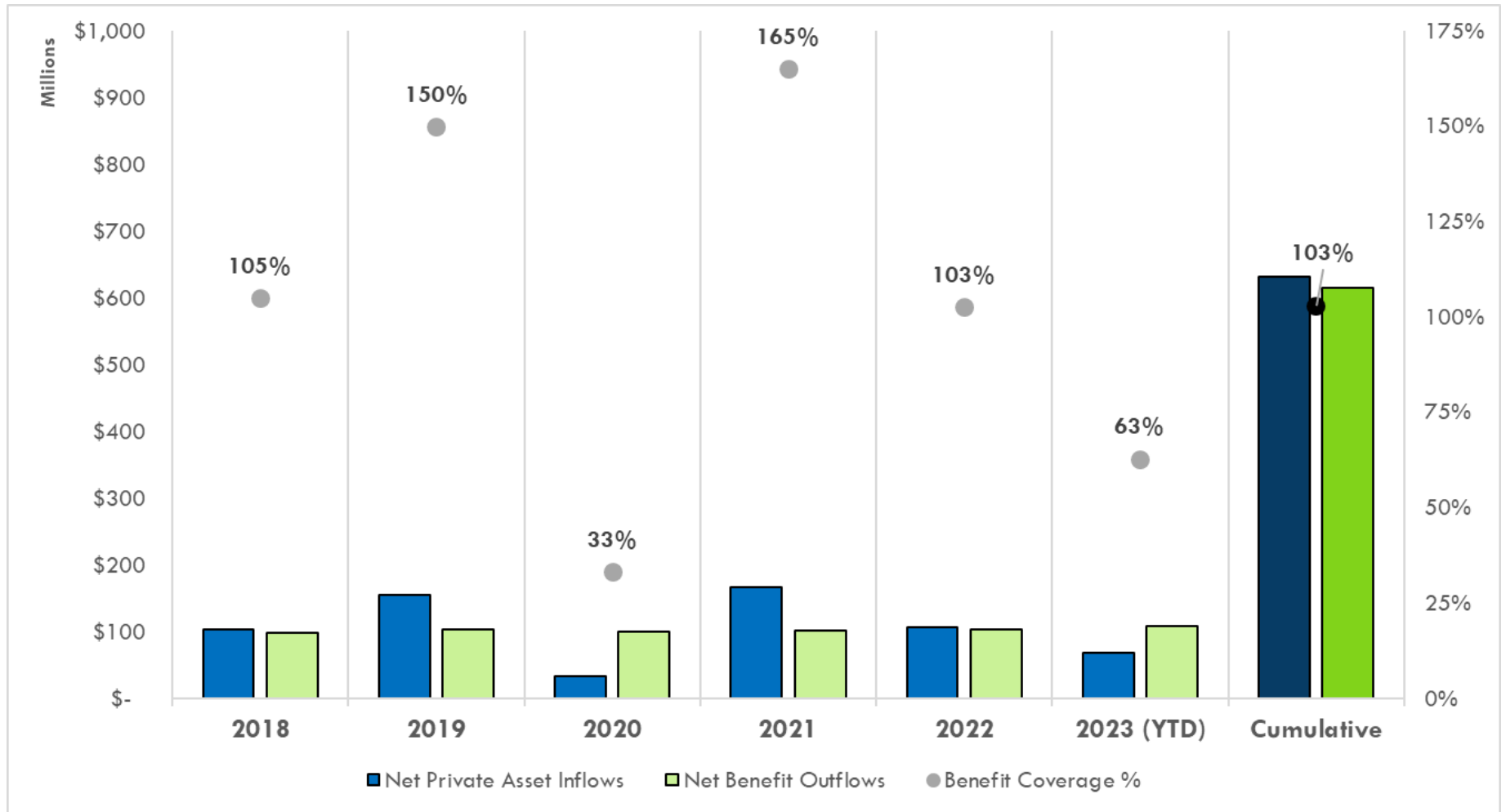
2023 YTD Preliminary Investment Return estimated at 7.9%



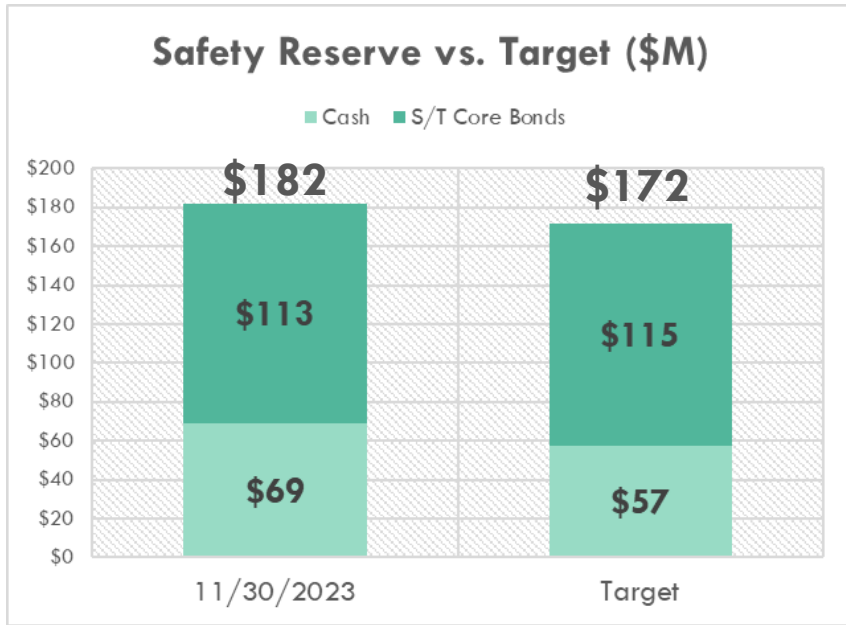
The beginning 12/31/22 value is from the Q4 2022 Meketa Performance Report and includes a one-quarter lag on private assets.
 Numbers may not foot due to rounding.

Benefit Outflow Coverage

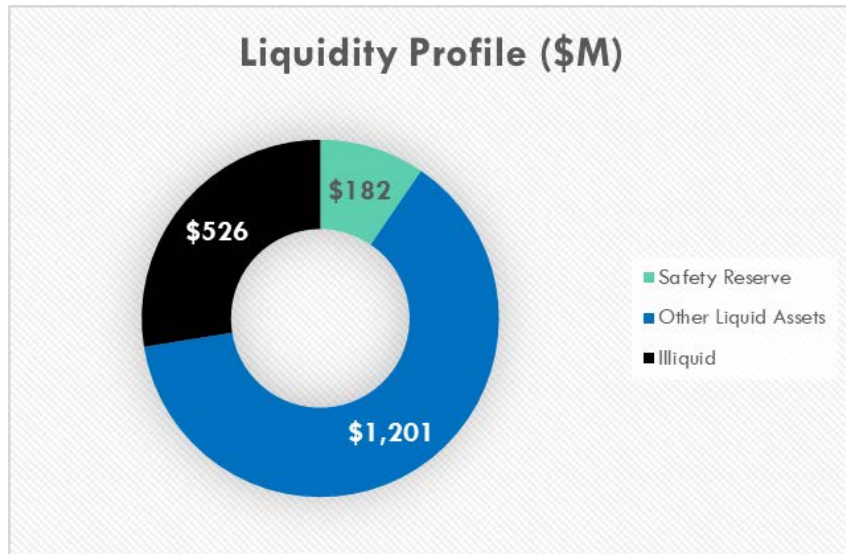
Since 2018, net Private Asset inflows have covered 103% of net benefit outflows.



Safety Reserve Dashboard



Projected Net Monthly outflows of **\$9.5M** per month. Safety Reserve of **\$182M** would cover net monthly outflows for next **18 months** or through **June 2025**.



Expected Cash Activity	Date	Amount (\$M)	Projected Cash Balance (\$M)	Projected Cash (%)
	11/30/23		\$69.0	3.6%
City Contribution	12/8/23	\$9.1	\$78.1	4.1%
City Contribution	12/22/23	\$9.1	\$87.2	4.6%
Pension Payroll	12/29/23	(\$28.4)	\$58.7	3.1%
City Contribution	1/5/24	\$9.1	\$67.8	3.6%
City Contribution	1/19/24	\$9.1	\$76.9	4.0%
Pension Payroll	1/26/24	(\$28.4)	\$48.5	2.5%
City Contribution	2/2/24	\$9.1	\$57.5	3.0%

Numbers may not foot due to rounding

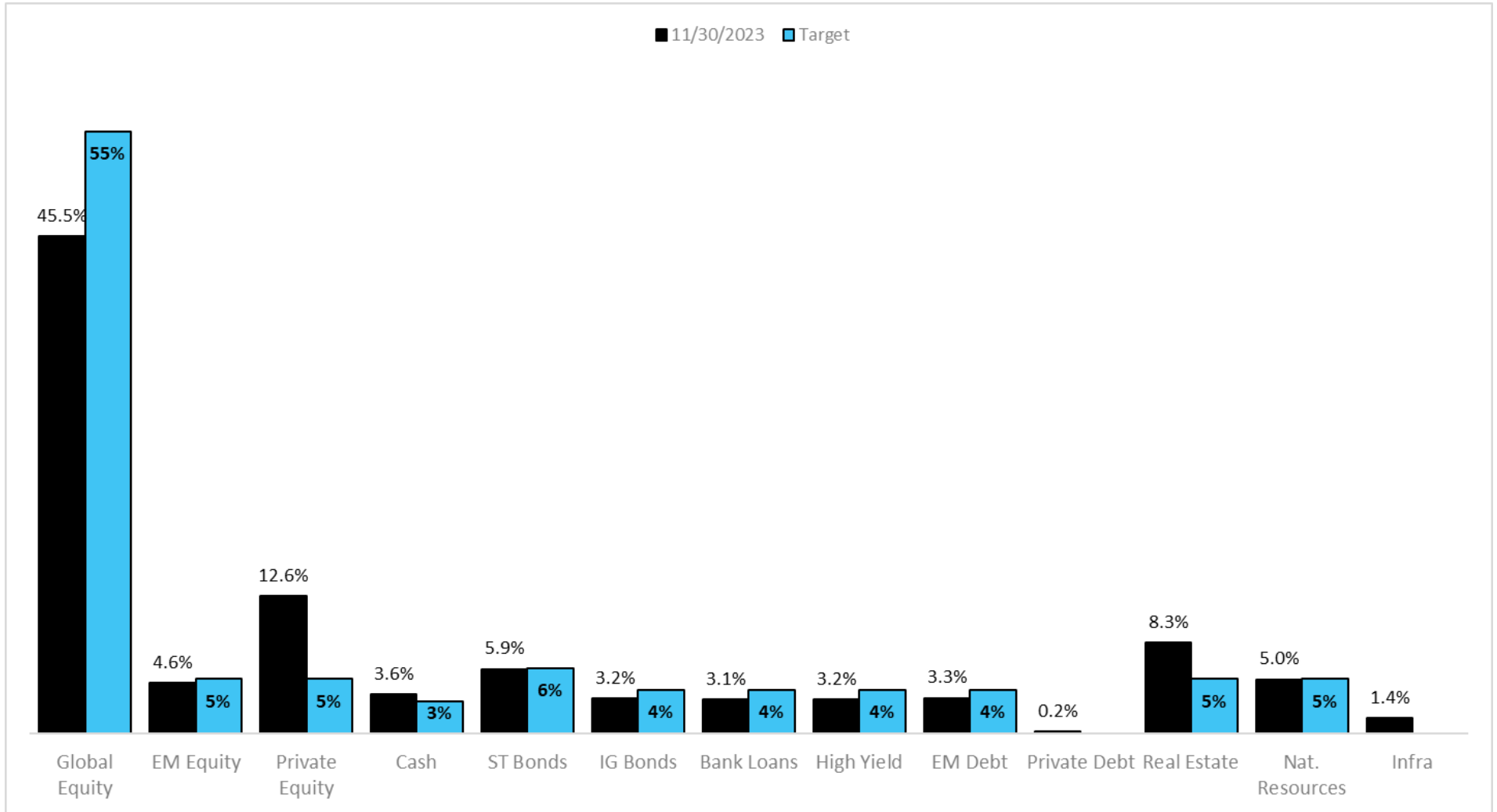
Asset Allocation Detail

DPFP Asset Allocation	11/30/2023		Targets			Variance	
	NAV	%	\$ mil.	%	% of Target	\$ mil.	%
Equity	1,197	62.7%	1,241	65%	96%	-44	-2.3%
Global Equity	868	45.5%	1,050	55%	83%	-182	-9.5%
<i>Boston Partners</i>	<i>110</i>	<i>5.8%</i>	<i>115</i>	<i>6%</i>	<i>96%</i>	<i>-4</i>	<i>-0.2%</i>
<i>Manulife</i>	<i>111</i>	<i>5.8%</i>	<i>115</i>	<i>6%</i>	<i>97%</i>	<i>-4</i>	<i>-0.2%</i>
<i>Russell Transition - ACWI Growth</i>	<i>112</i>	<i>5.9%</i>	<i>115</i>	<i>6%</i>	<i>98%</i>	<i>-2</i>	<i>-0.1%</i>
<i>Walter Scott</i>	<i>111</i>	<i>5.8%</i>	<i>115</i>	<i>6%</i>	<i>97%</i>	<i>-4</i>	<i>-0.2%</i>
<i>Northern Trust ACWI IMI Index</i>	<i>317</i>	<i>16.6%</i>	<i>477</i>	<i>25%</i>	<i>66%</i>	<i>-160</i>	<i>-8.4%</i>
<i>Eastern Shore US Small Cap</i>	<i>56</i>	<i>2.9%</i>	<i>57</i>	<i>3%</i>	<i>97%</i>	<i>-2</i>	<i>-0.1%</i>
<i>Global Alpha Intl Small Cap</i>	<i>51</i>	<i>2.7%</i>	<i>57</i>	<i>3%</i>	<i>89%</i>	<i>-6</i>	<i>-0.3%</i>
Emerging Markets Equity - RBC	89	4.6%	95	5%	93%	-7	-0.4%
Private Equity*	240	12.6%	95	5%	252%	145	7.6%
Fixed Income	430	22.5%	477	25%	90%	-47	-2.5%
Cash	69	3.6%	57	3%	121%	12	0.6%
S/T Investment Grade Bonds - IR+M	113	5.9%	115	6%	99%	-1	-0.1%
Investment Grade Bonds - Longfellow	61	3.2%	76	4%	80%	-15	-0.8%
Bank Loans - Aristotle Pacific	60	3.1%	76	4%	79%	-16	-0.9%
High Yield Bonds - Loomis Sayles	60	3.2%	76	4%	79%	-16	-0.8%
Emerging Markets Debt - MetLife	62	3.3%	76	4%	82%	-14	-0.7%
Private Debt*	4	0.2%	0	0%		4	0.2%
Real Assets*	282	14.8%	191	10%	148%	91	4.8%
Real Estate*	159	8.3%	95	5%	167%	64	3.3%
Natural Resources*	95	5.0%	95	5%	100%	0	0.0%
Infrastructure*	27	1.4%	0	0%		27	1.4%
Total	1,909	100.0%	1,909	100%		0	0.0%
Safety Reserve ~\$162M=18 mo net CF	182	9.5%	172	9%	106%	10	0.5%
*Private Market Assets	526	27.5%	286	15%		239	12.5%

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

Numbers may not foot due to rounding

Asset Allocation – Actual vs Target





DISCUSSION SHEET

ITEM #C9

Topic: Public Equity Portfolio Review

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

Discussion: Meketa and staff will provide an overview of DPF public equity investments.

Regular Board Meeting – Thursday, December 14, 2023



Dallas Police & Fire Pension System

December 14, 2023

Global Equity Review



Dallas Police & Fire Pension System

Global Equity Review

Global Equity Allocation

9/30/23	Market Value (\$)	Current Allocation (%)	Target (%)
Global Equity	761,693,866	41%	49%

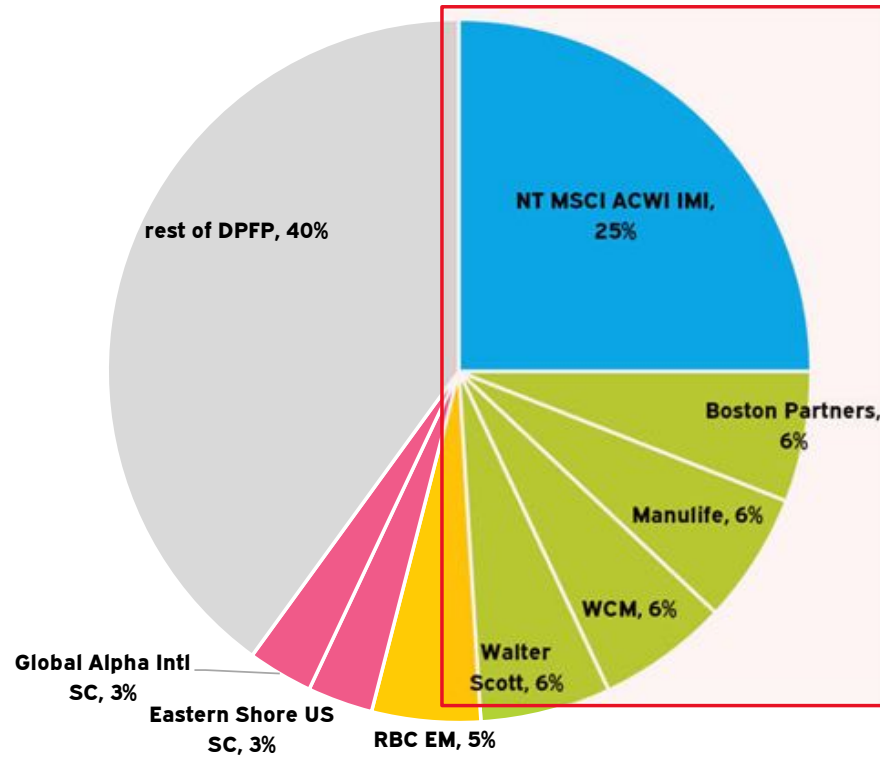
- Global Equity (ex-Small Cap and Emerging Markets equity) has a total target allocation of 49%, and at 9/30/23 had a market value of \$761.7 million or approximately 41.4% of the DPFP Portfolio.
- The allocation uses a “core-satellite” approach with a 25% target to a core global stock index (MSCI ACWI IMI) and 6% allocations to four active global equity managers across the growth to value spectrum.
- The Global Equity managers and target weightings were reviewed and adjusted earlier this year.
- The composite is benchmarked to the MSCI ACWI IMI which is a broad-based measure of the total investable global equity market.
- The role of Global Equity is to serve as the Portfolio’s main growth driver and is constructed to provide diversification from a style and regional perspective.
- Within the active portion of the allocation, decisions regarding stock selection, sector, and regional allocations are outsourced to the individual managers.



Dallas Police & Fire Pension System

Global Equity Review

DPFP Target Weighting Allocation





Dallas Police & Fire Pension System

Global Equity Review

Global Equity Allocation

	Market Value (\$M)	Current Allocation (%)	Target (%)	Mandate	Style Tilt	Liquidity
NT ACWI IMI	312.4	17.0	25	Passive	Core	Daily
Boston Partners	113.8	6.2	6	Active	Value	Daily
Manulife	113.5	6.2	6	Active	Value	Daily
Walter Scott	110.3	6.0	6	Active	Growth	Daily
Russell ACWI Growth	111.7	6.1	6	Passive	Growth	Daily
WCM ¹	--	--	--	Active	Growth	Daily

- The four active managers are close to target weight at the end of the third quarter. The NT ACWI IMI will be brought up to weight over time as private market distributions come back.
- WCM was not funded as of September 30, but will replace the Russell ACWI Growth account once that transition is complete.

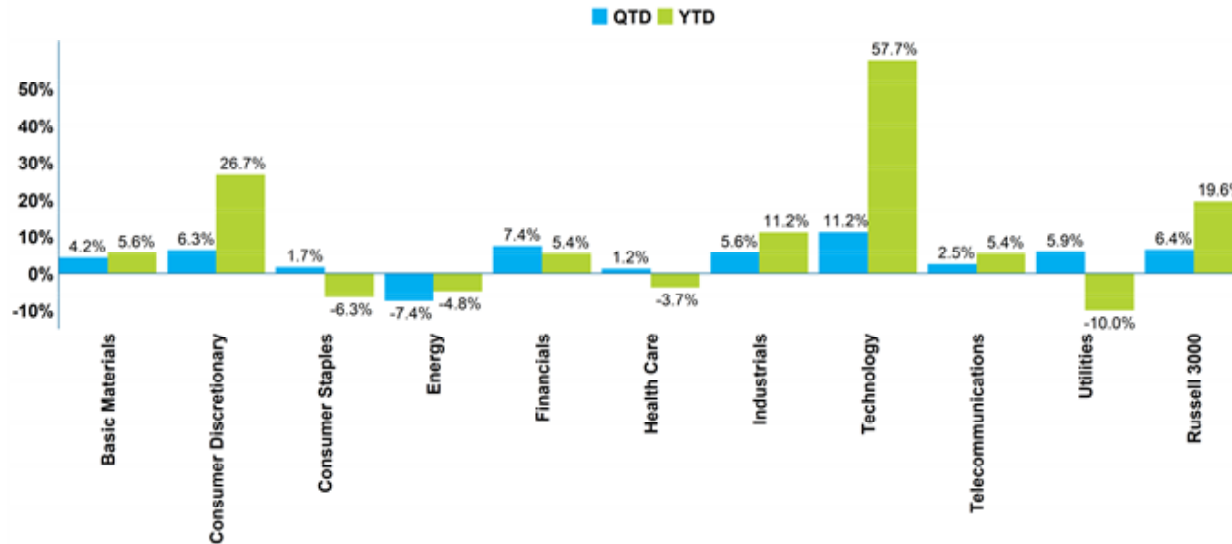
¹ WCM was not yet funded as of 9/30/2023. WCM will replace the Russell ACWI Growth Account.



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Global Equity Review

Russell 3000 Sector Returns¹



→ All sectors rallied in the QTD ending in November with the exception of energy stocks.

→ So far in 2023, the technology (+57.7%) sector had the best results, helped by artificial intelligence optimism. Consumer discretionary sector followed (+26.7%), while more traditionally defensive sectors like utilities (-10.0%), health care (-3.7%), and consumer staples (-6.3%) have trailed.

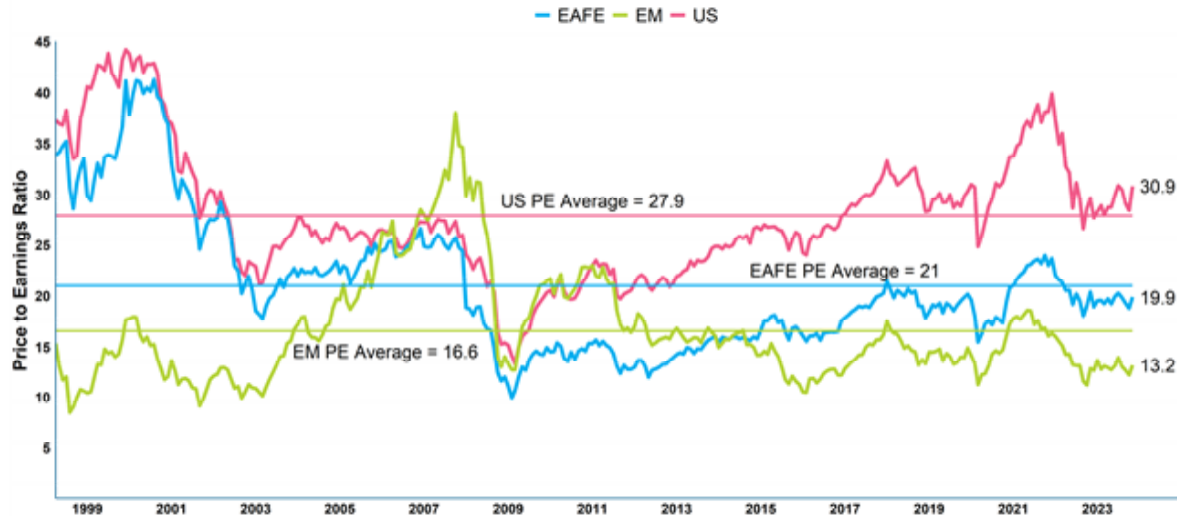
¹ Source: Bloomberg. Data is as of November 30, 2023.



Dallas Police & Fire Pension System

Global Equity Review

Equity Cyclically Adjusted P/E Ratios¹



- Given the strong technology-driven rally this year, the US equity price-to-earnings ratio increased above its long-run (21st century) average. With the equity market rally in November, the P/E ratio rose slightly.
- International developed market valuations are below their own long-term average, even with a strong market rally in non-US stocks in November non-US stocks are still trading at a discount to their long-run average P/E ratio.

¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of November 2023. The average line is the long-term average of the US, EM, and EAFE PE values from April 1998 to the recent month-end respectively.



Dallas Police & Fire Pension System

Global Equity Review

DPFP Global Equity – Performance

9/30/23	QTD	YTD	1-Yr	3-Yr	5-Yr	10-Yr	SI (Dec-09)
Global Equity	-3.6	9.8	23.5	8.1	7.2	8.6	9.2
MSCI ACWI IMI	-3.4	9.4	20.2	6.9	6.1	7.4	8.1
eV All Global Equity Rank	43	32	24	33	33	29	28

9/30/23	Standard Dev 5-Yr (%)	Sharpe Ratio 5-Yr	Beta 5- Yr	Tracking Err. 5-Yr (%)	Downside Capture (%)	Upside Capture (%)
Global Equity	18.3	0.3	1.0	2.4	99.6	105.7
MSCI ACWI IMI	18.4	0.2	1.0	0.0	100	100

→ The Global Equity Composite has outperformed the MSCI ACWI IMI over the long-term and ranks better than median against the eV All Global Equity peer universe over all periods.



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Global Equity Review

Appendix



Dallas Police & Fire Pension System

Boston Partners Global Equity Fund | As of September 30, 2023

Account Information	
Account Name	Boston Partners Global Equity Fund
Account Structure	Separate Account
Investment Style	Active
Inception Date	7/01/17
Account Type	Global Equity
Benchmark	MSCI World Net
Universe	eV Global All Cap Value Eq Net



Characteristics		
	Portfolio	MSCI World
Number of Holdings	100	1,510
Weighted Avg. Market Cap. (\$B)	67.7	442.5
Median Market Cap. (\$B)	30.5	16.6
Price To Earnings	12.3	18.9
Price To Book	1.9	3.5
Price To Sales	0.8	1.9
Return on Equity (%)	16.1	22.5
Yield (%)	3.0	2.2

Portfolio Performance Summary									
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date	
Boston Partners Global Equity Fund	-1.4	4.5	24.0	15.3	6.3	--	7.0	Jul-17	
MSCI World Net	-3.5	11.1	22.0	8.1	7.3	8.3	8.4	Jul-17	

Characteristics		
	Portfolio	MSCI World
INDUSTRY SECTOR DISTRIBUTION (% Equity)		
Energy	10.4	5.2
Materials	4.1	4.1
Industrials	18.6	10.8
Consumer Discretionary	7.7	10.9
Consumer Staples	8.8	7.2
Health Care	12.1	12.8
Financials	23.9	15.0
Information Technology	6.8	21.7
Communication Services	3.0	7.3
Utilities	1.4	2.6
Real Estate	0.0	2.3

Characteristics		
	Portfolio	MSCI World
COMPANY SIZE DISTRIBUTION		
Weighted Avg. Market Cap. (\$B)	67.7	442.5
Median Market Cap. (\$B)	30.5	16.6
Large Cap. (%)	57.5	78.9
Medium Cap. (%)	31.8	16.8
Small Cap. (%)	10.7	4.3

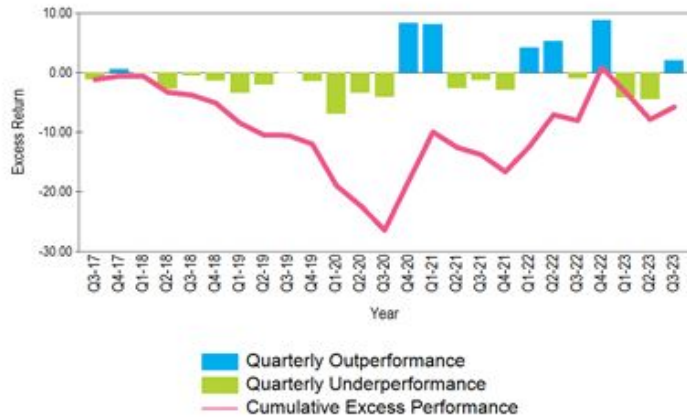
Top Holdings	
CASH - USD	3.3%
TOTALENERGIES SE	2.3%
SHELL PLC	2.3%
CENOVUS ENERGY INC	1.9%
CRH PLC	1.9%
SIEMENS	1.8%
CHUBB LTD	1.7%
GLENCORE PLC	1.6%
BP PLC	1.6%
JPMORGAN CHASE & CO	1.6%



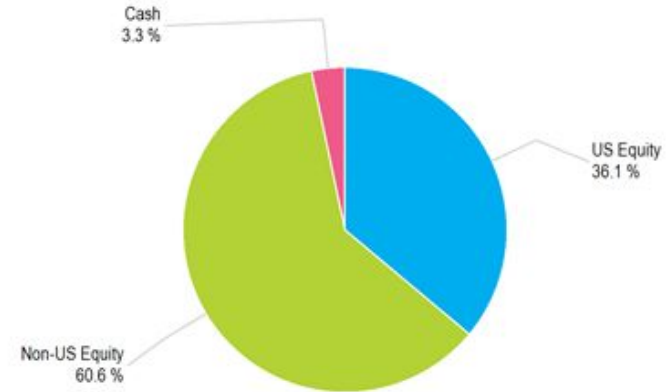
Dallas Police & Fire Pension System

Boston Partners Global Equity Fund | As of September 30, 2023

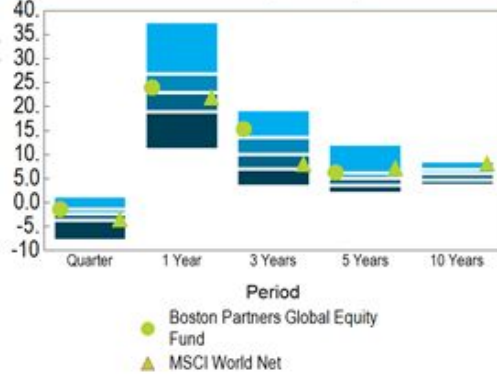
Quarterly and Cumulative Excess Performance



Asset Allocation



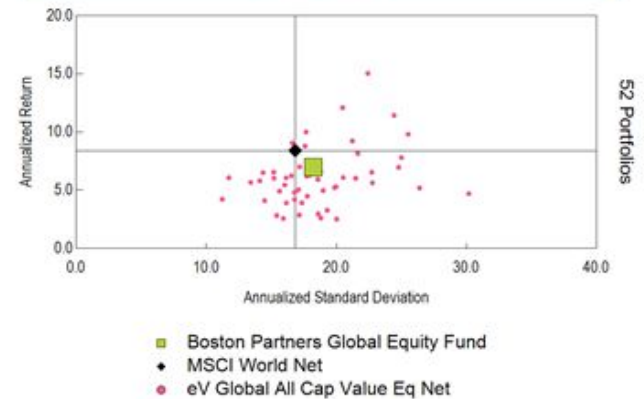
Rolling Peer Group Returns
eV Global All Cap Value Eq Net



Calendar Year Peer Group Returns
eV Global All Cap Value Eq Net



Risk Reward





Dallas Police & Fire Pension System

Boston Partners Global Equity Fund | As of September 30, 2023

Statistics Summary										
3 Years Ending September 30, 2023										
	Total Return	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Sharpe Ratio	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Boston Partners Global Equity Fund	53.2%	15.3%	7.2%	19.3%	7.6%	0.9	0.7	0.8	104.2%	79.8%
MSCI World Net	26.3%	8.1%	0.0%	17.6%	0.0%	1.0	0.4	1.0	100.0%	100.0%

Statistics Summary										
Since Inception										
	Total Return	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Sharpe Ratio	R-Squared	Up Mkt Capture Ratio Anlzd	Down Mkt Capture Ratio Anlzd
Boston Partners Global Equity Fund	52.3%	7.0%	-1.4%	18.2%	-1.4%	1.0	0.3	0.8	90.0%	96.3%
MSCI World Net	65.5%	8.4%	0.0%	16.8%	0.0%	1.0	0.4	1.0	100.0%	100.0%



Dallas Police & Fire Pension System

Manulife Global Equity Strategy | As of September 30, 2023

Account Information	
Account Name	Manulife Global Equity Strategy
Account Structure	Separate Account
Investment Style	Active
Inception Date	7/01/17
Account Type	Global Equity
Benchmark	MSCI ACWI Net
Universe	eV Global Large Cap Value Eq Net



	Portfolio	MSCI ACWI
Number of Holdings	51	2,947
Weighted Avg. Market Cap. (\$B)	377.1	408.9
Median Market Cap. (\$B)	61.7	12.1
Price To Earnings	18.5	18.0
Price To Book	3.1	3.3
Price To Sales	1.0	1.8
Return on Equity (%)	20.1	21.1
Yield (%)	2.4	2.3

Portfolio Performance Summary								
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Manulife Global Equity Strategy	-2.8	9.0	21.5	8.3	7.4	--	7.2	Jul-17
MSCI ACWI Net	-3.4	10.1	20.8	6.9	6.5	7.6	7.6	Jul-17

Characteristics		
	Portfolio	MSCI ACWI
COMPANY SIZE DISTRIBUTION		
Weighted Avg. Market Cap. (\$B)	377.1	408.9
Median Market Cap. (\$B)	61.7	12.1
Large Cap. (%)	86.5	75.1
Medium Cap. (%)	11.3	17.8
Small Cap. (%)	2.2	7.2

Top Holdings	
MICROSOFT CORP	5.5%
SUMITOMO MITSUI FINANCIAL GROUP INC	4.5%
ALPHABET INC	4.0%
CASH - EUR	3.2%
ING GROEP NV	3.0%
CAPGEMINI SE	3.0%
APPLE INC	3.0%
SAMSUNG ELECTRONICS CO LTD	3.0%
PHILIP MORRIS INTERNATIONAL INC	2.9%
CONOCOPHILLIPS	2.9%

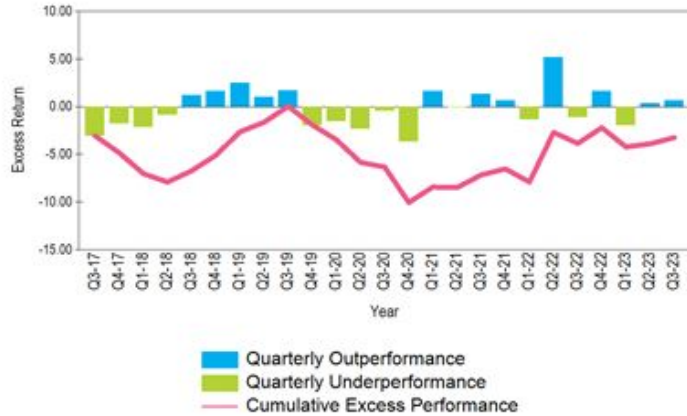
	Portfolio	MSCI ACWI
INDUSTRY SECTOR DISTRIBUTION (% Equity)		
Energy	5.2	5.2
Materials	7.5	4.5
Industrials	10.3	10.4
Consumer Discretionary	7.0	11.2
Consumer Staples	7.7	7.1
Health Care	10.3	11.9
Financials	17.4	15.8
Information Technology	21.1	21.6
Communication Services	7.1	7.5
Utilities	2.1	2.6
Real Estate	1.0	2.3



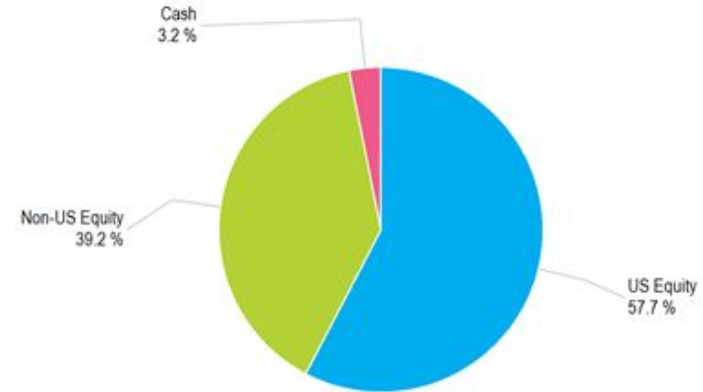
Dallas Police & Fire Pension System

Manulife Global Equity Strategy | As of September 30, 2023

Quarterly and Cumulative Excess Performance



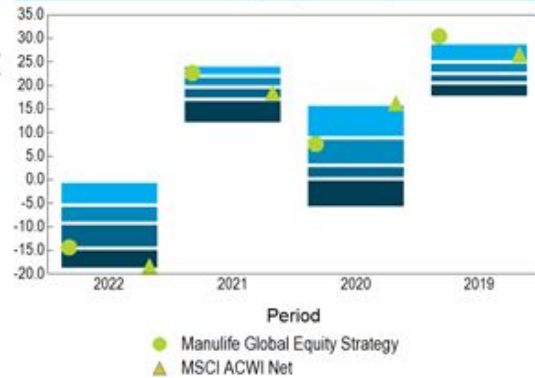
Asset Allocation



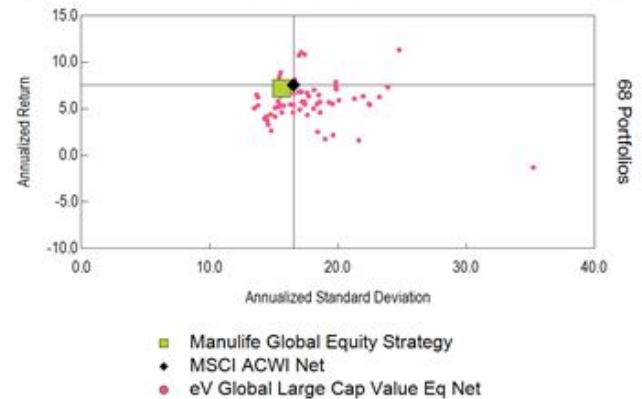
Rolling Peer Group Returns
eV Global Large Cap Value Eq Net



Calendar Year Peer Group Returns
eV Global Large Cap Value Eq Net



Risk Reward





Dallas Police & Fire Pension System

Manulife Global Equity Strategy | As of September 30, 2023

Statistics Summary										
3 Years Ending September 30, 2023										
	Total Return	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Sharpe Ratio	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Manulife Global Equity Strategy	27.1%	8.3%	1.4%	15.7%	2.3%	0.9	0.4	0.9	95.6%	92.5%
MSCI ACWI Net	22.1%	6.9%	0.0%	17.1%	0.0%	1.0	0.3	1.0	100.0%	100.0%

Statistics Summary										
Since Inception										
	Total Return	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Sharpe Ratio	R-Squared	Up Mkt Capture Ratio Anlzd	Down Mkt Capture Ratio Anlzd
Manulife Global Equity Strategy	54.3%	7.2%	-0.4%	15.6%	0.3%	0.9	0.4	0.9	92.5%	94.9%
MSCI ACWI Net	57.9%	7.6%	0.0%	16.5%	0.0%	1.0	0.4	1.0	100.0%	100.0%



Dallas Police & Fire Pension System

Walter Scott Global Equity Fund | As of September 30, 2023

Account Information	
Account Name	Walter Scott Global Equity Fund
Account Structure	Separate Account
Investment Style	Active
Inception Date	12/01/09
Account Type	Global Equity
Benchmark	MSCI ACWI Net
Universe	eV Global Large Cap Growth Eq Net



	Portfolio	MSCI ACWI
Number of Holdings	48	2,947
Weighted Avg. Market Cap. (\$B)	268.9	408.9
Median Market Cap. (\$B)	91.3	12.1
Price To Earnings	27.4	18.0
Price To Book	6.4	3.3
Price To Sales	4.2	1.8
Return on Equity (%)	33.8	21.1
Yield (%)	1.3	2.3
Beta	1.1	1.0
R-Squared	0.9	1.0

Portfolio Performance Summary								
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Walter Scott Global Equity Fund	-6.3	9.4	23.5	5.7	7.4	8.8	9.2	Dec-09
MSCI ACWI Net	-3.4	10.1	20.8	6.9	6.5	7.6	8.1	Dec-09

	Portfolio	MSCI ACWI
INDUSTRY SECTOR DISTRIBUTION (% Equity)		
Energy	0.0	5.2
Materials	5.1	4.5
Industrials	15.3	10.4
Consumer Discretionary	15.8	11.2
Consumer Staples	6.4	7.1
Health Care	19.9	11.9
Financials	7.3	15.8
Information Technology	24.5	21.6
Communication Services	4.2	7.5
Utilities	0.0	2.6
Real Estate	0.0	2.3

Characteristics		
	Portfolio	MSCI ACWI
COMPANY SIZE DISTRIBUTION		
Weighted Avg. Market Cap. (\$B)	268.9	408.9
Median Market Cap. (\$B)	91.3	12.1
Large Cap. (%)	93.0	75.1
Medium Cap. (%)	6.1	17.8
Small Cap. (%)	0.9	7.2

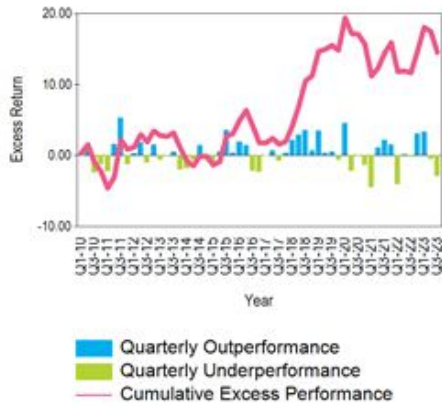
Top Holdings	
NOVO NORDISK A/S	4.5%
MICROSOFT CORP	4.0%
ADOBE INC	3.1%
LINDE PLC	3.0%
ALPHABET INC	3.0%
MASTERCARD INC	2.9%
AUTOMATIC DATA PROCESSING INC	2.8%
TJX COMPANIES INC (THE)	2.8%
WEST PHARMACEUTICAL SERVICES INC.	2.7%
BOOKING HOLDINGS INC	2.7%



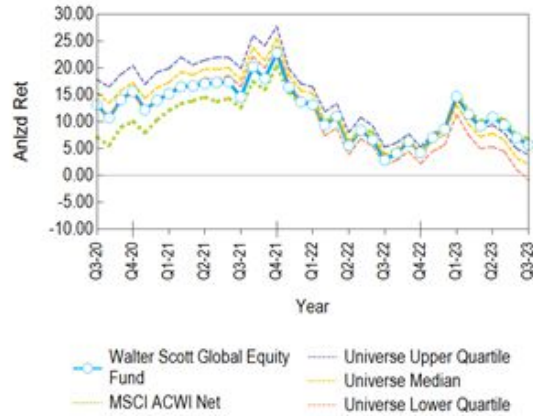
Dallas Police & Fire Pension System

Walter Scott Global Equity Fund | As of September 30, 2023

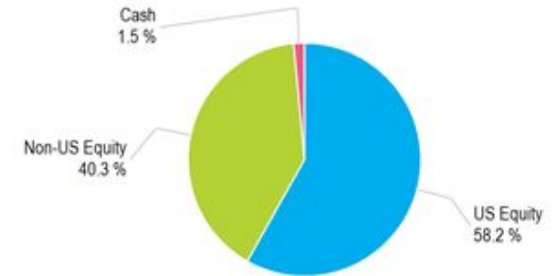
Quarterly and Cumulative Excess Performance



Rolling 3 Year Annualized Return vs. Peer Group



Asset Allocation



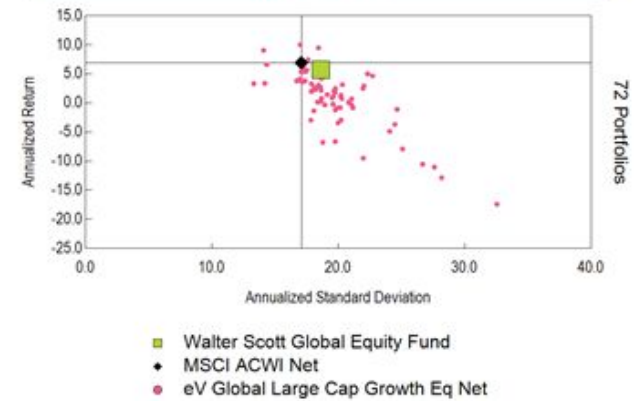
Rolling Peer Group Returns
eV Global Large Cap Growth Eq Net



Calendar Year Peer Group Returns
eV Global Large Cap Growth Eq Net



Risk Reward





Dallas Police & Fire Pension System

Walter Scott Global Equity Fund | As of September 30, 2023

Statistics Summary										
3 Years Ending September 30, 2023										
	Total Return	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Sharpe Ratio	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Walter Scott Global Equity Fund	18.0%	5.7%	-1.2%	18.6%	-1.6%	1.1	0.2	0.9	110.0%	109.7%
MSCI ACWI Net	22.1%	6.9%	0.0%	17.1%	0.0%	1.0	0.3	1.0	100.0%	100.0%

Statistics Summary										
5 Years Ending September 30, 2023										
	Total Return	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Sharpe Ratio	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Walter Scott Global Equity Fund	42.7%	7.4%	0.9%	18.2%	1.1%	1.0	0.3	0.9	105.8%	100.0%
MSCI ACWI Net	36.8%	6.5%	0.0%	18.1%	0.0%	1.0	0.3	1.0	100.0%	100.0%

Statistics Summary										
Since Inception										
	Total Return	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Sharpe Ratio	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio
Walter Scott Global Equity Fund	239.4%	9.2%	1.1%	14.0%	1.9%	0.9	0.6	0.9	89.4%	96.6%
MSCI ACWI Net	193.4%	8.1%	0.0%	14.9%	0.0%	1.0	0.5	1.0	100.0%	100.0%



Dallas Police & Fire Pension System

NT ACWI Index IMI | As of September 30, 2023

Account Information	
Account Name	NT ACWI Index IMI
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	4/01/21
Account Type	Global Equity
Benchmark	MSCI ACWI IMI Net USD
Universe	eV Global All Cap Equity Net



Characteristics	Portfolio	MSCI ACWI IMI Net USD
Number of Holdings	8,722	9,207
Weighted Avg. Market Cap. (\$B)	367.3	366.6
Median Market Cap. (\$B)	2.1	1.9
Price To Earnings	17.5	17.5
Price To Book	3.2	3.2
Price To Sales	1.6	1.6
Return on Equity (%)	18.6	18.6
Yield (%)	2.3	2.3
Beta		1.0

Portfolio Performance Summary									
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date	
NT ACWI Index IMI	-3.3	9.8	21.1	--	--	--	0.6	Apr-21	
MSCI ACWI IMI Net USD	-3.4	9.4	20.2	6.9	6.1	7.4	0.1	Apr-21	

Characteristics	Portfolio	MSCI ACWI IMI Net USD
-----------------	-----------	-----------------------

Characteristics	Portfolio	MSCI ACWI IMI Net USD
COMPANY SIZE DISTRIBUTION		
Weighted Avg. Market Cap. (\$B)	367.3	366.6
Median Market Cap. (\$B)	2.1	1.9
Large Cap. (%)	68.4	66.8
Medium Cap. (%)	16.6	16.2
Small Cap. (%)	15.1	17.0

Top Holdings	
APPLE INC	4.0%
MICROSOFT CORP	3.3%
AMAZON.COM INC	1.7%
NVIDIA CORPORATION	1.6%
ALPHABET INC	1.1%
TESLA INC	1.1%
ALPHABET INC	1.0%
META PLATFORMS INC	1.0%
EXXON MOBIL CORP	0.7%
UNITEDHEALTH GROUP INCORPORATED	0.7%

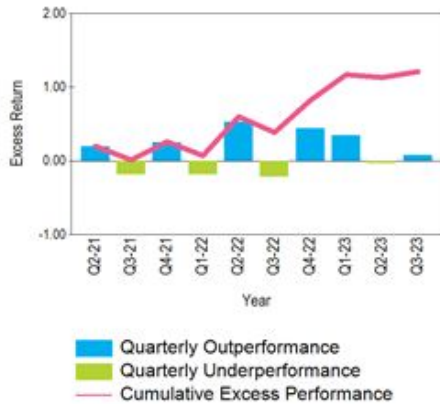
INDUSTRY SECTOR DISTRIBUTION (% Equity)		
Energy	5.2	5.2
Materials	4.9	4.9
Industrials	11.3	11.4
Consumer Discretionary	11.0	11.4
Consumer Staples	6.9	6.9
Health Care	11.7	11.6
Financials	15.6	15.5
Information Technology	20.5	20.5
Communication Services	7.1	7.1
Utilities	2.7	2.6
Real Estate	2.9	2.9



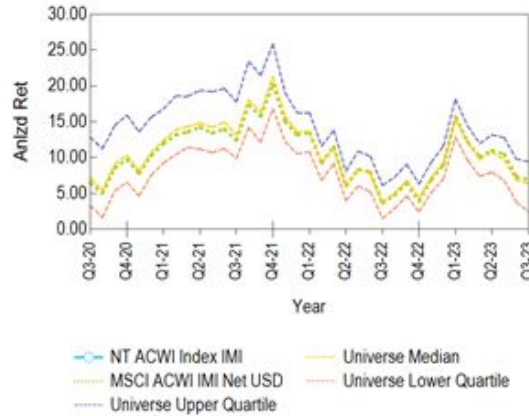
Dallas Police & Fire Pension System

NT ACWI Index IMI | As of September 30, 2023

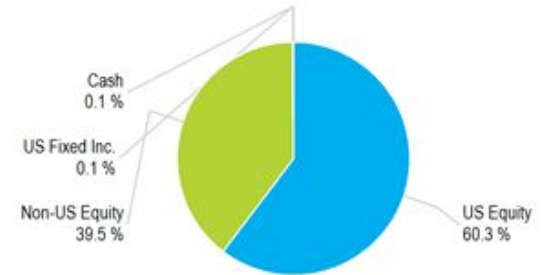
Quarterly and Cumulative Excess Performance



Rolling 3 Year Annualized Return vs. Peer Group



Asset Allocation



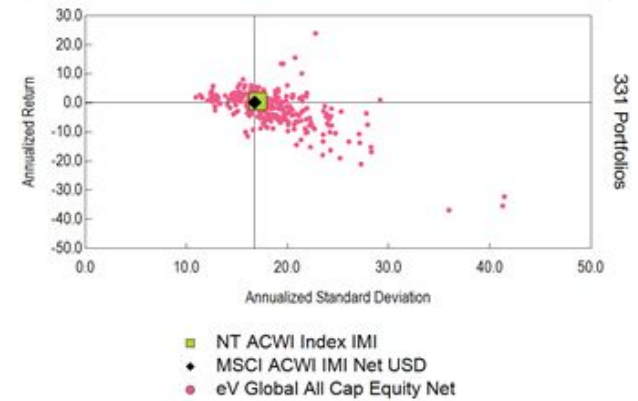
Rolling Peer Group Returns
eV Global All Cap Equity Net



Calendar Year Peer Group Returns
eV Global All Cap Equity Net



Risk Reward





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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.

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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.



D A L L A S
POLICE & FIRE
PENSION SYSTEM



DPFP Public Equity Fees

December 14, 2023

Board Meeting

2022 DFPF Management Fees

2022 MANAGEMENT FEE	TOTAL MANAGEMENT FEES	2022 AVERAGE MARKET VALUE	FEE AS A % OF MARKET VALUE
Global Equity	\$ 3,436,532	\$ 754,227,934	0.46%
Emerging Markets Equity	\$ 578,079	\$ 84,809,197	0.68%
Cash	\$ -	\$ 56,955,620	0.00%
Public Fixed Income	\$ 1,183,280	\$ 357,782,609	0.33%
Private Equity	\$ 1,362,500	\$ 168,504,636	0.81%
Private Debt	\$ 34,490	\$ 5,816,173	0.59%
Real Estate	\$ 2,040,207	\$ 202,463,168	1.01%
Natural Resources	\$ 379,110	\$ 115,315,657	0.33%
Infrastructure	\$ 676,336	\$ 64,796,940	1.04%
TOTAL	\$ 9,690,534	\$ 1,810,671,934	0.54%

Public Equity Fees

- In 2022, Management Fees for Public Equity (Active & Passive) were 0.48% of the average annual market value.
- Flat Management fees for DFPF's active equity managers range from 0.47% to 0.85% of Asset Value. The fee for the passive ACWI IMI fund is 3.5 bps.
 - Two managers are on a performance fee structure (fees can range from zero to 1.10%).

Asset Class	DFPF Avg Flat Fee	Est. Actual Fee Paid (eVest/Mercer Study) ¹	eVest Stated Median Fee ²
Global Equity	0.48%	0.55%	0.60%
US Small Cap	0.70%	0.80%	0.85%
Intl Small Cap	0.85%	0.80%	0.85%
EM Equity	0.68%	0.75%	0.80%

1 - Estimated fees paid per asset class based on August 2023 eVestment/Mercer report which found actual fees were "-5 bps and the average -8 bps" lower than the stated fee, based on survey of 201 public plans.

2 - Stated median fee per eVestment for \$100M mandate in Global & EM Equity, and based on \$50M mandate for US and International Small Cap.

Public Equity Fee Reductions

- DPFP and Meketa worked together over the summer to renegotiate fees across the Public Equity portfolio.
- DPFP received fee concessions from 5 of the 8 managers in the portfolio.
 - These concessions are expected to save DPFP ~145K annually, lowering the expected fees by 1.3 basis points at current asset levels.
- Once Public Equity reaches its full 60% target, pro-forma management fees are expected to average ~ 0.38% including the passive allocation.



DISCUSSION SHEET

ITEM #C10

Topic: Third Quarter 2023 Investment Performance Analysis and Second Quarter 2023 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.

Regular Board Meeting – Thursday, December 14, 2023



Dallas Police & Fire Pension System

September 30, 2023

Fund Evaluation Report



Dallas Police & Fire Pension System

Agenda

Agenda

1. Executive Summary
2. Performance Update As of September 30, 2023
3. Disclaimer, Glossary and Notes

Executive Summary
As of September 30, 2023



Dallas Police & Fire Pension System

Executive Summary

DPFP Trailing One-Year Flash Summary

Category	Results	Notes
Total Fund Performance Return	Positive	10.3%
Performance vs. Policy Index	Underperformed	10.3% vs. 14.7%
Performance vs. Peers ¹	Outperformed	10.3% vs. 10.0% median (49th percentile)
Asset Allocation vs. Targets	Negative	Underweight global equity and overweight real estate hurt
Public Active Management	Outperformed	8 of 11 active public managers beat benchmarks
DPFP Public Markets vs. 60/40 ²	Outperformed	17.7% vs. 12.8%
DPFP Public Markets vs. Peers	Outperformed	17.7% vs. 10.0%
Safety Reserve Exposure	Below Target	\$101.7 million (approximately 5.5%)
Compliance with Targets	Yes	All asset classes in compliance

¹ InvestorForce Public DB \$1-5 billion net.

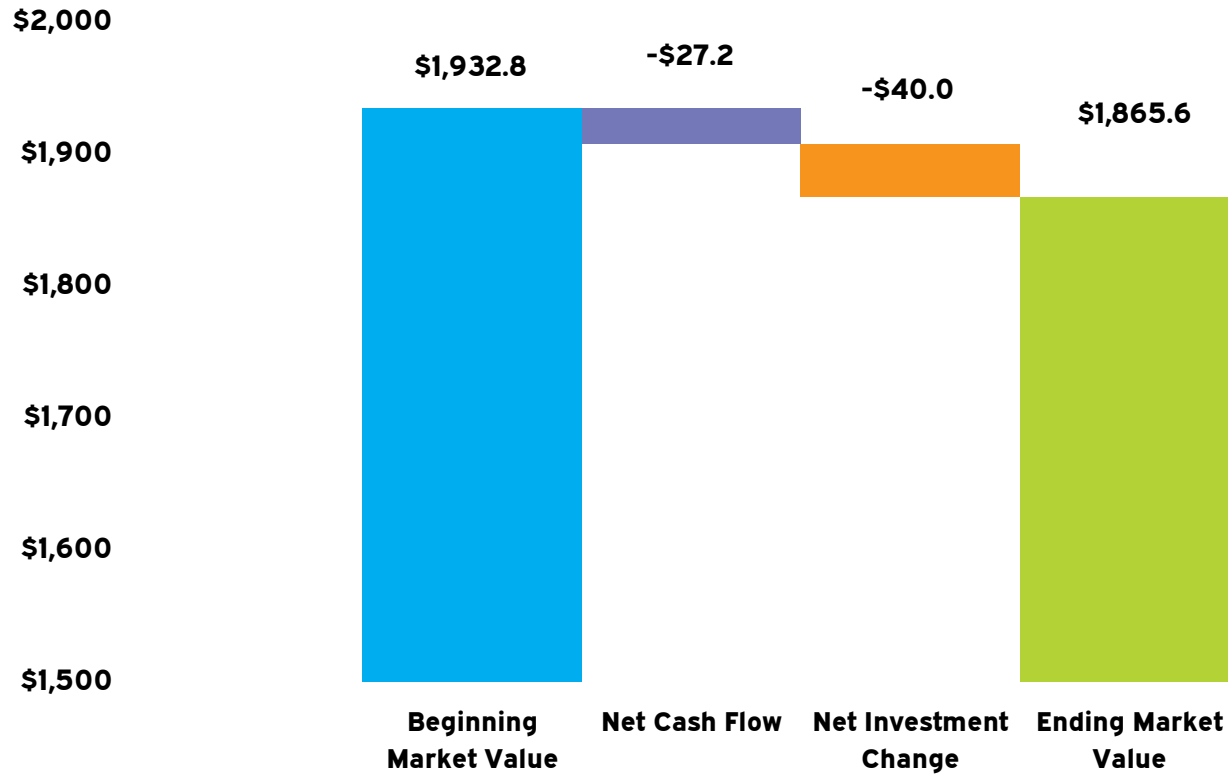
² Performance of Total Fund excluding private market investments relative to a 60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index.



Dallas Police & Fire Pension System

Executive Summary

Quarterly Change in Market Value



→ Total market value decreased due to negative investment change and negative net cash flow.



Dallas Police & Fire Pension System

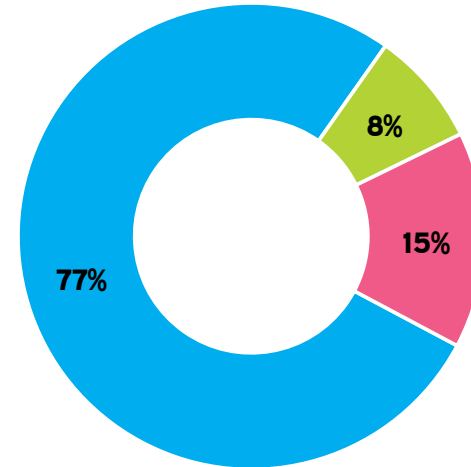
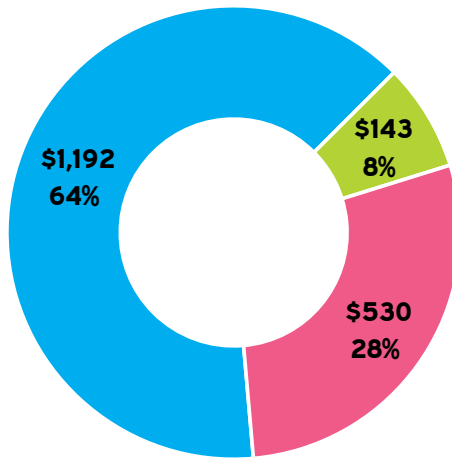
Executive Summary

Liquidity Exposure
As of September 30, 2023

Exposure (\$M) Targets

■ Daily or Weekly ■ Monthly ■ Illiquid

■ Daily or Weekly ■ Monthly ■ Illiquid



→ Approximately 28% of the DFPF’s assets are illiquid versus 15% of the target allocation.



Dallas Police & Fire Pension System

Executive Summary

Quarterly Manager Scorecard

	1-Year Outperformance vs. Benchmark	3-Year Outperformance vs. Benchmark	5-Year Outperformance vs. Benchmark
Boston Partners Global Equity Fund	Yes	Yes	No
Manulife Global Equity Strategy	Yes	Yes	Yes
Walter Scott Global Equity Fund	Yes	No	Yes
Eastern Shore US Small Cap	No	NA	NA
Global Alpha Int'l Small Cap	No	NA	NA
RBC Emerging Markets Equity	Yes	Yes	Yes
IR&M 1-3 Year Strategy	Yes	Yes	Yes
Longfellow Core Fixed Income	Yes	Yes	NA
Aristotle Pacific Capital Bank Loan	Yes	Yes	Yes
Loomis High Yield Fund	No	NA	NA
Metlife Emerging Markets Debt	Yes	NA	NA

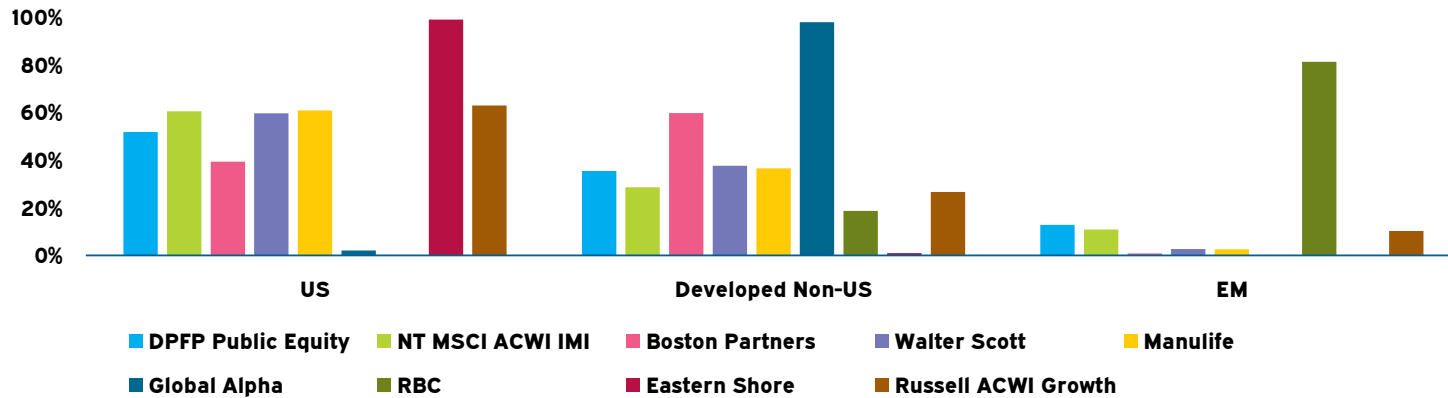


Dallas Police & Fire Pension System

Executive Summary

Equity Regional Exposure¹

	Market Value (\$)	% of DFPF Public Equity	US (%)	Developed Non-US (%)	EM (%)
NT MSCI ACWI IMI	312,387,911	33	61	29	11
Boston Partners	113,775,510	12	39	60	1
Walter Scott	110,315,289	12	60	38	3
Manulife	113,482,947	12	61	37	3
Russell ACWI Growth	111,732,210	12	63	27	10
RBC	85,567,613	9	-	19	81
Eastern Shore	54,588,259	6	99	1	-
Global Alpha	51,813,325	5	2	98	-
DFPF Public Equity	953,663,064	100	52	35	13
<i>MSCI ACWI IMI</i>			<i>61</i>	<i>29</i>	<i>11</i>



¹ Percentages may not always sum to 100% due to rounding. Given the multinational nature of many of the underlying holdings in these strategies, country allocation is not always clear and can vary between different data sources.

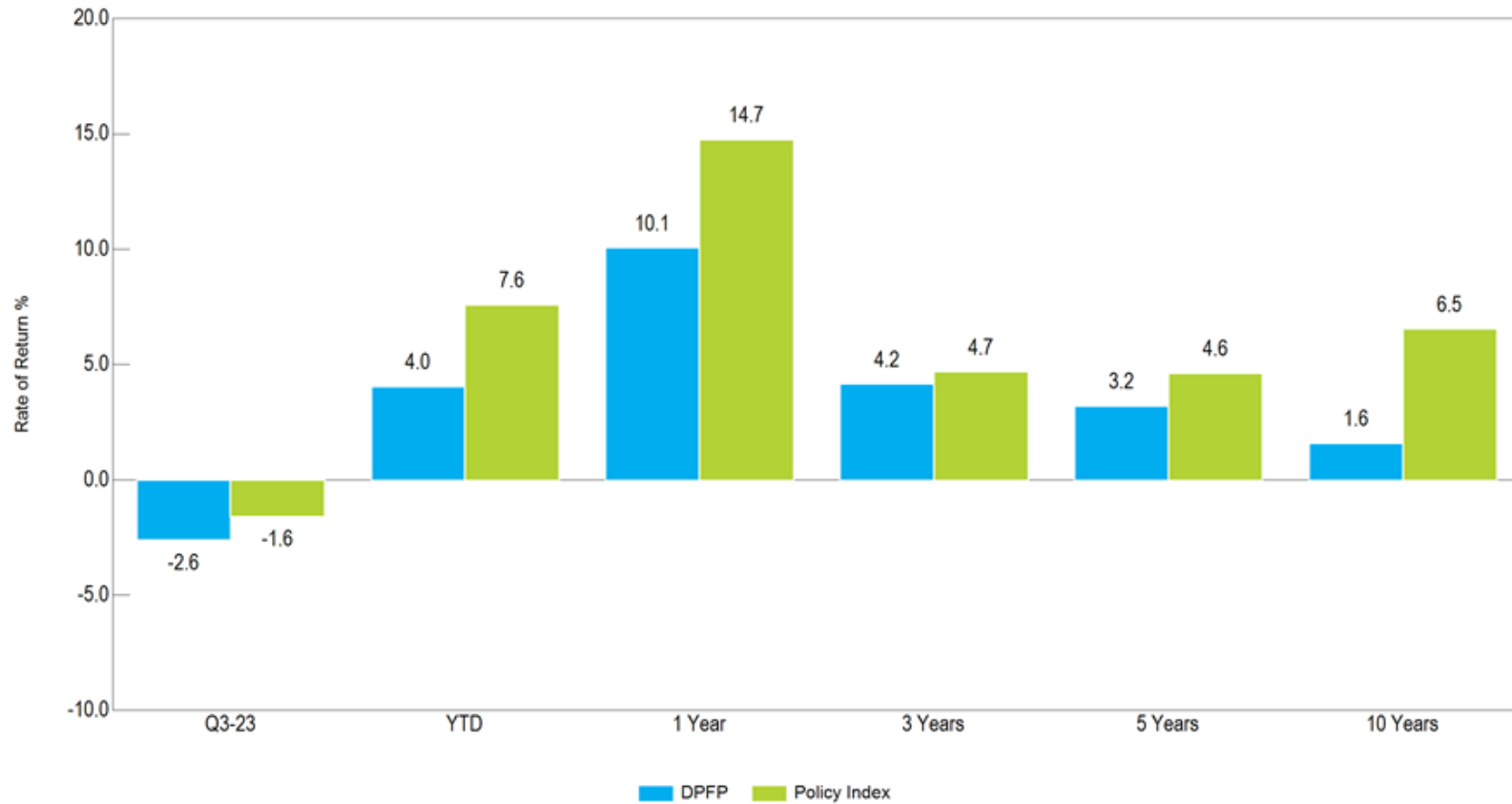
Performance Update
As of September 30, 2023



Dallas Police & Fire Pension System

DPFP | As of September 30, 2023

Net Return Summary
Ending September 30, 2023

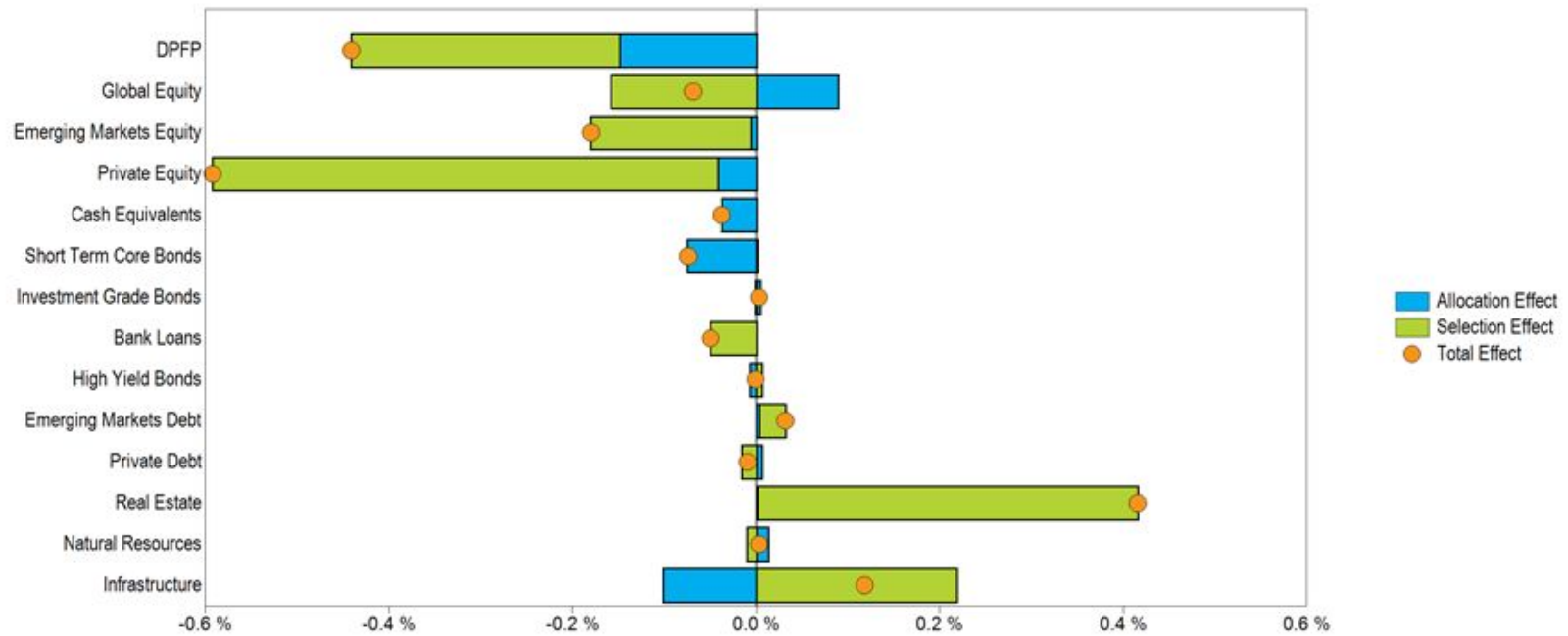




Dallas Police & Fire Pension System

DPFP | As of September 30, 2023

Attribution Effects vs. Policy Benchmark
3 Months Ending September 30, 2023



Attribution Summary
3 Months Ending September 30, 2023

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total	-2.6%	-2.2%	-0.4%	-0.3%	-0.1%	-0.4%

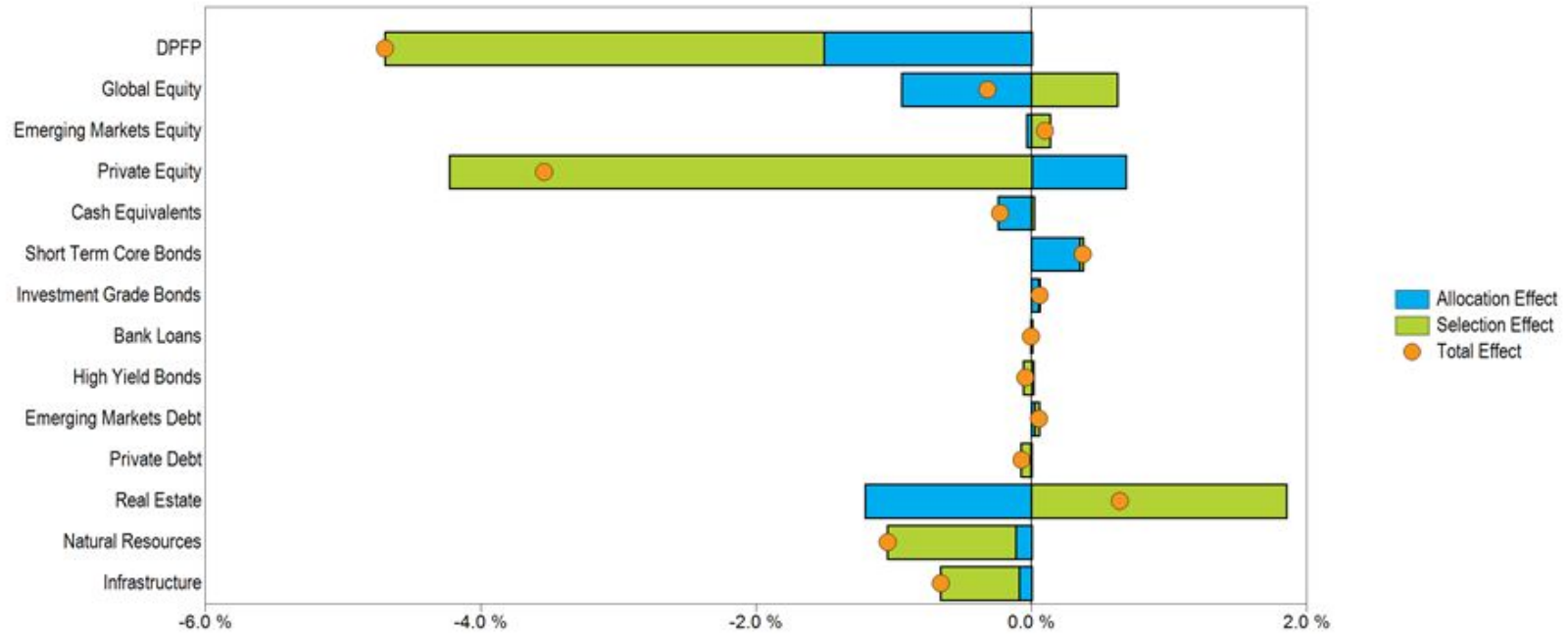
The performance calculation methodology in attribution tables is different from the standard time weighted returns (geometric linkage of monthly returns) found throughout the rest of the report. In attribution tables, the average weight of each asset class (over the specified time period) is multiplied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



Dallas Police & Fire Pension System

DPFP | As of September 30, 2023

Attribution Effects vs. Policy Benchmark
1 Year Ending September 30, 2023



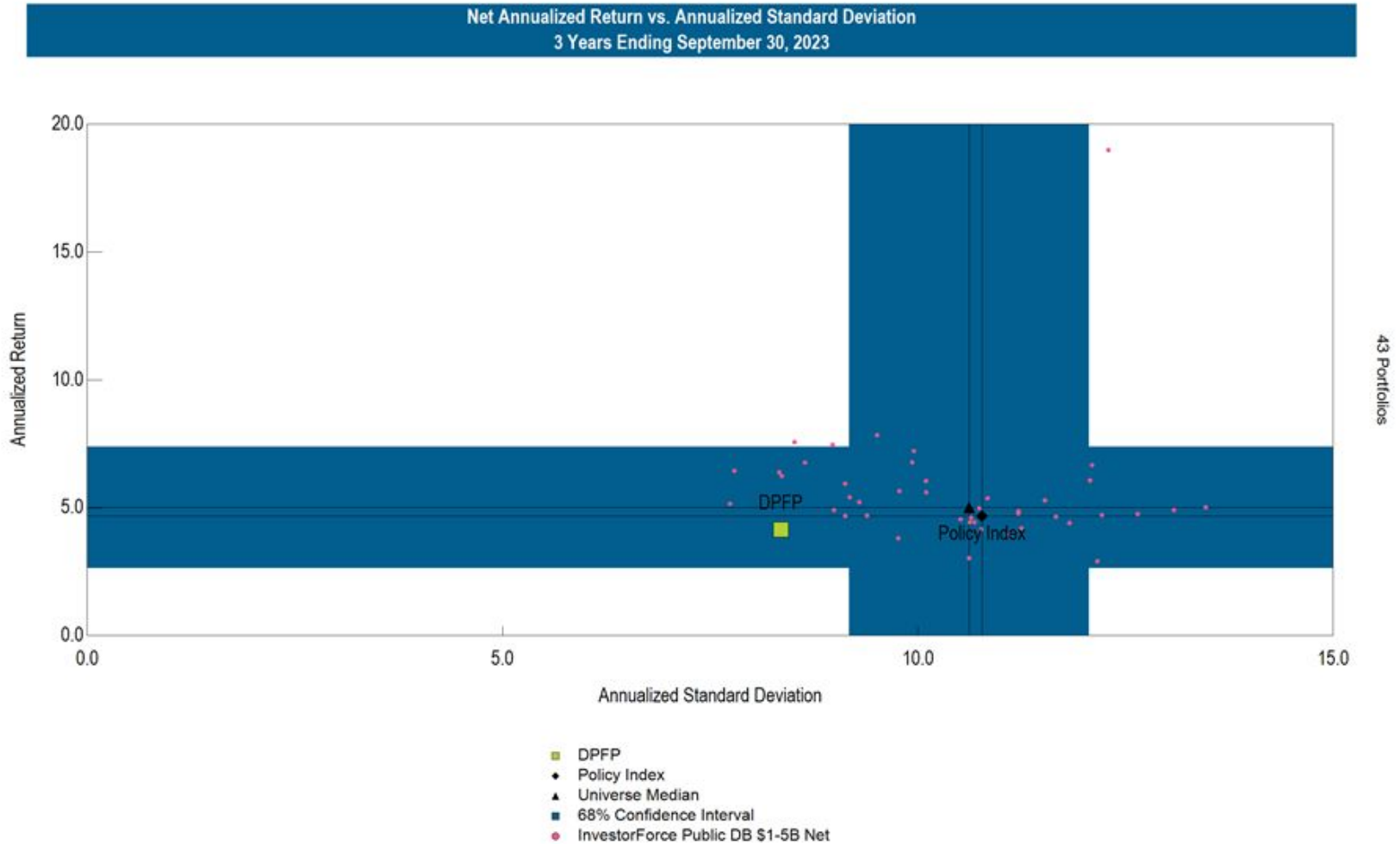
Attribution Summary						
1 Year Ending September 30, 2023						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total	10.0%	14.7%	-4.7%	-3.2%	-1.5%	-4.7%

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.



Dallas Police & Fire Pension System

DPFP | As of September 30, 2023





Dallas Police & Fire Pension System

DPFP | As of September 30, 2023

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	1,865,593,797	100.0	-2.6	4.0	10.1	4.2	3.2	1.6	5.4	Jun-96
<i>Policy Index</i>			-1.6	7.6	14.7	4.7	4.6	6.5	--	Jun-96
<i>Allocation Index</i>			-1.6	5.0	9.7	4.8	4.6	6.6	6.9	Jun-96
<i>Total Fund Ex Private Markets</i>			-2.6	7.2	17.1	3.8	4.4	5.0	5.3	Jun-96
<i>60% MSCI ACWI IMI Net/40% Bloomberg Global Aggregate Index</i>			-3.5	4.7	12.8	1.3	3.2	4.4	5.6	Jun-96
Global Equity	868,048,811	46.5	-3.7	8.8	22.0	7.4	6.6	8.2	6.7	Jul-06
<i>MSCI ACWI IMI Net USD</i>			-3.4	9.4	20.2	6.9	6.1	7.4	6.3	Jul-06
Emerging Markets Equity	85,567,613	4.6	-5.8	2.6	16.5	-0.1	2.2	--	0.7	Jan-18
<i>MSCI Emerging Markets IMI Net</i>			-2.1	3.4	13.2	-0.3	1.3	2.4	-0.4	Jan-18
Private Equity	219,490,806	11.8	-7.3	-7.8	-7.9	9.3	2.6	-4.6	0.2	Oct-05
<i>Russell 3000 +2% Lagged</i>			-2.8	14.0	22.8	11.9	12.0	14.4	12.3	Oct-05
Cash Equivalents	36,194,574	1.9	1.3	3.9	4.8	1.9	1.8	--	1.6	Apr-15
<i>91 Day T-Bills</i>			1.3	3.6	4.5	1.7	1.6	1.1	1.3	Apr-15
Short Term Core Bonds	65,532,081	3.5	0.8	2.4	3.4	-0.4	1.6	--	1.5	Jun-17
<i>Bloomberg US Aggregate 1-3 Yr TR</i>			0.7	1.9	2.8	-0.7	1.2	1.0	1.0	Jun-17
Investment Grade Bonds	65,590,096	3.5	-3.3	-0.9	0.7	-4.8	--	--	-1.9	Oct-19
<i>Bloomberg US Aggregate TR</i>			-3.2	-1.2	0.6	-5.2	0.1	1.1	-2.3	Oct-19
Bank Loans	79,156,576	4.2	2.1	9.3	12.4	5.6	4.4	--	4.4	Jan-14
<i>Credit Suisse Leveraged Loan</i>			3.4	9.9	12.5	5.9	4.3	--	4.3	Jan-14
High Yield Bonds	71,307,283	3.8	0.6	4.8	8.8	1.2	1.3	3.0	4.6	Dec-10
<i>Bloomberg US Corporate High Yield TR</i>			0.5	5.9	10.3	1.8	3.0	4.2	5.2	Dec-10
Emerging Markets Debt	64,125,000	3.4	-1.9	4.5	12.3	-7.2	-4.0	-0.7	0.3	Dec-10
<i>50% JPM EMBI/50% JPM GBI-EM</i>			-2.7	3.0	11.6	-3.6	-0.1	0.7	1.5	Dec-10
Private Debt	3,840,847	0.2	-6.6	-12.9	-11.8	24.4	10.8	--	9.2	Jan-16
<i>Barclays Global High Yield +2%</i>			0.3	6.6	15.7	1.9	3.5	--	6.0	Jan-16



Dallas Police & Fire Pension System

DPFP | As of September 30, 2023

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	160,752,972	8.6	3.2	10.8	12.4	6.4	4.0	-1.4	3.8	Mar-85
<i>NCREIF Property (1 Qtr Lag)</i>			-2.0	-7.1	-6.6	6.8	5.9	7.8	7.8	Mar-85
Natural Resources	106,619,037	5.7	0.6	-5.4	-6.1	-0.2	0.1	1.0	2.5	Dec-10
<i>NCREIF Farmland Total Return Index (1 Qtr Lag)</i>			0.8	6.3	8.4	7.7	6.5	8.4	10.2	Dec-10
Infrastructure	39,368,101	2.1	3.9	-2.2	-3.6	21.2	5.3	7.6	7.3	Jul-12
<i>S&P Global Infrastructure TR USD</i>			-7.3	-3.7	6.9	7.3	4.1	5.1	6.1	Jul-12

¹ Please see the Appendix for composition of the Custom Benchmarks. ²As of 9/30/2023, the Safety Reserve exposure was approximately \$101.7 million (5.5%).

³ All private market data is one quarter lagged, unless otherwise noted.



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Trailing Net Performance										
	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
DPFP	1,865,593,797	100.0	-2.6	4.0	10.1	4.2	3.2	1.6	5.4	Jun-96
<i>Policy Index</i>			-1.6	7.6	14.7	4.7	4.6	6.5	--	Jun-96
<i>Allocation Index</i>			-1.6	5.0	9.7	4.8	4.6	6.6	6.9	Jun-96
<i>Total Fund Ex Private Markets</i>			-2.6	7.2	17.1	3.8	4.4	5.0	5.3	Jun-96
<i>60% MSCI ACWI IMI Net/40% Bloomberg Global Aggregate Index</i>			-3.5	4.7	12.8	1.3	3.2	4.4	5.6	Jun-96
<i>InvestorForce Public DB \$1-5B Net Rank</i>			73	55	49	91	99	99	99	Jun-96
Total Equity	1,173,107,230	62.9	-4.6	4.7	14.3	6.6	4.9	3.5	4.7	Dec-10
<i>MSCI ACWI IMI Net USD</i>			-3.4	9.4	20.2	6.9	6.1	7.4	7.5	Dec-10
Public Equity	953,616,424	51.1	-3.9	8.2	21.5	6.8	6.4	8.0	6.6	Jul-06
<i>MSCI ACWI IMI Net USD</i>			-3.4	9.4	20.2	6.9	6.1	7.4	6.3	Jul-06
<i>eV All Global Equity Net Rank</i>			48	43	37	46	45	39	43	Jul-06
Global Equity	868,048,811	46.5	-3.7	8.8	22.0	7.4	6.6	8.2	6.7	Jul-06
<i>MSCI ACWI IMI Net USD</i>			-3.4	9.4	20.2	6.9	6.1	7.4	6.3	Jul-06
<i>eV All Global Equity Net Rank</i>			45	40	34	40	42	35	40	Jul-06
<i>NT ACWI Index IMI</i>	312,387,911	16.7	-3.3	9.8	21.1	--	--	--	0.6	Apr-21
<i>MSCI ACWI IMI Net USD</i>			-3.4	9.4	20.2	6.9	6.1	7.4	0.1	Apr-21
<i>eV Global All Cap Equity Net Rank</i>			39	35	40	--	--	--	45	Apr-21
<i>Russell Investments ACWI Growth</i>	111,732,210	6.0	-5.3	--	--	--	--	--	8.4	Mar-23
<i>MSCI ACWI Growth NR USD</i>			-4.9	18.2	24.4	3.8	8.4	9.5	10.7	Mar-23

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	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Walter Scott Global Equity Fund	110,315,289	5.9	-6.3	9.4	23.5	5.7	7.4	8.8	9.2	Dec-09
<i>MSCI ACWI Net</i>			-3.4	10.1	20.8	6.9	6.5	7.6	8.1	Dec-09
<i>MSCI ACWI Growth</i>			-4.9	18.2	24.4	3.8	8.4	9.5	9.8	Dec-09
<i>eV Global Large Cap Growth Eq Net Rank</i>			66	53	17	9	38	51	52	Dec-09
Boston Partners Global Equity Fund	113,775,510	6.1	-1.4	4.5	24.0	15.3	6.3	--	7.0	Jul-17
<i>MSCI World Net</i>			-3.5	11.1	22.0	8.1	7.3	8.3	8.4	Jul-17
<i>MSCI World Value</i>			-1.9	2.0	17.1	10.4	4.4	5.8	5.1	Jul-17
<i>eV Global All Cap Value Eq Net Rank</i>			26	77	42	15	24	--	22	Jul-17
Manulife Global Equity Strategy	113,482,947	6.1	-2.8	9.0	21.5	8.3	7.4	--	7.2	Jul-17
<i>MSCI ACWI Net</i>			-3.4	10.1	20.8	6.9	6.5	7.6	7.6	Jul-17
<i>MSCI ACWI Value NR USD</i>			-1.8	2.4	17.0	9.7	4.0	5.3	4.7	Jul-17
<i>eV Global Large Cap Value Eq Net Rank</i>			51	31	57	65	13	--	19	Jul-17
Eastern Shore US Small Cap	54,541,620	2.9	-4.2	2.7	8.4	--	--	--	-10.2	Oct-21
<i>Russell 2000</i>			-5.1	2.5	8.9	7.2	2.4	6.6	-8.7	Oct-21
<i>eV US Small Cap Equity Net Rank</i>			47	59	77	--	--	--	79	Oct-21
Global Alpha International Small Cap	51,813,325	2.8	-5.4	-0.1	15.3	--	--	--	-6.5	May-22
<i>MSCI EAFE Small Cap</i>			-3.5	1.8	17.9	1.1	0.8	4.3	-4.3	May-22
<i>eV Global Small Cap Equity Net Rank</i>			67	81	56	--	--	--	81	May-22
Emerging Markets Equity	85,567,613	4.6	-5.8	2.6	16.5	-0.1	2.2	--	0.7	Jan-18
<i>MSCI Emerging Markets IMI Net</i>			-2.1	3.4	13.2	-0.3	1.3	2.4	-0.4	Jan-18
<i>eV Emg Mkts Equity Net Rank</i>			92	60	42	49	44	--	38	Jan-18



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	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
RBC Emerging Markets Equity	85,567,613	4.6	-5.8	2.6	16.5	-0.1	2.2	--	0.7	Jan-18
<i>MSCI Emerging Markets IMI Net</i>			-2.1	3.4	13.2	-0.3	1.3	2.4	-0.4	Jan-18
<i>eV Emg Mkts Equity Net Rank</i>			92	60	42	49	44	--	38	Jan-18
Private Equity	219,490,806	11.8	-7.3	-7.8	-7.9	9.3	2.6	-4.6	0.2	Oct-05
<i>Russell 3000 +2% Lagged</i>			-2.8	14.0	22.8	11.9	12.0	14.4	12.3	Oct-05
Total Fixed Income and Cash	385,746,457	20.7	-0.1	3.8	6.7	-0.5	1.0	1.9	4.1	Jul-06
<i>Bloomberg Multiverse TR</i>			-3.5	-1.9	2.7	-6.6	-1.5	-0.3	2.1	Jul-06
<i>eV All Global Fixed Inc Net Rank</i>			28	26	38	34	51	50	24	Jul-06
Cash Equivalents	36,194,574	1.9	1.3	3.9	4.8	1.9	1.8	--	1.6	Apr-15
<i>91 Day T-Bills</i>			1.3	3.6	4.5	1.7	1.6	1.1	1.3	Apr-15
Public Fixed Income	345,711,036	18.5	-0.3	4.2	7.7	-1.0	0.9	2.3	3.6	Dec-10
<i>Bloomberg Multiverse TR</i>			-3.5	-1.9	2.7	-6.6	-1.5	-0.3	0.4	Dec-10
<i>eV All Global Fixed Inc Net Rank</i>			30	23	32	40	53	43	21	Dec-10
Short Term Core Bonds	65,532,081	3.5	0.8	2.4	3.4	-0.4	1.6	--	1.5	Jun-17
<i>Bloomberg US Aggregate 1-3 Yr TR</i>			0.7	1.9	2.8	-0.7	1.2	1.0	1.0	Jun-17
<i>IR&M 1-3 Year Strategy</i>	65,532,081	3.5	0.8	2.4	3.4	-0.4	1.6	--	1.5	Jul-17
<i>Bloomberg US Aggregate 1-3 Yr TR</i>			0.7	1.9	2.8	-0.7	1.2	1.0	1.0	Jul-17
<i>eV US Short Duration Fixed Inc Net Rank</i>			41	37	41	43	25	--	27	Jul-17
Investment Grade Bonds	65,590,096	3.5	-3.3	-0.9	0.7	-4.8	--	--	-1.9	Oct-19
<i>Bloomberg US Aggregate TR</i>			-3.2	-1.2	0.6	-5.2	0.1	1.1	-2.3	Oct-19
<i>eV US Core Fixed Inc Net Rank</i>			70	55	65	41	--	--	45	Oct-19

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



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	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Longfellow Core Fixed Income	65,590,096	3.5	-3.3	-0.9	0.7	-4.8	--	--	-4.3	Jul-20
<i>Bloomberg US Aggregate TR</i>			-3.2	-1.2	0.6	-5.2	0.1	1.1	-4.6	Jul-20
<i>eV US Core Fixed Inc Net Rank</i>			70	55	65	41	--	--	49	Jul-20
Bank Loans	79,156,576	4.2	2.1	9.3	12.4	5.6	4.4	--	4.4	Jan-14
<i>Credit Suisse Leveraged Loan</i>			3.4	9.9	12.5	5.9	4.3	--	4.3	Jan-14
<i>eV US Float-Rate Bank Loan Fixed Inc Net Rank</i>			99	48	35	32	13	--	7	Jan-14
Aristotle Pacific Capital Bank Loan	79,156,576	4.2	2.1	9.3	12.4	5.6	4.3	--	4.5	Aug-17
<i>Credit Suisse Leveraged Loan</i>			3.4	9.9	12.5	5.9	4.3	--	4.4	Aug-17
<i>eV US Float-Rate Bank Loan Fixed Inc Net Rank</i>			99	48	35	32	15	--	13	Aug-17
High Yield Bonds	71,307,283	3.8	0.6	4.8	8.8	1.2	1.3	3.0	4.6	Dec-10
<i>Bloomberg US Corporate High Yield TR</i>			0.5	5.9	10.3	1.8	3.0	4.2	5.2	Dec-10
<i>eV US High Yield Fixed Inc Net Rank</i>			45	71	68	74	99	91	63	Dec-10
Loomis US High Yield Fund	71,307,283	3.8	0.6	4.8	8.8	--	--	--	-1.6	Jan-21
<i>Bloomberg US High Yield 2% Issuer Cap TR</i>			0.5	5.9	10.3	1.8	2.9	4.2	-0.4	Jan-21
<i>eV US High Yield Fixed Inc Net Rank</i>			45	71	68	--	--	--	93	Jan-21
Emerging Markets Debt	64,125,000	3.4	-1.9	4.5	12.3	-7.2	-4.0	-0.7	0.3	Dec-10
50% JPM EMBI/50% JPM GBI-EM			-2.7	3.0	11.6	-3.6	-0.1	0.7	1.5	Dec-10
<i>eV All Emg Mkts Fixed Inc Net Rank</i>			45	23	38	99	99	91	83	Dec-10



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	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Metlife Emerging Markets Debt Blend	64,125,000	3.4	-1.9	4.5	12.3	--	--	--	12.3	Oct-22
<i>35% JPMEB Global Index/35% JPM CEMBI Broad Diversified Index/ 30% JPMGBI-EM Diversified Global Index</i>			-2.0	2.9	9.9	--	--	--	9.9	Oct-22
<i>eV All Emg Mkts Fixed Inc Net Rank</i>			45	23	38	--	--	--	38	Oct-22
Private Debt	3,840,847	0.2	-6.6	-12.9	-11.8	24.4	10.8	--	5.6	Jan-16
<i>Bloomberg US High Yield+2%</i>			1.0	7.4	12.5	3.8	5.0	6.3	7.4	Jan-16
Total Real Assets	306,740,110	16.4	2.4	3.0	3.3	5.6	3.0	0.0	-0.2	Dec-10
<i>Total Real Assets Policy Index</i>			-0.6	-0.6	0.7	7.3	6.2	8.1	9.6	Dec-10
Real Estate	160,752,972	8.6	3.2	10.8	12.4	6.4	4.0	-1.4	3.8	Mar-85
<i>NCREIF Property (1 Qtr Lag)</i>			-2.0	-7.1	-6.6	6.8	5.9	7.8	7.8	Mar-85
Natural Resources	106,619,037	5.7	0.6	-5.4	-6.1	-0.2	0.1	1.0	2.5	Dec-10
<i>NCREIF Farmland Total Return Index (1 Qtr Lag)</i>			0.8	6.3	8.4	7.7	6.5	8.4	10.2	Dec-10
Infrastructure	39,368,101	2.1	3.9	-2.2	-3.6	21.2	5.3	7.6	7.3	Jul-12
<i>S&P Global Infrastructure TR USD</i>			-7.3	-3.7	6.9	7.3	4.1	5.1	6.1	Jul-12

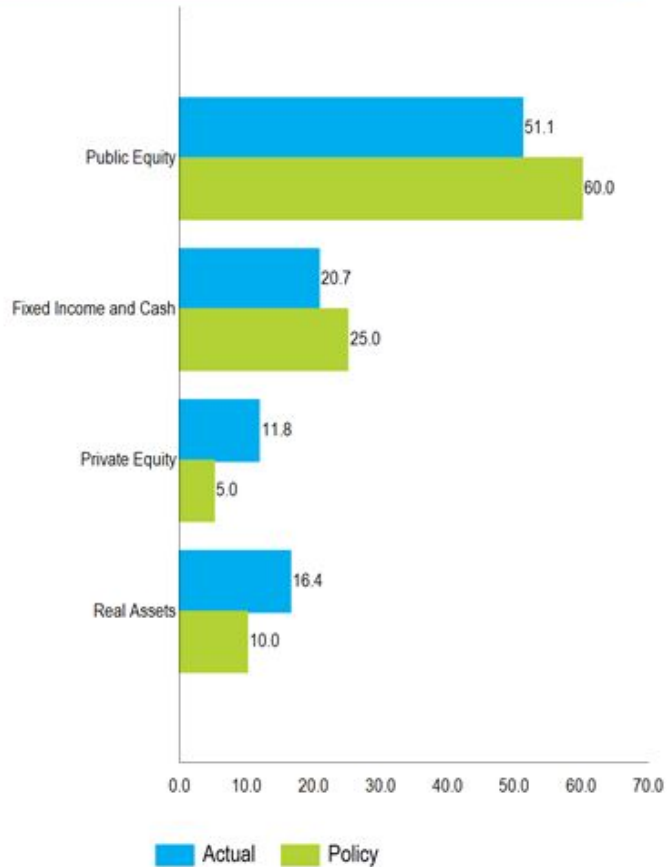
¹ All Private Market market values are one quarter lagged unless otherwise noted.



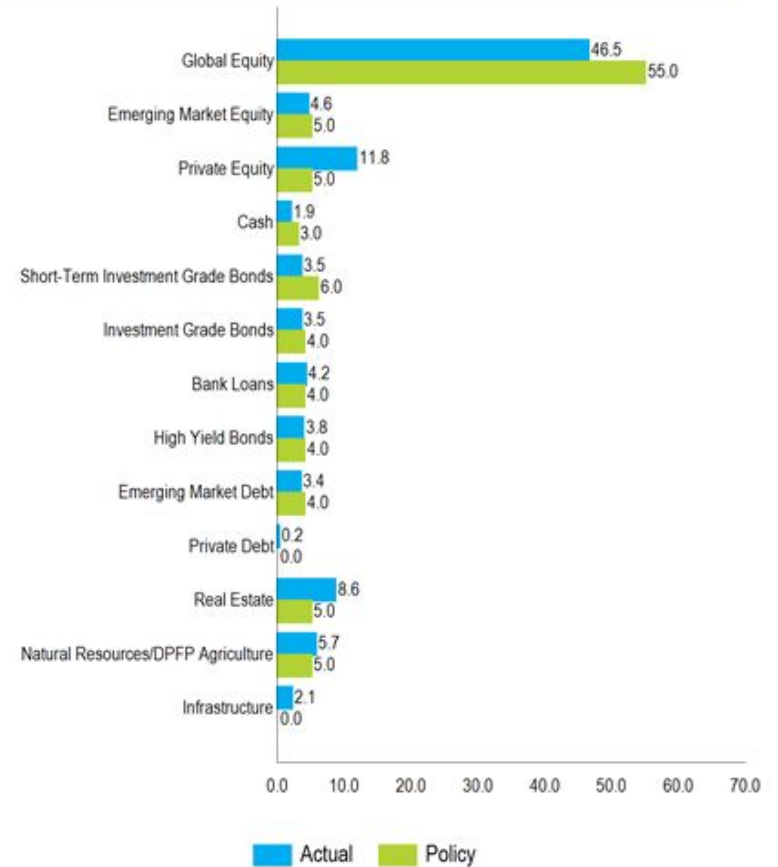
Dallas Police & Fire Pension System

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Asset Category Actual vs Target Allocation (%)
As of September 30, 2023



Asset Classes Actual vs Target Allocation (%)
As of September 30, 2023





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	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
Public Equity	\$1,173,107,230	63%	65%		
Global Equity	\$868,048,811	47%	55%	36% - 60%	Yes
Emerging Market Equity	\$85,567,613	5%	5%	3% - 7%	Yes
Private Equity	\$219,490,806	12%	5%		
Fixed Income and Cash	\$385,746,457	21%	25%	5% - 40%	Yes
Cash	\$36,194,574	2%	3%	0% - 6%	Yes
Short-Term Investment Grade Bonds	\$65,532,081	4%	6%	0% - 9%	Yes
Investment Grade Bonds	\$65,590,096	4%	4%	2% - 6%	Yes
Bank Loans	\$79,156,576	4%	4%	2% - 6%	Yes
High Yield Bonds	\$71,307,283	4%	4%	2% - 6%	Yes
Emerging Market Debt	\$64,125,000	3%	4%	2% - 6%	Yes
Private Debt	\$3,840,847	0%	0%		
Real Assets	\$306,740,110	16%	10%		
Real Estate	\$160,752,972	9%	5%		
Natural Resources/DPFP Agriculture	\$106,619,037	6%	5%		
Infrastructure	\$39,368,101	2%	0%		
Total	\$1,865,593,797	100%	100%		

¹ As of 9/30/2023, the Safety Reserve exposure was approximately \$101.7 million (5.5%).

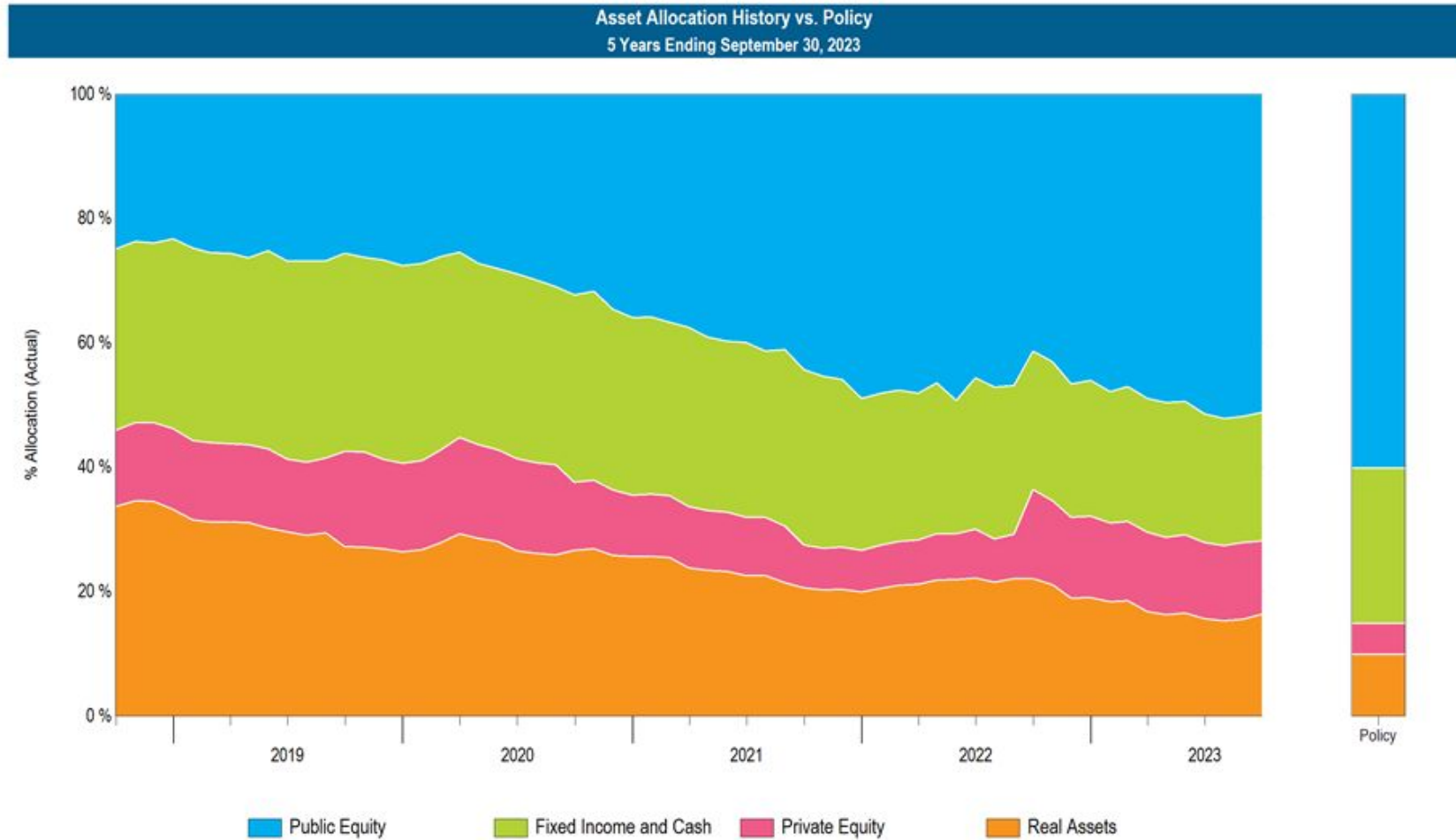
² Global equity consists of 26% US, 17% Developed Non-US, and 3% Emerging Markets.

³ 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

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Statistics Summary						
5 Years Ending September 30, 2023						
	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
DPFP	3.2%	8.1%	-0.2	0.6	0.2	6.8%
Policy Index	4.6%	11.0%	--	1.0	0.3	0.0%
Public Equity	6.4%	18.1%	0.1	1.0	0.3	2.2%
MSCI ACWI IMI Net USD	6.1%	18.5%	--	1.0	0.2	0.0%
Global Equity	6.6%	18.6%	0.2	1.0	0.3	2.3%
MSCI ACWI IMI Net USD	6.1%	18.5%	--	1.0	0.2	0.0%
Emerging Markets Equity	2.2%	18.3%	0.2	0.9	0.0	4.4%
MSCI Emerging Markets IMI Net	1.3%	19.1%	--	1.0	0.0	0.0%
Private Equity	2.6%	54.6%	-0.2	-0.4	0.0	60.7%
Russell 3000 +2% Lagged	12.0%	19.6%	--	1.0	0.5	0.0%
Short Term Core Bonds	1.6%	2.0%	0.5	1.0	0.0	1.0%
Bloomberg US Aggregate 1-3 Yr TR	1.2%	1.8%	--	1.0	-0.3	0.0%
Bank Loans	4.4%	5.3%	0.0	0.7	0.5	2.8%
Credit Suisse Leveraged Loan	4.3%	7.3%	--	1.0	0.4	0.0%
High Yield Bonds	1.3%	10.1%	-1.0	1.1	0.0	1.6%
Bloomberg US Corporate High Yield TR	3.0%	9.3%	--	1.0	0.1	0.0%
Emerging Markets Debt	-4.0%	14.4%	-0.8	1.3	-0.4	4.5%
50% JPM EMBI/50% JPM GBI-EM	-0.1%	11.0%	--	1.0	-0.2	0.0%



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Statistics Summary						
5 Years Ending September 30, 2023						
	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Real Estate	4.0%	4.5%	-0.3	0.0	0.5	7.0%
NCREIF Property (1 Qtr Lag)	5.9%	5.4%	--	1.0	0.8	0.0%
Natural Resources	0.1%	6.5%	-1.0	0.4	-0.2	6.6%
NCREIF Farmland Total Return Index (1 Qtr Lag)	6.5%	3.3%	--	1.0	1.5	0.0%
Infrastructure	5.3%	15.8%	0.0	0.0	0.2	24.1%
S&P Global Infrastructure TR USD	4.1%	18.9%	--	1.0	0.1	0.0%



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Benchmark History		
As of September 30, 2023		
DPFP		
10/1/2021	Present	55% MSCI ACWI IMI Net USD / 5% MSCI Emerging Markets IMI Net / 5% Russell 3000 + 2% 1Q Lag / 6% Bloomberg US Aggregate 1-3 Yr 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
8/1/2021	9/30/2021	55% MSCI ACWI IMI Net USD / 5% MSCI Emerging Markets IMI Net / 5% Cambridge Associates US PE and VC (1 Qtr Lag) / 6% Bloomberg US Aggregate 1-3 Yr 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
1/1/2019	7/31/2021	40% MSCI ACWI IMI Net USD / 10% MSCI Emerging Markets IMI Net / 5% Cambridge Associates US PE and VC (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% Russell 3000 +2% Lagged / 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% Russell 3000 +2% Lagged / 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
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



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.



Disclaimer, Glossary, and Notes

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. $\text{Portfolio Return} - [\text{Risk Free Rate} + \text{Beta} \times (\text{market return} - \text{Risk Free Rate})]$.

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.



Disclaimer, Glossary, and Notes

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 its 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%.

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

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

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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.



Dallas Police & Fire Pension System

As of June 30, 2023

Private Markets Review



Dallas Police & Fire Pension System

Agenda

Agenda

1. Private Markets Executive Summary
2. Performance Update as of June 30, 2023

Private Markets Executive Summary As of June 30, 2023



Dallas Police & Fire Pension System

Private Markets Executive Summary

Quarterly Change – Total Private Markets

Total Private Markets	Committed (\$M)	Called (\$M)	Distributed (\$M)	NAV (\$M)	QTR Return (%)
3/31/2023 ¹	1,334	1,358	907	558	
6/30/2023	1,334	1,358	923	532	
CHANGE			+\$16	-\$26	-1.8%

2Q23 distributions over \$1.0M		
RE	AEW Camel Square	\$8.3M
RE	AEW RCH Notes	\$5.2M

¹ Net of Museum tower which distributed the final \$0.9M in April 2023.



Dallas Police & Fire Pension System

Private Markets Executive Summary

Quarterly Change by Asset Class

Private Equity

Private Equity	Committed (\$M)	Called (\$M)	Distributed (\$M)	NAV (\$M)	QTR Return (%)
3/31/2023	409	447	240	242	
6/30/2023	409	447	241	223	
CHANGE	-	-	+\$1	-\$19	-7.4%

Real Estate

Real Estate	Committed (\$M)	Called (\$M)	Distributed (\$M)	NAV (\$M)	QTR Return (%)
3/31/2023 ¹	671	662	412	172	
6/30/2023	671	662	426	163	
CHANGE	-	-	+\$14	-\$9	+2.9%

¹ Net of Museum tower which distributed the final \$0.9M in April 2023.



Dallas Police & Fire Pension System

Private Markets Executive Summary

Quarterly Change by Asset Class (continued)

Infrastructure

Infrastructure	Committed (\$M)	Called (\$M)	Distributed (\$M)	NAV (\$M)	QTR Return (%)
3/31/2023	97	92	57	38	
6/30/2023	97	92	57	39	
CHANGE	-	-	-	+\$1	+2.6%

Agriculture

Agriculture	Committed (\$M)	Called (\$M)	Distributed (\$M)	NAV (\$M)	QTR Return (%)
3/31/2023	74	74	178	91	
6/30/2023	74	74	178	92	
CHANGE	-	-	-	+\$1	+1.1%



Dallas Police & Fire Pension System

Private Markets Executive Summary

Quarterly Change by Asset Class (continued)

Timber

Timber	Committed (\$M)	Called (\$M)	Distributed (\$M)	NAV (\$M)	QTR Return (%)
3/31/2023	83	83	21	15	
6/30/2023	83	83	21	15	
CHANGE	-	-	-	-	0%

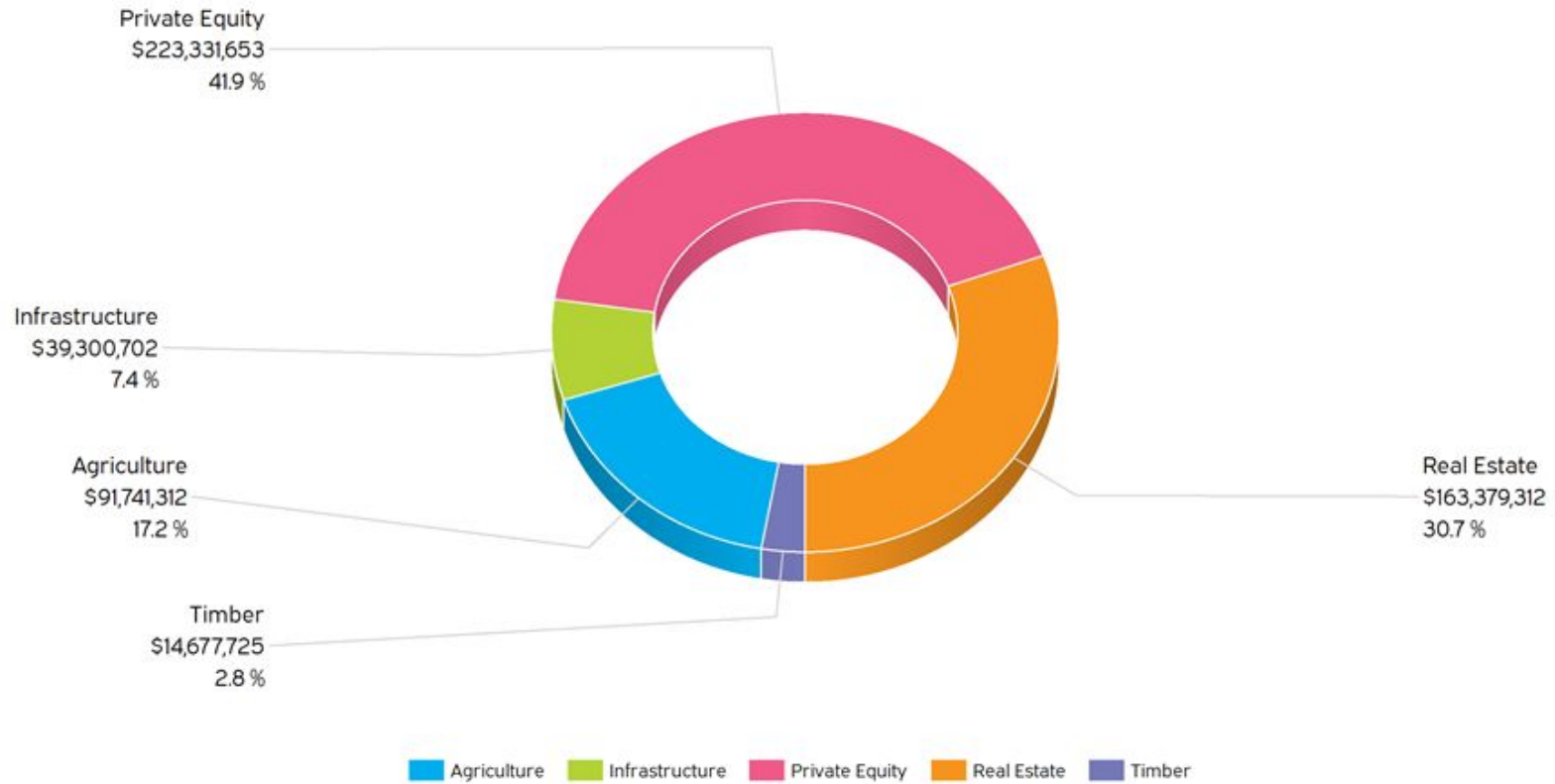
Performance Update
As of June 30, 2023



Dallas Police & Fire Pension System

Private Markets Review | As of June 30, 2023

Private Market Investments as of June 30, 2023 Market Value Allocation by Asset Class



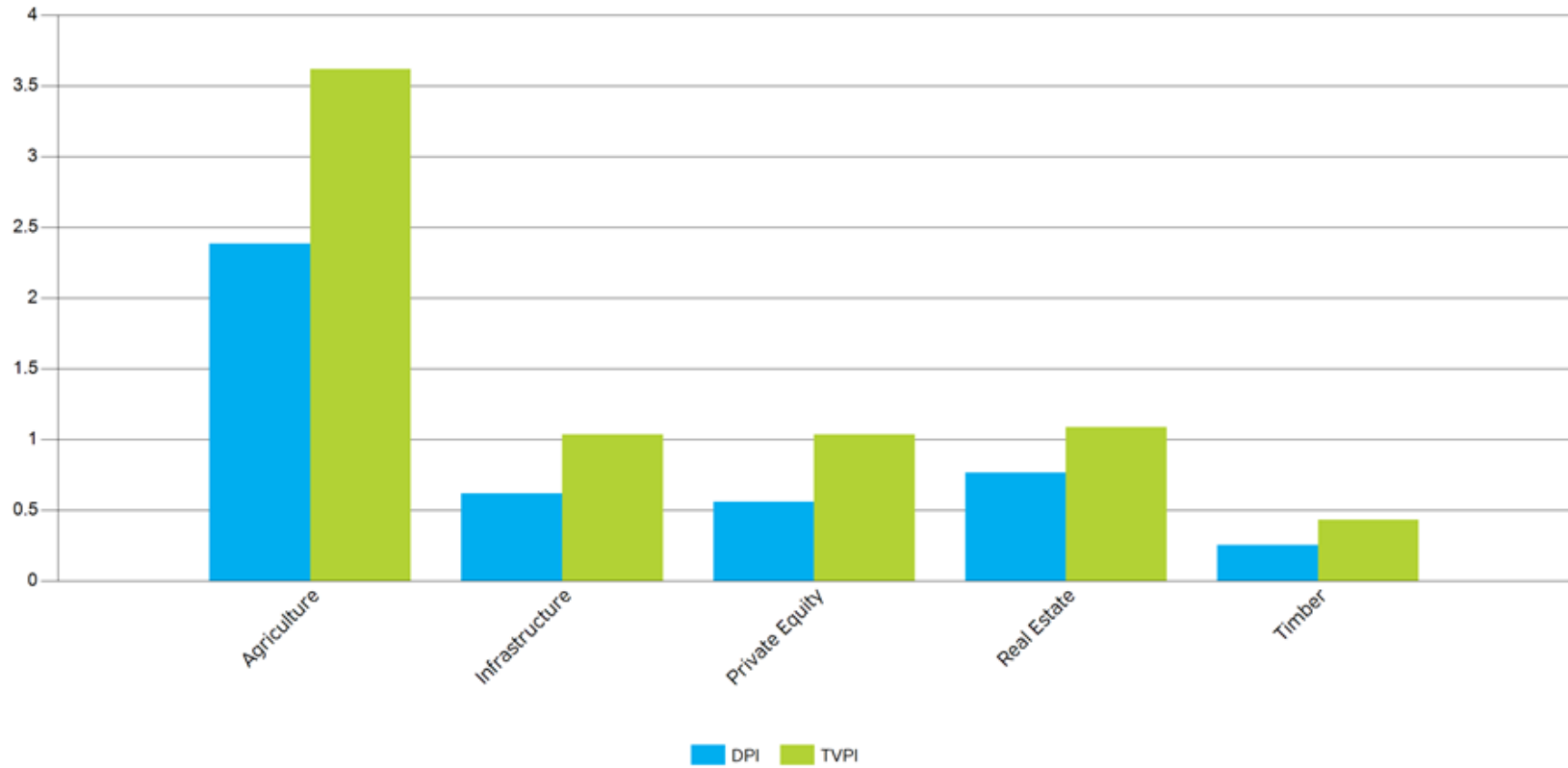
1. Private Equity is composed of Private Equity and Private Debt.



Dallas Police & Fire Pension System

Private Markets Review | As of June 30, 2023

Private Market Investments as of June 30, 2023
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.



Dallas Police & Fire Pension System

Private Markets Review | As of June 30, 2023

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	177,592,840	91,741,312	269,334,152	194,914,151	1.00	2.39	3.62	14.33
Total Infrastructure	97,000,000	92,326,072	56,882,408	39,300,702	96,183,110	3,857,037	0.95	0.62	1.04	0.42
Total Private Equity	409,251,115	446,591,631	241,400,692	223,313,471	464,714,163	18,122,532	1.09	0.54	1.04	0.46
Total Real Estate	515,368,020	506,758,017	383,718,705	163,379,312	547,098,017	40,340,000	0.98	0.76	1.08	0.86
Total Timber	82,985,536	83,050,533	21,150,000	14,677,725	35,827,725	-48,017,994	1.00	0.25	0.43	-9.95
Total	1,179,024,672	1,203,146,255	880,744,645	532,412,522	1,413,157,167	209,215,727	1.02	0.73	1.17	1.93

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.



Dallas Police & Fire Pension System

Active Funds with Unfunded Commitments Overview | As of June 30, 2023

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	35,021,106	1,978,894
TRG AIRRO II	2013	10,000,000	8,663,110	2,240,622
JPM Maritime Fund, LP	2009	50,000,000	48,641,857	1,365,941
Total Infrastructure		97,000,000	92,326,072	5,585,458
Private Equity				
Industry Ventures Partnership IV	2016	5,000,000	3,754,985	485,000
Riverstone Credit Partners LP	2016	10,000,000	12,242,390	514,296
Total Private Equity		15,000,000	15,997,375	999,296
Real Estate				
Hearthstone MS III Homebuilding Investors	2003	10,000,000	1,221,446	1,997,675
Total Real Estate		10,000,000	1,221,446	1,997,675
Total		122,000,000	109,544,893	8,582,429

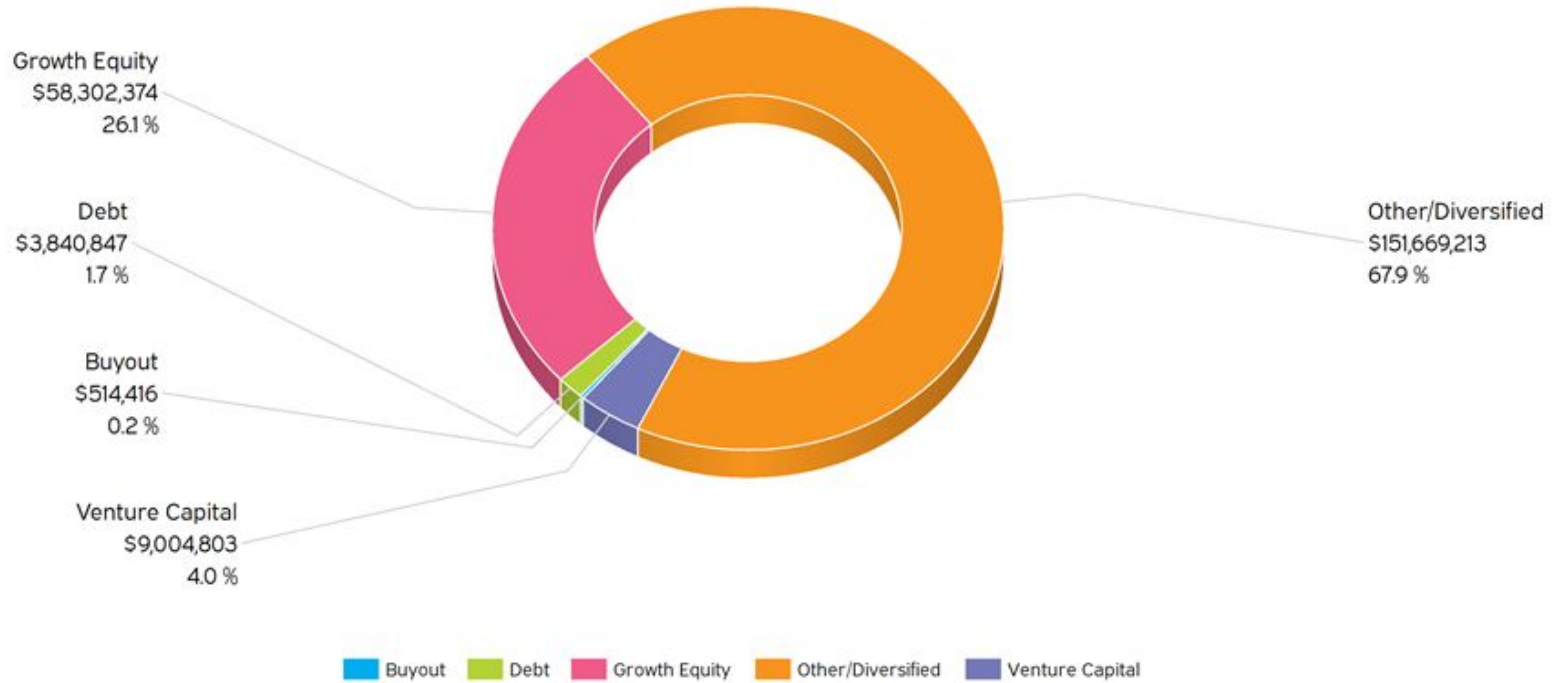
1. Private markets performance reflected is composed of active investments only.

2. The funds and figures above represent investments with unfunded capital commitments.



Dallas Police & Fire Pension System Private Equity and Debt | As of June 30, 2023

Private Equity and Debt Investments as of June 30, 2023
Market Value Allocation by Strategy

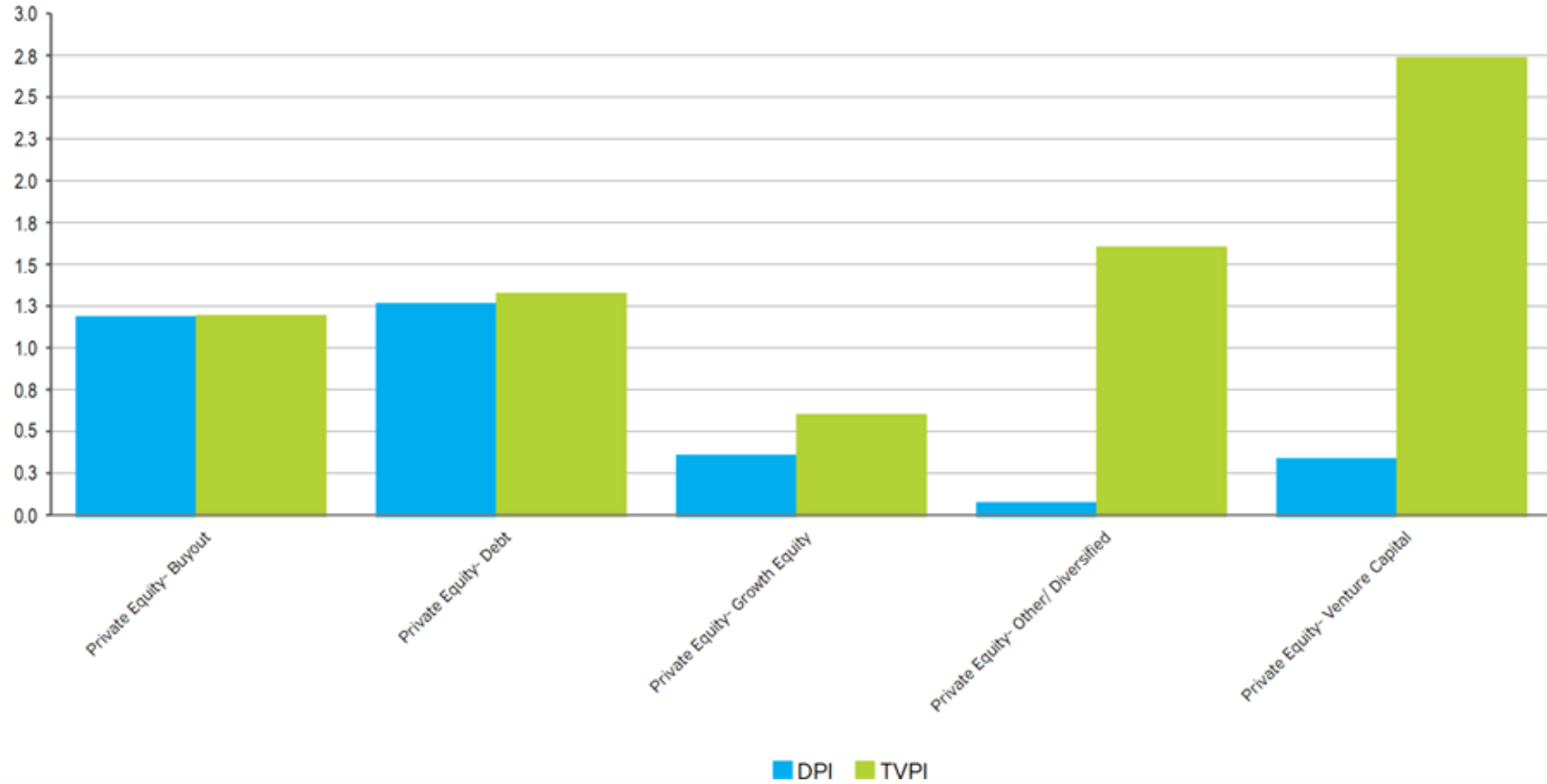




Dallas Police & Fire Pension System

Private Equity and Debt | As of June 30, 2023

Private Equity and Debt Investments as of June 30, 2023
DPI and TVPI by Strategy



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



Dallas Police & Fire Pension System

Private Equity and Debt | As of June 30, 2023

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	91,299,373	514,416	91,813,789	12,980,772	1.18	1.16	1.16	1.77
Total Buyout		66,795,718	78,833,017	91,299,373	514,416	91,813,789	12,980,772	1.18	1.16	1.16	1.77
Debt											
Highland Crusader Fund	2003	50,955,397	50,955,397	67,245,424	442,312	67,687,736	16,732,339	1.00	1.32	1.33	4.67
Riverstone Credit Partners LP	2016	10,000,000	12,242,390	10,910,241	3,398,535	14,308,776	2,066,386	1.22	0.89	1.17	5.16
Total Debt		60,955,397	63,197,787	78,155,665	3,840,847	81,996,512	18,798,725	1.04	1.24	1.30	4.70
Growth Equity											
Hudson Clean Energy	2009	25,000,000	24,994,470	5,091,517	376,465	5,467,982	-19,526,488	1.00	0.20	0.22	-20.97
Lone Star CRA	2008	50,000,000	60,703,798	34,326,323	49,018,436	83,344,759	22,640,961	1.21	0.57	1.37	5.34
Lone Star Growth Capital	2006	16,000,000	26,679,375	17,064,533	0	17,064,533	-9,614,842	1.67	0.64	0.64	-20.47
Lone Star Opportunities V	2012	75,000,000	75,153,125	531,444	4,000,000	4,531,444	-70,621,681	1.00	0.01	0.06	-36.17
Lone Star Bridge Loan	2020	500,000	3,862,000	0	3,500,000	3,500,000	-362,000	7.72	0.00	0.91	-6.19
North Texas Opportunity Fund	2000	10,000,000	10,000,000	9,249,355	1,389,291	1,407,473	-8,592,527	1.00	0.92	0.14	0.68
Total Growth Equity		176,500,000	201,392,768	66,263,172	58,284,192	115,316,191	-86,076,577	1.14	0.33	0.57	-6.65
Other/Diversified											
Huff Energy Fund LP	2006	100,000,000	99,210,178	4,477,394	151,669,213	156,146,607	56,936,429	0.99	0.05	1.57	3.50
Total Other/Diversified		100,000,000	99,210,178	4,477,394	151,669,213	156,146,607	56,936,429	0.99	0.05	1.57	3.50
Venture Capital											
Industry Ventures Partnership IV	2016	5,000,000	3,754,985	1,159,889	9,004,803	10,164,692	6,409,707	0.75	0.31	2.71	21.93
Total Venture Capital		5,000,000	3,754,985	1,159,889	9,004,803	10,164,692	6,409,707	0.75	0.31	2.71	21.93
Unclassified											
Miscellaneous Private Equity Expenses	2016		202,896	45,200							
Total Unclassified			202,896	45,200							
Total		409,251,115	446,591,631	241,400,692	223,313,471	464,714,163	18,122,532	1.09	0.54	1.04	0.46

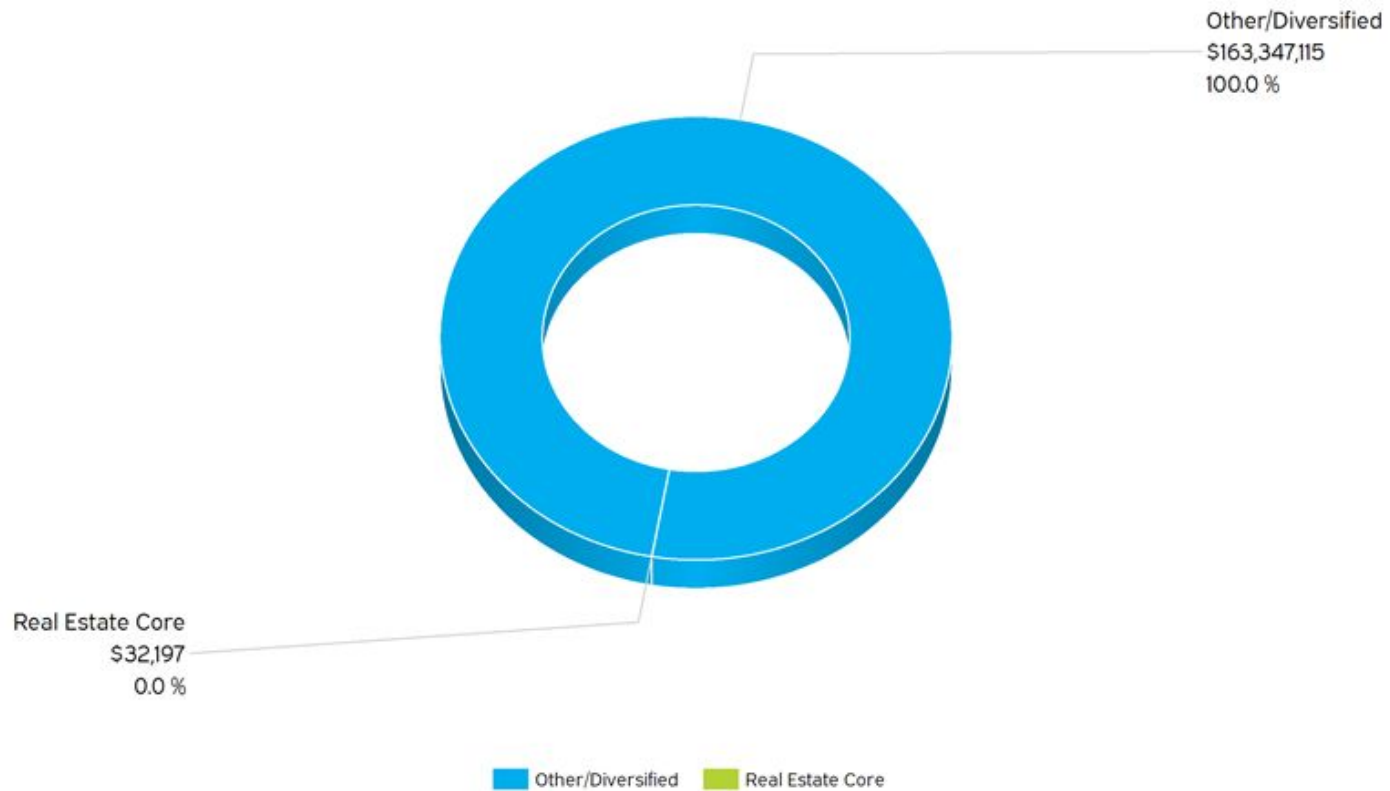
1. Private Markets performance reflected is composed of active investments only.
2. The "IRRs" listed for Lone Star Growth Capital and Lone Star Opportunities Fund V are since inception total return figures.
3. Hudson Clean Energy and Lone Star CRA shows 12/31/2021 NAVs cash flow adjusted through 6/30/2023.



Dallas Police & Fire Pension System

Real Estate | As of June 30, 2023

Real Estate Investments as of June 30, 2023 Market Value Allocation by Strategy

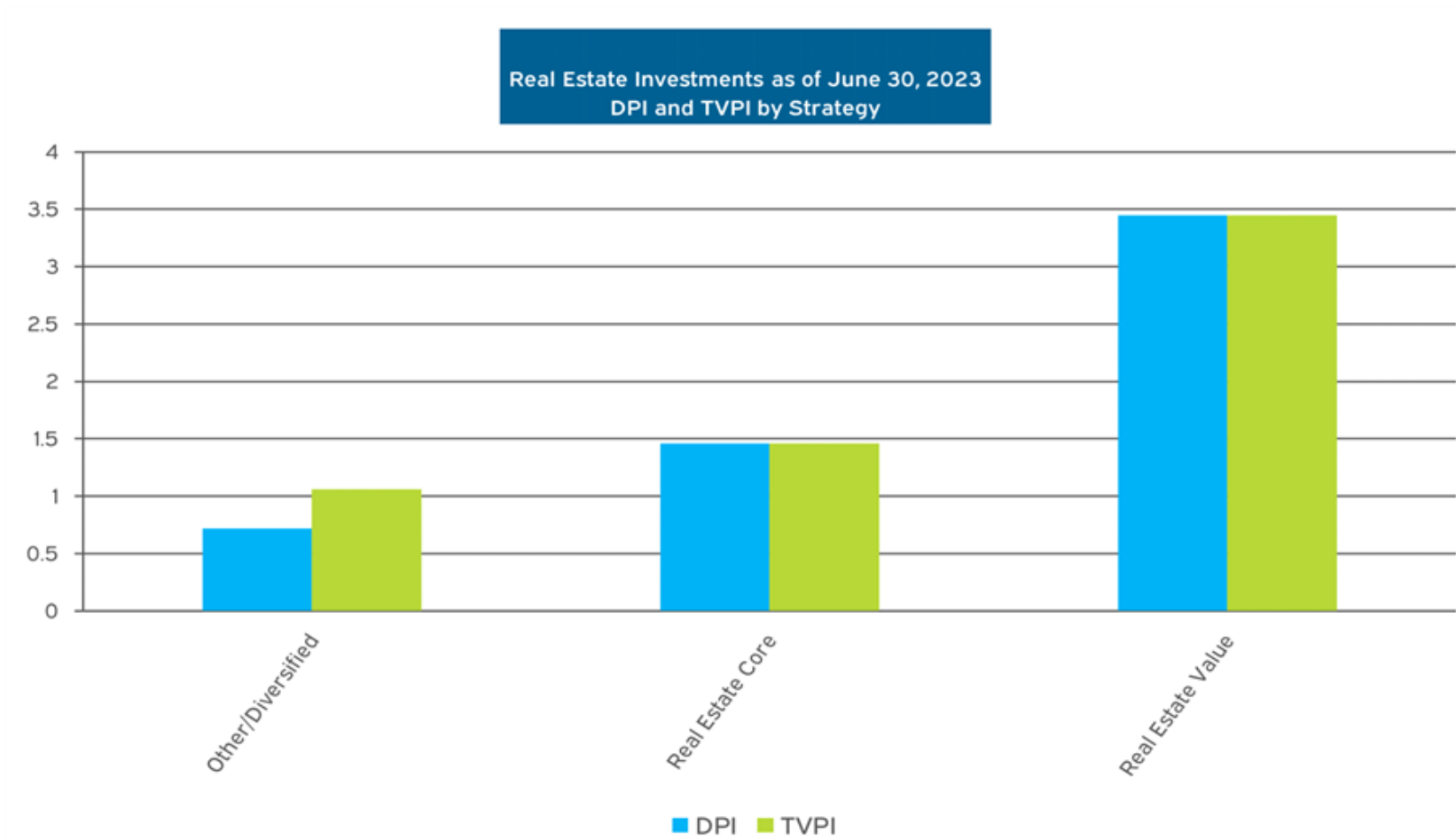


1. Other/Diversified is composed of direct real estate investments made by the fund.



Dallas Police & Fire Pension System

Real Estate | As of June 30, 2023



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.



Dallas Police & Fire Pension System

Real Estate | As of June 30, 2023

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	486,049,173	486,049,173	350,490,211	163,347,115	513,837,326	27,788,153	1.00	0.72	1.06	0.63
Real Estate Core										
Total Real Estate Core	19,318,847	19,318,847	28,234,489	32,197	28,266,686	8,947,839	1.00	1.46	1.46	6.42
Real Estate Value										
Total Real Estate Value	10,000,000	1,221,446	4,217,011	0	4,217,011	2,995,565	0.12	3.45	3.45	24.58
Total	515,368,020	506,758,017	383,718,705	163,379,312	547,098,017	40,340,000	0.98	0.76	1.08	0.86

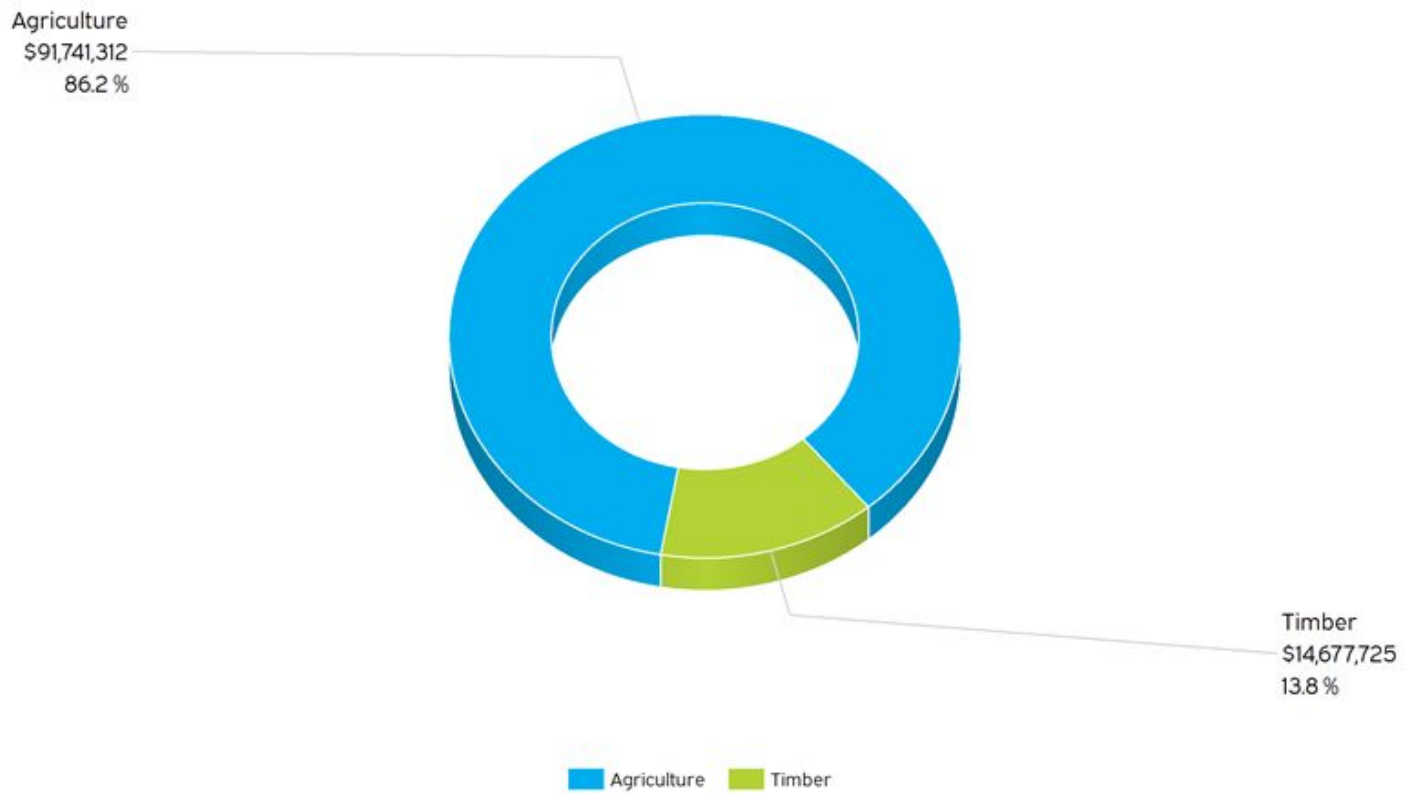
1. Private markets performance reflected is composed of active investments only.
 2. Commitment value is equal to paid in capital for direct investments made outside of a traditional Limited Partnership fund structure.



Dallas Police & Fire Pension System

Natural Resources | As of June 30, 2023

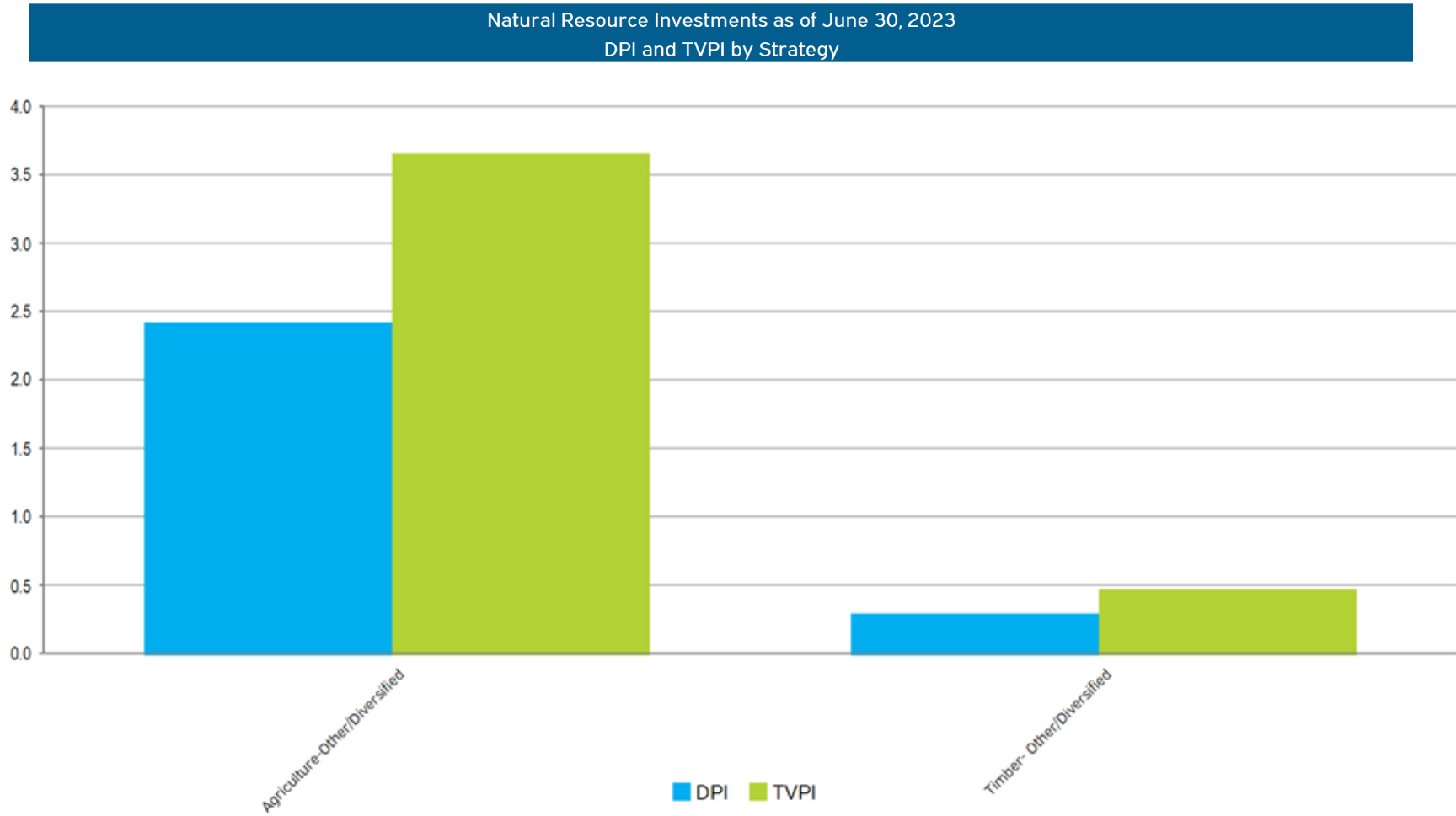
Natural Resources Investments as of June 30, 2023
Market Value Allocation by Asset Class





Dallas Police & Fire Pension System

Natural Resources | As of June 30, 2023



- 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.



Dallas Police & Fire Pension System

Natural Resources | As of June 30, 2023

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											
Manulife Agricultural	1998	74,420,001	74,420,001	177,592,840	91,741,312	269,334,152	194,521,401	1.00	2.39	3.62	14.33
Total Agriculture		74,420,001	74,420,001	177,592,840	91,741,312	269,334,152	194,521,401	1.00	2.39	3.62	14.33
Timber											
BTG Pactual	2006	82,985,536	83,050,533	21,150,000	14,677,725	35,827,725	-48,017,994	1.00	0.25	0.43	-9.95
Total Timber		82,985,536	83,050,533	21,150,000	14,677,725	35,827,725	-48,017,994	1.00	0.25	0.43	-9.95
Total		157,405,537	157,470,534	198,742,840	106,419,037	305,161,877	146,503,407	1.00	1.26	1.94	8.75

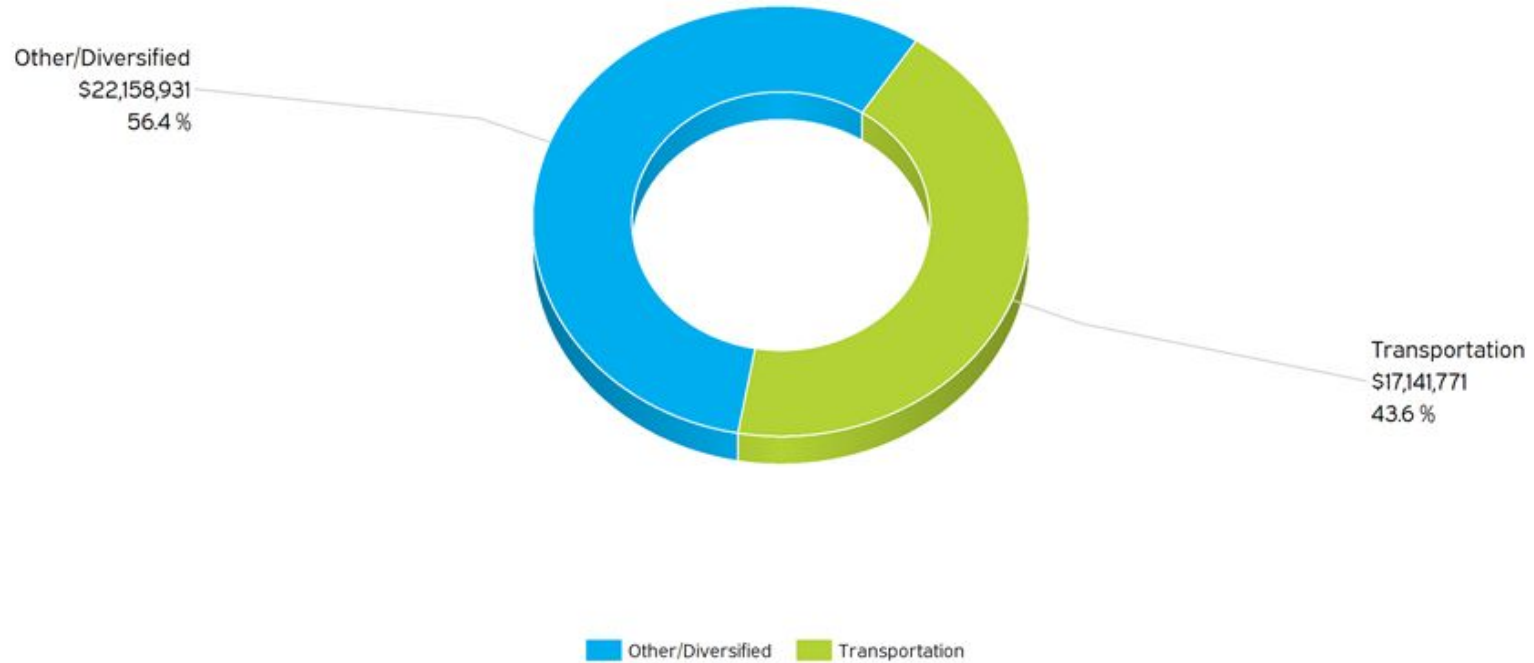
1. Private markets performance reflected is composed of active investments only.
 2. Commitment value is equal to paid in capital for direct investments made outside of a traditional limited partnership fund structure.
 3. Manulife Agriculture was previously known as Hancock Agriculture Fund.



Dallas Police & Fire Pension System

Infrastructure | As of June 30, 2023

Infrastructure Investments as of June 30, 2023 Market Value Allocation by Strategy

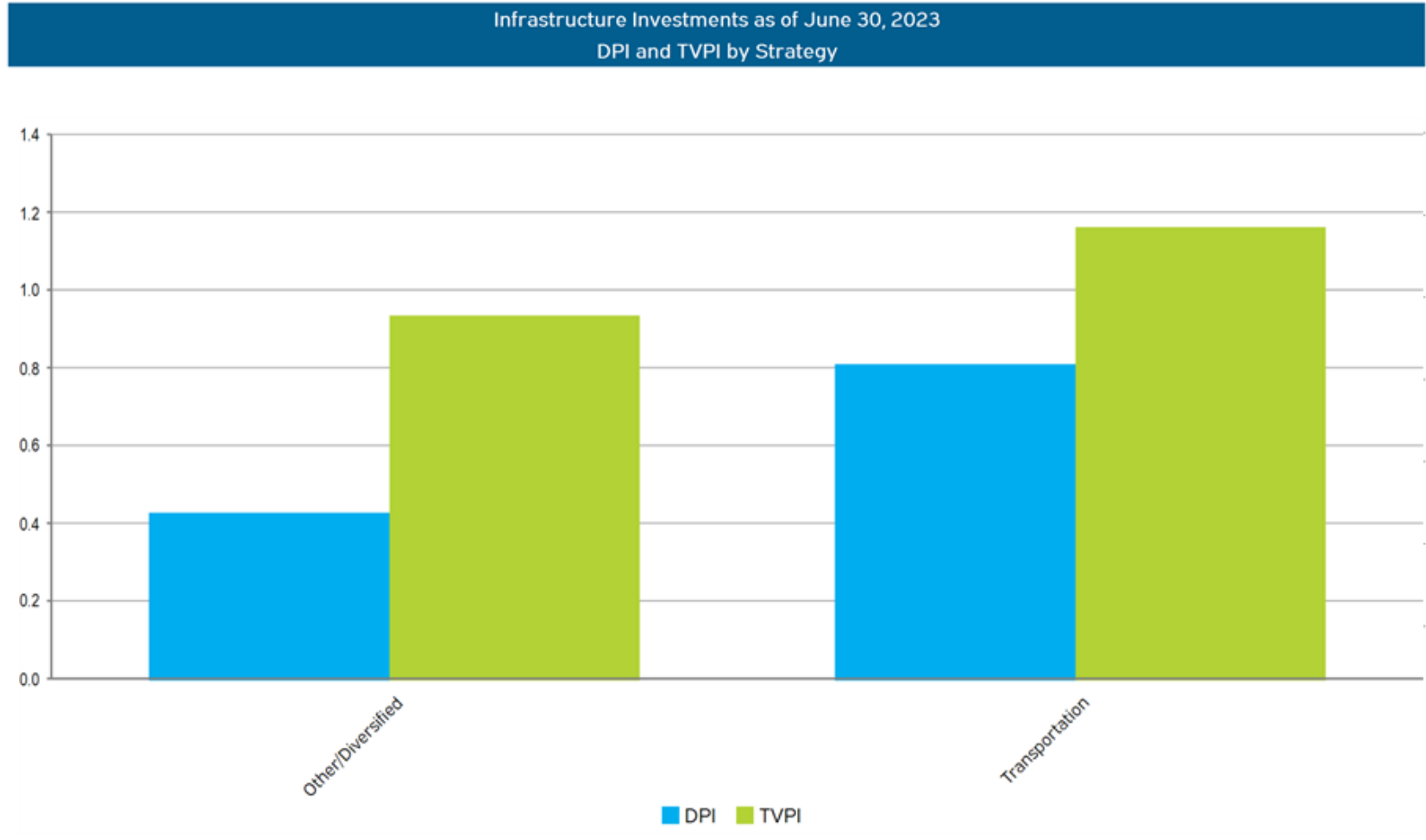


¹'Other/Diversified' is composed of various operating and developing infrastructure project exposure.



Dallas Police & Fire Pension System

Infrastructure | As of June 30, 2023



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



Dallas Police & Fire Pension System

Infrastructure | As of June 30, 2023

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	35,021,106	18,054,261	17,488,478	35,542,739	521,633	0.95	0.52	1.01	-1.13
TRG AIRRO II	2013	10,000,000	8,663,110	58,731	4,670,453	4,729,184	-3,933,926	0.87	0.01	0.55	-4.71
JPM Maritime Fund, LP	2009	50,000,000	48,641,857	38,769,416	17,141,771	55,911,187	7,269,330	0.97	0.80	1.15	2.22
Total Infrastructure		97,000,000	92,326,072	56,882,408	39,300,702	96,183,110	3,857,037	0.95	0.62	1.04	0.42

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

**Private Markets Review
List of Completed Funds**



Dallas Police & Fire Pension System

Private Markets Review | As of June 30, 2023

Total Real Assets Program												
Completed Funds	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Addnl 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%
Bentall Green Oak	2004	20,269,554	20,269,554	0	0	34,650,146	0	34,650,146	14,380,592	1.71	1.71	5.63%
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%
Forest Investment Associates	1992	59,649,696	59,649,696	0	0	104,895,920	0	104,895,920	45,246,224	1.76	1.76	7.4%
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 Project Holdings	2005	155,158,158	155,158,158	0	0	42,739,602	0	42,739,602	-112,418,556	0.28	0.28	-13.40%
Hearthstone MS II Homebuilding Investors	1999	10,000,000	7,973,058	0	0	10,989,565	0	10,989,565	3,016,507	1.38	1.38	26.70%
Hearthstone Nampa	2006	1,666,284	1,666,284	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 Advisors 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	1.1%
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	-1.4%
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%
Museum Tower	2006	126,387,820	126,387,820	0	0	133,408,439	0	133,408,439	7,020,619	1.00	1.06	1.79%
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%
PGF 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		1,314,129,715	1,250,205,959	0	840,631	1,187,844,734	0	1,187,844,734	-63,201,856	0.95	0.95	



Dallas Police & Fire Pension System

Private Markets Review | As of June 30, 2023

Private Equity & Debt Funds												
Completed Funds	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Addtl 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	



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.

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



DISCUSSION SHEET

ITEM #C11

Topic: Update on Activities involving Section 2.025 of Article 6243a-1

Discussion: Staff will brief the Board on the status of the work related to Section 2.025 of Article 6243a-1.

Regular Board Meeting – Thursday, December 14, 2023



DISCUSSION SHEET

ITEM #C12

Topic: Information Technology Security

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.076 of the Texas Government Code.

Attendees: Kirk Wilson, Cyber Security Architect, Levi, Ray & Shoup

Discussion: DFPF contracts with Levi, Ray & Shoup (LRS) to serve as a virtual Chief Information Security Officer. Mr. Wilson will brief the Board on past and future cyber security efforts.

Regular Board Meeting – Thursday, December 14, 2023



DISCUSSION SHEET

ITEM #C13

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 DFPF 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.

Regular Board Meeting – Thursday, December 14, 2023



DISCUSSION SHEET

ITEM #C14

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.

Regular Board Meeting – Thursday, December 14, 2023



DISCUSSION SHEET

ITEM #D1

Topic: Public Comment

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

Regular Board Meeting – Thursday, December 14, 2023



DISCUSSION SHEET

ITEM #D2

Topic: Executive Director's Report

- a. Associations' newsletters
 - NCPERS Monitor (December 2023)
 - TEXPERS Pension Observer (Vol. 4 2023)
<https://online.anyflip.com/mxfu/retw/mobile/index.html>
- b. Open Records
- c. Board Meeting 2024 Calendar
- d. Staffing Update
- e. Employee Service Awards

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

Regular Board Meeting – Thursday, December 14, 2023

THE NCPERS

MONITOR

The Latest in Legislative News

December 2023

NCPERS

Executive Director's Corner



It's Time to Rethink Public Pension Compensation


By [Hank Kim](#), Executive Director and Counsel, NCPERS



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While recruitment and retention challenges have only made headlines recently as they've impacted the private sector, the public sector has been dealing with these issues for decades. Public pensions in particular have struggled with retaining executives and senior-level investment professionals, as evidenced by several recent high-profile departures.

So, what's contributing to this turnover, and how can public pensions attract and retain top talent?

One simple answer is the aging workforce. The pandemic led many older workers to expedite their retirements and rethink their plans to return to the office. A recent [study](#) by MissionSquare found that 36 percent of HR managers at local government agencies are seeing an increase in retirements this year. 

Compensation of course plays an important role, too, as public plans historically have not been able to compete with private sector salaries—especially for senior leaders and in-house investment positions.

Further, the work itself has changed substantially in recent years as public pensions operate in an increasingly politicized and polarizing environment. A growing number of public pensions are caught in the middle as politicians aim to earn points with voters through sweeping legislation and implement policies that ultimately restrict how plans can invest, without taking into consideration the complexities of retirement systems' portfolios or their fiduciary duties. Senior leaders at public pensions face scrutiny from all sides—about funding ratios, investment allocations, COLAs, and even staff bonuses—which may contribute to burnout and ongoing stress in these roles.

Tasked with investing billions of dollars, administering benefits to public servants, and advocating with policymakers and stakeholders, public pensions are unique compared to other public agencies. Approximately two-thirds of public pension revenue comes from investment earnings, and they ultimately have a net positive economic impact on local economies and revenues. Our [research](#) shows that in 2018, public pension funds generated \$179.4 billion more in state and local revenues than taxpayers contributed to the funds. Further, the economy grows by \$1,362 with the investment of each \$1,000 of pension fund assets. So, clearly it's imperative to have top tier staff at the helm.

Offering compensation more in line with the private sector could help broaden the pool of applicants and retain top talent who enjoy the mission-driven work one finds at a public pension. And that's why it's time to rethink public pension compensation.

Public pensions are more akin to a financial services entity than a pure government agency and, as a result, compensation for public plans may need to be looked at with a different lens. One of NCPERS' goals in developing the [Public Pension Compensation Survey](#) is to bring transparency and insight into compensation and benefits packages at state and local pension plans. The second, more long-term goal, is to help show policymakers and the public what resources plans need in order to attract and retain high-functioning and qualified staff.

Despite the challenges, working for public pensions can be extremely rewarding. But in order to ensure continued efficiencies that allow them to provide vital benefits to public servants while contributing to the broader economy, compensation needs to be evaluated to reflect the evolving challenges public pensions face today. ♦

2024 PENSION COMMUNICATIONS SUMMIT

January 21–22
Washington, DC

Early-bird Registration Deadline: Friday, January 5

How Public Pensions Can Support Participants' Retirement Readiness Through Financial Education

By: [Lizzy Lees](#), Director of Communications, NCPERS



Photo Illustration © 2023, istock.com

Picture this: The U.S. is gearing up for Peak 65, a momentous time where a record-breaking wave of Americans will hit that retirement milestone we dream about for much of our working lives. With over 10,000 daily 65th birthday celebrations and a projected surge to over 12,000 daily by 2024, retirement planning—and the financial anxiety that surrounds it—is on many of our minds.

With high levels of inflation and housing affordability at its lowest point in decades, financial stress is having a real impact on the American workforce and retirees. Eighty-five percent of Millennials and 69 percent of workers aged 45 and older worry about money every day. Nearly two-thirds of working Millennials and 62 percent of older workers with workplace retirement plans fear they won't be able to grow their retirement savings to the level they hoped, according to new Schroeders [data](#).

Retirement should be something to look forward to, not feared. A pension is just one piece of the retirement planning puzzle, and it's crucial to help public sector employees of any age understand their benefits and develop the skills needed to effectively plan for a secure future and feel confident in their decision-making. ☺

While each organization's approach to member education and engagement is different, NCPERS is here to help. Earlier this year, we launched [NCPERS Retirement Security SmartBrief](#). This free, weekly newsletter features easy-to-read summaries of the latest news on issues impacting our financial wellbeing in retirement. Topics range from financial literacy resources, pension news, market trends, and more. We encourage you to share the [signup link](#) with your organization's staff and members so they can take advantage of this free educational resource as they plan for their own retirement.

At the [2024 Pension Communications Summit](#), held January 21-22 in Washington, DC, several sessions will focus on effective communication with members to support ongoing education and engagement efforts. During the "Tips for Communicating with Members at Various Life Stages" session, SBCERA's Olivia Applegate will share strategies for effectively communicating with members of all ages. We'll also have a session on breaking down complex topics for all audiences to help your team communicate clearly about complicated subjects such as investment strategies or pension administration. [View the agenda](#) and [register now](#) for early-bird pricing.

NCPERS [pension fund roundtables](#) are also a great place to learn how other organizations are approaching member education around financial wellness and retirement planning.

Understanding money isn't just about balancing a budget; it's about empowering ourselves, regardless of age or generation, with the know-how to navigate life's financial complexities. That confidence in our ability to handle financial decisions, known as self-efficacy, forms the backbone of financial capability. It's more than just knowing the ins and outs; it's about processing information and taking action. Research by the [Consumer Financial Protection Bureau](#) underscores this link between financial skill and self-efficacy, highlighting how they shape our financial behavior. A complete understanding of one's retirement benefits combined with ongoing financial education can help public sector workers be ready to celebrate—not fear—their own retirement milestone. ♦

A promotional banner for the 2024 Legislative Conference. The left side features a photograph of four professionals in business attire standing on the steps of a grand building with a dome, likely a state capitol. A stylized graphic of the capitol dome is overlaid on the image, with blue and red diagonal stripes. The right side of the banner has a light gray background with a subtle grid pattern. The text is in a bold, dark blue font. At the bottom, a red banner contains the registration deadline information in white text.

2024 LEGISLATIVE CONFERENCE
January 22-24
Washington, DC

Early-bird Registration Deadline: Friday, January 5

Congressional Year End

By: [Tony Roda](#), Partner, Williams & Jensen



Photo Illustration © 2023, iStock.com

With the remaining days on Congress's 2023 calendar fast dwindling, the Congressional Leadership is trying to determine what pieces of legislation will be finalized and sent to President Biden for his signature by year's end.

Congress already removed much of the usual year-end pressure by passing a stop-gap funding measure for federal programs and agencies, commonly known as the Continuing Resolution (CR). This specific CR is unusual in that some federal spending will expire on January 19 while other programs and agencies will see their funding expire on February 2. This two-step CR is designed to break the funding debate into more manageable pieces, so that the disparate voices in Congress and the White House will have more opportunity to find common ground. However, differing views exist not only between Democrats and Republicans, but also within the Republican party. This intense controversy is leading some to conclude that it will be impossible to reach agreement on full-year spending bills and that Congress will have to limp along through the entire fiscal year 2024, which ends on September 30, 2024, by enacting additional stop-gap funding bills.

One measure that could see action this year is a technical corrections bill for the recently enacted SECURE Act 2.0. There are over 90 provisions in SECURE 2.0 and collectively they touch almost all parts of U.S. tax law related to retirement and pension plans and their plan participants. As with all new tax laws, the complexity of amending the tax code often leads to errors and inadvertent applications that need to be fixed by subsequent statutory changes.

Earlier this year, the Chairmen and Ranking Members of the House Ways and Means Committee and the Senate Finance Committee (commonly referred to as the "four corners" of Congressional tax jurisdiction), wrote to the Secretary of the Treasury and the IRS Commissioner to convey their intention to introduce technical corrections legislation to address certain issues discussed in the letter – RMD age trigger overlap for those born in 1959, underlying authority for the catch up, Roth contribution limit and its interrelation with SIMPLE IRA and SEP contributions, and the small employer pension startup credit. The letter also said that other technical issues might be addressed in a corrections bill. [🔗](#)

As of this writing, technical corrections legislation has not yet been introduced in Congress, although work is being done behind the scenes by tax staff of the Committees. NCPERS will monitor this area closely for any end-of-year tax corrections legislation.

While not a matter that will be resolved in 2023, it is important to note that on November 20, the House Ways and Means Committee's Subcommittee on Social Security held a hearing entitled, Social Security's Disservice to Public Servants: How the Windfall Elimination Provision and Government Pension Offset Mistreat Government Workers. The hearing was the most recent in a series of field hearings on a variety of topics that the Committee has held this year. The November 20 hearing was held at the firehouse of the St. George Fire Department in Baton Rouge, Louisiana. The location reflects the strong support of firefighters, public safety employees, and public sector workers in general for the repeal of the Windfall Elimination Provision (WEP) and the Government Pension Offset (GPO).

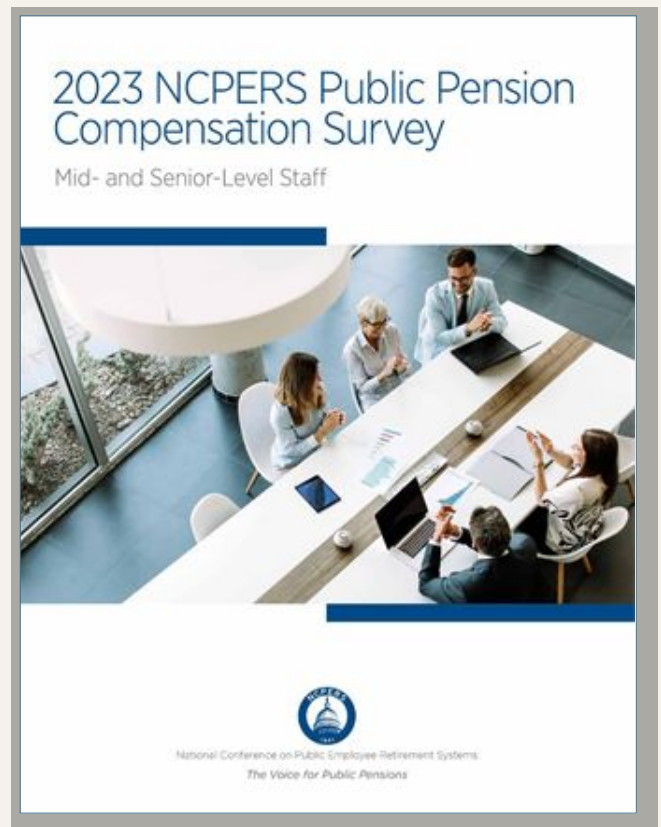
The witnesses were Patrick Yoes, retired Louisiana Law Enforcement Officer, now National President of the Fraternal Order of Police, Ann Dugas, retired Louisiana state employee, Bernard "Bernie" Piro, retired Louisiana firefighter, and Paula Porter, retired Louisiana educator.

While no concrete timetable was announced for Committee action and the discussion did not dig into the high cost of repeal (\$150 billion over 10 years and one year of trust fund solvency), Chairman Jason Smith (R-MO) stated that WEP and GPO have prevented Americans from getting the Social Security benefits they deserve. He said people are often unaware of the complexity of WEP and GPO and called on Congress to provide public servants with fair treatment. Chairman Smith emphasized that the hearing was the next step in the Committee's work to provide help to retirees.

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Representative Garrett Graves (R-LA), who is the author of legislation to repeal both WEP and GPO (H.R. 82), underscored that this issue has been ongoing for four decades and noted that his bill to repeal the two Social Security penalties is the third most cosponsored bill in the current Congress.

As the 118th Congress winds down for the year, NCPERS is looking forward to its [2024 Legislative Conference](#), which will be held in Washington, D.C., on January 22-24. We hope to see many of you there. NCPERS is planning a two-day program of speakers as well as a day dedicated to meetings on Capitol Hill.

As always, we will keep you apprised of any significant developments in Congress and the Executive Branch departments and agencies. ♦

Tony Roda is a partner at the Washington, D.C. law and lobbying firm [Williams & Jensen](#), where he specializes in legislative, regulatory, and fiduciary matters affecting state and local pension plans. He represents the National Conference on Public Employee Retirement Systems and state-wide, 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 the Catholic University of America, and LL.M (tax law) from the Georgetown University Law Center.

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Find new metrics and approaches for measuring public pension health, research on how employers and employees can use pre-tax dollars to fund retiree medical expenses, and more.

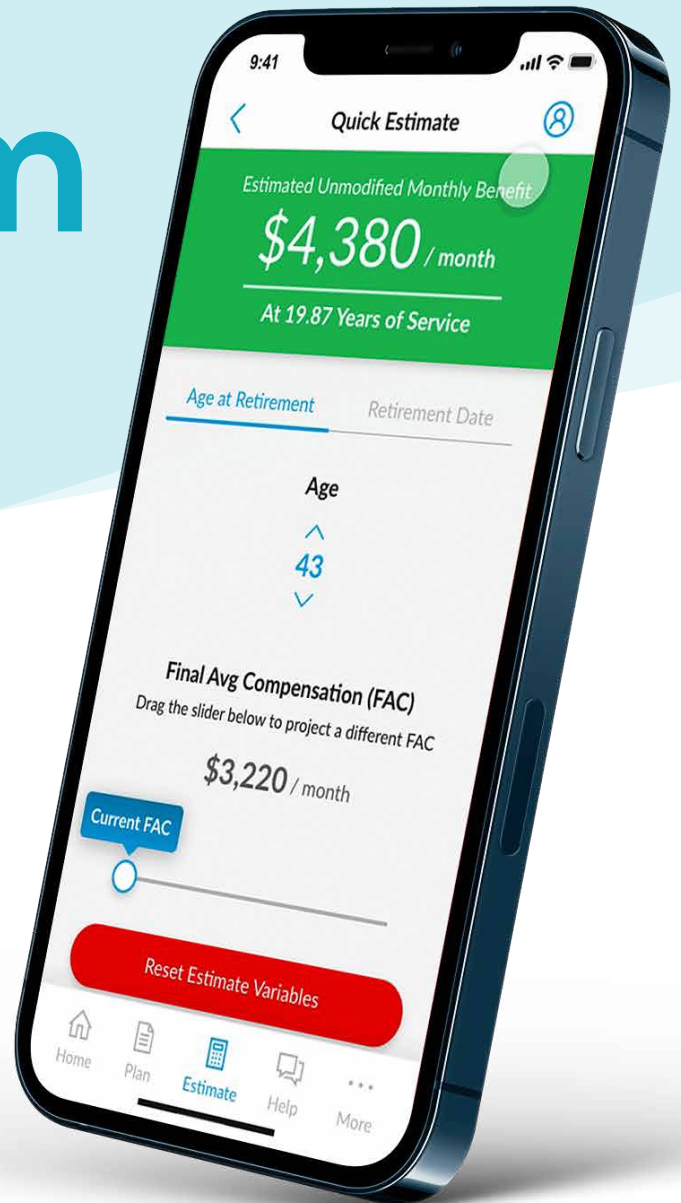
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NCPERS PensionX Digital Platform

NCPERS has partnered with Digital Deployment to offer its members a **10% DISCOUNT** on PensionX, the premier digital platform that securely enables pensions to engage with active and retired participants via a mobile self-service app and portal.



pensionX



Learn more about this new NCPERS member benefit at ncpers.org/pensionx

[Public Pension Profiles: Exploring HR Challenges and Strategies with Shunne Powell, Chief Organizational Excellence Officer at TRS of Texas](#)

NCPERS spoke with Shunne Powell, Chief Organizational Excellence Officer at the Teacher Retirement System of Texas (TRS), about challenges and opportunities for HR professionals, recruitment and retention strategies, and the talent pipeline at TRS. She is an active member of NCPERS newest [roundtable for human resources professionals](#) at public pensions.

“The strength of our mission resonates deeply—almost everyone here has been impacted by an educator or knows someone in education who's made a difference. Having that purpose drives us; it's something we can all rally behind,” she said.

[Read the full interview](#)

[Learn About the Latest Policy Developments Impacting Public Pensions at NCPERS Legislative Conference](#)

Learn about the latest regulatory and policy developments affecting public pensions and acquire the skills to advocate effectively on their behalf at [NCPERS Legislative Conference](#), held January 22-24 in Washington, DC.

As the premier event that shapes the advocacy agenda for public pensions, you'll have the opportunity to have your voice heard during targeted meetings on the Hill. Discover how to effectively navigate the political landscape and connect with like-minded professionals to forge valuable connections. [Register now](#) to be a part of the force that advocates for this vital industry.

[Learn More](#)

[Public Pension Profiles: CalPERS Chief DEI Officer, Marlene Timberlake D'Adamo](#)

Continuing our series of public pension executive profiles, NCPERS had the privilege to engage in a conversation with Marlene Timberlake D'Adamo, Chief Diversity, Equity, and Inclusion Officer at CalPERS. The discussion revolved around the profound impact of CalPERS' DEI framework and its intersection with various aspects of the organization, from investment strategy to employee satisfaction.

“What distinguishes our approach is the deliberate integration of DEI across all our processes, spanning our five pillars and throughout the organization. DEI isn't an isolated initiative; it's ingrained in our work,” she said.

[Read the full interview](#)

NYC Pensions Increase Allocation to Emerging Managers Following Outperformance

New York City's pension funds announced they are expanding their emerging manager program after an analysis showed that the women-and minority-owned asset managers with whom they invest have outperformed their benchmarks net of fees in all asset classes since 2015.

[READ MORE](#)Source: *Chief Investment Officer***Pennsylvania House OKs \$1.8 Billion Pension Boost for Government and Public School Retirees**

Democrats who control the state House of Representatives advanced an estimated \$1.8 billion boost to the pensions of Pennsylvania state government and public school retirees, while some Republicans said taxpayers will unfairly shoulder the financial burden.

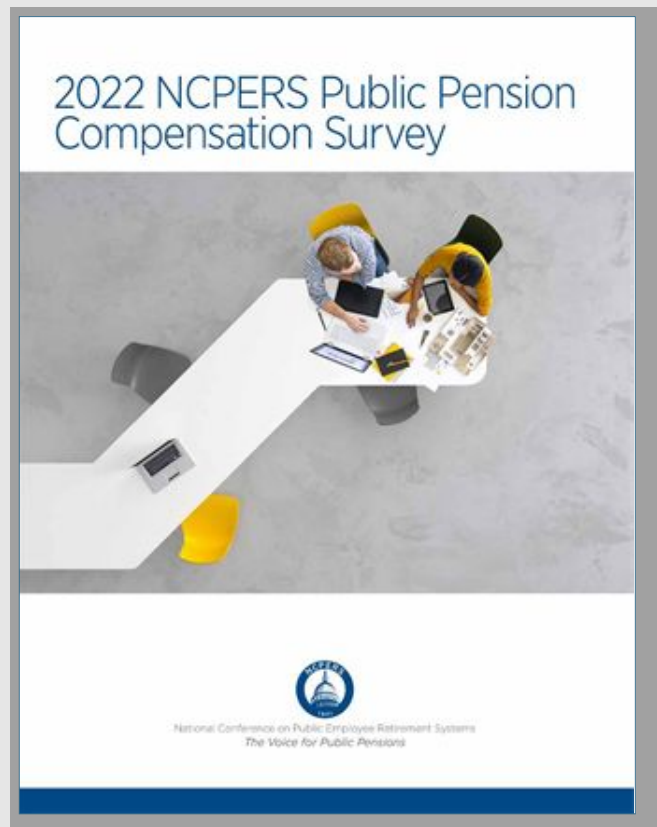
[READ MORE](#)Source: *Associated Press***Pay Bump for Retired Texas Teachers Supported by Voters**

Texas' retired teachers and public school employees are on track to receive a bump in their monthly pension checks as unofficial election returns show voters approving more than \$3 billion to fund the cost-of-living increases.

[READ MORE](#)Source: *The Dallas Morning News*

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California's Pensions are Getting Greener

The California Public Employees' Retirement System for years has resisted activists' calls to dump all its oil and gas holdings, saying it doesn't have the luxury of embracing "social responsibility" if there's a risk to members' pensions. But under a new proposal, the system would add new scrutiny of climate risks in its \$444 billion portfolio while expanding investments in things like renewable energy, carbon capture and drought-resistant crops.

[READ MORE](#)Source: *Politico***A State Retiree Seeks to Overturn Oklahoma's 'Woke' Investment Ban**

A former state employee, backed by pension groups and an organization that represents public workers, is suing to overturn an Oklahoma law banning the state from doing business with financial firms accused of boycotting the fossil fuel industry.

[READ MORE](#)Source: *The Frontier***Chicago's 2024 Budget Includes \$2.8 Billion in Pension Contributions**

Those contributions, include \$307 million in advance payments and represent the third year in a row — and third in the city's history — it has made actuarially determined contributions. .

[READ MORE](#)Source: *Pensions & Investments*

NCPERS 2023 Public Retirement Systems Study:

Trends in Fiscal, Operational,
and Business Practices

[READ THE REPORT](#)





Upcoming Events

January

Pension Communications Summit

January 21–22
Washington, DC

Legislative Conference

January 22–24
Washington, DC

May

NCPERS Accredited Fiduciary (NAF) Program

May 18–19
Seattle, WA

Trustee Educational Seminar (TEDS)

May 18–19
Seattle, WA

View all upcoming NCPERS conferences at www.ncpers.org/future-conferences.

May

Annual Conference & Exhibition (ACE)

May 19–22
Seattle, WA

June

Chief Officers Summit

June 17–19
Nashville, TN

August

Public Pension Funding Forum

August 18–20
Boston, MA

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The Voice for Public Pensions

The Monitor is published by the National Conference on Public Employee Retirement Systems. Website: www.NCPERS.org • E-mail: info@ncpers.org



2024 BOARD MEETING DATES

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

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 when the Actuarial Valuation is presented.