AGENDA

Date: March 5, 2021

The regular meeting of the Dallas Police and Fire Pension System Board of Trustees will be held at **8:30 a.m. on Thursday, March 11, 2021, 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/82764814779?pwd=TlIyMjd1WnVjcGZwYXVuY2g3YXdUZz09 Passcode: 872809.** Items of the following agenda will be presented to the Board:

A. MOMENT OF SILENCE

B. CONSENT AGENDA

1. Approval of Minutes

Regular meeting of February 11, 2021

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

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

4. **Approval of Estate Settlements**

5. **Approval of Service Retirements**

6. **Approval of Alternate Payee Benefits**

C. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

1. **Peer Compensation Review**

   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.

2. **Audit Committee Recommendation for Audit Firm**

3. **Report on Professional Services Provider Meetings**

4. **Legislative Update**

5. **Monthly Contribution Report**

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

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

7. **Portfolio Update**

8. **Report on Investment Advisory Committee**

9. **Investment Policy Statement**

10. **Asset Allocation Review**

11. **Fourth Quarter 2020 Investment Performance Analysis and Third Quarter 2020 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.

12. **Natural Resources Portfolio Review - Forest Investment Associates & BTG Pactual**

    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.

13. Lone Star Investment Advisors Update

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.071 of the Texas Government Code.

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

D. BRIEFING ITEMS

1. Public Comment

2. Executive Director's report

a. Associations' newsletters
- NCPERS Monitor (March 2021)
- NCPERS PERSist (Winter 2021)

b. Open Records

c. Education Update

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

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

DALLAS POLICE & FIRE PENSION SYSTEM

ITEM A

MOMENT OF SILENCE

In memory of our Members and Pensioners who recently passed away

NAME	ACTIVE/ RETIRED	DEPARTMENT	DATE OF DEATH
Gerald L. Harrell	Retired	Police	Feb. 10, 2021
Mitchell A. Penton	Active	Police	Feb. 13, 2021
V. P. Bruzzese	Retired	Fire	Feb. 16, 2021
Billy W. Taylor	Retired	Fire	Feb. 17, 2021
Hugh B. Wesson	Retired	Fire	Feb. 17, 2021
Harry D. Morris	Retired	Fire	Feb. 18, 2021
Ray F. Reed	Retired	Fire	Feb. 21, 2021
Jimmy L. Flanagan	Retired	Fire	Feb. 22, 2021
Bobby G. Hamilton	Retired	Fire	Feb. 23, 2021
Brian K. Allen	Retired	Fire	Feb. 23, 2021

Regular Board Meeting – Thursday, March 11, 2021

Dallas Police and Fire Pension System
Thursday, February 11, 2021
8:30 a.m.
Via telephone conference

Regular meeting, William F. Quinn, Chairman, presiding:

ROLL CALL

Board Members

Present at 8:31 a.m.	William F. Quinn, Nicholas A. Merrick, Armando Garza, Michael Brown, Kenneth Haben, Tina Hernandez Patterson, Steve Idoux, Mark Malveaux, Allen R. Vaught
Present at 8:45 a.m.	Gilbert A. Garcia
Present at 10:16 a.m.	Robert B. French
Absent:	None
Staff	Kelly Gottschalk, Josh Mond, Kent Custer, Brenda Barnes, John Holt, Damion Hervey, Cynthia Thomas, Ryan Wagner, Greg Irlbeck, Michael Yan, Milissa Romero
Others	Dick Mullinax, Iva Giddiens, James Martinez, Bohdy Hedgcock, Kevin McCabe, Leandro Festino, Sidney Kawanguzi

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The meeting was called to order at 8:31 a.m.

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A. MOMENT OF SILENCE

The Board observed a moment of silence in memory of retired police officer Ronald D. Watts, Sidney Q. Grosvenor, Mark A. Taylor, W. E. Perry, Jr., Zachariah N. Garfield, James L. Lewis, Joseph A. Desonier, Lee A. Bush, George L. Purnell, and retired firefighters John W. Hudson, L. M. Loggins, Edwin L. Bateman, John C. Lamb, Glenn L. Moore, Robert Hernandez, Clayton M. Miller.

No motion was made.

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Regular Board Meeting
Thursday, February 11, 2021

B. CONSENT AGENDA

1. **Approval of Minutes**

   Regular meeting of January 14, 2021

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

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

4. **Approval of Estate Settlements**

5. **Approval of Survivor Benefits**

6. **Approval of Service Retirements**

7. **Spouse Wed After Retirement (SWAR)**

After discussion, Mr. Merrick made a motion to approve the minutes of the meeting of January 14, 2021. Mr. Haben seconded the motion, which was unanimously approved by the Board.

After discussion, Mr. Quinn made a motion to approve the remaining items on the Consent Agenda, subject to the final approval of the staff. Mr. Garza 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. **Communication Plan**

   During the November 2020 Board meeting the Board directed the Executive Director to develop a communication plan related to funding issues. Dick Mullinax of FleishmanHillard presented a proposed communication plan to the Board.

   After discussion, Mr. Malveaux made a motion to authorize staff to engage FleishmanHilliard to do preliminary communications work as outlined for the Board for an amount not to exceed $20,000. Mr. Garcia seconded the motion, which was unanimously approved by the Board.

   Mr. French was not present for the vote.

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Regular Board Meeting
Thursday, February 11, 2021

2. Risk Insurance

Iva Giddiens, Area Managing Director and James Martinez, Fiduciary Liability Program Specialist, representatives of DPFP's insurance broker, Arthur J. Gallagher & Co. discussed the insurance market and the risk insurance renewal quotes. Staff reviewed the limits and costs of the various coverage level options for Cyber, Crime and Fiduciary. The Board concurred with staff's recommendation to consider reducing some of the excess layers of the Crime, increasing the Cyber and maintaining the Fiduciary insurance coverage levels.

No motion was made.

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3. Chairman's Discussion Items

Funding Committee Update

The Chairman briefed the Board with an update on the Funding Committee.

No motion was made

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4. Quarterly Financial Statements

The Chief Financial Officer presented the preliminary fourth quarter 2020 financial statements.

No motion was made.

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5. Peer Compensation Review Status

The Executive Director provided an update on the Peer Compensation Review.

After discussion, Ms. Hernandez Patterson made a motion to direct staff to work with its legislative consultants to pursue legislation which would enable the Board to elect to have System employees become members of the Texas Municipal Retirement System. Mr. Vaught seconded the motion, which was unanimously approved by the Board.

Mr. French was not present for the vote.

Regular Board Meeting
Thursday, February 11, 2021

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6. Monthly Contribution Report

The Executive Director reviewed the Monthly Contribution Report.

No motion was made.

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7. Board Members' reports on meetings, seminars and/or conferences attended

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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8. 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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9. Investment Policy Statement Review

The Board provided feedback and guidance regarding the revisions to the Investment Policy Statement proposed by staff and Meketa.

No motion was made.

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Regular Board Meeting
Thursday, February 11, 2021

10. Real Estate Overview – Clarion Partners Portfolio

Bohdy Hedgcock, and Kevin McCabe representatives of Clarion Partners updated the Board on the status and plans for DPFP's investment in CCH Lamar.

The Board went into closed executive session at 10:49 a.m.

The meeting was reopened at 11:34 a.m.

No motion was made.

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11. Lone Star Investment Advisors Update

Investment Staff updated the Board on recent performance, operational, and administrative developments with respect to DPFP investments in funds managed by Lone Star Investment Advisors.

The Board went into closed executive session at 10:49 a.m.

The meeting was reopened at 11:34 a.m.

No motion was made.

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

The Board went into closed executive session at 10:49 a.m.

The meeting was reopened at 11:34 a.m.

No motion was made.

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Regular Board Meeting
Thursday, February 11, 2021

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 (February 2021)
- TEXPERS Pension Observer http://online.anyflip.com/mxfu/yhmm/mobile/index.html

b. Open Records
c. Staffing Update

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. Garza and a second by Mr. Vaught, the meeting was adjourned at 11:34 a.m.

____
William F. Quinn
Chairman

ATTEST:

____
Kelly Gottschalk
Secretary

DISCUSSION SHEET

ITEM #C1

Topic: **Peer Compensation Review**

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: In December 2019, the Board directed the Executive Director to conduct a Peer Organizational and Expense review.

The Board will be briefed on the results of this review.

Compensation Study Overview
March 11, 2021

Dallas Police & Fire Pension System

Logic Compensation Group
Total Rewards Consulting

DISCUSSION TOPICS

- About Logic Compensation Group, LLC
- Study Background
- Compensation Philosophy
- Survey Methodology
- Summary of Salary Data Comparisons
- Salary Data Recommendations
- Pay Practices/Benefits Comparison Methodology
  - Pay Practices Comparisons
  - Benefits Comparisons
- Benefits Recommendations
- Administrative Recommendations

ABOUT LOGIC COMPENSATION GROUP, LLC

Our team has worked together for past 7 years at a Fortune 500 consulting firm.

Each team member has more than 15 years of professional level classification and compensation experience, including additional hands-on experience working for municipal organizations.

We focus on quality over quantity, therefore limiting the number of simultaneous engagements

We provide our clients with high-touch, cost-effective services that are customized based on **YOUR** unique needs.

Sampling of Texas Clients

Austin Firefighters Relief & Retirement Fund

City of Alvin

City of Angleton

City of Austin EMS Department

City of Colleyville

City of Deer Park

City of Friendswood

City of Katy

City of Lake Jackson

City of Missouri City

City of Pearland

City of Richmond

City of Sugar Land

City of Webster

City of West University Place

El Paso Police & Fire Pension Fund

Gulf Coast Water Authority

Texas Municipal Retirement System

ABOUT LOGIC COMPENSATION GROUP

Lori Messer, MA, CCP
Managing Director

- 30 years of classification & compensation experience
- 7 years as a Senior and subsequent West Coast Office Principal for Gallagher Benefit Services, Inc.
- 15 years consultative compensation experience in high tech, engineering, distribution and health care industries

Bruce Lawson, MA, CCP
Technical Advisor

- 35 years of experience overseeing and providing technical direction on large-scale projects for public sector clients
- Former executive at Ernst & Young, Fox Lawson & Associates and Gallagher Benefit Services, Inc.

Annette Hoefer, MBA, CCP
Principal Consultant

- 25 years performing classification and compensation studies for the public sector as a senior consultant with Lee & Burgess Associates, Fox Lawson & Associates and Gallagher Benefit Services

Nichole Arko, MBA, CCP
Consultant

- 20 years of experience conducting compensation analyses
- 7 years as a Consultant with Gallagher Benefit Services.
- 15 years consultative compensation experience in health care, environmental services, and manufacturing industries.

STUDY OBJECTIVES

Study Objectives

- Survey the market to understand DPFP's level of competitiveness from a base pay and total compensation perspective for all jobs
- Identify pay alternatives that do not add to base, but provides for a reward system that encourages and rewards exceptional performance
- Identify immediate fiscal impact of proposed base pay recommendations

STUDY INITIATION

Key Activities

- Collected organizational information from DPFP:
  - -Organizational charts
  - -Employee census
  - -Job descriptions
  - -Benefit summaries
- Interviewed DPFP managers/supervisors to gain in-depth understanding of work performed
- Discussed criteria to be used to identify appropriate comparator organizations
- Discussed information to collect on the custom survey:
  - - Comparator demographics and staffing
  - - Benefits data
  - - Types of pay (base, incentive/bonus)
- Discussed options and metrics for assessing competitive position in the market:
  - - Actual salaries vs salary ranges
  - - Median, average, 60th percentile or other comparative metric

COMPARATOR ORGANIZATIONS

Factors Considered in Identifying Comparator Organizations

- Several factors were taken into consideration in identifying prospective organizations to survey, as follows:
  - ***Geographic location***
    -Preference for Texas organizations
    -Organizations outside of Texas were included in order to ensure sufficient data due to limited number of pension systems that met investment portfolio size parameters
  - ***Size of investment portfolio***
    -Guideline is to look at no less than ½ and no greater than 2x[1]
  - ***Investment management structure***
    -Externally managed
  - ***Size of membership***
    -Guideline is to look at no less than ½ and no greater than 2x[1]
- A combination of the above factors were considered and exceptions may exist in order to obtain sufficient data in order to perform analysis and draw conclusions on data.

[1]Exceptions exist due to Texas market comparators for which the System competes for talent

COMPARATOR ORGANIZATIONS

Organization's Invited to Participate in Custom Survey

- 16 organizations invited to participate in the survey
  - 8 completed survey
  - Open records requests (ORR) were distributed to the 8 organizations that did not voluntarily complete survey and partial data was obtained from 6 of the organizations

Completed Survey	ORR (Incomplete Data Received)	No Data Obtained
Austin Firefighters Relief & Retirement Fund, TX	Baltimore Fire & Police Employees Retirement System	Kansas City Employee Retirement System, MO
Austin Police Retirement System, TX	Seattle Employees Retirement System, WA	Oklahoma Public Employee Fund, OK
Dallas Employees' Retirement Fund, TX	Austin Employees' Retirement System, TX	
Denver Employee Retirement Plan, CO	Houston Firefighters' Relief & Retirement Fund, TX	
Detroit Police & Fire Retirement System, MI	Houston Municipal Employees Pension System, TX	
El Paso Firemen and Policemen's Pension Fund, TX	San Antonio Fire and Police Pension Fund, TX	
Fort Worth Employees' Retirement Fund, TX		
Houston Police Officers' Pension System, TX		

COMPARATOR ORGANIZATIONS

Demographics of Survey Participants

	# Members	Size of Investment Portfolio	# FTES	# Investment Staff	# Benefits/ Member Services Staff	# Accounting Staff
DPFP	10,402	1,982,138,054	24	4	7	5
Market Median	10,545	2,278,614,960	20	2	5	2
Market Average	11,572	2,454,685,644	20	1	5	2

Ideal comparators are no less than ½ and no greater than 2x the size of DPFP[1]

[1]Exceptions exist due to local market comparators for which the System competes for talent
[2]Data on # of staff in each category is not complete due to ORRs

Logic Compensation Group
Total Rewards Consulting

COMPARATOR ORGANIZATIONS

Geographic Differentials

- Applying geographic differentials is a sound compensation practice in an effort to normalize compensation data to be reflective of the cost of labor in Dallas.
- Applying geographic differentials is a standard practices when comparing salaries across geographic areas.
- Geographic adjustment factors applied to actual salaries and salary range data:

Location	Geo Adjustment Factor
Austin, TX	101.0%
Baltimore, MD	96.6%
Denver, CO	98.2%
Detroit, MI	97.7%
El Paso, TX	113.6%
Fort Worth, TX	102.0%
Houston, TX	96.9%
San Antonio, TX	100.0%
Seattle, WA	91.9%

Source: https://www.salary.com/research/cost-of-labor

COMPARATOR ORGANIZATIONS

Geographic Differential Application

- El Paso has a ***lower*** cost of ***labor*** than Dallas; therefore, El Paso's data was adjusted ***upward*** by 13.6% to normalize the rates of pay in El Paso to the cost of labor in Dallas.
- Seattle has a ***higher*** cost of ***labor*** than Dallas; therefore, Seattle's data was adjusted ***downward*** by 8.1% to normalize the rates of pay in Seattle to the cost of labor in Dallas.
- The table below provides an example of how the geographic differential is applied.

Org	Benchmark	Reported Salary	Geo Adjustment Factor	Adjusted Salary
Dallas	Accounting Technician	$50,000	100%	$50,000
El Paso	Accounting Tech	$50,000	113.6%	$56,800
Seattle	Accounting Tech	$65,000	91.9%	$59,735

MARKET SURVEY

Key Activities

- Prepared and distributed custom survey to agreed upon comparator organizations
- Gathered market data from three (3) published survey sources:[1]
    - Pearl Meyer
    - Economic Research Institute
    - CompData
- Followed up with comparator organizations to encourage participation and obtain clarification on survey responses
- Analyzed data and performed internal quality control checks
- Identified how DPFP compensation compares to the market utilizing a three-way assessment:
  - short-term compensation (base pay + bonus/incentive pay)
  - benefits spend
  - total compensation

[1]DPFP requested LCG gather published survey data after the custom survey data was obtained (added to project scope)

MARKET SURVEY

Process

- Comparator organizations were asked to match their job to DFPF's job based on the summary description and minimum qualifications provided in the survey instrument
  - Specifically asked ***NOT*** to match solely based on title
  - Requested jobs matched were at least a 70% match to the summary description and minimum qualifications
- Once data received, LCG performed the following activities in an effort to validate matches:
  - Review job matches and FLSA designations;
  - Conduct outlier analysis to identify data that was between +/- 1.5 and 2 standard deviations from the mean of the data for each benchmark job;
  - Review of comparator job descriptions
- Matches identified as less than a 70% match were excluded from the data analysis
- For pensions that are part of a larger city organization, "shared service" positions that support multiple departments within the organization were excluded (i.e., HR Coordinator supports pension division and other divisions within a City).

MARKET SURVEY

Survey Findings: Compensation Administration

The majority of organizations surveyed utilize formal salary ranges:

	Formal Salary Ranges	No Salary Ranges	Combination of Ranges/No Ranges	Step System	Did Not Report
# of Orgs	7	2	1	0	5

When an organization employs ranges for some jobs and no ranges for others, it is typically executive level jobs where there may not be formal ranges:

1. Serving at the pleasure of a board, council or other governing body
2. Have a contract that is reviewed and renewed on a set schedule

DPFP is ***LAGGING*** the market by not having established salary ranges

There are advantages and disadvantages to formal salary ranges

SALARY RANGES

Pros & Cons

CONS

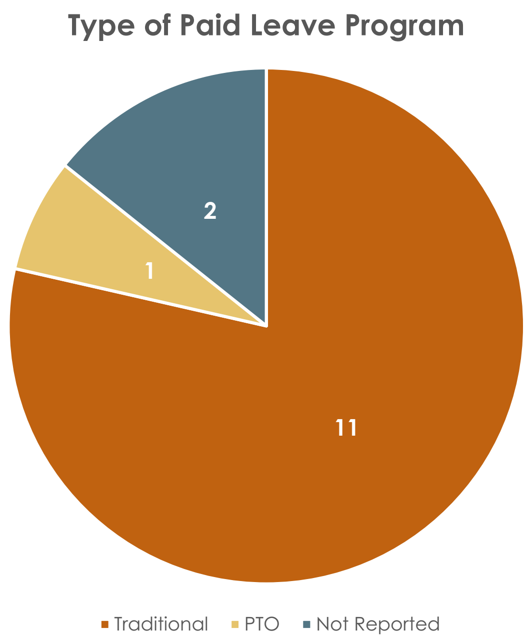
- Can be viewed by managers as "limiting"
- Time and resource commitment required to ensure on-going maintenance

PROS

- Serves as guide in making salary decisions
- Affords same salary opportunity for individuals doing same type and level of work
- Provides a tool for proactively managing salary dollars
- Aids in budgeting
- Provides transparency and clarifies the value of pay for the type of work performed

MARKET SURVEY

Summary of Findings: Paid Leave Program

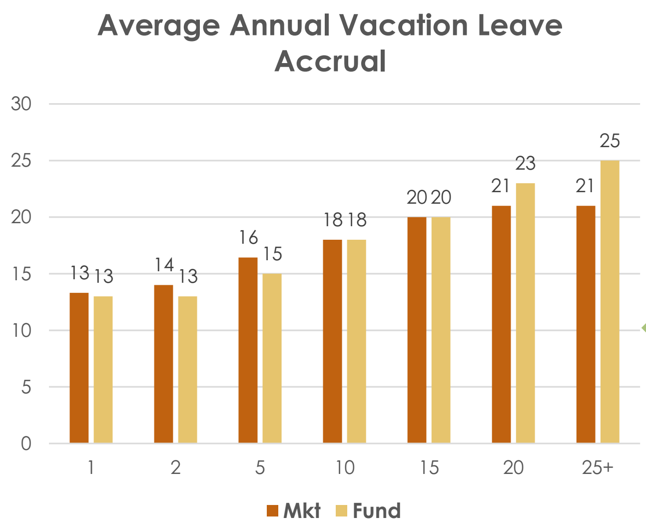


Like DPFP, the majority of organizations surveyed have a traditional leave program that includes separate accruals for vacation and sick leave

DPFP is ***ON PAR*** with the market in the type of paid leave programs offered

MARKET SURVEY

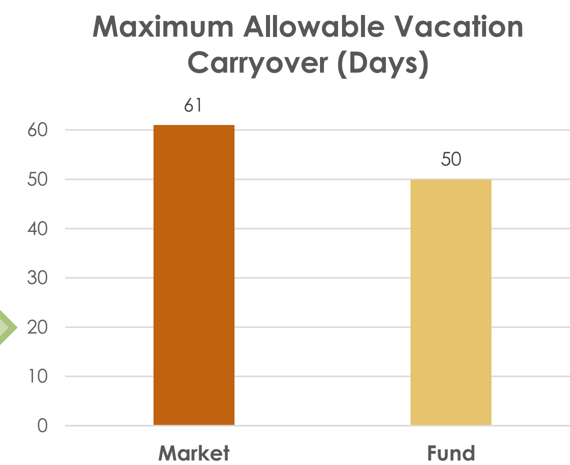
Summary of Findings: Paid Leave



Vacation leave accrual at DPFP is aligned with the market through 20 years. DPFP leads the market in accrual at 25 years and beyond.

DPFP is **ON PAR** with the market:

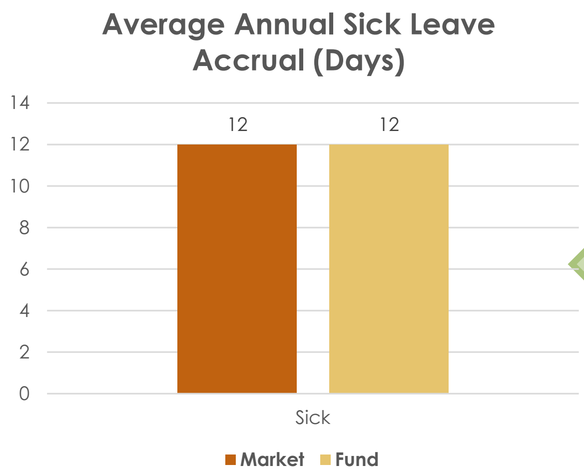
1. Twenty-five (25) years of service was not common in the market;
2. Maximum carryover is based on ***highest*** level of accrual which aligns with years of service.



Each organization surveyed has different criteria for determining allowable carryover; therefore, we look at the ***maximum*** allowable carryover.

MARKET SURVEY

Summary of Findings: Paid Leave

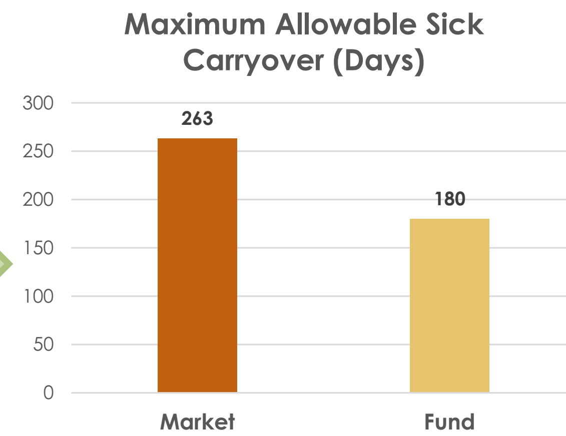


Sick leave accrual at DPFP is aligned with the market.

DPFP is **ON PAR** with the market:

1. Carryover of sick leave is often dependent on the gap between eligibility for disability coverage to allow for the financial welfare of employees.

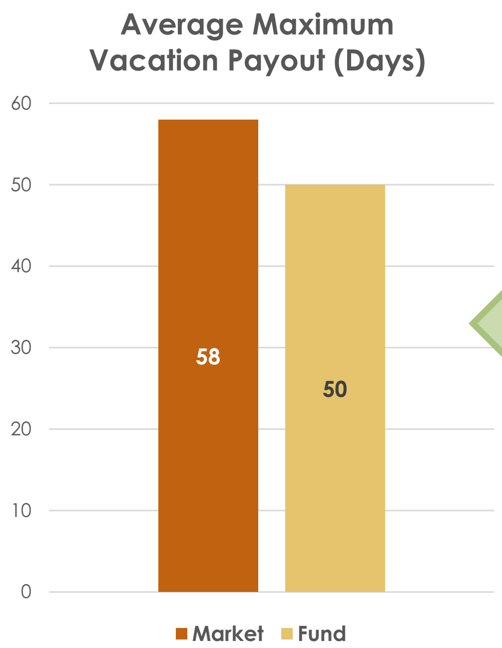
2. The key is not the amount of carryover but what, if anything, is paid upon leaving the organization



Each organization surveyed has different criteria for determining allowable carryover; therefore, we look at the ***maximum*** allowable carryover.

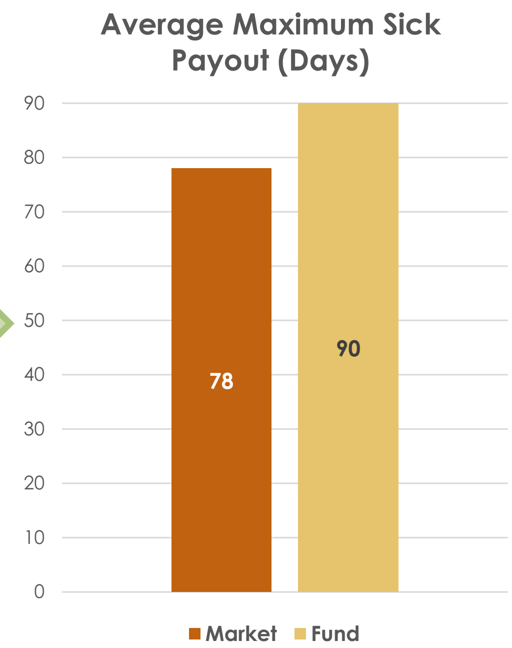
MARKET SURVEY

Summary of Findings: Paid Leave



DPFP is **ON PAR** with the market:

1. Vacation payouts are based on maximum allowable accrual and varies significantly based on years of service.
2. Sick leave payout was reported by 7 organizations (out of 11 organizations reporting); criteria for payout varies significantly among organizations; the maximum payout in the market was 180 days and the lowest payout was 21 days.



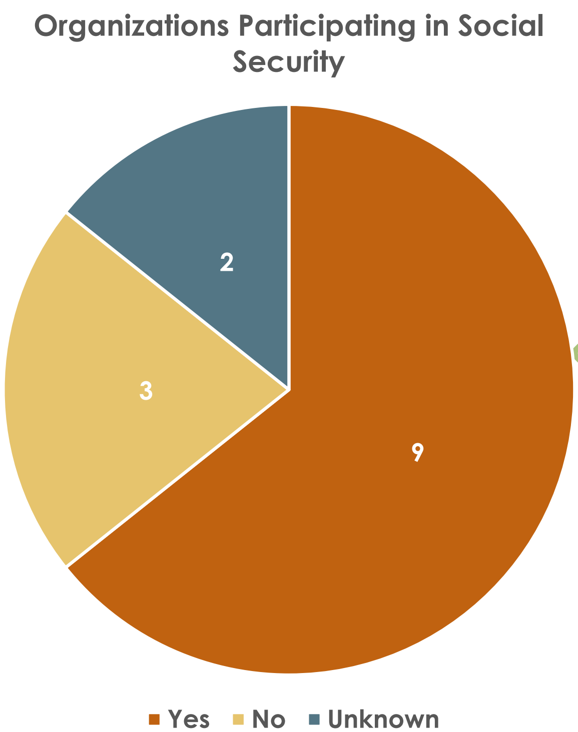
MARKET SURVEY

Summary of Findings: Paid Leave

- When assessing all aspects of DPFPs paid leave program against the market, the collective program was found to be ***ON PAR*** with the market.

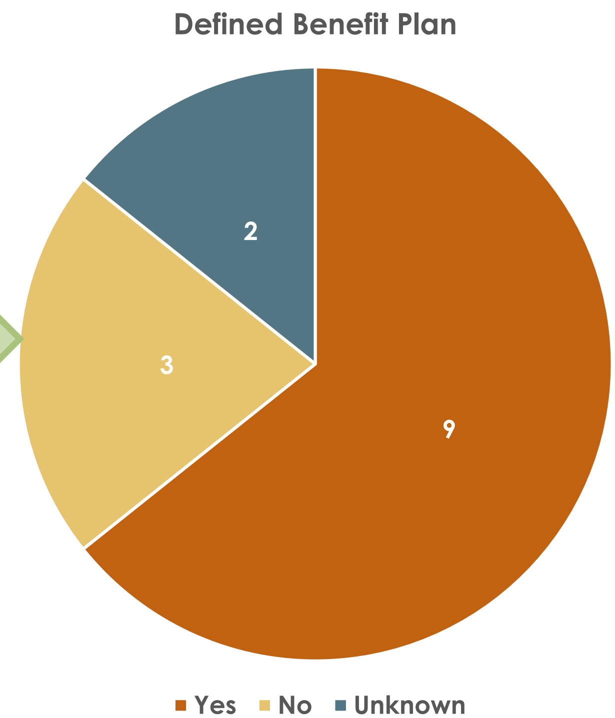
MARKET SURVEY

Summary of Findings: Retirement Program



DPFP is **LAGGING** the market:

1. Majority of organizations participate in Social Security ***and*** a Defined Benefit Plan
2. The majority of the comparator market offers a "guaranteed" income stream at retirement



MARKET SURVEY

Summary of Findings: Retirement Program

- Only two (2) market comparators have a mandatory defined contribution program, like DPFP, with employer contributions of 25% and 15% which is greater than the 12% contribution provided by DPFP
  - One (1) of those organizations also participates in Social Security
- Like DPFP, nine (9) of the organizations that provided responses indicated they offered a voluntary defined contribution program (457 plan was most popular; one organization has a 401k)
  - Two (2) of those organizations provided an employer match, reporting 1% of salary or a $1,500 annual contribution
- When assessing all aspects of DPFPs retirement program against the market, the collective program was found to be ***LAGGING*** the market.

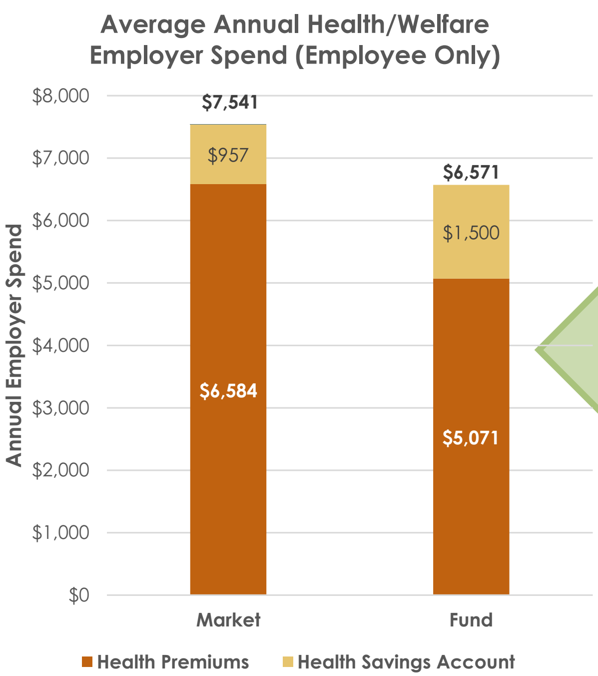
MARKET SURVEY

Summary of Findings: Health & Welfare Programs

- Analysis has been scaled down to focus primarily on employee only level of coverage
- Many organizations offered multiple health and/or dental plan offerings given they are part of a larger organization (i.e., participate in a city-sponsored plan) that allows for multiple plan offerings.
  - Given DPFP's size, multiple offerings are not feasible; therefore, the ***comparisons that follow are based on the High Deductible Health Plan*** offered by DPFP.
  - Across all plan offerings (PPO, HMO and HDHP), the HDHP had the lowest premiums
  - Eight (8) of the comparator organizations surveyed indicated they offer a HDHP with seven (7) providing for employer contributions to HSAs
- The survey instrument did not specifically inquire about Health Reimbursement Accounts (HRAs); therefore, it is important to note that DPFP provides this employer paid benefit (up to $3,750 for employee and $7,500 for family) to lower the overall cost to the employer and to reduce out-of-pocket employee expenses
  - Over a three year period, approximately 25% of employees had claims that fell into the HRA coverage area (average annual employer spend of $24,506 per year)

MARKET SURVEY

Summary of Findings: Health & Welfare Programs



DPFP is **LEADING** the market:

1. DPFPs average spend for heath-related premiums/HSA funding is approximately 13% lower than the market
2. DFPF medical deductibles are slightly higher than the market, but overall out-of-pocket is significantly lower. This is attributable to DPFPs Health Reimbursement Account (HRA)[2]

	MARKET HEALTH INS: HDHP AVERAGES		FUND HEALTH INS: HDHP AVERAGES[2]	
	Deductible	Max OOP	Deductible	Max OOP
EE Only	$2,925	$5,192	$3,000	$3,000
EE+Ch	$5,733	$10,333	$6,000	$6,000
EE+Sp	$5,733	$10,333	$6,000	$6,000
Family	$5,733	$10,333	$6,000	$6,000

Note: We did not receive information from survey respondents indicating that they had an HRA

[1]*"Average Annual Health/Welfare Employer Spend" includes: HDHP Medical, Dental & Vision premiums paid by employer; plus annual HSA employer contributions.*
[2]*Deductibles and Maximum Out-of-Pocket (OOP) take into consideration DPFP HRA program, reducing by $3,750 at the EE only coverage and $7,500 for EE "plus" coverage*

MARKET SURVEY

Summary of Findings: Health & Welfare Programs

Level of Coverage	AVERAGE MONTHLY MEDICAL PREMIUM (HDHP) Market	Fund
EE Only	$552.86	$538.51
EE+Ch	$1,039.43	$1,056.65
EE+Sp	$1,180.12	$1,319.32
Family	$1,589.80	$1,804.62

DPFP is **LAGGING** the market:

1. For EE only coverage, DPFP spend on ***medical*** premiums is 28% less than the market average, while the total monthly premium is 3% less
2. DPFP premium share is significantly lower than the market for all levels of coverage. Of particular note is employee only coverage, highlighted in blue on table to the right
3. For EE only coverage, DPFP employees contribute $165 per month compared to the market average employee contribution of $35 per month (DPFP total premium for EE only coverage is 3% less than market average)

Level of Coverage	MEDICAL PREMIUM SHARE[1] (HDHP) MARKET Employer	MARKET Employee	FUND Employer	FUND Employee
EE Only	94%	6%	69%	31%
EE+Ch	89%	11%	65%	35%
EE+Sp	85%	15%	64%	36%
Family	77%	23%	62%	38%

[1]Percentages rounded to nearest whole percent

MARKET SURVEY

Summary of Findings: Health & Welfare Programs

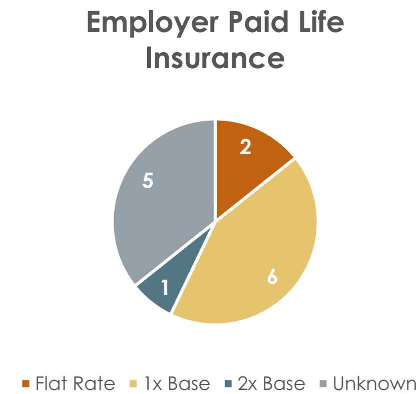
- The largest portion of the health and welfare assessment is attributable to health insurance premiums
- DPFP's health insurance premiums are highly competitive with market average premiums
  - The scope of the study focused on ***employer spend*** and therefore, plan design elements were not taken into consideration when determining level of competitiveness[1]
- While DPFP's average premium cost for all levels of coverage combined is competitive with the market average (8.2% higher than the market average), the premium share is significantly lower than the market by 21%; for employee only coverage, it is 24% lower.
  - DPFP's average contribution to health premiums for all levels of coverage is 65% versus the market's average contribution of 86% of the total monthly premium[2]
- Based on the collective review of health and welfare costs, DPFP is ***LAGGING*** the market, primarily due to the premium share for all levels of coverage.

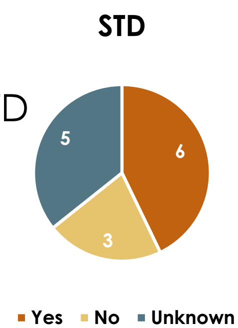
[1]Maximum HRA was applied to reduce employee deductibles and OOP maximums. The amounts paid out of HRA account should be considered part of the employer spend
[2]The premium share splits are averages for all levels of coverage. Employee only premium share in the market is 94%/6% compared to DPFP's premium share of 69%/31%

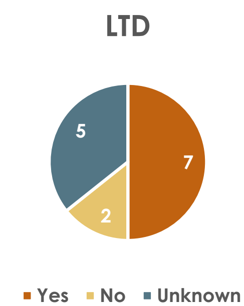
MARKET SURVEY

Summary of Findings: Other Benefit Offerings

- The majority of organizations provide for employer paid life insurance for employees with the majority offering 1x base salary
- One (1) organization offers employer-paid long-term care coverage at a level of $2,000/month; DPFP provides for $3,000/month coverage
- Disability coverage is offered by the majority of organizations
  - 6 of the 9 organizations that responded offer employer-paid STD coverage at an average level of 66% salary replacement; DPFP coverage is at 60% salary replacement
  - 7 of the 9 organizations that responded offer employer-paid LTD coverage at an average level of 60% like DPFP
- In assessing other benefit offerings, DPFP is ***ON PAR*** with the market in funding other benefits at comparable levels of coverage







MARKET SURVEY

Salary Data Analysis Methodology

- Jobs were separated into two groups: Executive Management and Staff
  - Jobs were grouped by these levels as there were significant disparities in how the two groups compared to the market
- The chart on page 30 compares DPFP salaries against the market at the organization level and by the groupings identified above. Specific items to note about the results:
  - The results show an aggregate comparison against the market by group;
  - Comparison of individual jobs against the market will differ from the aggregate results;
  - There were significant differences when comparing DPFP salaries against the market median and market average; therefore, both metrics for both groups are displayed.
  - The data shown is representative of current base pay (as of November 1, 2020) plus the average 2019 actual bonus/incentive pay.

MARKET SURVEY

Salary Data Analysis Methodology

- Salary comparisons were made when DPFP ***and*** the market had reportable data (i.e., DPFP had data for Deputy Chief Investment Officer, but there was insufficient data in the market; therefore, that information was excluded from the aggregate comparison)
  - To determine the aggregate percentage above/below the market of DPFP versus the market, the sum of short-term compensation (base + incentive) was calculated for jobs where data was available for ***both*** DPFP and the market (sum of DPFP salaries *minus* sum of market salaries divided by sum of market salaries)
- Total compensation comparisons include average ***employer spend*** on the following benefits, in addition to base pay plus bonus/incentive pay:
  - Health & Welfare: premiums paid for medical, dental and vision coverage and HSA contributions for employee only coverage;
  - Retirement: contributions to social security, pension, and/or mandatory defined contribution plan;
  - Legally Required Benefits: State & Federal Unemployment Insurance and FICA

MARKET SURVEY

Summary of Compensation Analysis Results

- The results shown below serve as an indicator of how DPFP compares to the market and is specific to a point in time.
  - While the data has been thoroughly vetted utilizing available resources, errors and omissions are possible given the reliance on participating organizations to submit accurate data[1]

Employee Group	Short Term Cash (Salary + Bonus/Incentive)		Total Compensation (Short Term Cash + Employer Benefit Spend)	
	Market Median	Market Average	Market Median	Market Average
All Employees	+21.5%	+19.4%	+6.7%	+7.2%
Executive Management	+39.3%	+36.0%	+22.1%	+23.2%
Staff	+8.7%	+7.3%	-4.0%	-3.8%

When comparing actual salary of DPFP staff positions against the median of actual salaries in the market, DPFP salaries are 8.7% ***higher*** than what is paid at the market median of all staff jobs; Executive Management, when compared to average salaries in the market, is paid 36.0% higher than the market.

When comparing total compensation of DPFP staff positions against the median of total compensation in the market, DPFP total compensation is 4.0% ***lower*** than the market median of all staff jobs; Executive Management, when compared to average total compensation in the market, is 23.2% higher than the market .

[1]There was data that was identified as inaccurate based on specific knowledge of a comparator organization and appropriately adjusted; there may be information that was reported by comparator organizations that was not easily identified as inaccurate.

Logic Compensation Group
Total Rewards Consulting

RECOMMENDATIONS

Evaluating the Survey Results

- In evaluating all the data, it is important to ***analyze pay and benefits separately***
  - An organization must have competitive pay in order to attract qualified employees; if pay is not competitive, DPFP cannot attract the desired level of candidates
  - In order facilitate retention, DPFP needs to have a benefits program that has offerings consistent with market offerings and is affordable to employees; if the benefit program is not competitive against those measures, DPFP may encounter retention issues
- While both pieces of the total compensation package need to be analyzed independently, it is important to ***communicate the total compensation package*** to facilitate employee understanding of the total investment the organization is making to each individual

RECOMMENDATIONS

Benefits

- The retirement package is lagging the market based on several factors and warrants consideration of options that will align it in a more competitive position with the market:
  - No participation in social security (most organizations do participate)
  - No defined benefit program (most organizations participate in a DB plan)
  - Contributions to the mandatory defined contribution plan is lower than market average (not a popular option with comparator organizations, but warrants consideration if neither of the first two bullets are not viable options for consideration)
- Contributions to health plan premiums are lagging the market and warrants consideration of increasing the premium share at the employee level:
  - The comparator market average is approximately a 90%/10% premium share split for employee level coverage between employer and employee.

RECOMMENDATIONS

Pay

- Implement a formal salary structure with each job assigned to an appropriate range within the structure based on market median salaries
    - The majority of organizations surveyed have formal salary ranges
    - Salary ranges provide several benefits, including: guiding salary decisions; tool for managing salary dollars; facilitating pay equity; promotes pay for performance; aids in budgeting; provides a sound justification for employee pay; creates transparency regarding the value of each job
- Utilize market median data as the primary comparison metric due to the small number of comparator organizations
    - ***Average salary*** represents what the "typical employee" earns and can be pulled higher or lower by high salaries or low salaries at the extreme ends of the distribution.
    - ***Median salary*** represents a specific point in the distribution, it cannot be pulled higher or lower by salaries at the extreme ends of the distribution. It is therefore considered a more neutral measure of central tendency, especially in a small group of salaries where one extreme value can disproportionately affect the calculation of an average.

RECOMMENDATIONS

Proposed Salary Structure

Grade	Minimum	Midpoint	Maximum	Range Spread	Mid to Mid
1	$28,886	$34,664	$40,441	40%	
2	$30,908	$37,090	$43,272	40%	7%
3	$33,072	$39,686	$46,301	40%	7%
4	$35,387	$42,464	$49,542	40%	7%
5	$37,864	$45,437	$53,010	40%	7%
6	$40,515	$48,617	$56,720	40%	7%
7	$43,351	$52,021	$60,691	40%	7%
8	$45,778	$57,223	$68,667	50%	10%
9	$48,983	$61,228	$73,474	50%	7%
10	$52,411	$65,514	$78,617	50%	7%
11	$56,080	$70,100	$84,120	50%	7%
12	$60,006	$75,007	$90,009	50%	7%
13	$64,206	$80,258	$96,309	50%	7%
14	$68,701	$85,876	$103,051	50%	7%
15	$75,967	$98,757	$121,547	60%	15%
16	$82,045	$106,658	$131,271	60%	8%
17	$88,608	$115,191	$141,773	60%	8%
18	$95,697	$124,406	$153,115	60%	8%
19	$99,525	$134,358	$169,192	70%	8%
20	$107,487	$145,107	$182,727	70%	8%
21	$123,610	$166,873	$210,136	70%	15%
22	$133,498	$180,223	$226,947	70%	8%
23	$144,178	$194,641	$245,103	70%	8%
24	$165,805	$223,837	$281,868	70%	15%
25	$182,385	$246,220	$310,055	70%	10%
26	$210,212	$283,786	$357,360	70%	15%

The median actual salary data collected from the custom survey was utilized to develop the proposed salary structure

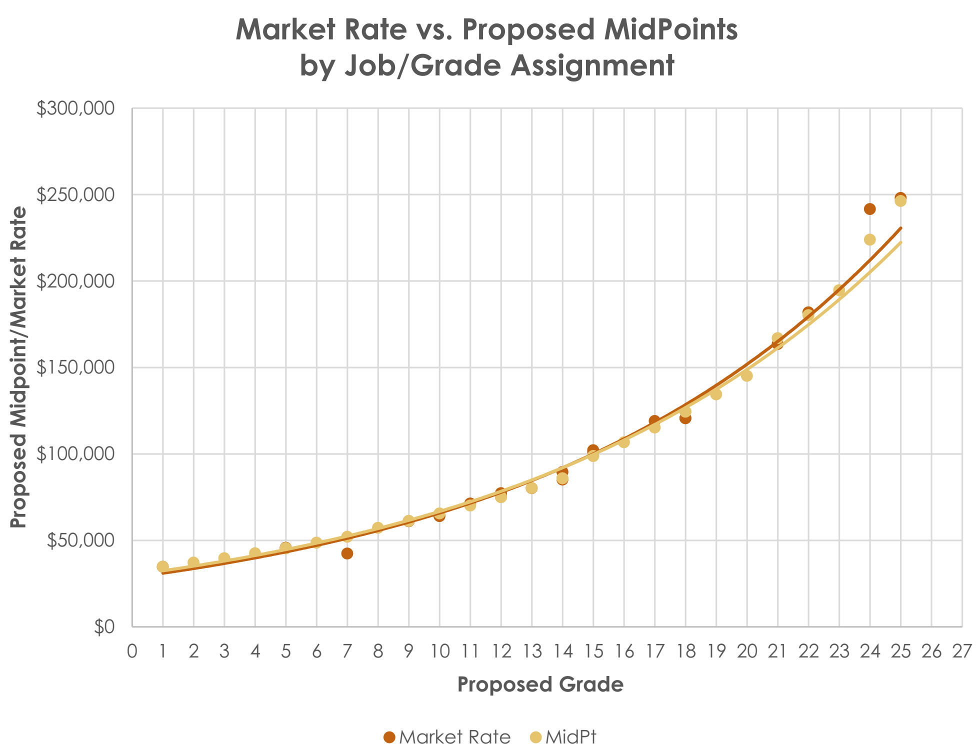
Market data was plotted on a graph and regression analysis was performed to determine a "line of best fit" that resulted in the range midpoints

Range spreads were proposed based on the level of jobs within the organization:

- 40%: learning curve is quicker therefore desired goal is for employee pay to reach "market rate" (range midpoint) quicker (operational-level jobs)
- 50%: professional level jobs; learning curve is a little longer; promotes retention
- 60%: supervisory/management level jobs; learning curve longer; limited growth opportunity; promotes retention
- 70%: learning curve is the greatest; tenure tends to be longer; allows for continued salary growth while promoting retention in order to preserving institutional knowledge

RECOMMENDATIONS

Validation Check of Proposed Salary Structure



This chart graphs all of the proposed midpoints along with the market median rates of pay for jobs assigned to grade levels within the proposed structure.

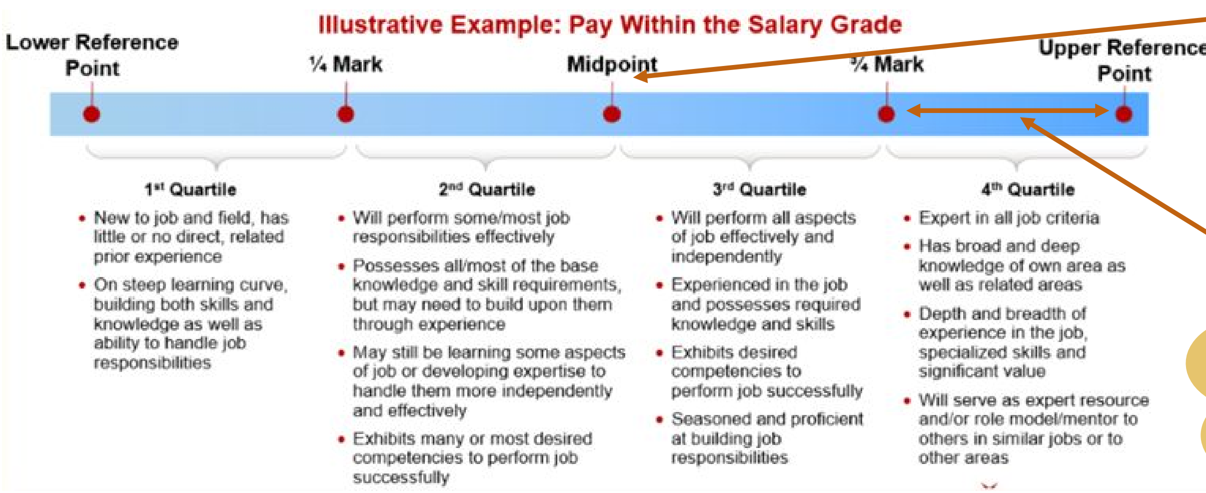
The chart shows how closely the proposed midpoints overlap with the market median rates for jobs where data was available

This serves as "check" to validate that the proposed structure aligns with the market appropriately

RECOMMENDATIONS

How Salary Ranges Are Utilized

- The range is meant to accommodate those new to a role as well as those who have depth and breadth in their role
- Individual salaries, depending on where they fall within the salary range, typically reflect :

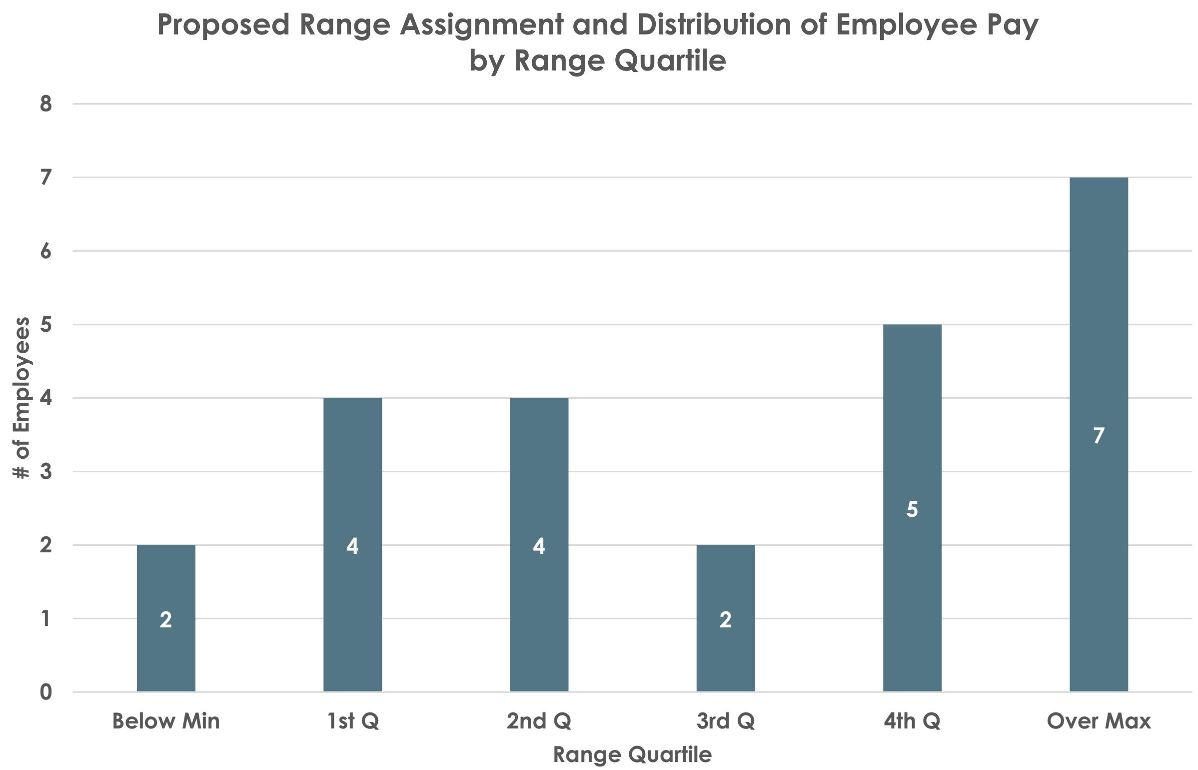


Midpoint should be reflective of the market median for a job (within +/- 10%)

If an employee's pay falls in the 4th quartile of the range, it does not automatically mean the employee is "over paid"; individually, pay could be between 20% and 55% above the midpoint and still be appropriate

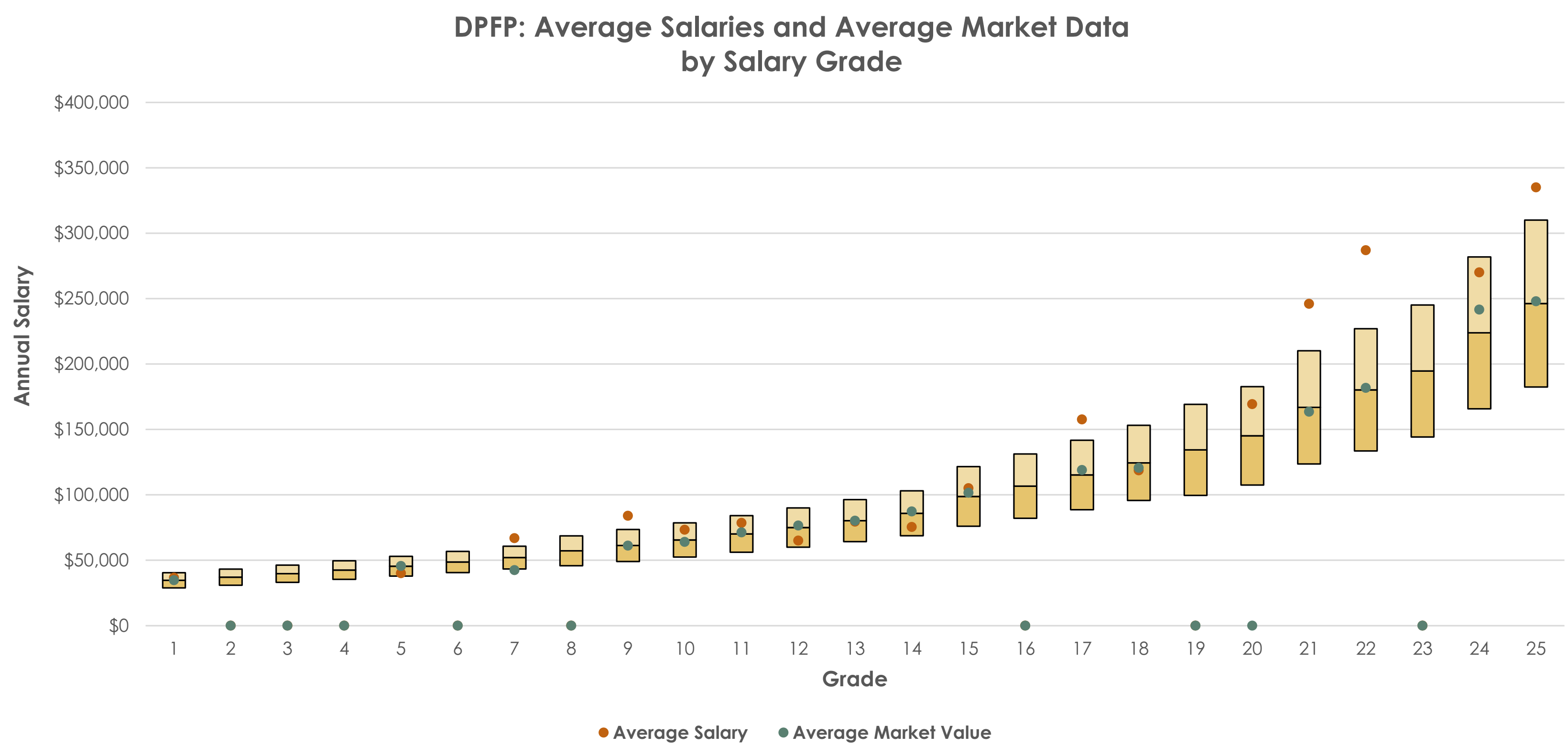
RECOMMENDATIONS

Pay Distribution within Proposed Ranges



RECOMMENDATIONS

Validation Check of Proposed Salary Structure



RECOMMENDATIONS

Overview

Areas with Recommendations	Recommendations
Compensation Administration:	
Salary Ranges	Adopt formal salary ranges for all jobs at DPFP
Benefits:	
Retirement Program	Consider evaluation of the retirement program to make more competitive
Medical Program	Consider modifying premium share to be more competitive in the market
Pay:	
Salary Structure	Adopt proposed salary structure and corresponding ranges Allocate jobs into proposed salary structure based on market data results[1] Develop salary administration guidelines

RECOMMENDATIONS

Fiscal Impact

- Two (2) employees are below the proposed range minimums
  - Annual cost to bring their salary to the proposed range minimum is $13,587
- Seven (7) employees have current salaries that are greater than the proposed range maximum
  - LCG recommends "red circling" employees over range max
  - Recommend rewarding employees whose rate of pay is over the range maximum in an alternative manner, other than adding to their base pay (i.e., a lump sum rewards based on performance)
- DPFP should review changes in cost of labor on an annual basis and make appropriate adjustments to the salary range in order to keep pace with the market

QUESTIONS

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41

Thank You

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42

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C2

Topic: **Audit Committee Recommendation for Audit Firm**

Discussion: In 2015, the Board gave direction to conduct a competitive selection process for specific service providers, including DPFP's audit firm, every five years unless the Board explicitly waives or extends the requirement. In November 2019, the Board extended, for one year, the requirement to conduct a selection process for auditing services to allow BDO to perform the 2019 audit. In order to comply with the Board's direction, staff conducted a Request for Proposal (RFP) for audit services to begin with the 2020 audit.

Bill Quinn, Chairman of the Audit Committee, will brief the Board on the recent Audit Committee meeting and the results of the RFP process for audit firm services.

Staff Recommendation: **Approve** the Audit Committee's recommendation for the firm to provide audit services.

DALLAS POLICE & FIRE PENSION SYSTEM

AUDIT FIRM RECOMMENDATION

Date: March 1, 2021

To: DPFP Audit Committee

From: Brenda Barnes and Kelly Gottschalk

Subject: Audit Firm Recommendation

Executive Summary

In 2015, the Board gave direction to conduct a competitive selection process for specific service providers, including DPFP's audit firm, every five years unless the Board explicitly waives or extends the requirement. In November 2019, the Board extended, for one year, the requirement to conduct a selection process for auditing services to allow BDO to perform the 2019 audit. In order to comply with the Board's direction, staff conducted a Request for Proposal (RFP) for audit services to begin with the 2020 audit. After review and evaluation of the RFPs, staff recommends retaining BDO as the audit service provider for the next three years.

Audit Service Provider RFP Process

The audit service provider RFP process followed these steps:

- Staff defined the search process, including evaluation criteria, prior to initiating the search process.
- A Request for Proposal was developed.
- Audit firms were narrowed to a short list of firms to invite to submit proposals.
- The RFP was provided to the short list of firms. Staff communicated with the firms during the proposal timeframe as necessary.
- Staff evaluated the proposals and discussed the evaluation with the Bill Quinn as the Chair of the Audit committee to determine the appropriate next step.
- This recommendation memo was prepared.
- The Audit Committee met and discussed the Staff recommendation and provided direction on selecting the next audit firm.
- The Board will review the Audit Committee's recommendation and make a decision on selecting an audit firm.

Firms Invited to Submit a Proposal (Short List)

Staff reviewed a large population of accounting firms starting with the *Accounting Today's* 2019 Top 100 Accounting Firms list (narrowed down to the top 25) and accounting firms used by other Texas pension systems. Additional research was performed to determine which firms had significant Employee Benefit Plan (EBP) practices and the number of audits performed annually. Finally, this list was reviewed for potential conflicts due to audit firm work performed for the City or one of our Investments.

The following six firms were invited to submit a proposal for audit firm services:

BDO USA
BKD, LLP
CliftonLarsonAllen (CLA)
Crowe LLP
Grant Thornton LLP
RSM US

Four of the six invitees submitted a proposal. BKD declined to propose and Grant Thornton had a conflict which prevented them from submitting a proposal. BDK did not provide information about their reasons for declining to propose on the work.

The proposals have been provided for your information.

RFP Evaluation Criteria

The RFP was designed to assess whether the Firm understood our business and whether the Firm had the appropriate resources for the work. Of particular interest was their understanding of and the audit approach of investments and the actuarial valuation. A copy of the RFP is attached for your information. Each RFP was evaluated on their responses to questions which fell into the following general areas:

- Overall firm qualifications and the strength of the audit team
- Audit approach and the reasonableness of the hours to complete the audit
- The firm's completeness and timeliness in responding to the request for proposal.
- Fees, but this was not the primary factor in selection of an audit firm.

Firm Evaluations

BDO USA – DPFP Incumbent Audit Firm

BDO USA is the 7th largest accounting firm is the US with over 8,000 employees, 65 US locations and $1.8B in revenue. They perform over 1,900 EBP audits each year with asset sizes ranging from $2B to $400B. BDO has substantial employee diversity programs focusing on women, race, ethnicity, veterans and other groups as well parents and flexibility.

BDO's proposal focused on their EBP experience, use of technology and communication. It did not provide extensive detail on their audit approach, perhaps because as our current auditor they assumed we were familiar with it. BDO's emphasis on risk assessments, internal control and process efficiencies have resulted in quality audits for DPFP. As our current auditor they have the benefit of knowing the pension system investments, pension plans and systems. BDO completed our 2019 audit 100% remotely due to COVID-19. The current team is local and responsive to requests. BDO has maintained the same Partner, Manager and Senior on the job during our engagement.

BDO is currently the auditor for Houston Police Officers' Pension System and the San Antonio Fire and Police Pension System as well as other public pensions.

CliftonLarsonAllen (CLA)

CLA is the 8th largest accounting firm in the US with over 7,400 employees, 130 US locations and $1.1B in revenue. They perform more than 2,950 EBP audits each year with asset sizes up to $575B. CLA staff for the DPFP audit is based in Baltimore, MD and Denver, CO. CLA's proposal included an overview, but little detail, regarding their employee diversity programs. However, they did provide a chart on their race and gender breakdown.

CLA's proposal focused on their audit experience, methodology and ability to bring a fresh perspective. They provided a detailed, though sometimes generic audit proposal. CLA's commentary regarding investments addressed the various asset classes which did demonstrate knowledge of assets similar to DPFP's. However, their hour quote of 601 hours is significantly below the other firms and prompts questions regarding either the planned depth of the audit, the likelihood of an over hour audit and a possible request for additional fees at the end of the audit or an audit that is not as comprehensive as other firms. CLA staffing for this audit includes Engagement, Technical and Tax Principals – all with over 15 years of service, but the Manager, who would be most involved in our audit, only has 8 years of experience. A final concern for CLA is that all of the audit staff is located out of state which could lead to additional fees or lack of availability for short notice in-person meetings, if ever necessary.

CLA is currently the auditor for the Texas Municipal Retirement System, Employees Retirement System of Texas as well as other public pensions.

Crowe LLP

Crowe LLP is the 9th largest accounting firm in the US with 4,300 employees, 30 US locations and $924M in revenue. They perform over 1,300 EBP audits each year including two of the largest public employee retirement systems in the US. The Crowe staff for this audit is split between California and Dallas, TX. Crowe sponsors Business Resource Groups (BRGs) within their firm. These BRGs focus on diversity and inclusion for their employees throughout their tenure at the firm.

Crowe's proposal focused on their audit experience, fresh perspective and the technology that supports remote work. They provided good detail on their audit methodology and approach. However, their plan to utilize an outside actuary to review DPFP's actuary report for the first year only is concerning. Also, the use of the outside actuary may provide a conflict for DPFP in the future. Additionally, during the RFP process Crowe was not as responsive in providing additional information or clarification of information provided as the other firms. Crowe staffing for this audit incudes a Managing Director, Partner and Senior Manager – all with over 15 years of experience, but the Manager has only been with the firm for 5 years. These factors combined with their higher fees – highest first year average hourly fee of $192.86 per hour – makes this firm the least attractive firm in this group.

Crowe is currently the auditor for the Dallas Area Rapid Transit, California State Teachers Retirement System as well as other public pensions.

DALLAS POLICE & FIRE PENSION SYSTEM

RSM US

RSM US is the 5th largest accounting firm in the US with over 12,000 employees, 87 US locations and $2.7 billion in revenue. They perform more than 2,000 EBP audits annually with assets sizes from $50M to $60B. The RSM staff for this audit is located in San Antonio and Dallas, TX and Illinois. RSM has culture, diversity and inclusion programs that cover not just employees, but also supplier and community efforts. Additionally, they included an employee demographic chart.

RSM's proposal focused on their experience with similar defined benefit pension plans, hard to value investments, actuarial experience and technical resources. They provided audit approach information which included an emphasis on their technical innovation. RSM staffing for this audit includes Managing, Audit and Subject Matter Expert Partners – each with over 20 years of experience and Managers and Senior Managers with over 11 years of experience. Their quoted hours were significantly higher than any other firm and although fees were not a primary factor in selecting a firm, their fees were the highest in the group as well.

RSM is currently the auditor for the Ohio Police and Fire Pension Fund, the City of McAllen, TX Firefighters Pension Fund as well as other public pensions.

Hour and Fee Summaries

Hour Estimates	BDO	CLA	Crowe	RSM
First Year Hours by Staff				
Partner/Managing Director	80	71	75	75
Senior Manager/Manager	160	126	115	230
Senior Staff	280	204	255	300
Staff	280	200	255	545
Total	800	601	700	1,150
Notes	Average of past several years		Includes about 35-40 start up hours	Includes start up hours (not charged) and specialist hours

DALLAS POLICE & FIRE PENSION SYSTEM

Fee Quotes	BDO	CLA	Crowe	RSM
First Year Fees	$123,000	$91,050	$135,000	$147,000
Second Year Fees	126,500	93,664	135,000	147,000
Third Year Fees	130,000	96,478	137,500	147,000
Fourth Year Fees	134,000	99,418	137,500	152,250
Fifth Year Fees	138,000	102,429	142,000	157,500
First Year Average Hourly Fee	$153.75	$151.50	$192.86	$127.83

Fee Quote Note

BDO also provided a second fee option which would utilize offshore services through their BDO RISE program. The offshore services provided would include items like Engagement Letter Preparation, Board Meeting Minutes Review, Reconciliations and Confirmations. The offshore services would not include any work related to members or allow access to any member information. More information on these services is provided on pages 28 and 29 of their proposal. This second fee option reduces fees in year one to $103,000, a savings of $20,000. The savings increase in subsequent years up to $23,000. Please see chart below for more detail.

BDO Fee Comparison	Without Offshore Services	With Offshore Services	Savings
First Year Fees	$123,000	$103,000	$20,000
Second Year Fees	126,500	106,000	20,500
Third Year Fees	130,000	109,000	21,000
Fourth Year Fees	134,000	112,000	22,000
Fifth Year Fees	138,000	115,000	23,000
First Year Average Hourly Fee	$153.75	$128.75	$25.00

DALLAS POLICE & FIRE PENSION SYSTEM

Staff Recommendation

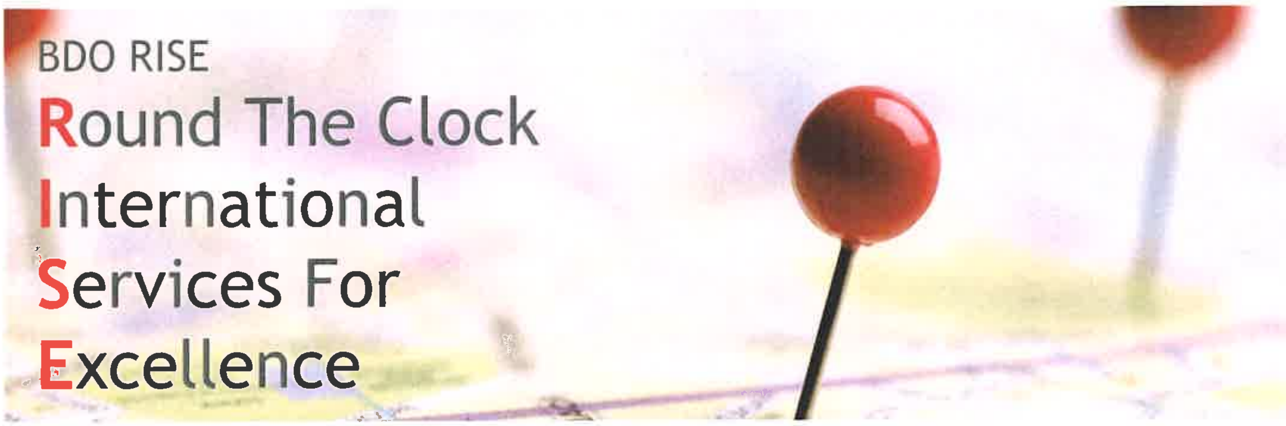
DPFP continues to face large challenges with some of our legacy investments. BDO has knowledge of the issues and valuation methodology of Lone Star and has done extra analysis on the Huff valuations in the past two years. Bringing in new auditors at this critical time could unnecessarily complicate the completion of our audits. Staff recommends that we extend our contract with BDO, however, instead of the originally planned five years, extend for three years. This extension will hopefully take us past the liquidation of most legacy assets.

Audit Committee Recommendation

The Audit Committee met on March 8, 2021 to review the audit firm proposals and discuss the staff recommendation. The Committee discussed the various firms, quoted hours and fee proposals. Additionally, the Audit Committee reviewed the two fee pricing options provided by BDO.

The Audit Committee concurs with the staff recommendation of offering BDO a three year contract extension, including the utilization of offshore services, with the restriction of no member information would be accessed and no member audit testing would be performed by offshore personnel.

3. Provide any other information you deem desirable



The apex of being there where you need us, when you need us.

BDO RISE was created to provide our clients with round the clock service wherever you are located. In conjunction with our BDO India offices in Bengaluru and Mumbai, the BDO RISE group of 90+ professionals are well versed and experienced in all facets of accounting in a variety of industries. Since its creation, the BDO RISE team has executed over 200,000 hours for clients across all business spectrum. This extension of our core BDO team gives us the ability to effectively service sophisticated and complexly organized clients on a global basis.

Drives consistency across regions and teams

Delivers more efficient operations with around the clock support

Increases quality of output through use of highly skilled and qualified team members

Lowers cost of overall engagement with the use of international resources

BDO RISE TEAM COMPOSITION

- 66 members with audit experience
- 24 Valuation professionals
- 51% of BDO RISE members are Certified Chartered Accountants
- 39 with Big Four experience
- 30 from BDO India on Secondment
- 12 have their MBA or are CFEs

BDO Rise Delivery Model

EXTENSION OF TEAM APPROACH

PLANNING → CONTROLS EVALUATIONS → SUBSTANTIVE TESTING AND JUDGMENT BASED WORK → FORM OPINION

ONSHORE

PLANNING

- Draft proposal
- Client planning meeting
- Scoping
- Budget preparation
- Risk assessment

CONTROLS EVALUATIONS

- Understand & document controls
- Tests of effectiveness
- Walk through
- Controls testing
- Management Letter

SUBSTANTIVE TESTING AND JUDGMENT BASED WORK

- Plan substantive procedures
- Judgmental audit areas
- Critical audit areas
- Client follow up
- Review and accept work papers
- Consider if audit evidence is sufficient and appropriate

FORM OPINION

- Overall review of financial statements
- Identify and resolve audit differences
- Issue audit opinions on financial statements & internal controls over financial reporting
- Audit file close out

CONTINUOUS COMMUNICATION & INTERACTION

OFFSHORE

PLANNING

- Industry analysis
- Research, e.g. press releases, industry reports
- Roll forward of Requirement List
- Engagement letter preparation
- Board meeting minutes review
- Rollforward prior year planning working papers

CONTROLS EVALUATIONS

- APT file admin
- Rollforward prior year working papers

SUBSTANTIVE TESTING AND JUDGMENT BASED WORK

- Non-judgmental audit areas
- Reconciliations
- Confirmations
- Prepare Lead Sheets
- Routine Substantive Analytics
- Routine Vouching
- Desk top reviews
- Group audit admin/ consolidation
- Reading and abstracting
- Validate mathematical accuracy

FORM OPINION

- Statutory accounts checking
- Agreeing stats to TB/ lead sheets
- APT file admin
- Time and cost analysis
- Prepare file for US team review

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C3

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

Discussion: According to the Committee Policy and Procedure, the Professional Services Committee is responsible for meeting privately with the external service providers, without DPFP staff present, at minimum on an annual basis. The purpose of such a meeting is to provide a forum for the service provider to provide candid comments to the Professional Services Committee.

The Professional Services Committee met March 1, 2021with the investment consultant, Meketa.

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 Meketa.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C4

Topic: **Legislative Update**

Discussion: Staff will brief the Board on pension bills that have been filed which may bear on DPFP.

Regular Board Meeting – Thursday, March 11, 2021

By: Davis H.B. No. 3375

A BILL TO BE ENTITLED

AN ACT

relating to certain benefits payable by the public retirement systems for police and fire fighters in certain municipalities.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Article 6243a-1, Revised Statutes, is amended by adding Section 6.065 to read as follows:

Sec. 6.065. PARTIAL LUMP-SUM OPTION FOR UNFORESEEABLE EMERGENCY OR FINANCIAL HARDSHIP. (a) A person who is eligible to receive a monthly death benefit payment under this article may elect to receive a partial lump-sum distribution under this section in the event of an emergency or a financial hardship that was not reasonably foreseeable by the person provided the board ensures the person receives a corresponding reduction in the total number or amount of benefit payments.

(b) The board shall adopt rules necessary to implement this section, including rules:

(1) identifying the types of death benefits payable under this article that are eligible for a partial lump-sum distribution under this section;

(2) establishing the maximum lump-sum distribution that may be paid under this section; and

(3) regarding what constitutes an emergency and a financial hardship for purposes of this section.

SECTION 2. Sections 6.14(d), (e), (e-3), and (e-4), Article

6243a-1, Revised Statutes, are amended to read as follows:

(d) On leaving active service and on the board's grant of a retirement pension in accordance with Subsection (a)(1) of this section, a [~~A~~] member may begin to receive the balance of [~~not receive a distribution from~~] the member's DROP account under one of the following methods of distribution elected by the member:

(1) a single-sum distribution made at a time selected by the member but not later than April 1 of the year after the member attains 70-1/2 years of age;

(2) an annuity to be paid in accordance with Subsection (e) of this section; or

(3) substantially equal monthly or annual payments of the person's account balance beginning at a time selected by the member that is on or before April 1 of the year after the member attains 70-1/2 years of age and extending over a fixed period that does not exceed the life expectancy of the member, or the life expectancy of the member and the member's designated beneficiary, if applicable [~~while the member is on active service~~].

(e) Except as provided by Subsections (e-1) and (l) of this section, the balance in the DROP account of a member who makes an election to receive that balance as an annuity under Subsection (d)(2) of this section and [~~terminated from active service on or before September 1, 2017, or~~] who terminates from active service shall be [~~distributed to the member in the form of an annuity,~~] payable either monthly or annually at the election of the member, by annuitizing the amount credited to the DROP account over the life expectancy of the member as of the date of the annuitization using mortality tables recommended by the pension system's qualified actuary. The annuity shall be distributed beginning as promptly as administratively feasible after [~~the later of, as applicable:~~

[~~(1)~~] the date the member retires and is granted a retirement pension[~~; or~~

[~~(2) September 1, 2017~~].

(e-3) The board shall [~~may~~] by rule allow:

(1) a DROP participant who has terminated active service and who is eligible for a retirement pension to[~~:~~

[~~(1)~~] assign the distribution from the participant's annuitized DROP account to a third party provided the pension system receives a favorable private letter ruling from the Internal Revenue Service ruling that such an assignment will not negatively impact the pension system's qualified plan status; and

(2) subject to Subsection (e-4) of this section, the surviving spouse or other beneficiary of a DROP account eligible for an annuity under Subsection (g) of this section, in the event of an emergency or a financial hardship that was not reasonably foreseeable by the beneficiary, to obtain a lump-sum distribution from the [~~participant's~~] DROP account, provided the board ensures the beneficiary receives [~~resulting in~~] a corresponding reduction in the total number or [~~in the~~] amount of annuity payments.

(e-4) The board shall adopt rules necessary to implement Subsection (e-3)(2) of this section, including rules regarding what constitutes an emergency and a financial hardship for purposes of that subdivision. In adopting the rules, the board shall provide flexibility to members.

SECTION 3. Section 6.141(b), Article 6243a-1, Revised Statutes, is amended to read as follows:

(b) Notwithstanding Section 6.14 of this article and solely to avoid the possibility of an early distribution tax penalty under Section 72(t)(4) of the code:

(1) a pensioner subject to this section may until the pensioner attains 59-1/2 years of age:

(A) subject to Subsection (c) of this section, continue to participate in DROP;

(B) have the same amount of the pensioner's service retirement pension credited to the pensioner's DROP account as has been credited since the pensioner's service retirement pension was initially granted; and

(C) defer distribution [~~annuitization~~] of the pensioner's DROP account under Section 6.14(d) [~~6.14(e)~~] of this article; and

(2) once a pensioner subject to this section attains 59-1/2 years of age:

(A) the pensioner may not have any portion of the pensioner's service retirement pension credited to the pensioner's DROP account; and

(B) as soon as administratively feasible, the balance in the pensioner's DROP account shall be [~~annuitized and~~] distributed to the pensioner in accordance with Section 6.14(d) [~~Section 6.14(e)~~] of this article.

SECTION 4. (a) Except as provided by Subsection (b) of this section, Section 6.14, Article 6243a-1, Revised Statutes, as amended by this Act, applies only to a distribution out of a deferred retirement option plan account that is made on or after the implementation of that section. A distribution out of a deferred retirement option plan account that is made before the implementation of that section is governed by the law in effect when the distribution is made.

(b) This subsection applies only to a person who began receiving a distribution out of a deferred retirement option plan account in the form of an annuity under Section 6.14(e) or (e-1), Article 6243a-1, Revised Statutes, as those sections existed before the effective date of this Act, on or after September 1, 2017, and before September 1, 2021. The board of trustees of the pension system established under Article 6243a-1, Revised Statutes, shall by rule establish a process to allow a person subject to this subsection to make a one-time election to receive a distribution of the balance of the person's deferred retirement option plan account under a method described by Section 6.14(d)(1) or (3), Article 6243a-1, Revised Statutes, as amended by this Act.

SECTION 5. This Act takes effect September 1, 2021.

DISCUSSION SHEET

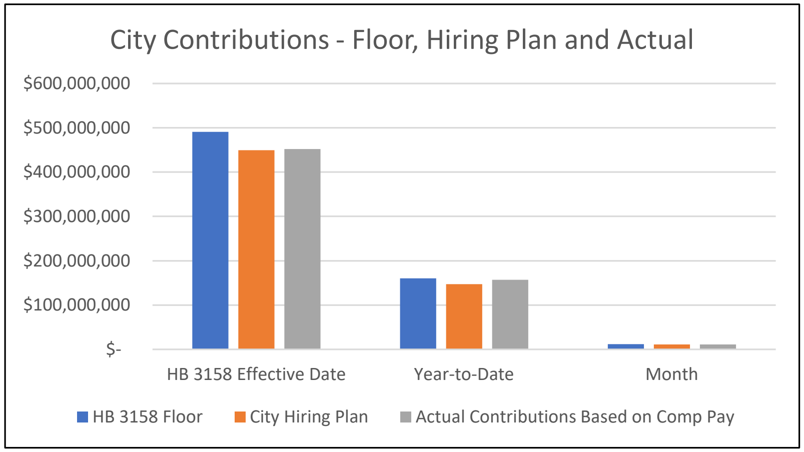
ITEM #C5

Topic: **Monthly Contribution**

Discussion: Staff will review the Monthly Contribution Report.

Regular Board Meeting – Thursday, March 11, 2021

Contribution Tracking Summary - March 2021 (January 2021 Data)



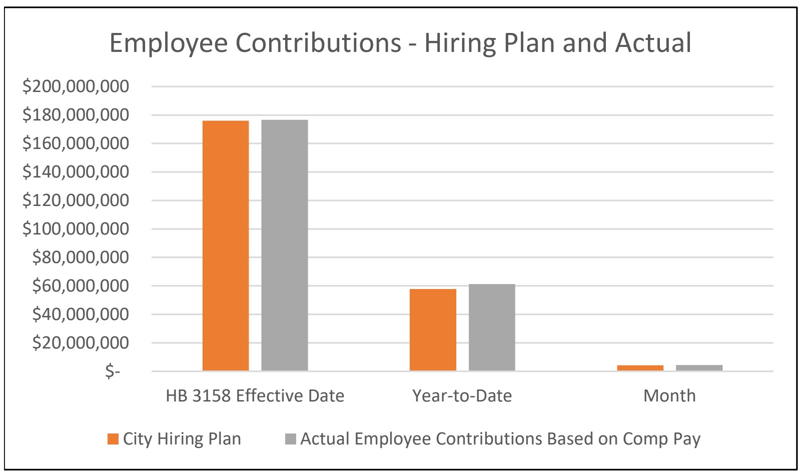
Actual Comp Pay was 100% of the Hiring Plan estimate since the effective date of HB 3158.

In the most recent month Actual Comp Pay was 105% of the Hiring Plan estimate and 97% of the Floor amount.

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

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

The Hiring Plan estimate increased from 5,063 to 5,088 for 2021, the increase is soley on the Police side. The combined actual employees was 128 less than the Hiring Plan for the pay period ending February 2, 2021. Fire was over the estimate by 37 fire fighters and Police under by 165 officers.



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

There is no Floor on employee contributions.

Contribution Summary Data

City Contributions

Jan-21	Number of Pay Periods Beginning in the Month	HB 3158 Floor	City Hiring Plan	Actual Contributions Based on Comp Pay	Additional Contributions to Meet Floor Minimum	Comp Pay Contributions as a % of Floor Contributions	Comp Pay Contributions as a % of Hiring Plan Contributions
Month	2	$ 11,764,000	$ 10,827,692	$ 11,410,700	$ 353,300	97%	105%
Year-to-Date		$ 160,588,000	$ 147,447,692	$ 156,838,548	$ 3,823,159	98%	106%
HB 3158 Effective Date		$ 490,935,000	$ 449,588,077	$ 451,895,756	$ 39,112,951	92%	101%

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

Employee Contributions

Jan-21	Number of Pay Periods Beginning in the Month	City Hiring Plan	Actual Employee Contributions Based on Comp Pay	Actual Contribution Shortfall Compared to Hiring Plan	Actuarial Valuation Contribution Assumption	Actual Contributions as a % of Hiring Plan Contributions	Actual Contributions as a % of Actuarial Val Assumption
Month	2	$ 4,236,923	$ 4,457,578	$ 220,655	$ 4,236,924	105%	105%
Year-to-Date		$ 57,696,923	$ 61,221,479	$ 3,524,556	$ 57,696,928	106%	106%
HB 3158 Effective Date		$ 175,925,769	$ 176,690,560	$ 764,791	$ 170,816,566	100%	103%
Potential Earnings Loss from the Shortfall based on Assumed Rate of Return				$ (582,716)			

Does not include Supplemental Plan Contributions.

Reference Information

City Contributions: HB 3158 Bi-weekly Floor and the City Hiring Plan Converted to Bi-weekly Contributions

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

The HB 3158 Bi-weekly Floor ends after 2024

Employee Contributions: City Hiring Plan and Actuarial Val. Converted to Bi-weekly Contributions

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

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

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

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

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

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

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

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

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

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

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

Comp Pay by Month - 2021	Annual Divided by 26 Pay Periods	Actual	Difference	2020 Cumulative Difference	Number of Employees - EOM	Difference
January	$ 30,461,538	$ 31,291,360	$ 829,821	$ 829,821	4960	(128)
February				$ 829,821		
March				$ 829,821		
April				$ 829,821		
May				$ 829,821		
June				$ 829,821		
July				$ 829,821		
August				$ 829,821		
September				$ 829,821		
October				$ 829,821		
November				$ 829,821		
December				$ 829,821		

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C6

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

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

Discussion:

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

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

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

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

Future Education and Business Related Travel & Webinars
Regular Board Meeting – March 11, 2021

ATTENDING **APPROVED**

1. **Conference:** **NCPERS Accredited Fiduciary Program (NAF) Modules 1 and 2**
   Dates: March 2-5, 2021
   Location: Virtual
   Cost: $400

2. **Conference:** **NCPERS Accredited Fiduciary Program (NAF) Modules 3 and 4**
   Dates: March 9-12, 2021
   Location: Virtual
   Cost: $400

3. **Conference:** **TEXPERS 2021 Legislative Workshop** — Attending: **KH**
   Dates: March 30-31, 2021
   Location: Austin, TX
   Est. Cost: $500

4. **Conference:** **NCPERS 2021 Legislative Conference Webcast**
   Dates: April 20, 2021
   Location: Virtual
   Est. Cost: Complimentary

Future Education and Business Related Travel & Webinars
Regular Board Meeting – March 11, 2021 (Continue)

5. Conference: **TEXPERS Annual Conference** KH 12/10/2020
Dates: May 21-26, 2021
Location: Austin, TX
Cost: TBD

6. Conference: **TEXPERS Summer Conference**
Dates: August 29-31, 2021
Location: San Antonio, TX
Cost: TBD

DISCUSSION SHEET

ITEM #C7

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, March 11, 2021

DALLAS POLICE & FIRE PENSION SYSTEM

Portfolio Update

March 11, 2021

Adjusted Asset Allocation

In this view staff adjusts reported private market values to roughly estimate the impact of events that have not yet been recognized.

DPFP Asset Allocation Using Stressed Private Market Values	2/28/21 NAV	Adjustments $ mil.	Adjustments % of NAV	Adj. NAV $ mil.	Adj. NAV %	Target $ mil.	Target %	Variance $ mil.	Variance %
Equity	**922**	**-48**	**-5.3%**	**873**	**46.5%**	**1,034**	**55.0%**	**-161**	**-8.5%**
Global Equity	660	0	0.0%	660	35.1%	752	40.0%	-92	-4.9%
Emerging Markets	65	0	0.0%	65	3.4%	188	10.0%	-123	-6.6%
Private Equity*	197	-48	-24.6%	149	7.9%	94	5.0%	55	2.9%
Fixed Income	**552**	**0**	**0.0%**	**552**	**29.3%**	**658**	**35.0%**	**-107**	**-5.7%**
Safety Reserve - Cash	73	0	0.0%	73	3.9%	56	3.0%	16	0.9%
Safety Reserve - ST IG Bonds	217	0	0.0%	217	11.5%	226	12.0%	-9	-0.5%
Investment Grade Bonds	73	0	0.0%	73	3.9%	75	4.0%	-2	-0.1%
Global Bonds	0	0		0	0.0%	75	4.0%	-75	-4.0%
Bank Loans	72	0	0.0%	72	3.8%	75	4.0%	-3	-0.2%
High Yield Bonds	75	0	0.0%	75	4.0%	75	4.0%	-1	0.0%
Emerging Mkt Debt	36	0	0.0%	36	1.9%	75	4.0%	-39	-2.1%
Private Debt*	6	0	0.0%	6	0.3%	0	0.0%	6	0.3%
Real Assets*	**511**	**-56**	**-10.9%**	**455**	**24.2%**	**188**	**10.0%**	**267**	**14.2%**
Real Estate*	345	-56	-16.2%	289	15.4%	94	5.0%	195	10.4%
Natural Resources*	124	0	0.0%	124	6.6%	94	5.0%	30	1.6%
Infrastructure*	42	0	0.0%	42	2.2%	0	0.0%	42	2.2%
Total	**1,985**	**-104**	**-5.3%**	**1,880**	**100.0%**	**1,880**	**100.0%**	**0**	**0.0%**
Safety Reserve ~$270M=30 mo net CF	290	0	0.0%	290	15.4%	282	15.0%	8	0.4%
*Private Mkt. Assets w/NAV Discount	714	-104	-14.6%	610	32.4%	282	15.0%	328	17.4%

Source: JP Morgan Custodial Data, Staff Estimates and Calculations
Numbers may not foot due to rounding

data is preliminary

DALLAS POLICE & FIRE PENSION SYSTEM

Investment Activity

- Liquidation of private market assets remains the top focus.
  - Received $21.5 million in distributions year to date.
  - Another $26 million from in process sales expected through end of June.
- Staff continuing evaluation of and engagement with end-of-life private equity funds.
- Funded $157 million to NT passive global equity account using TM. Expect additional ~$24 million contribution from private market distributions.
- Drafted small-cap search process and criteria.
- Met with Investment Advisory Committee. Discussed benchmark review, IPS, watch list, asset allocation, and small cap search.
- Started asset allocation study.

2021 Investment Review Plan*

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

*Presentation schedule is subject to change.

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

DALLAS POLICE & FIRE PENSION SYSTEM

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C8

Topic: **Report on Investment Advisory Committee**

Discussion: The Investment Advisory Committee met on March 2, 2021. The Committee Chair and Investment Staff will comment on Committee observations and advice.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C9

Topic: **Investment Policy Statement**

Discussion: Staff reviewed proposed revisions to the Investment Policy Statement at the February 11, 2021 Board meeting and at the March 2, 2021 meeting of the Investment Advisory Committee (IAC). The IAC recommended keeping the goal relating to exceeding the actuarial return assumption and deleting the objective relating to ranking in the public fund universe (Section 2). Staff and Meketa concur. An updated mark-up version is attached for reference.

Staff Recommendation: **Approve** the proposed Investment Policy Statement revisions.

INVESTMENT POLICY STATEMENT

As Amended Through November 12, 2020

Commented [staff1]: All dates will be updated following Board approval

INVESTMENT POLICY STATEMENT

Adopted April 14, 2016
As Amended Through July 9, 2020

Table of Contents

DALLAS POLICE & FIRE PENSION SYSTEM

INVESTMENT POLICY STATEMENT

Adopted April 14, 2016
As Amended Through November 12, 2020

Section 1 Introduction and Purpose

This policy statement shall guide investment of the assets of the Dallas Police and Fire Pension System (DPFP). This ~~investment policy statement~~Investment Policy Statement (IPS) is issued for the guidance of the Dallas Police and Fire Pension System Board of Trustees (Board), Investment Advisory Committee (IAC), Executive Director, Staff, Consultant(s), Custodian, and Investment Managers. This IPS is intended to set forth an appropriate set of goals and objectives for DPFP. It ~~will define~~defines guidelines to assist fiduciaries and Staff in the supervision of the investments of DPFP. The investment program processes and procedures are defined in the various sections of the IPS by:

A. Stating in a written document DPFP's expectations, objectives and guidelines for the investment of assets;

B. Setting forth an investment structure for managing the portfolio. This structure includes assigning various asset classes, investment management styles, asset allocation and acceptable ranges that, in total, are expected to produce an appropriate level of overall ~~diversification~~risk and total investment return over the investment time horizon;

C. Encouraging effective communications between the Board, IAC, Executive Director, Staff, Consultant(s), Investment Managers and Custodian(s);

D. Setting forth policy that will consider various factors, including inflation, global economic growth, liquidity and expenses, that will affect the portfolio's short and long-term total expected returns and risk;

E. Establishing criteria to select and evaluate Investment Managers; and

F. Complying with applicable fiduciary and due diligence requirements experienced investment professionals would utilize, and with laws, rules and regulations applicable to DPFP.

Section 2 Goals, Objectives, and Constraints

A. Goals

~~Ensure funds are available~~Goal

1. Earn a long-term, net of fees, investment return that, together with contributions, will be sufficient to meet current and future obligations of the plan when due.

~~1.~~2. Earn a long-term, net of fees, investment return greater than the actuarial return assumption.

~~2. Rank in the top half of the public fund universe over the rolling five-year period, net of fees.~~

B. Objectives

1. Maintain a diversified asset allocation that seeks to maximize the investment return while accepting prudent exposure to key investment risks..

2. ~~Accept the minimum level of risk required to achieve the return objective.~~

Commented [staff2]: Removed reference to the actuarial return assumption since that is primarily driven by the asset allocation defined in the IPS

Commented [KFC3R2]: The Investment Advisory Committee recommended keeping the goal to outperform the actuarial return assumption. Staff and Meketa concur.

B. Objectives (continued)

3. Outperform the Policy Benchmark[1] over rolling five-year periods.

~~Rank in the top half of the public fund universe over the rolling five-year period, net of fees.~~

4. Control and monitor the costs of administering and managing the investments.

C. Constraints

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

Commented [staff4]: Consider deletion or modification of the ranking objective due to unique circumstances of DPFP. The public fund peer group is not homogenous.

Commented [KFC5R4]: The Investment Advisory Committee recommended deleting this ranking objective.

Section 3 Ethics, Standards of Conduct, and Fiduciary Responsibility

The following are standards of conduct for the Board, Investment Advisory Committee, Staff, Investment Managers, Consultant(s), and all other investment related service providers of DPFP.[2]

A. Place the interest of DPFP above personal interests.

B. Act with integrity, competence, diligence, respect, and in an ethical manner.

C. Use reasonable care, diligence, and exercise independent professional judgment when conducting analysis, making recommendations, and taking actions.

D. Promote the integrity of and uphold the rules governing DPFP.

E. Comply with all applicable laws, rules, and regulations of any government agency, regulatory organization, licensing agency, or professional association governing their professional activities.

F. Adhere to applicable policies relating to ethics, standard of conduct and fiduciary responsibility including the:

1. Board of Trustees and Employees Ethics and Code of Conduct Policy;
2. Board of Trustees Governance and Conduct Policy; and the
3. Contractor's Statement of Ethics.

[1] The Policy Benchmark represents the return of the investable and non-investable indices as defined in Appendix B, at the target allocation for each asset class.
[2] These are informed by the CFA Institute and the Center for Fiduciary Studies.

Section 4 Core Beliefs and Long-Term Acknowledgements

This section outlines the core beliefs and long-term acknowledgements for the overall governance of DPFP. These beliefs and acknowledgements will serve as guiding principles in the decision making and implementation of DPFP's investment mandate.

A. A well-defined governance structure with clearly delineated responsibilities is critical in achieving consistent, long-term performance objectives.

B. The strategic asset allocation determines the risk reward profile of the portfolio and thus drives overall portfolio performance and volatility.

1. Asset allocation has a greater effect on return variability than asset class investment structure or manager selection.
2. It is essential to account for liabilities in setting long-term investment strategy.
3. Rebalancing the portfolio is a key aspect of prudent long-term asset allocation policy.

C. Investment costs will be monitored and minimized within the context of maximizing net return. The goal is not low fees, but rather maximum returns, net of fees.

1. The opportunity for active manager risk-adjusted outperformance (alpha) is not uniformly distributed across asset classes or Investment Managers' strategies.
2. Active strategies are preferred when there is strong conviction that they can be expected to add alpha, net of fees.
3. Passive strategies should be considered if alpha expectations are unattractive.
4. Professional fees will be negotiated when feasible.

D. Risk is multifaceted and will be evaluated holistically, incorporating quantitative measures and qualitative assessments.

1. Global investment reduces risk through diversification.
2. Diversification across different risk factors reduces risk.
3. The pattern of returns matters because volatility levels and the sequence of gains and losses can impact funded status.
4. Risk that is not expected to be rewarded over the long-term, or mitigated through diversification, will be minimized.
5. Generating positive investment return requires recognizing and accepting non-diversifiable risk. Not taking enough risk is risky; therefore, DPFP will accept a prudent amount of risk to achieve its long-term target returns.

Section 5 Roles and Responsibilities

A. Board of Trustees

The Board of Trustees (Board) has a fiduciary responsibility to ensure prudent management of the plan and compliance with all state and federal laws. Additionally, the Board:

1. Establishes investment objectives consistent with the needs of DPFP and approves the IPS of DPFP;
2. Approves strategic asset allocation targets and ranges, and asset class structures;
3. Prudently hires, monitors, and terminates key investment service providers including: Consultant(s), Investment Managers and Custodian~~;~~(s);
4. Appoints members to the Investment Advisory Committee (IAC);
5. Reviews investment related expenses;
6. Approves Board travel related to investments; and
7. Reviews the IPS annually and revises it as needed.

B. Investment Advisory Committee (IAC)

Commented [staff6]: Reordered and updated to incorporate public meeting provisions. There is a new subsection 3 that focuses on meetings. 3.e & 3.f is new language.

1. IAC Composition, Selection and Criteria
   a. The requirement and general composition of the IAC is defined by statute.
   b. The IAC serves at the discretion of the Board of Trustees.
   ~~c.~~a. ~~IAC recommendations are not binding on the Board, provided however the Board may in the exercise of its fiduciary discretion grant decision-making authority to the IAC.~~
   ~~d.~~c. The IAC is composed of up to seven members including one to~~-~~ three current Board members and a majority of outside investment professionals.
   ~~e.~~d. IAC members will serve two-year terms.
   ~~f.~~e. The Board will appoint members of IAC members by vote.
   ~~g.~~a. ~~IAC meetings require a quorum of at least three IAC members, a majority of whom must not be current Trustees. Any vote by the IAC which is reported to the Board must also advise the Board as to how each member of the IAC voted who was present for such vote. IAC members shall be provided reasonable notice of upcoming meetings, but this shall not prevent the IAC from meeting on short notice for an urgent item requiring immediate attention.~~
   ~~h.~~f. One IAC member who is also a member of the Board will function as Chair of the IAC. The Chair shall serve as liaison to the Board and preside over IAC meetings.
   ~~i.~~g. The Board of Trustees may elect to dismiss a member of the IAC for any reason.

2. IAC Roles and Responsibilities:

   a. A key role of the IAC is to ensure that DPFP investments are prudently managed.

   b. IAC recommendations are not binding on the Board, provided however the Board may in the exercise of its fiduciary discretion grant decision-making authority to the IAC.

   ~~b.~~c. The IAC will advise regarding the search and selection process for investment managers and other matters that the Board may request.

   ~~c.~~d. All investment related agenda materials for the Board will be made available to the IAC.

   ~~d.a. The IAC will meet as needed, but at least quarterly, to discuss the investment program and provide insight and recommendations to Staff and Consultant.~~

   e. The IAC Chair will report to the Board regarding IAC activity as well as investment-related concerns and recommendations.

   f. Any IAC member may address the Board to communicate investment related concerns.

   g. IAC members are fiduciaries to DPFP.

3. IAC Meetings

   a. The IAC will meet as needed, but at least quarterly, to discuss the investment program and provide insight and recommendations to Staff and Consultant.

   b. IAC meetings require a quorum of at least three IAC members, a majority of whom must not be current Trustees.

   c. IAC members shall be provided reasonable notice of upcoming meetings, but this shall not prevent the IAC from meeting on short notice for an urgent item requiring immediate attention.

   d. Any vote by the IAC which is reported to the Board must also advise the Board as to how each member of the IAC voted who was present for such vote.

   e. IAC meetings shall be open to the public. The IAC Chairman may close any portion or all of any IAC meeting in his or her discretion if they deem it prudent to do so, provided such meeting is not a public meeting being held in compliance with the Texas Open Meetings Act.

f. Board members who are not members of the IAC may attend and participate in IAC meetings. If a quorum of the Board shall be present at an IAC meeting then the meeting shall comply with the Texas Open Meetings Act. Board members who are not on the IAC will give the Executive Director notice that they wish to attend an IAC meeting at least one week prior to the meeting. Board members who are not on the IAC may attend an IAC meeting but may not participate in IAC deliberations if such Board member or members, together with Board members on the IAC participating in such meeting equals or exceeds the number of non-Board IAC members participating in such meeting. The IAC Chairman shall determine which Board members not on the IAC, if any, may participate in such meeting to maintain compliance with the previous sentence.

C. Executive Director

1. The Executive Director is authorized to administer the operations and investment activities of DPFP under policy guidance from the Board;
2. Is authorized to manage investments approved by the Board including authority to enter into contract amendments including fund extensions, act with regard to investment governance issues and engagement of advisors as needed;
3. Manages the day to day operations of DPFP;
4. Oversees and reports to the Board on investment and due diligence processes and procedures;
5. Approves/declines all Staff travel related to investment manager on-site due diligence; and
6. Approves Investment Staff recommendations for presentation to the IAC and Board.
7. The Executive Director is a fiduciary to DPFP when exercising discretion in the performance of their duties.

D. Investment Staff

1. The Investment Staff (Staff) has primary responsibility for oversight and management of the investment portfolio. Staff is responsible for investment manager due diligence and recommendations, portfolio implementation consistent with the Board approved asset allocation, and assessment of the Consultant(s);
2. Helps the Board and the IAC to oversee Investment Managers, Consultant(s), Custodian~~,~~(s), and vendors;

D. Investment Staff (continued)

3. Reports to the Executive Director through the Chief Investment Officer;
4. Works closely with the Investment Consultant(s);
5. Notifies Consultant in writing of rebalancing needs and recommended implementation;
6. Coordinates the preparation and annual review of the IPS;
7. Prepares Staff Investment Manager recommendations, submits Staff and Consultant(s) recommendations to Executive Director for review;
8. After Board approval of investment, Staff approves Investment Manager ~~S~~strategy guidelines which will be outlined in the Investment Manager agreements, as applicable;
9. Monitors all investments, Investment Managers and investment-related vendors;
10. Accounts for and reviews all external management fees and investment expenses; and
11. Ensures all investment fiduciaries to DPFP are aware of their fiduciary obligations annually.[3]

E. Consultant(s)

1. The Consultant(s) provides independent investment expertise to the Board, IAC, and Staff;
2. Reports to the Board and works closely with Staff;
3. Monitors and reports qualitative and quantitative criteria related to Investment Managers and aggregate portfolio activity and performance;
4. Reviews strategic asset allocation targets, ranges, and benchmarks for asset classes as required by the IPS and recommends improvements to the Board;
5. Documents asset allocation recommendations with asset class performance expectations including standard deviation, expected return and correlations for each asset class used by DPFP;
6. Reviews asset class structures periodically as required by the IPS and recommends improvements to the Board.
7. Assists in the selection process and monitoring of Investment Managers;
8. Documents and delivers to Staff written recommendations on Investment Manager new hire, hold and termination reviews;
9. Recommends benchmark and appropriate asset class and sub-allocation for investment managers;
10. Approves and verifies in writing each of Staff's rebalancing recommendations and implementation;

[3] Verification of this may be through contract, agreement, or annual fiduciary acknowledgement letter.

E. Consultant(s) (continued)

11. Monitors the diversification, quality, duration, and risk of holdings as applicable;
12. Assists Staff in negotiation of terms of vendor contracts; and
13. Prepares quarterly investment reports, which include the information outlined in Appendix C.
14. An Investment Consultant is normally a fiduciary to DPFP and this responsibility must be acknowledged in writing. DPFP may engage subject matter advisors that, while acting in DPFP's interest, may not be a contractual or statutory fiduciary to DPFP.

F. Investment Managers

1. Public Separate Account Investment Managers
   a. Acknowledge in writing acceptance of the objectives, guidelines, and standards of performance;
   b. Invest the assets of DPFP in accordance with its objectives, guidelines and standards;
   c. Exercise full discretionary authority as to all buy, hold and sell decisions for each security under management, subject to the guidelines established in the Investment Management Agreement or applicable contract;
   d. Send trade confirmations to the Custodian;
   e. Deliver monthly report to Consultant(s)/Staff describing portfolio asset class weights, investment performance, security positions, and transactions;
   f. Adhere to best execution and valuation policies;
   g. Inform Staff and Consultant, as soon as practical, in writing of any breach of investment guidelines, ethics violations or violations of self-dealing;
   h. Inform Staff and Consultant as soon as practical, in writing, of any significant changes in the ownership, organizational structure, financial condition, personnel staffing, or other material changes at the firm; and
   i. Act as a fiduciary to DPFP. All separate account investment managers are fiduciaries to DPFP and this responsibility must be acknowledged in the contract for services.
2. Public Commingled Fund Investment Managers
   a. Provide the objectives, guidelines, and standards of performance of the fund;
   b. Provide a report detailing fund performance and holding on a monthly basis or as agreed by DPFP;
   c. Prices and fair market valuations will be based on reference to liquid markets, or obtained from an independent service provider if the assets held by the fund cannot be reasonably valued by reference to liquid markets;

F. Investment Managers (continued)

2. Public Commingled Fund Investment Managers

   d. The investment manager of the commingled fund must act as a Fiduciary to the commingled fund.

   e. Mutual funds where the investment advisor or manager of the mutual fund is subject to the Investment Company Act of 1940 meet the requirements of this subsection 2.

3. Private Investment Managers

   a. Provide objectives, strategy guidelines, and standards of performance as evidenced in investment manager, operating, or partnership agreement;

   b. Ensure that financials statements undergo annual audits and that investments are reported at fair market value, as outlined in the Investment Management, Partnership, or Operating Agreement(s);

   c. Communicate to Staff any material changes in the ownership or management of the firm, and or the stability of the organization;

   d. Inform Staff, as soon as practical, in writing of any breach of investment guidelines, ethics violations or violations of self-dealing.

G. Custodian

1. Safe keep and hold all DPFP's assets in the appropriate domestic accounts and provide highly secure storage of physical stock certificates and bonds such that there is no risk of loss due to theft, fire, or accident;[4]
2. Maintain separate accounts by legal registration;
3. Arrange for timely execution and settlement of Investment Manager securities transactions made for DPFP;
4. Proactively reconcile transactions and reported values to Investment Manager statements;
5. Provide for receipt and prompt crediting of all dividend, interest and principal payments received as a result of DPFP portfolio holdings or securities lending activities;
6. Monitor income receipts to ensure that income is received when due and institute investigative process to track and correct late or insufficient payments, including reimbursement for any interest lost due to tardiness or shortfall;
7. At the direction of the Staff, expeditiously transfer funds into and out of specified accounts;
8. Timely collection of income, including tax reclaim;
9. Prompt and accurate administration of corporate actions, including proxy issues; and
10. Manage securities lending~~.~~, if authorized by the Board.

Commented [staff7]: Added qualifying language in recognition that securities lending has been suspended.

[4] Electronic transfer records at the Depository Trust Company ("DTC'') are preferred.

Section 6 Strategic Asset Allocation and Rebalancing

Note: The investment portfolio is undergoing a transition from a legacy allocation with substantial exposure to illiquid private market assets to a more traditional allocation profile. Significant variances to long-term allocation targets are expected to gradually diminish as private market assets are monetized. The asset allocation implementation plan (Appendix B1) prioritizes the reallocation of private market distributions.~~In October 2018, the Board approved a new long-term asset allocation, recognizing that implementation would be subject to the gradual unwinding of private market assets. In November 2018, the Board approved an asset allocation implementation plan to prioritize the reallocation of cash distributions from private market assets. Initial variances to long-term allocation targets may be quite large but are expected to gradually diminish.~~ Rebalancing ranges have been established to accommodate current variances to target and will be tightened over time as appropriate.

Commented [staff8]: Shortened for clarity and to remove 2018 reference, which has become dated. This same change is made to footnote 1 of Appendix B.

A. Asset Allocation

1. The strategic asset allocation establishes target weights and rebalancing ranges for each asset class and is designed to maximize the long-term expected return of the Fund within an acceptable risk tolerance while providing liquidity to meet cash flow needs.
2. A formal asset allocation study will be conducted as directed by the Board, but at least every three years.
3. Asset allocation targets will be reviewed annually for reasonableness in relation to significant economic and market changes or to changes to the investment objectives.
4. Asset class descriptions are provided in Appendix A.
5. The approved asset allocation is included in Appendix B.

B. Asset Class Structure

1. The asset class structure establishes the investment manager roles that will be used to implement the asset allocation.
2. The asset class structure will emphasize simplicity and cost control, and toward that end will employ the minimum number of managers necessary to assure appropriate diversification within each asset class.
3. Asset class structures will be reviewed periodically, approximately every two years.
4. Any changes to the asset class structure must be approved by the Board.

C. Rebalancing

1. In general, cash flows will be allocated to move asset classes toward target weights and shall be prioritized according to the Asset Allocation Implementation Plan detailed in Appendix B1.
2. Staff shall submit a rebalancing recommendation to the Consultant at least annually based on consideration of the entire portfolio, and additionally as soon as practicable when an asset class breaches an established rebalancing range or when deemed prudent by Staff or Consultant.

C. Rebalancing (continued)

3. The allocations to Cash and Short-Term Investment Grade bonds (the "Safety Reserve") are designed to cover approximately 2.5 years of projected net cash outflows. Per the current policy targets approved by the Board, the Safety Reserve target allocation is 15% of the Fund. Staff and Consultant will evaluate the size of the Safety Reserve in both dollar terms and percentage terms when making rebalancing recommendations. The purpose of the Safety Reserve is to be the primary source of meeting any liquidity needs, particularly during a prolonged period of investment market stress. While the projected net cash outflows are effectively known in advance, the market value of the Pension Fund's assets will fluctuate with market activity. Consequently, the size of the Safety Reserve, as a percentage of Pension Fund assets, will fluctuate. The Safety Reserve is not required to be rebalanced to target if deemed prudent by Staff and Consultant.

4. Rebalancing recommendations should consider expected future cash flows, investment liquidity, market volatility, and costs.

5. Transition management sh~~a~~oul~~l~~d be ~~used when prudent~~ considered to minimize transition costs.

6. Staff is responsible for implementing the rebalancing plan following Consultant approval.

7. Rebalancing recommendations and activity shall be reported to the Board and the IAC.

D. Private Market Provisions

1. DPFP will not commit capital to any direct private market investments or co-investments that are tied to a single company. This restriction does not prevent DPFP from holding direct investments that result from the dissolution of a private market fund.

2. DPFP will not commit capital to any private market fund if such commitment would likely result in DPFP holding greater than a 10% interest in the fund.

3. DPFP will not commit capital to any private market fund if such commitment exceeds 2% of the total market value of the DPFP investment portfolio.

4. DPFP will not commit to any private market fund if the current value plus total unfunded commitments to related funds (e.g. fund family) exceeds 5% of the total market value of the DPFP investment portfolio.

5. The private market commitment limitations outlined above, do not prevent the Board from making contributions necessary to protect DPFP interests.

~~5.~~6. The Board and Staff may consider and approve sales of private assets for less than the current net asset value of the asset reported to the Board. Factors affecting such a decision would include prices obtained after marketing the asset, liquidity, or overallocation to the relevant asset class.

Section 7 Investment Manager Search, Selection, and Monitoring

A. Investment Manager Search and Selection

1. The selection of investment managers will utilize a robust process to ensure an open and competitive universe, proper evaluation and due diligence, and selection of candidates that are best able to demonstrate the characteristics sought in a specific search.
2. Investment manager searches shall be based on one or more of the following reasons:
   a. Changes to the approved asset allocation;
   b. Changes to the approved asset class structure; or
   c. Replacement for terminated manager or manager of concern.
3. The IAC will advise regarding the search and selection process for investment managers.
4. Staff and Consultant shall define and document the search process, including evaluation criteria, prior to initiating the search process.
5. Each investment manager hiring recommendation shall be supported by a rationale that is consistent with the pre-established evaluation criteria.
6. Each hiring recommendation will generally include the following information:
   a. A description of the investment and the suitability within the relevant asset class;
   b. Whether the investment is categorized as Alternative or Traditional based on the criteria in Appendix D.
   ~~a.~~c. A description of the organization and key people:
   ~~b.~~d. A description of the investment process and philosophy;
   ~~c.~~e. A description of historical performance and future expectations;
   ~~d.~~f. The risks inherent in the investment and the manager's approach;
   ~~e.~~g. The proper time horizon for evaluation of results;
   ~~f.~~h. Identification of relevant comparative measures such as benchmarks and/or peer samples;
   ~~g. The suitability of the investment within the relevant asset class; and~~
   ~~h.~~i. The expected cost of the investment.
7. Alternative Investments

   The Board has adopted the definition of "Alternative Investments" as outlined in Appendix D, which will be reviewed as part of the due diligence process for any new investment. Pursuant to Section 4.07 of Article 6243a-1, the vote of eight trustees is required to approve any Alternative Investment.

B. Investment Monitoring

1. Staff and Consultant(s) are responsible for ongoing monitoring of all Investment Managers using qualitative and quantitative factors as appropriate.
2. Qualitative factors may include:
   a. Consistent implementation of philosophy and process;
   b. Ownership changes or departure of key personnel;
   c. Assets under management at the firm and product level;
   d. Conflicts of interest;
   e. Material litigation or regulatory challenges involving the investment manager;
   f. Adequate reporting and transparency; and
   g. Material client-servicing problems.
3. Quantitative factors may include:
   a. Long-term (3-5 years) performance relative to assigned benchmarks;
   b. Unusually large short-term performance variance (over or under); and
   c. Risk metrics such as volatility, drawdown, and tracking error.
4. Staff and the Consultant will highlight Investment Manager concerns to the IAC and the Board and recommend an appropriate course of action.

Section 8 Risk Management

Commented [staff9]: Slight change of language to conform to GASB 40

Staff will work within the parameters of this Investment Policy Statement to mitigate the risk of capital loss. By implementing this Policy, the Board has addressed:

A. Custodial Credit Risk for both public and private holdings;[5]

B. Interest Rate Risk through fixed income duration ~~and credit~~ monitoring;[6]

C. Concentration ~~and~~of Credit Risk through asset allocation targets and ranges, rebalancing, and the monitoring of investment guidelines.

Furthermore, through this Policy, Staff has established the necessary criteria to monitor the Custodian, Consultant(s), and Investment Managers, such that DPFP controls and manages interest rate, custody, concentration, and credit risks.

[5] ~~Please review~~Reference Custodian responsibilities in Section 5.
[6] ~~Please review~~ Reference IPS Annual Review ~~of~~in Section 5.A.7of IPS and Investment Manager strategy guidelines reviewed and approved by Staff.

Section 9 Approval and Effective Date

Commented [staff10]: All dates will be updated following Board approval

The Investment Policy Statement was originally adopted by the Board on April 14, 2016 and was subsequently amended and adopted on the following dates.

December 14, 2017
January 10, 2019
March 14, 2019
February 13, 2020
July 9, 2020

APPROVED on November 12, 2020 by the Board of Trustees of the Dallas Police and Fire Pension System.

William Quinn
Chairman

Attested:

Kelly Gottschalk
Secretary

Appendix A – Asset Class Descriptions

DPFP investment assets are prudently diversified to optimize expected returns and control risks. Assets can generally be categorized into four functional categories of Growth, Income, Inflation Protection, and Risk Mitigation

A. Growth Assets

1. Role: Capital appreciation, primary driver of long-term total return

2. Investment Approach: Growth assets generally represent equity or equity-like interests in current and future income streams and capture long-term economic growth trends throughout the world.

3. Risk Factors: The cost of the high expected long-term returns is higher expected volatility. Growth assets are highly sensitive to economic conditions and are subject to potential loss during economic downturns, rising/unexpected inflation, and rising interest rates.

4. Asset Classes

   a. **Global Equity** represents publicly traded stock holdings of companies across the globe. Liquidity is a key benefit as stocks can be traded daily. Foreign currency volatility can be a source of risk and return.

   b. **Emerging Markets Equity** represents publicly traded stock holdings of companies located in or highly dependent on developing (emerging) countries. Emerging markets equity is expected to capture the higher economic growth of emerging economies and provide higher long-term returns than global equity coupled with higher volatility. Foreign currency volatility can be a source of risk and return.

   c. **Private Equity** refers to investments in private companies (direct investments) or funds that hold investments in private companies or securities that are not typically traded in the public markets. Frequently these investments need “patient” capital to allow time for growth potential to be realized through a combination of capital investment, management initiatives, or market development. Private equity is expected to provide higher long-term returns than global equity, but illiquidity is a key risk as investment contributions may be locked up for several years.

B. Income Assets

1. Role: Current income and moderate long-term appreciation

2. Investment Approach: Income assets are generally fixed claims on assets or income streams of an issuer (e.g. government, corporation, asset-backed securities).

3. Risk Factors: The primary risk for Income assets is the failure of the borrower to make timely payments of interest and principal (credit risk) and the price volatility related to credit risk. Bonds with greater credit risk (i.e., bonds with lower credit ratings) are typically less liquid than higher quality bonds. Income assets may also be susceptible to interest rate (duration) risk where higher market interest rates reduce their value. Longer maturities have relatively higher interest rate risk.

4. Asset Classes

   a. **Global Bonds** ~~includes~~refers to sovereign and corporate debt issued by countries and companies located throughout the world in local currency and U.S. dollars. Expanding the investable universe beyond the U.S. provides a diversified source of returns.

   b. **Bank Loans** are like high yield bonds in that both represent debt issuers with higher credit risk. Compared to high-yield bonds, bank loans typically have higher seniority in the capital structure, which has historically resulted in much higher recovery following default.

   c. **High Yield Debt** refers to bonds with higher credit risk and lower credit ratings than investment-grade corporate bonds, Treasury bonds and municipal bonds. Because of the higher risk of default, these bonds pay a higher yield than investment grade bonds.

   d. **Emerging Markets Debt** (EMD) refers to bonds issued by developing countries or corporations based in developing countries. EMD bonds can be denominated in U.S. Dollars or local currency. The primary risk factor is credit quality, but interest rates and foreign currency are also factors.

   e. **Private Debt** refers to non-bank direct lending arrangements. Features are similar to bank loans with somewhat higher credit risk and yields. Investments are typically structured in a private market vehicle with limited liquidity. Private debt may be included within the private equity asset class in the strategic asset allocation.

Commented [staff11]: Will remove reference to Global Bonds in future revision, following adoption of new asset allocation.

C. Inflation Protection (Real Assets)

1. Role: Current income, inflation protection, diversification

2. Investment Approach: Generally, ownership in physical assets.

3. Risk Factors: Real Assets may not provide the desired inflation protection. Loss of principal is also a risk. Foreign assets are also subject to currency movements against the U.S. dollar.

4. Asset Classes

   a. **Real Estate** includes investments in office buildings, apartments, hotels, industrial warehouses, retail, raw land, and development projects.

   b. **Natural Resources** broadly refers to anything mined or collected in raw form but may include assets subject to further processing. Typical assets include permanent and row crops, timber, minerals, and metals.

   c. **Infrastructure** refers to investments in physical systems that support world economies. Typical investments include transportation, communication, utilities (electricity, gas, water, sewage).

D. Risk Mitigation

1. Role: Liquidity to fund benefit payments and other cash flow needs, capital preservation, modest current income, diversification to growth assets.

2. Investment Approach: Cash equivalents or high-quality domestic bonds.

3. Risk Factors: Risks are substantially lower for risk mitigation assets but may include modest exposure to credit or interest rates (duration).

4. Asset Classes

   a. **Cash Equivalents**

   b. **Short Term Investment Grade Bonds** have moderate interest rate risk.

   c. **Investment Grade Bonds** including bonds and notes issued by the U.S Treasury, U.S. Government Agencies, state and local municipalities, corporations, or other issuers with similar conservative risk profiles. Risk factors include duration and credit.

Appendix B – Strategic Asset Allocation and Rebalancing Ranges

Asset Class	Policy Benchmark	Target Weight[1]	Minimum Weight	Maximum Weight
Equity		55%		
Global Equity	MSCI ACWI IMI Net	40%	22%	48%
Emerging Markets Equity	MSCI Emerging Markets IMI Net	10%	2.5%	12%
Private Equity	Cambridge Associates U.S. Private Equity Index 1Q Lag	5%	N/A[2]	N/A[2]
Fixed Income		35%		
Cash	91 Day T-Bills	3%	0%	5%
Short Term Investment Grade Bonds	Bloomberg Barclays ~~US Treasury~~ 1-3 Year Aggregate	12%	5%	15%
Investment Grade Bonds	Bloomberg Barclays U.S. Aggregate	4%	2%	6%
Bank Loans	Credit Suisse Leveraged Loan	4%	2%	6%
High Yield Bonds	Bloomberg Barclays US Corp HY	4%	2%	6%
~~Bank Loans~~	~~Credit Suisse Leveraged Loan~~	~~4%~~	~~2%~~	~~6%~~
Global Bonds	Bloomberg Barclays Global Aggregate	4%	~~2~~0%	6%
Emerging Markets Debt	50% JPM EMBI/ 50% JPM GBI-EM	4%	0%	6%
Private Debt	Barclays ~~Global~~U.S. HY + 2% (Rolling 3 Mo.)	0%	N/A[2]	N/A[2]
Real Assets		10%		
Real Estate	NCREIF Property Index 1Q Lag	5%	N/A[2]	N/A[2]
Natural Resources	NCREIF Farmland Total Return Index 1Q Lag	5%	N/A[2]	N/A[2]
Infrastructure	S&P Global Infrastructure (Rolling 3 Mo.)	0%	N/A[2]	N/A[2]
Total		100%		

1 – The investment portfolio is undergoing a transition from a legacy allocation with substantial exposure to illiquid private market assets to a more traditional allocation profile. Significant variances to long-term allocation targets are expected to gradually diminish as private market assets are monetized. The asset allocation implementation plan (Appendix B1) prioritizes the reallocation of private market distributions.~~In October 2018, the Board approved a new long-term asset allocation, recognizing that implementation would be subject to the gradual unwinding of private market assets. Appendix B1 reflects the Board-approved asset allocation implementation plan to prioritize the reallocation of cash distributions from private market assets. Initial variances to long-term allocation targets may be quite large but are expected to gradually diminish.~~ Rebalancing ranges have been established to accommodate current variances to target and will be tightened over time as appropriate.

2 – Rebalancing Ranges are not established for illiquid asset classes.

Commented [staff12]: Proposing benchmark change for IRM and asset class to incorporate more credit risk.

Commented [staff13]: Moved Bank Loans high in table to reflect relatively lower risk.

Commented [staff14]: Global Bonds will likely be removed following adoption of new asset allocation. Changed lower limit to zero to reflect current allocation.

Commented [staff15]: DPFP private debt is all USA

Commented [staff16]: Footnote 1 shortened for clarity and to remove 2018 reference, which has become dated. This same change is made in Section 6.

Appendix B1 – Asset Allocation Implementation Plan

The investment portfolio is undergoing a transition from a legacy allocation with substantial exposure to illiquid private market assets to a more traditional allocation profile. In October 2018, the Board approved a new long-term asset allocation, recognizing that implementation would be subject to the gradual unwinding of private market assets. In November 2018, the Board approved the following implementation plan to prioritize the reallocation of cash distributions from private market assets.

Order of Reallocation

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

1 – The Safety Reserve is not required to be allocated to target if deemed prudent by Staff and Consultant.
2 – Global Equity target weight is 40%. If current exposure is more than 22% proceed to next asset class in the matrix. The reallocation framework is designed to maintain at least the mid-2018 exposure to public equity, prior to increasing fixed-income exposure.
3 – Emerging Markets Equity Target weight is 10%. If current exposure is more than 2.5% proceed to next asset class in the matrix. The reallocation framework is designed to maintain at least the mid-2018 exposure to public equity, prior to increasing fixed-income exposure.

Appendix C – Investment Consultant Reporting Requirements

The investment consultant is required to provide the Board with quarterly investment information for portfolio monitoring purposes. Generally, these are as follows:

Quarterly (due in advance of the meeting)

1. DPFP's actual asset allocation relative to its target asset allocation as defined in Appendix B.
2. DPFP's return relative to its Policy Benchmark return and other public pension funds.
3. DPFP's risk adjusted returns relative to the policy and other public pension funds.
4. Asset class performance relative to the benchmarks as defined in Appendix B.
5. Individual Investment Manager returns relative to their stated benchmark.
6. Report will specifically acknowledge any underperforming Investment Managers.
7. Any reportable events affecting any of DPFP's Investment Managers.
8. Private Markets reports which covers Private Debt, Private Equity, Infrastructure, ~~Real Assets~~ Natural Resources and Real Estate.

Appendix D – Alternative Investments

Alternative Assets means any investment that is not a Traditional Asset.

Traditional Assets include:

1. Common Stocks: publicly traded securities representing ownership in a corporation; also known as publicly-traded equity. Examples include publicly traded equity shares of public companies, REITs, and ADRs. Regional examples include shares of companies domiciled in the US, non-US developed markets and emerging markets.

2. Bonds: publicly-traded securities, the holders of which serve as creditors to either governmental or corporate entities. Examples include government bonds and corporate bonds, including senior bank loans. Regional examples include US government issued bonds, non-US international developed markets issued bonds, and emerging markets issued bonds. Credit examples include investment grade bonds and non-investment grade bonds (e.g. high yield bonds and bank loans).

3. Cash Equivalents: short-term investments held in lieu of cash and readily convertible into cash within a short time span. Examples include CDs, commercial paper, and Treasury bills.

Though an exhaustive list is not included, some of the defining characteristics of Alternative Assets and their vehicles include:

1. Private ownership vehicles
2. Liquidity-constrained, and a lock-up of capital for extended time periods (one-year or longer)
3. Use of leverage
4. Ability to take short positions
5. Use of derivatives

The Board recognizes that certain investments may have characteristics and underlying securities that could be classified as both a Traditional and Alternative Investment. On any new investment recommendation, Staff and Consultant will propose a categorization for such investment as either Alternative or Traditional based on these criteria, with a focus on liquidity of the investment, for the Board's consideration.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C10

Topic: **Asset Allocation Review**

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

Discussion: Section 6.A.2 of the Investment Policy Statement provides that a formal asset allocation study will be conducted as directed by the Board, but at least every three years. The last formal asset allocation study was conducted in 2018. Staff and Meketa have begun a new asset allocation. Meketa will review the 2018 process and key inputs for 2021. The Board may provide perspective and guidance regarding parameters for the 2021 asset allocation study.

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Dallas Police and Fire Pension System

February 2021

2021 Asset Allocation: Preliminary Review

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2021 Asset Allocation: Preliminary Review

Executive Summary

- We update our capital markets expectations each year in January.
- Changes are driven by many factors, including equity prices, interest rates and credit spreads.
- Over the last few years (specifically calendar years 2019 and 2020) equity prices have gone up and bond yields have gone down.
- The effect of this is a decline in long term expected returns for nearly every asset class.
- We are encouraging clients to remain patient, keep the long term in mind, and seek rebalancing opportunities (into risk assets) when return expectations are higher.
- We recognize this may be more challenging for DPFP given the significant exposure to illiquid assets with challenged exit opportunities.

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2021 Asset Allocation: Preliminary Review

Presentation Outline

Section 1: Recap of 2018 asset allocation review and development (last major review by the Board).

Section 2: Current market environment (yields and equity valuations).

Section 3: Overview of the Asset Study development.

Section 4: DPFP comparison: 2021 Projections vs. 2018 Projections.

Section 1: Recap of 2018 Asset Allocation Review and Development

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2021 Asset Allocation: Preliminary Review

Timeline of Most Recent Asset Allocation Review and Adoption

- March 2018 – During the hiring process, Meketa shared preliminary observations and recommendations.
- April 2018 – Meketa presented additional thoughts. The message focused on preservation of capital, downside risk protection, and preliminary potential long term return expectations for DPFP given its exposure to "legacy assets".
- May 2018 –Meketa presented the concept of a Safety Reserve® (a mix of high quality, low volatility, short duration fixed income instruments and cash). It was established to meet ongoing expenses and benefit payments (for at least 2.5 years), ensuring that no other assets would need to be sold at a potentially inopportune time/price during a market correction. It was recommended to DPFP because of a combination of the following that limit DPFP's ability to rebound from a significant market correction: weak funded status, negative net benefit payments per year of approximately 5-6%, and illiquid legacy assets comprising approximately 25% of the Fund, with potentially binary outcomes.
- August 2018 – DPFP Staff and Meketa conducted weekly conference calls and evaluated numerous potential asset allocation mixes.
- September 2018 – Meketa presented a comprehensive asset allocation policy review and risk analysis to the Board of Trustees. The report included Mean Variance Optimization analysis, probability testing, stress testing, historical market testing, liability stress testing, Value at Risk analysis, liquidity analysis, and details on Meketa Investment Group's annual asset class capital markets assumption development.
- October 2018 – With feedback from the Board of Trustees, DPFP Staff and Meketa conducted additional analysis and prepared a unified recommendation for the Board to consider. The recommendation was the product of numerous discussions with DPFP Staff as well as the DPFP's actuary in regards to the projected future liabilities of DPFP. The Board evaluated the expected impact on total DPFP standard deviation, risk budgeting, liquidity, manager transitions required, expected costs, expected timeframe, etc. With data from DPFP's actuary, Meketa conducted various stress tests to DPFP's short term returns and the potential impact on future funded status. The Board evaluated different implementation plans and discussed the potential pros/cons of four different approaches of rebalancing to target.

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Timeline of Most Recent Asset Allocation Review and Adoption (continued)

- November 2018 – Additional discussions ensued with DPFP Staff and Meketa on the recommended implementation plan. Meketa presented an Implementation Plan to the Board of Trustees that focused on rebalancing to the new asset allocation based on expected risk of underweight asset classes. The Board had some reservations on emerging markets and recommended minor modifications to the plan.
- December 2018 – Meketa presented recommended asset class ranges and asset class benchmarks with corresponding rationale. Staff presented a revised Investment Policy Statement that included the agreed upon new policy asset allocation and implementation plan. The Board provided feedback to DPFP staff on the IPS which was approved the following month.

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"Legacy" Assets

- Meketa felt the adoption of the Safety Reserve® (mix of short-duration fixed income assets and cash designed to meet benefit payments for 2.5 years) was especially important given the significant exposure to "Legacy" assets and the likelihood for potentially challenged or impaired exits.
- As part of the RFP process, we included the following comments in our Finals presentation.
- *"Given the types of illiquid assets owned, in both the "performing" and legacy categories, and our experience with other clients looking to reduce exposure to illiquid assets in a reasonable manner, our expectation is that the time required [to exit] will be longer than projected."*
- *"In our experience, we would budget no less than 5 to 7 years to get to a <10% legacy position."*
- *"In our experience, "problem" assets either tend to remain in the books without much appreciation (often the contrary is true). Also, they tend to not generate much cash or distributions (zombie holdings). If the intention is to hold on to them until a good exit is found, then 0% [return assumption] may be realistic ....If the intention is to exit them as soon as practicable, then discounts to NAV on the exits are likely, and may well be below discounts achieved last year (50-70% of NAV may be more reflective of average discounts)."*
- *"To us, it seems as though one of the two variables need to be adjusted downward. Either liquidity is sacrificed in hopes of better exits, or potentially lower returns are accepted to improve liquidity."*

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Asset Liability Analysis

- Meketa and DPFP Staff included liability analysis in the asset allocation review in 2018.
- Meketa highlighted that the path of returns was extremely impactful as strong returns in early years, followed by weak returns in later years, would have a profoundly different impact on future funding status, than vice-versa.
- The Board evaluated stress testing surrounding the anticipated liabilities of DPFP and the impact of not earning the plan's actuarial return.
- In response to the analysis, the Board agreed to follow a risk-based implementation plan designed to minimize the potential impact of a severe near term market correction.
- A sample of the analysis conducted in 2018 is included in Exhibits #1 – 3 on the following pages.

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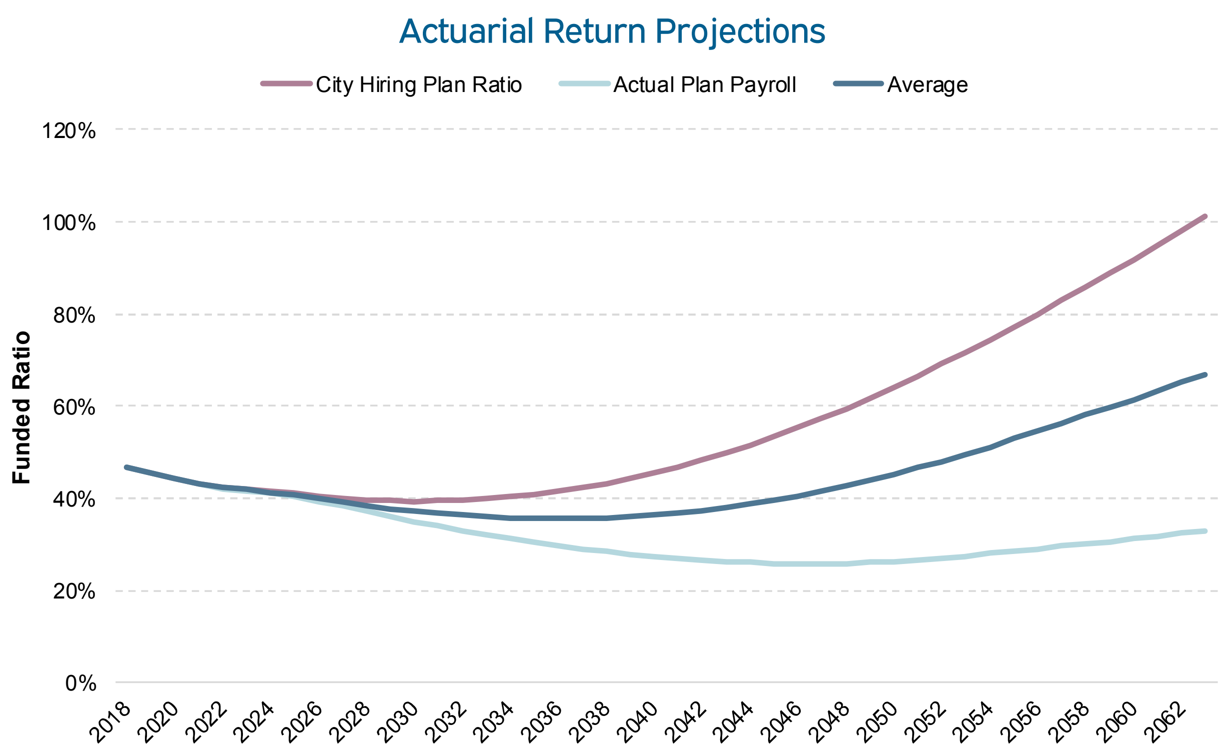
2021 Asset Allocation: Preliminary Review

Exhibit #1 - Example of Stress Testing Conducted in 2018



- The chart above projects the funded status (under different contribution rates) with the assumption DPFP earns the actuarial return every year.
- With higher contributions into the plan, the funded status is expected to improve faster.

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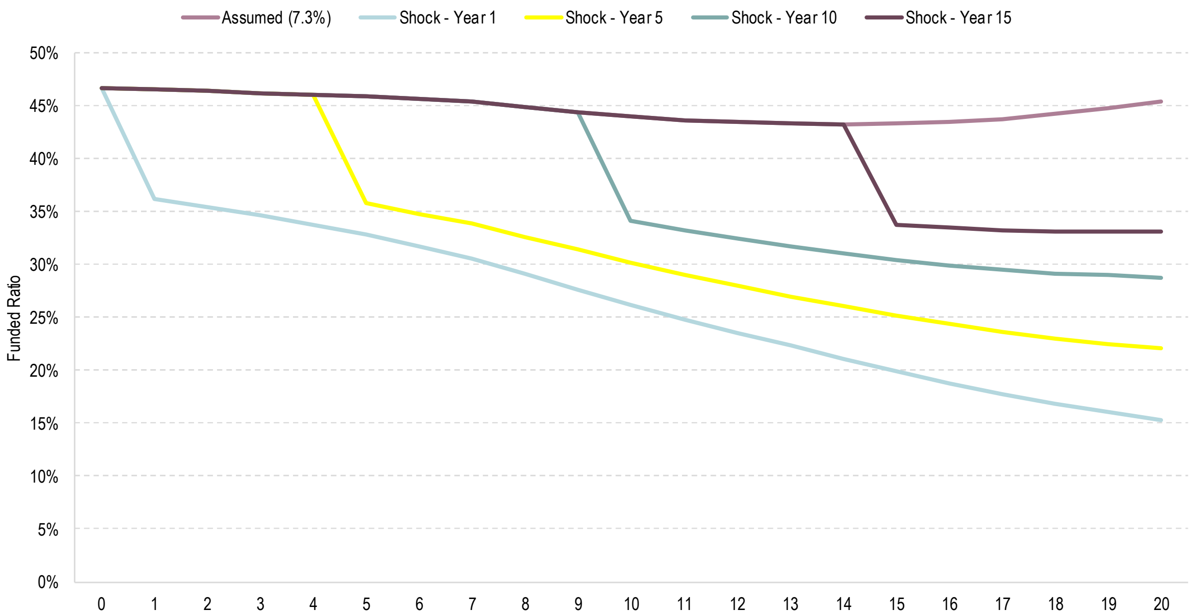
Exhibit #2 - Example of Stress Testing Conducted in 2018

Funded Status[1] Under Different "Shock" Time Points



- The timing of a potential equity shock is impactful. A shock now is much worse than a shock in the future.
- All the "shock" lines above have the exact same total annualized return[2].

[1] Model assumes the average contribution rate of the city payroll forecast and the actual payroll contributions net of expected benefit payments.

[2] Returns modeled as 7.3% in 19 of 20 years, but one year of -15.8%. The total twenty-year return decreases to 6.0%, annualized.

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Exhibit #3a- Example of Stress Testing Conducted in 2018

Scenario Analysis

- Meketa analyzed several scenarios for DPFP over the next 20 years.
- In each case we modeled different return paths in years 1-5.
- In each case[1] we assume that DPFP earns the expected return rate for the recommended long-term mix (7.3%) in years 6-20.
- The most optimistic scenario evaluated is the baseline actuarial return assumption.
- The most dire (worst case) scenario is a full write-off all the legacy assets over the five years with the rest of the Fund generating a zero percent return.
- Each scenario is detailed below.

"Grade"	Scenario Description	2018 DPFP Return	2019 DPFP Return	2020 DPFP Return	2021 DPFP Return	2022 DPFP Return	*Years 6-20*
A	Actuarial Base Line	5.0%	5.25%	6.25%	7.25%	7.25%	*7.25%*
B	Bond-like performance for 5 years	4.0%	4.0%	4.0%	4.0%	4.0%	*7.30%*
C	Legacy assets negate performance of rest of portfolio for 5 years	0.0%	0.0%	0.0%	0.0%	0.0%	*7.30%*
D	1/2 of legacy assets is written off over next 5 years	-2.5%	-2.5%	-2.5%	-2.5%	-2.5%	*7.30%*
F	All legacy assets are written off over next five years	-5.0%	-5.0%	-5.0%	-5.0%	-5.0%	*7.30%*

- A chart on the following page details the expected impact of each scenario on funded status.

[1] For Path A "Actuarial Base Line" we used 7.25% instead of the recommended long-term mix 7.3% assumed return for years 6-20.

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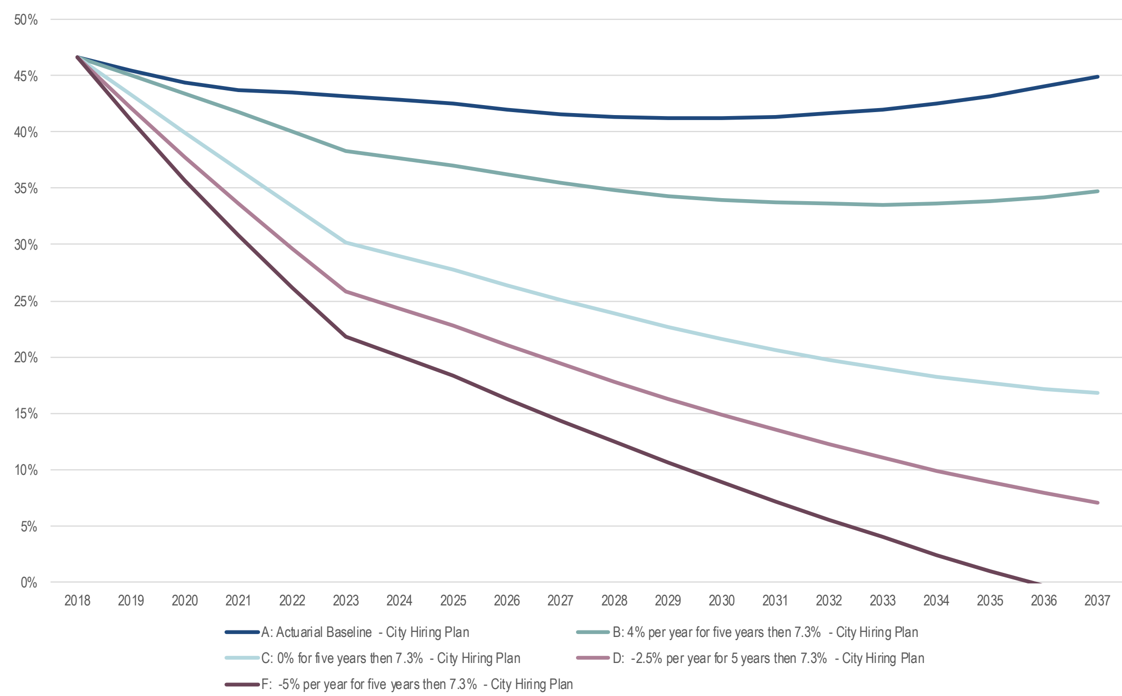
Exhibit #3b (continued)

- If DPFP earns the actuarial baseline return for the next five years or 4% annualized for the next five years (Paths A and B), the funded status takes a moderate hit but begins to eventually rebound.
- Flat or negative returns in years 1-5 could put DPFP into a severe unfunded situation (paths C, D, F below).

Funded Status with City Hiring Plan Contributions



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2021 Asset Allocation: Preliminary Review

Recommendations related to Asset Allocation (from 2020)

- In 2020 Meketa prepared its Investment Practices and Performance Evaluation report (the "SB 322 report) as required by Texas Government Code Section 802.109(a)(1-5).
- Meketa outlined the following recommendations:
  - *"We recommend the Board remains patient with asset allocation as the portfolio is transitioned and doesn't feel obligated to conduct comprehensive asset allocation overhaul every year. (Surveys have shown many large state plans are moving towards once every three - five years)."*
  - *"We recommend the Board and Staff closely monitor contribution levels and maintain constructive and open dialogue with the City."*
  - *"If (based on the actuary's advice) it becomes likely that DPFP is not on track to meet targets by 2024, we encourage the Board to act as soon as reasonably possible to discuss and implement additional plan design changes to avoid delaying and compounding any known shortfalls."*
  - *"We recommend DPFP consider adjusting actuarial valuation assumptions as necessary based on the outcomes and advice of the actuary upon conclusion of the experience study expected in 2020."*

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2021 Asset Allocation: Preliminary Review

Changes to Asset Allocation (in 2020)

- In 2020 the Board voted to liquidate DPFP's 4% target allocation to global bonds given the world wide low interest rate environment and increased role currency played in annual returns for non-US fixed income.
- During the process, DPFP Staff and Meketa looked at various different approaches to redistributing the 4% target weight into other asset existing asset classes.
- Staff recommended (and Meketa agreed) to wait for the Meketa 2021 Asset Study to be completed before determining where to permanently reallocate the 4% Global Bond target weight in the overall asset allocation policy.

Section 2: Current Market Enviroment (Yields and Equity Valuations)

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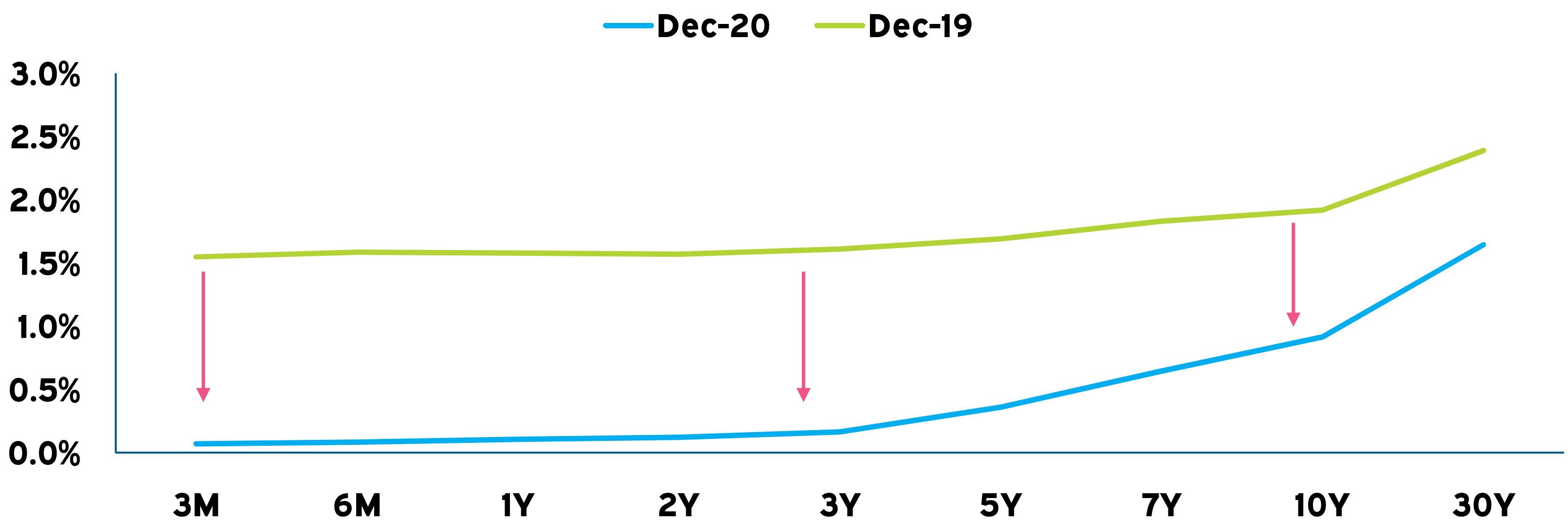
2021 Asset Allocation: Preliminary Review

A Low Interest Rate Environment Depresses Expectations

- One of the biggest reasons for the lower forward looking projections is the low interest rate environment.
- The US Treasury yield curve declined materially during 2020, driven by demand for safe-haven assets (e.g., Treasuries), Federal Reserve polices (e.g., policy rate cuts and the quantitative easing program), and weak US economic fundamentals.

US Yield Curve Declines[1]



[1] Source: Bloomberg. Data is as of December 31, 2020.

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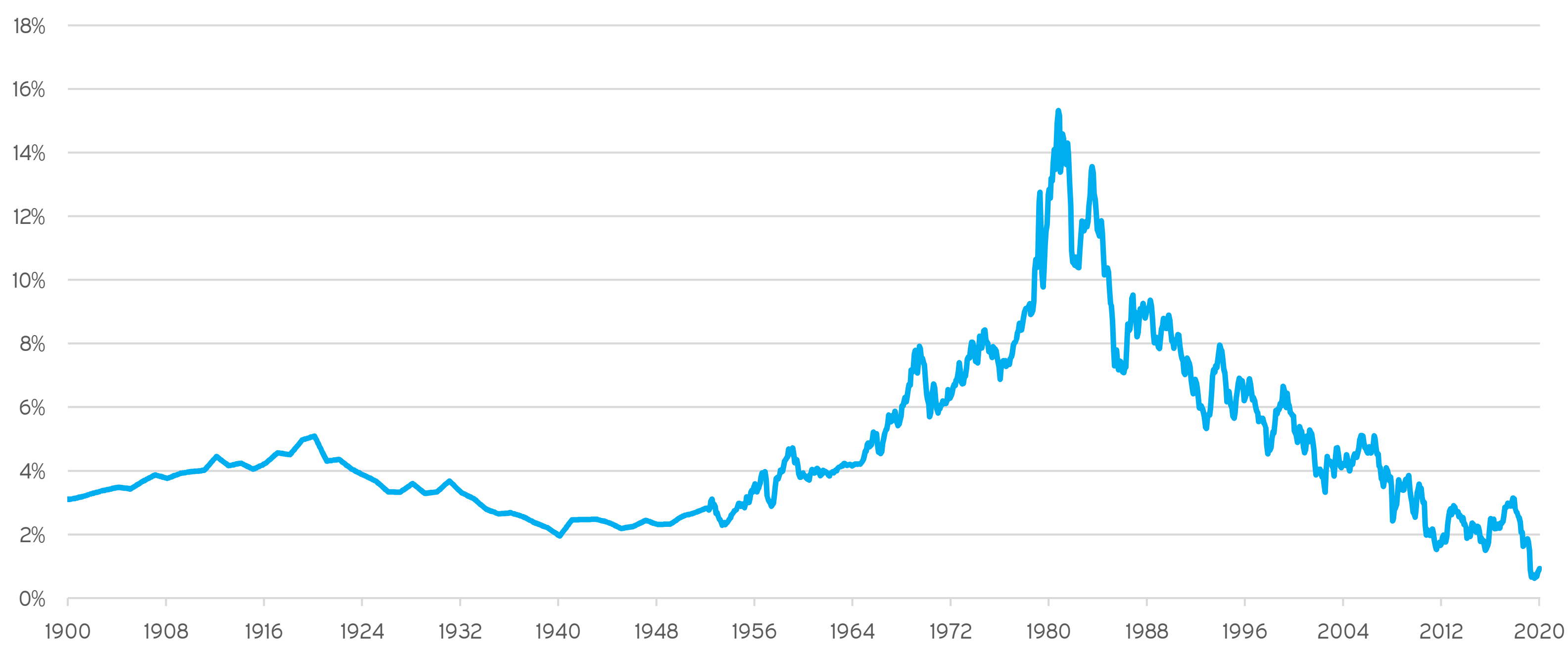
How Low, and for How Long?

- U.S. interest rates have essentially reached all-time lows.
- It is quite possible they are going to stay low.

US Treasury 10-Year Rates[1]



[1] Source: FRED, Multpl.com. Data is as of December 31, 2020.

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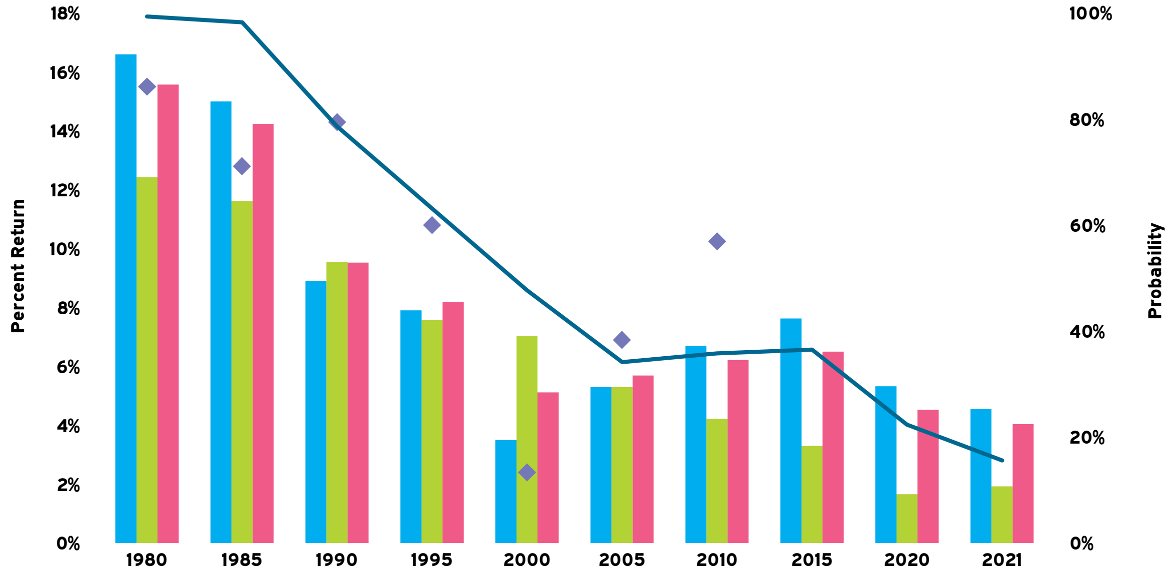
Low Rates = Low Future Returns[1]



	1980	1985	1990	1995	2000	2005	2010	2015	2020	2021
Equity Expected Return	16.6%	15.0%	8.9%	7.9%	3.5%	5.3%	6.7%	7.6%	5.3%	4.6%
Bond Expected Return	12.4%	11.6%	9.6%	7.6%	7.0%	5.3%	4.2%	3.3%	1.7%	1.9%
65/35 Eq/Bond Exp. Ret.	15.6%	14.2%	9.5%	8.2%	5.1%	5.7%	6.2%	6.5%	4.5%	4.0%
Actual 10-year Return	15.5%	12.8%	14.3%	10.8%	2.4%	6.9%	10.3%			
Probability of Earning 7.0%	99%	98%	79%	63%	48%	34%	36%	36%	22%	16%

- A simple stock/bond mix has produced diminishing expected returns over the past 40 years.
- With rates having declined even further, it will be more difficult than ever for institutional investors to achieve their target returns.

[1] Expected return assumptions for 1) Bonds equals the yield of the ten-year Treasury plus 100 basis points, and 2) Equities equals the dividend yield plus the earnings yield of the S&P 500 index (using the inflation-adjusted trailing 10-year earnings). Probability calculation is for the subsequent ten years.

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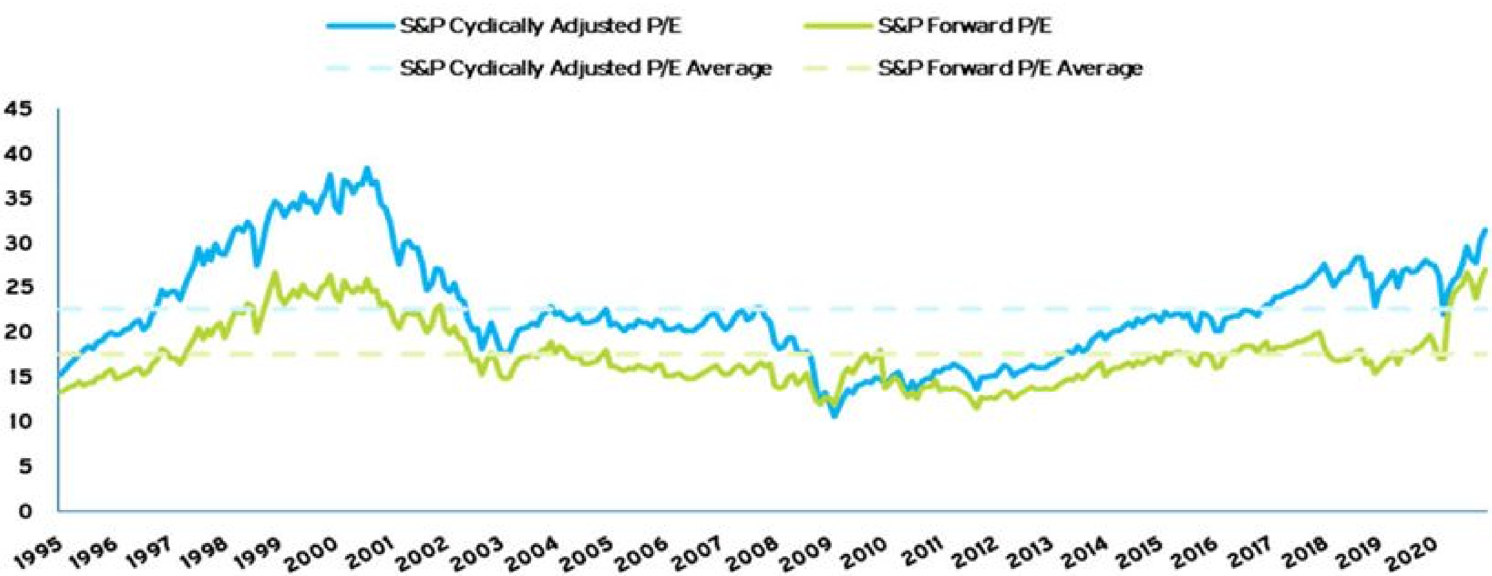
Higher Prices for US Equities[1]

S&P 500 Valuations



- After the initial drawdown during the onset of the pandemic, stocks rebounded strongly and finished 2020 well ahead of where they started..
- Valuations based on both forward-and backward-looking earnings rose to levels not seen since 2001.

[1] Source: Bloomberg. Data is as of December 31, 2020

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Higher Prices in Non-US Equities[1], too

Developed International Equity Cyclically Adjusted P/E

Emerging Market Equity Cyclically Adjusted P/E

- EM equities had a strong 2020. Led by Chinese stocks. EAFE equities lagged behind, but because they experienced a much larger hit to earnings, their PE rations likewise moved up.

[1] Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data as of December 31, 2020

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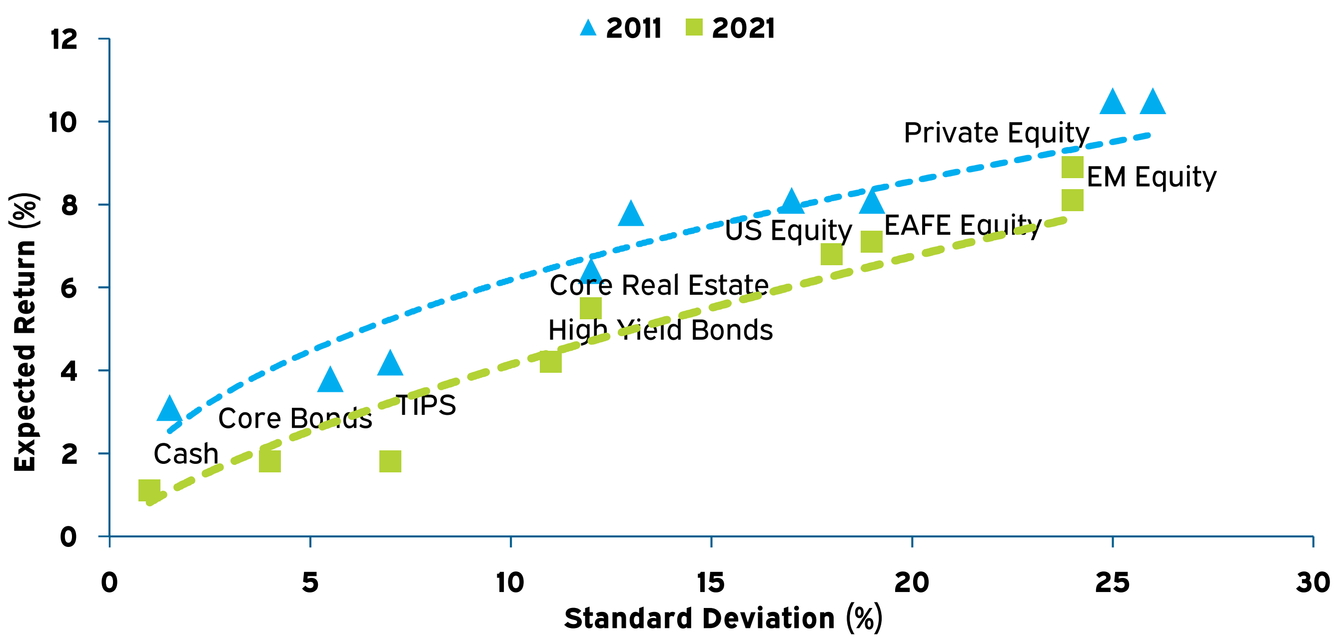
The Big Picture: Investors are Likely to Earn Less Return for the Same Risk[1]



- A positive relationship exists between long-term return expectations and the level of risk accepted.
  - However, this relationship is not static.
  - The entire efficient frontier has shifted down over the past decade.

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[1] Expected return and standard deviation are based upon Meketa Investment Group's January 2011 and January 2011 Capital Markets Expectations.

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2021 Asset Allocation: Preliminary Review

"Traditional" Asset Mixes[1] (For Context)

	60/40 (%)	70/30 (%)	80/20 (%)	90/10 (%)
Global Equity[2]	60	70	80	90
Investment Grade Bonds	40	30	20	10
20 YR Expected Return	5.4%	6.0%	6.4%	6.9%
20 YR Standard Deviation	11.0%	12.8%	14.5%	16.2%

- Lower return expectations make it increasingly more difficult for Trustees to adopt an asset allocation policy that models to a long-term return in the 7.0% - 7.5% range.
- Based on the these capital market assumptions even a 90% public equity portfolio will likely struggle to achieve a twenty year return greater than 7.0%.

[1] Twenty year annualized assumptions.
[2] Global equity consists of 50% U.S. equity, 35% developed international equity, and 15% emerging market equity.

Section 3: Overview of the Asset Study Development

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2021 Asset Allocation: Preliminary Review

Asset Study Introduction

- The starting point of the analysis is based on traditional Mean Variance Optimization (MVO).
- MVO analysis seeks to predict what the long term expected return will be based on a selected asset mix.
- In the first quarter of each year, Meketa Investment Group typically prepares its capital market assumptions which serve as the backbone of the MVO analysis.
- The capital market assumptions seek to predict individual asset class returns and volatility over the next twenty year period.
- They do not predict returns or volatility in any given single year.

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2021 Asset Allocation: Preliminary Review

Building our forecasts

- Each return assumption is based on the most important factors that drive returns for that asset class.
- The common components are income, growth and valuation.

Asset Class Category	Major Factors
Equities	Dividend Yield, GDP Growth, Valuation
Bonds	Yield to Worst, Default Rate, Recovery Rate
Real Estate	Cap Rate, Income Yield, Growth
Natural Resources	Price per acre, Income, Public Market Valuation

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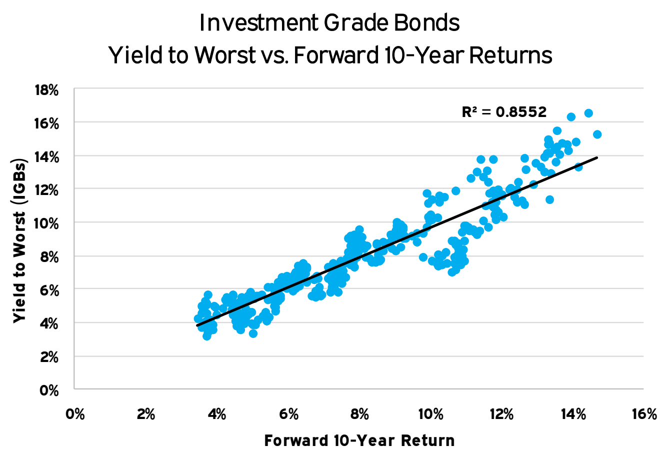
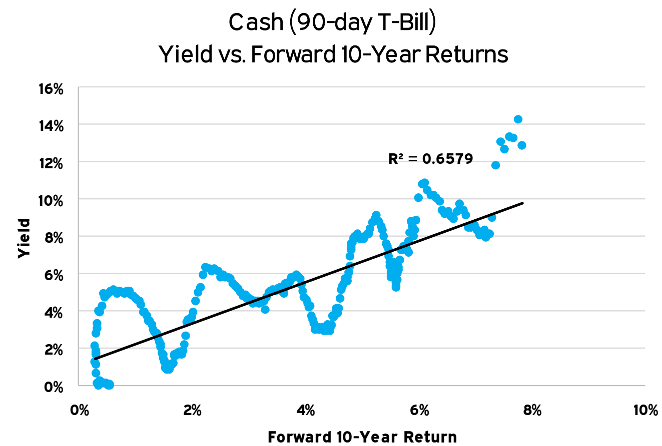
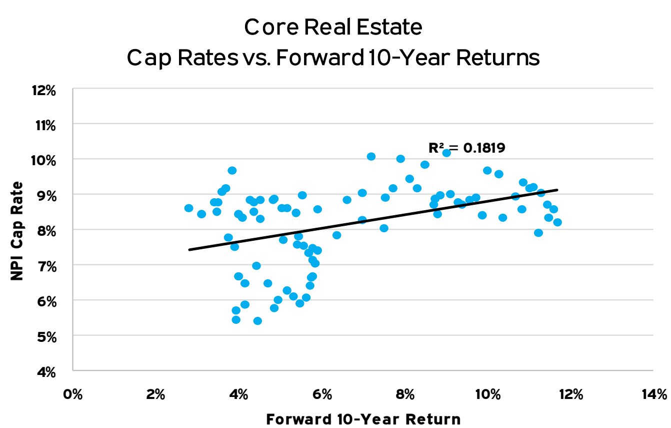
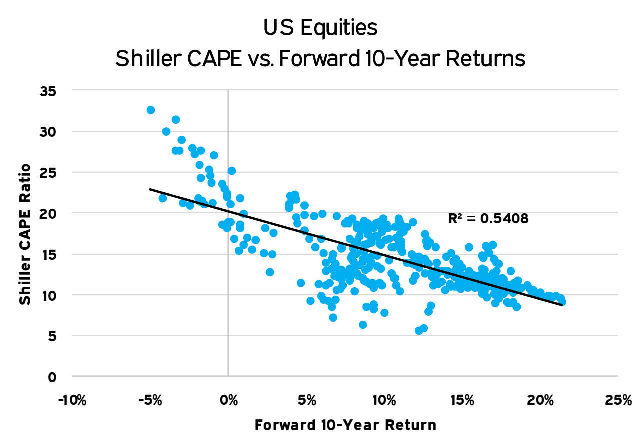
Some Factors are Naturally More Predictive than Others









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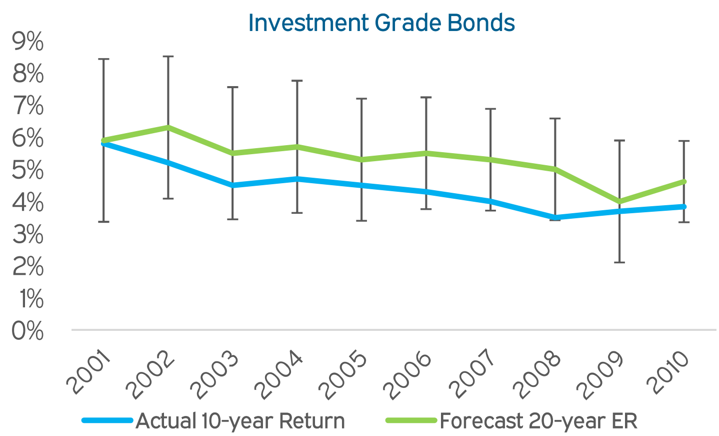
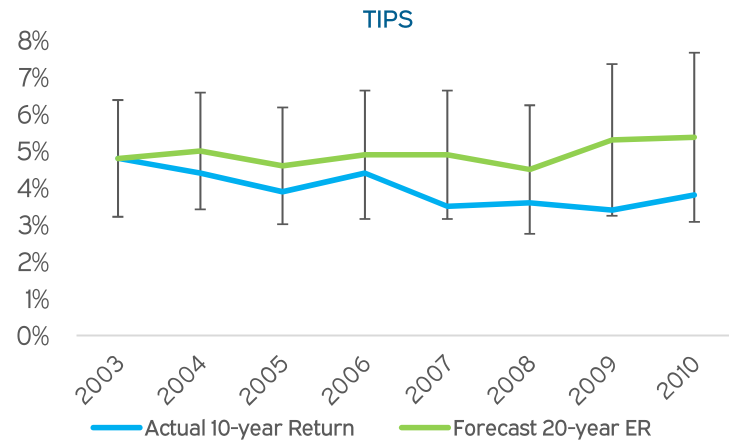
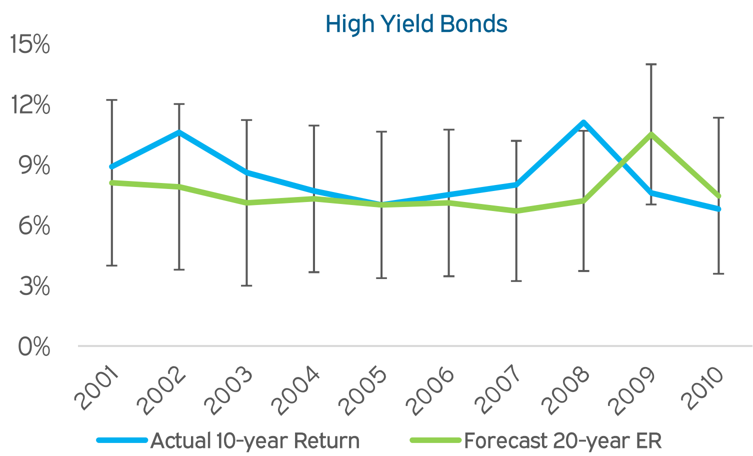
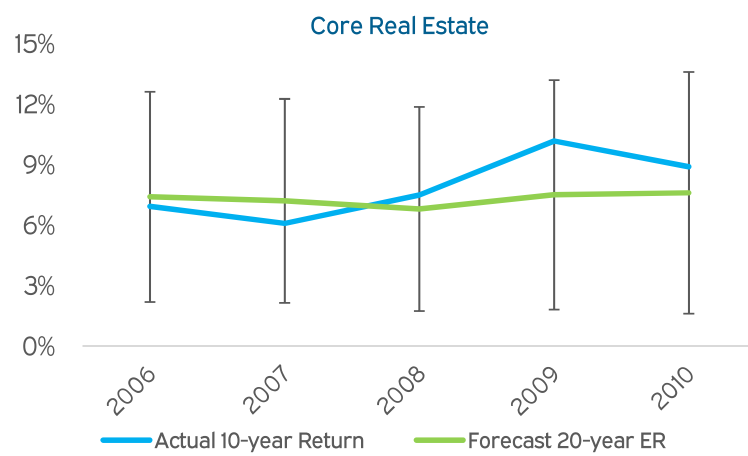
2021 Asset Allocation: Preliminary Review

Our Track Record









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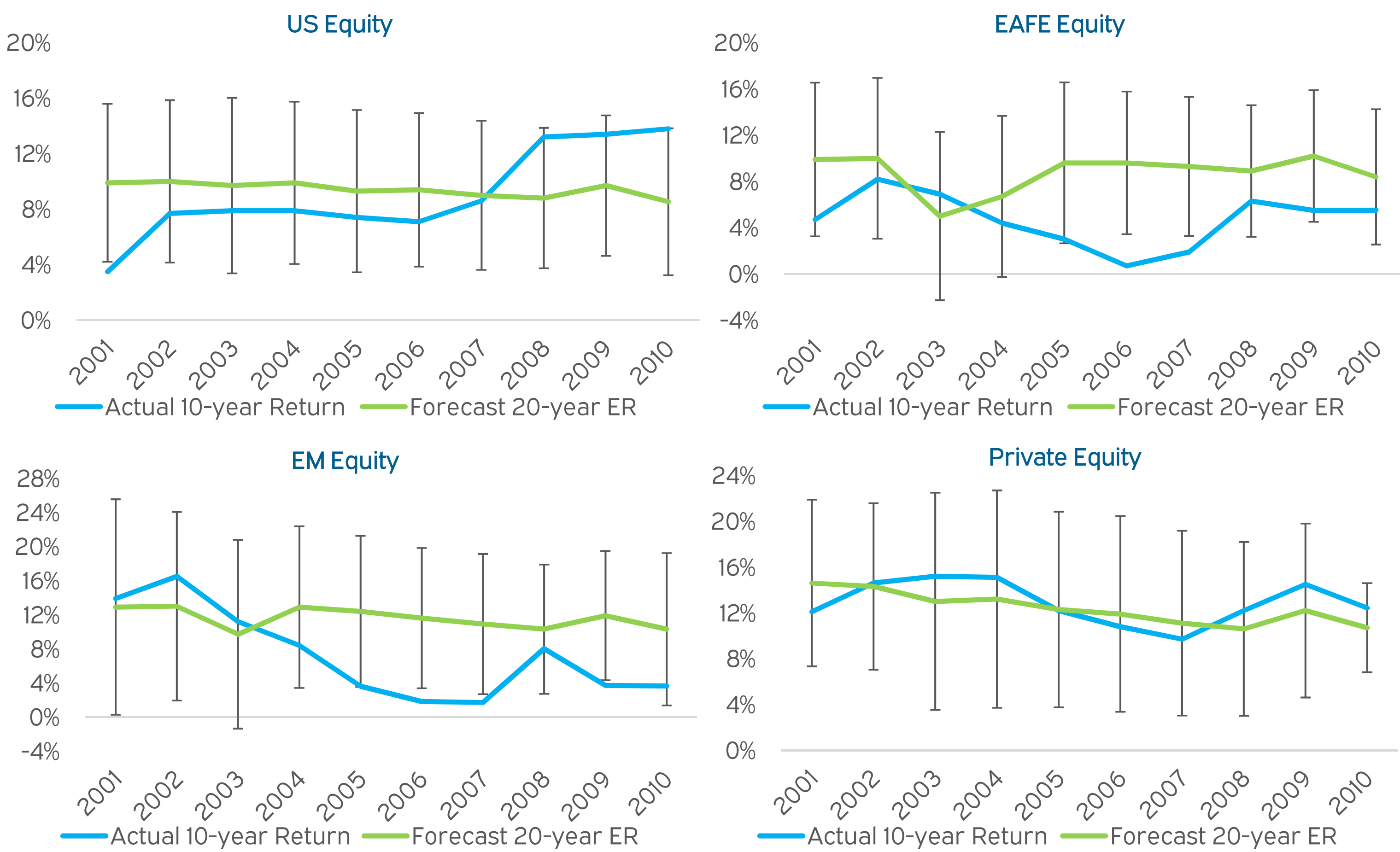
2021 Asset Allocation: Preliminary Review

Our Track Record (Continued)



Section 4: DPFP Comparison: 2021 Projections vs. 2018 Projections

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2021 Asset Allocation: Preliminary Review

Current Asset Allocation Policy (established in late 2018)

	Target (%)	Ranges[1] (%)
Global Equity	40	22% - 48%
Emerging Market Equity	10	2.5% - 12%
Private Equity	5	N/A
Cash	3	0% - 5%
Short Term Investment Grade Bonds	12	5% - 15%
Investment Grade Bonds	4	2% - 6%
Bank Loans	4	2% - 6%
High Yield	4	2% - 6%
Global Bonds	4	0% - 6%
Emerging Markets Debt	4	0% - 6%
Real Estate	5	N/A
Natural Resources	5	N/A
Total	100	

- As previously noted, the 4% target to global bonds will need to be redistributed during this year's asset allocation review, as the Board voted to liquidate the asset class in November 2020.

[1] Ranges are not established for illiquid asset classes

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2021 Asset Allocation: Preliminary Review

Annual Asset Study

- The following table illustrates the changes in expected return for asset category in DPFP's target policy.

Expected Return[1] Assumptions

	2018 Study Return Assumptions (%)	2021 Study Return Assumptions (%)	Return Difference (%)	Notes
Global Equity	7.5	7.1	-0.4	Higher valuations, lower dividend yield
Emerging Market Equity	9.4	8.1	-1.3	Higher valuations, lower dividend yield
Private Equity	9.3	9.1	-0.2	Higher prices, offset by lower cost of borrowing
Cash	2.9	1.1	-1.8	Lower yields
Short Term Investment Grade Bonds	3.1	1.3	-1.8	Lower yields
Investment Grade Bonds	3.6	1.8	-1.8	Lower yields
Bank Loans	5.0	4.0	-1.0	Lower yields
High Yield	5.4	4.2	-1.2	Lower yields, tighter spreads
Global Bonds	2.1	1.7	-0.4	Lower yields
Emerging Markets Debt	5.2	3.8	-1.4	Lower yields
Real Estate	6.8	7.3	+0.5	Lower cost of borrowing
Natural Resources	8.8	8.3	-0.5	Higher valuations, worse fundamentals
DPFP's 20 Year Expected Return	7.3%	6.4%	-0.9%	

[1] Twenty year annualized return assumptions.

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Expected Standard Deviation[1] Assumptions

	2018 Study Stand. Deviation Assumptions (%)	2021 Study Stand. Deviation Assumptions (%)	Difference (%)
Global Equity	19.0	18.0	-1.0
Emerging Market Equity	25.0	24.0	-1.0
Private Equity	27.0	28.0	+1.0
Cash	1.0	1.0	-
Short Term Investment Grade Bonds	1.5	1.0	-0.5
Investment Grade Bonds	4.0	4.0	-
Bank Loans	10.0	9.0	-1.0
High Yield	12.5	11.0	-1.5
Global Bonds	9.0	8.0	-1.0
Emerging Markets Debt	13.0	12.5	-0.5
Real Estate	18.0	18.5	+0.5
Natural Resources	23.0	23.0	-
DPFP's 20 Year Expected Stand. Deviation	13.4%	13.0%	-0.4%

- Our standard deviation expectations are based on historical 15 year averages, with subjective adjustments.

[1] Twenty year annualized assumptions.

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Dallas Police and Fire Pension System

2021 Asset Allocation: Preliminary Review

Summary

- Return expectations for nearly all assets decreased, because:
  - Lower yields in fixed income result in lower forward looking return expectations.
  - Higher prices/valuations for public equities along with lower expected dividend yields result in lower forward looking return expectations.
- Standard deviation expectations decreased marginally for most asset classes (based on trailing 15 year realized volatility with subjective adjustments).

2018 vs. 2021 Asset Study[1] Comparison

	Expectations based on 2018 Asset Study (%)	Expectations based on 2021 Asset Study (%)	Difference (%)
Expected Return	7.3%	6.4%	-0.9%
Expected Standard Deviation	13.4%	13.0%	-0.4%

[1] Twenty year annualized assumptions.

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Dallas Police and Fire Pension System

2021 Asset Allocation: Preliminary Review

What Can/Should You Do?

- Keep the long term in mind.
- Recognize the goal is a **long-term return** over your actuarial target (**not every single year**).
- Trust the long term asset allocation.
- Don't let the tail wag the dog.
- Rebalance (to the extent possible given the challenged liquidity picture for portion of DPFP assets)
- Increase risk assets when expectations are higher.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C11

Topic: **Fourth Quarter 2020 Investment Performance Analysis and Third Quarter 2020 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.

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INVESTMENT GROUP

Dallas Police & Fire Pension System

December 31, 2020

Fund Evaluation Report

MEKETA

Agenda

1. Executive Summary as of December 31, 2020
2. Performance Update as of December 31, 2020

Executive Summary

As of December 31, 2020

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Dallas Police and Fire Pension System

Executive Summary

DPFP 4Q20 Flash Summary

Category	Results	Notes
Total Fund Performance Return	Positive	5.6%
Performance vs. Policy Index	Underperformed	5.6% vs. 9.8%
Performance vs. Peers[1]	Underperformed	5.6% vs. 10.5% median (99th percentile in peer group)
Asset Allocation vs. Targets	Detracted	Overweight Real Estate and underweight Public Equities hurt
Safety Reserve Exposure	Sufficient	$304 million (approximately 15%)
Public Active Management	Helped	6/10 public managers beat benchmarks
DPFP Public Markets vs. 60/40[2]	Underperformed	10.3% vs. 10.7%
DPFP Public Markets vs. Peers	Underperformed	10.3% vs. 10.5% median (53rd percentile in peer group)
Compliance with Targets	No	Global Bonds below policy range

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

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

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Dallas Police and Fire Pension System

Executive Summary

DPFP Trailing One-Year Flash Summary

Category	Results	Notes
Total Fund Performance Return	Positive	1.7%
Performance vs. Policy Index	Underperformed	1.7% vs. 11.8%
Performance vs. Peers[1]	Underperformed	1.7% vs. 10.5% median (99th percentile in peer group)
Asset Allocation vs. Targets	Detracted	Overweight Private Markets and underweight Public Equities hurt
Public Active Management	Hurt	4/9 public managers beat benchmarks
DPFP Public Markets vs. 60/40[2]	Underperformed	13.0% vs. 14.1%
DPFP Public Markets vs. Peers	Outperformed	13.0% vs. 10.5% median (22nd percentile in peer group)

[1] InvestorForce Public DB $1-5 billion net.
[2] Performance of Total Fund excluding private market investments relative to a 60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index.

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Dallas Police and Fire Pension System

Executive Summary

DPFP Trailing Three-Year Flash Summary

Category	Results	Notes
Total Fund Performance Return	Positive	3.8%
Performance vs. Policy Index	Underperformed	3.8% vs. 7.0%
Performance vs. Peers[1]	Underperformed	3.8% vs. 7.3% median (99th percentile in peer group)
Public Active Management	Helped	Helped in 4 of 7 public asset classes; Global Equity, Emerging Market Equity, Short-term core bonds and Bank Loans
DPFP Public Markets vs. 60/40[2]	Underperformed	7.8% vs. 8.1%
DPFP Public Markets vs. Peers	Outperformed	7.8% vs. 7.3% median (29th percentile in peer group)

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

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

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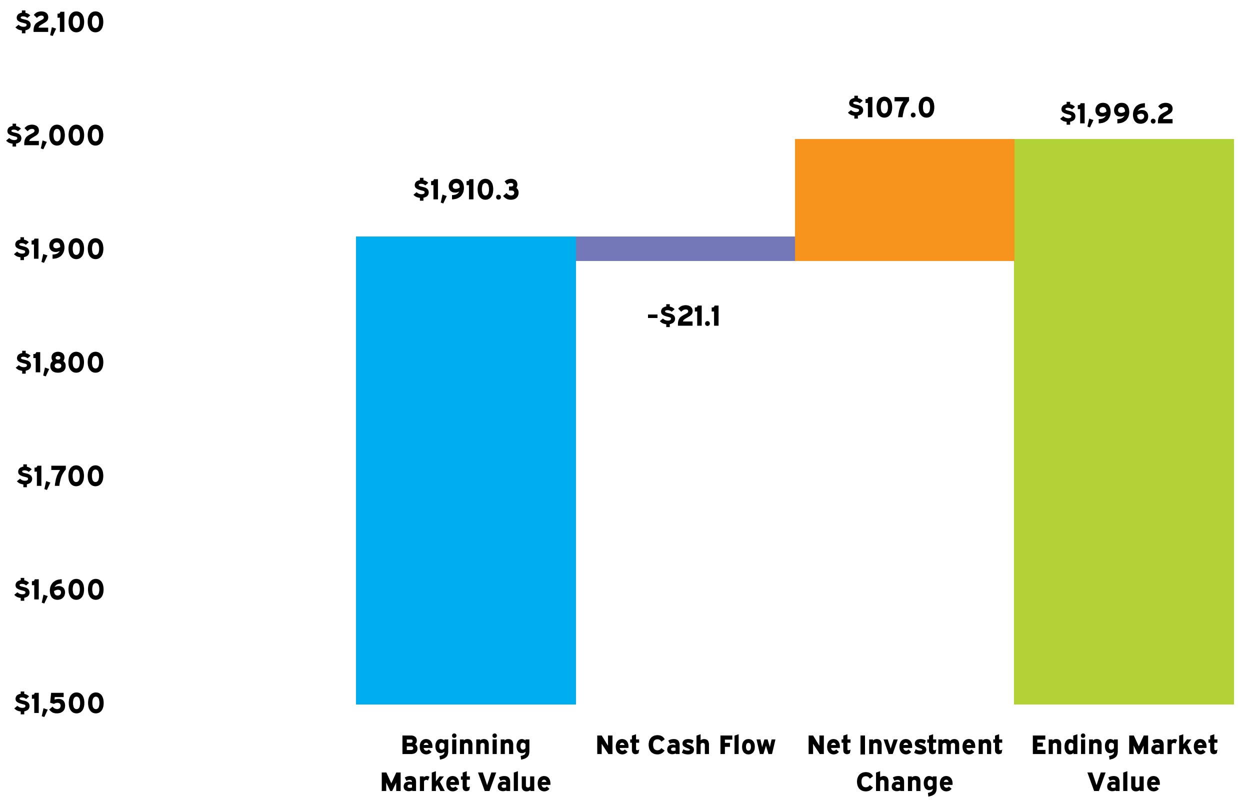
Dallas Police and Fire Pension System

Executive Summary

Quarterly Change in Market Value



- Total market value increased due to positive investment performance.

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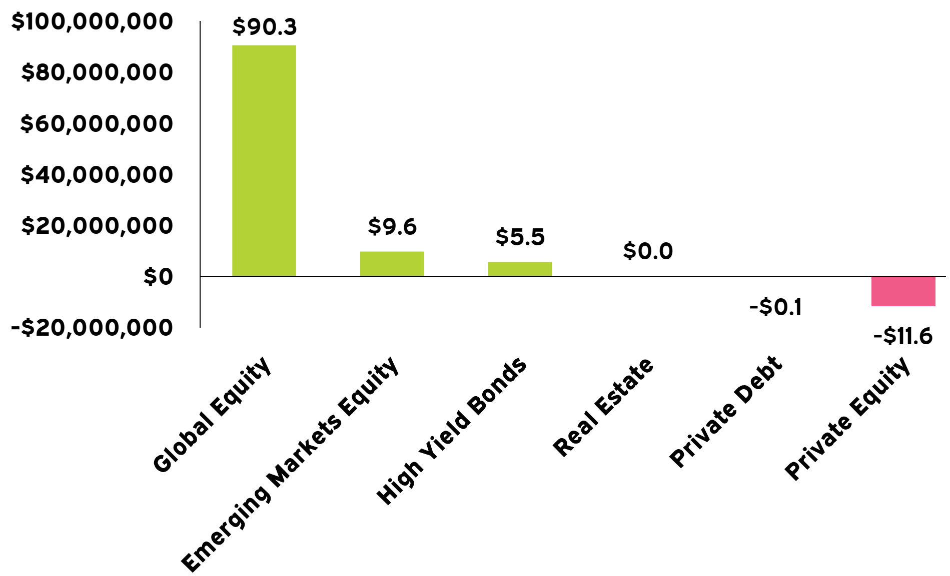
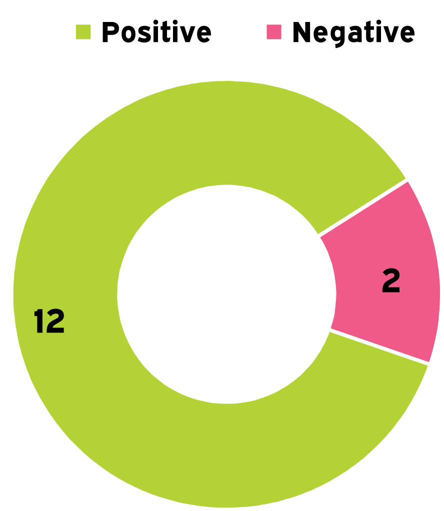
Dallas Police and Fire Pension System

Executive Summary

Quarterly Absolute Performance

Asset Classes Dollar Gain/ Loss[1] Top Three and Bottom Three	Asset Class Absolute Performance





- In absolute terms, Global Equity appreciated the most, gaining approximately $90.3 million in market value.
- Private Equity depreciated the most, losing approximately $11.6 million in value as a result of updated valuation of the Huff Energy Fund investment.

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[1] Estimated Gain/ Loss calculated by multiplying beginning market value by quarterly performance.

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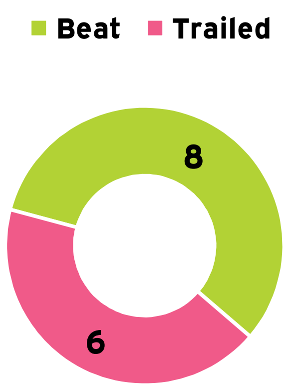
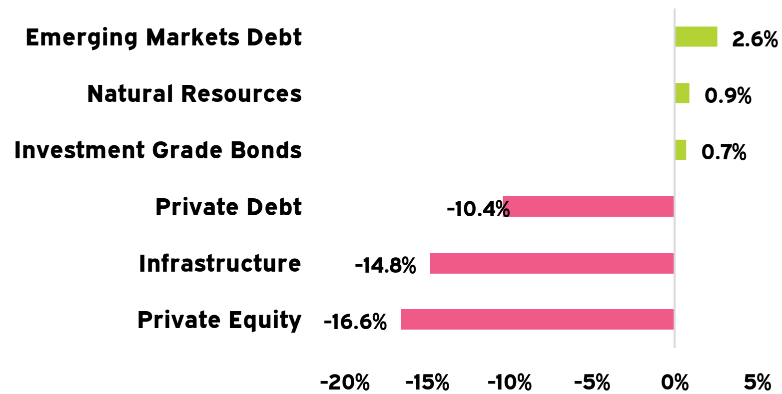
Dallas Police and Fire Pension System

Executive Summary

Quarterly Relative Performance

Asset Classes vs Benchmarks	Asset Classes vs Benchmarks Top Three and Bottom Three





- Eight of fourteen asset classes delivered positive relative performance versus respective benchmarks.
- Emerging Markets Debt, Natural Resources and Investment Grade bonds had the best relative performance for the quarter.[1]
- Over the quarter, Private Equity, Infrastructure and Private Debt had the worst relative performance.

[1] Global Bonds had +2.4% excess performance over the benchmark, but were omitted for not having a full quarter of performance. Global Bonds were terminated 11/30/2020.

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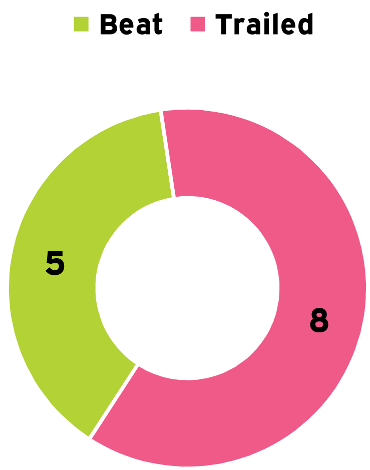
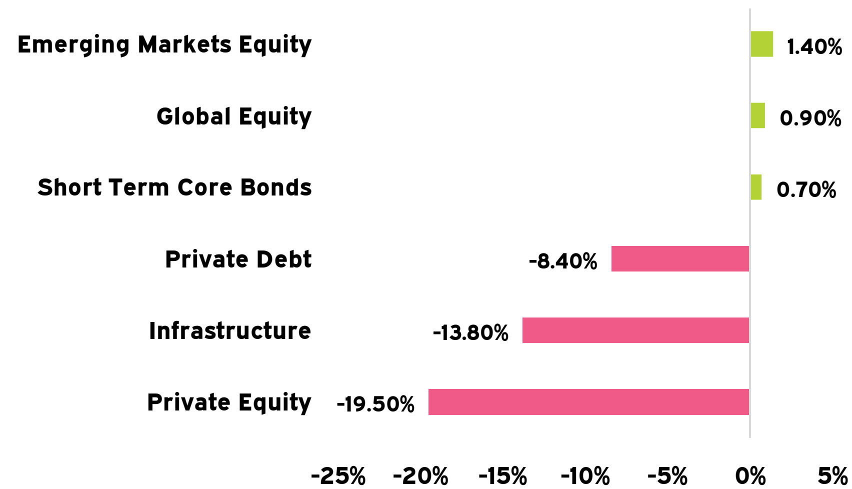
Executive Summary

Trailing 3 Year Relative Performance

Asset Classes vs Benchmarks[1]	Asset Classes vs Benchmarks Top Three and Bottom Three
	

- 5 of the 13 asset classes with trailing three-year return history delivered positive relative performance versus respective benchmarks, led by Emerging Markets Equity, Global Equity and Short Term Core Bonds.
- Private Equity, Infrastructure and Private Debt had the worst relative performance over the trailing three-year period.

[1] Analysis excludes asset classes with a performance history of less than three years.

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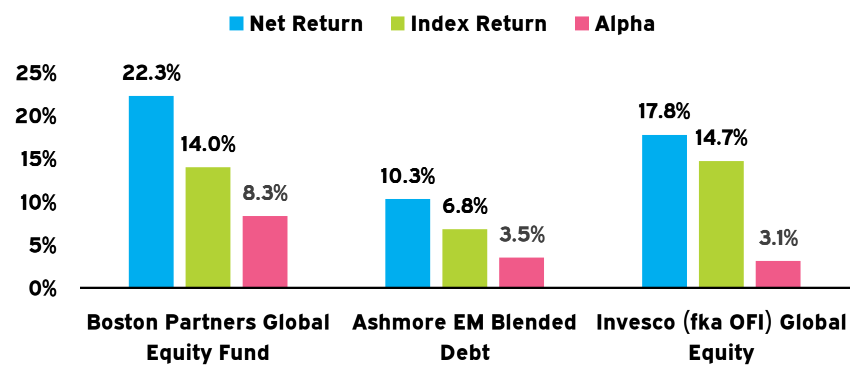
Dallas Police and Fire Pension System

Executive Summary

Public Manager Alpha

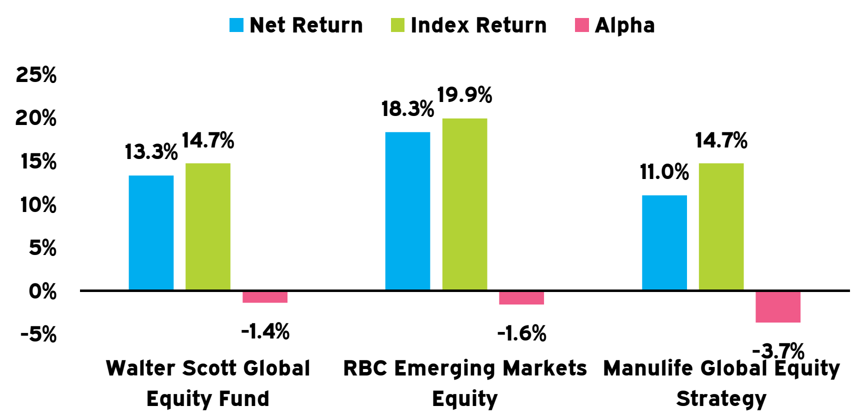
Top Three Outperformers in Quarter



$379 million

Combined exposure

Bottom Three Underperformers in Quarter



$372 million

Combined exposure

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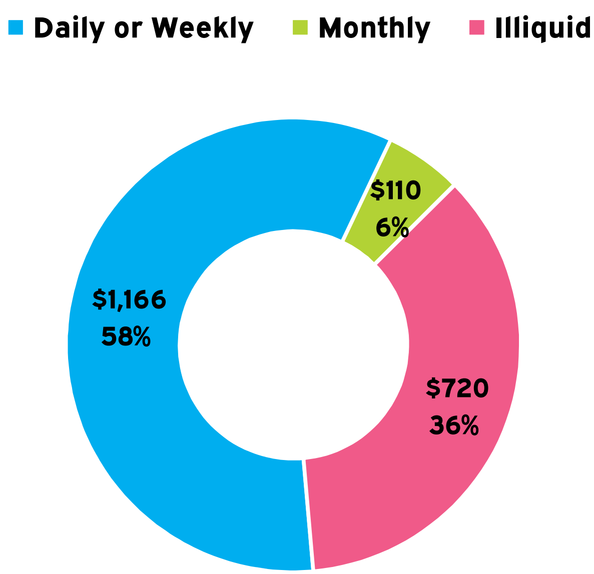
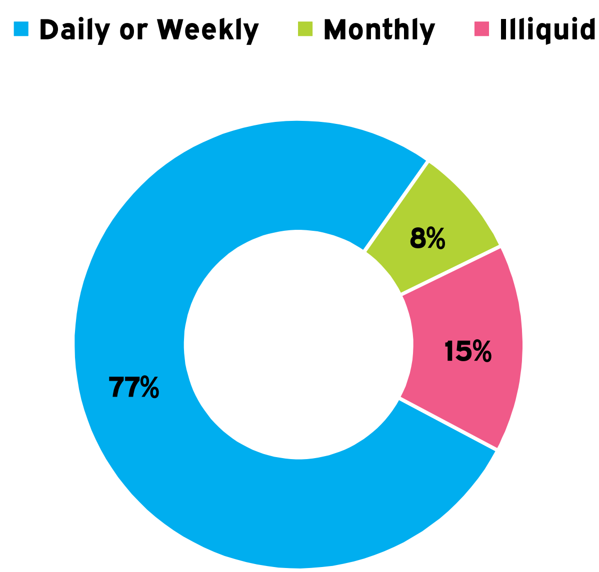
Dallas Police and Fire Pension System

Executive Summary

Liquidity Exposure
As of December 31, 2020

Exposure ($ mm)	Targets





- Approximately 36% of the System's assets are illiquid versus 15% of the target allocation.

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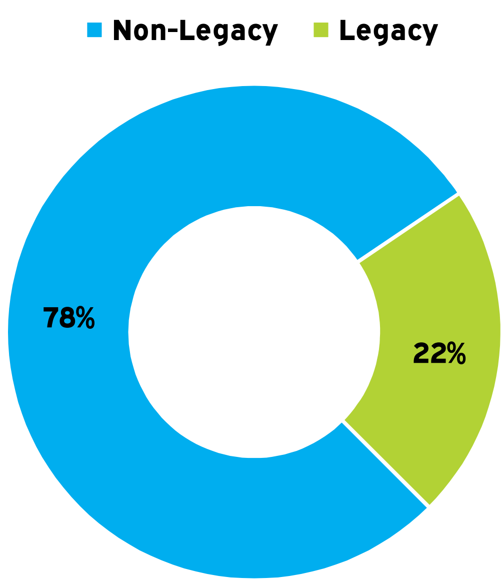
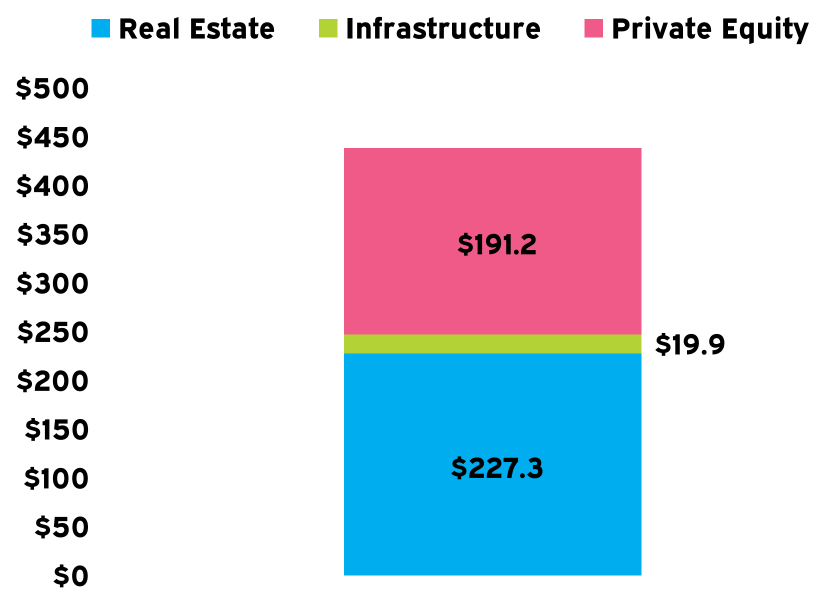
Dallas Police and Fire Pension System

Executive Summary

Legacy Assets





$438 million

Net Asset Value of Legacy Assets

Performance Update
As of December 31, 2020

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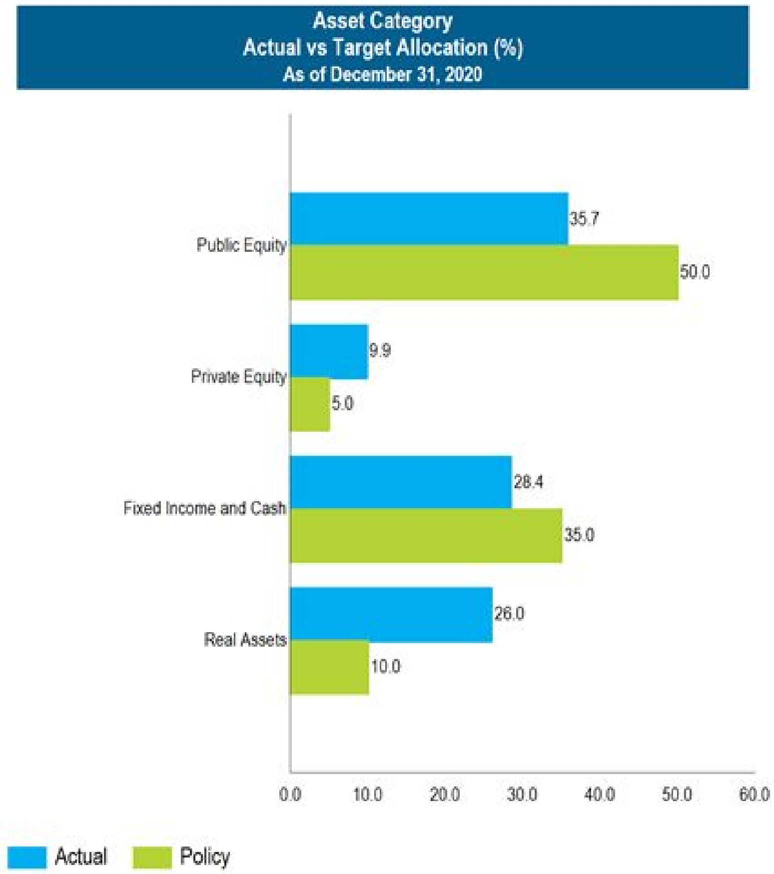
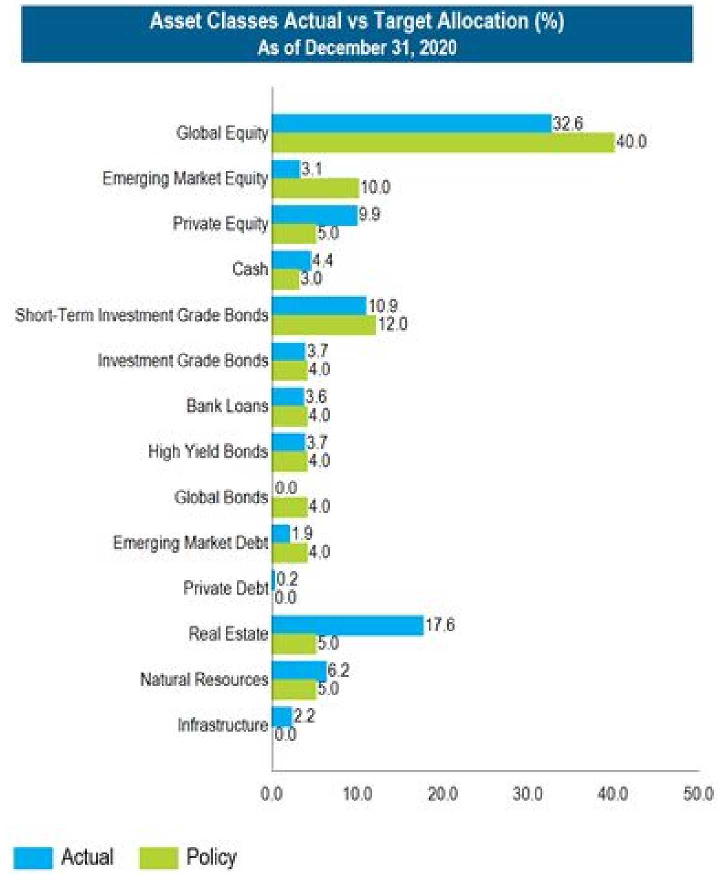
Dallas Police & Fire Pension System

DPFP | As of December 31, 2020





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Dallas Police & Fire Pension System

DPFP | As of December 31, 2020

Allocation vs. Targets and Policy

	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
Equity	**$909,964,832**	**46%**	**55%**		
Global Equity	$651,117,913	33%	40%	22% - 48%	Yes
Emerging Market Equity	$61,876,488	3%	10%	3% - 12%	Yes
Private Equity	$196,970,431	10%	5%		
Fixed Income and Cash	**$567,910,316**	**28%**	**35%**		
Cash	$87,492,079	4%	3%	0% - 5%	Yes
Short-Term Investment Grade Bonds	$216,951,367	11%	12%	5% - 15%	Yes
Investment Grade Bonds	$74,583,469	4%	4%	2% - 6%	Yes
Global Bonds	$41,692	0%	4%	2% - 6%	No
Bank Loans	$71,617,695	4%	4%	2% - 6%	Yes
High Yield Bonds	$74,341,762	4%	4%	2% - 6%	Yes
Emerging Market Debt	$38,329,800	2%	4%	0% - 6%	Yes
Private Debt	$4,552,452	0%	0%		
Real Assets	**$518,359,866**	**26%**	**10%**		
Real Estate	$350,571,492	18%	5%		
Natural Resources	$124,081,815	6%	5%		
Infrastructure	$43,706,559	2%	0%		
Total	**$1,996,235,014**	**100%**	**100%**		

As of 12/31/2020 the Safety Reserve exposure was approximately $304.4 million (15%).
Rebalancing ranges are not established for illiquid assets (Private Equity, Private Debt, Natural Resources, Infrastructure and Real Estate)

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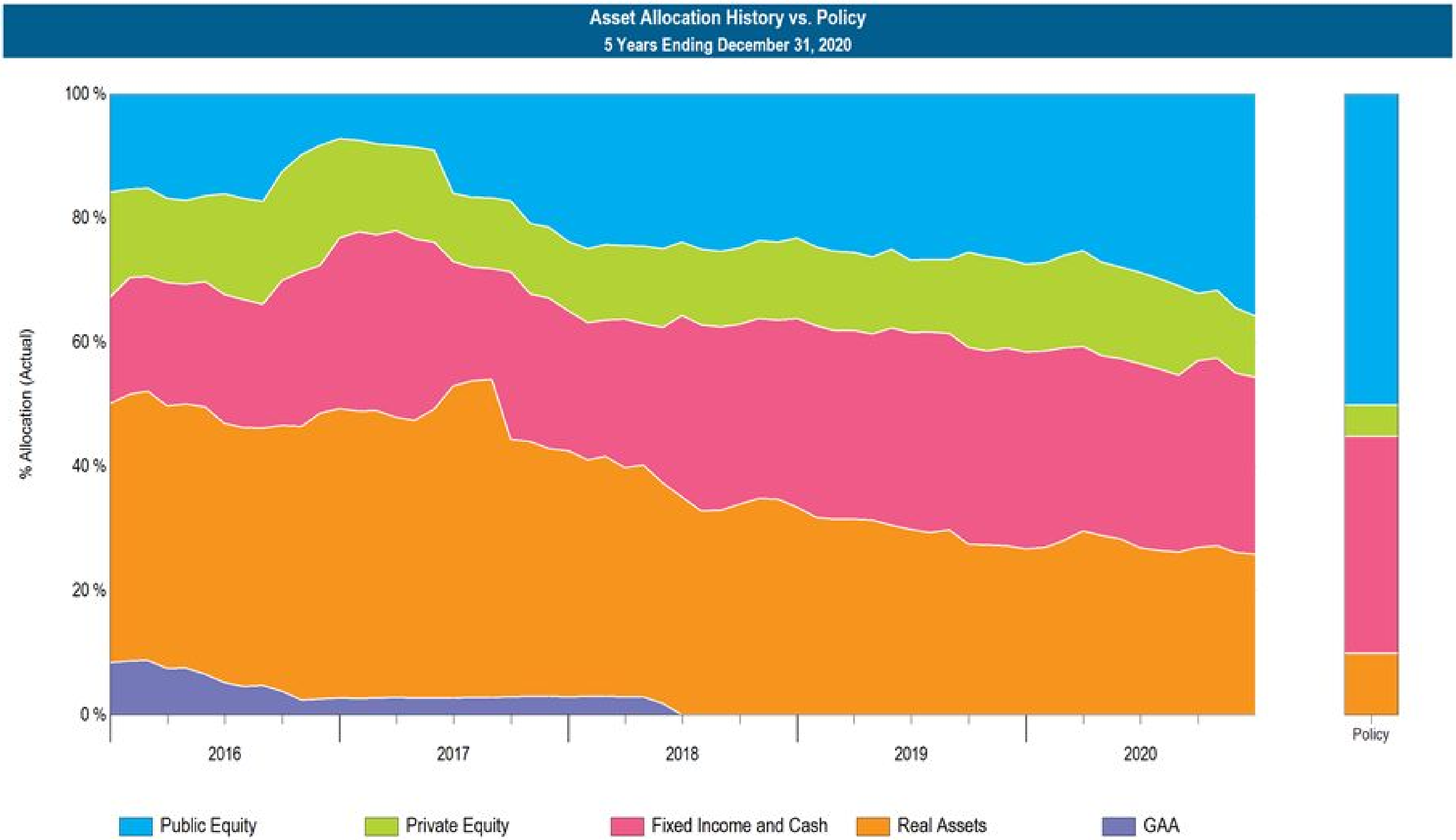
Dallas Police & Fire Pension System

DPFP | As of December 31, 2020



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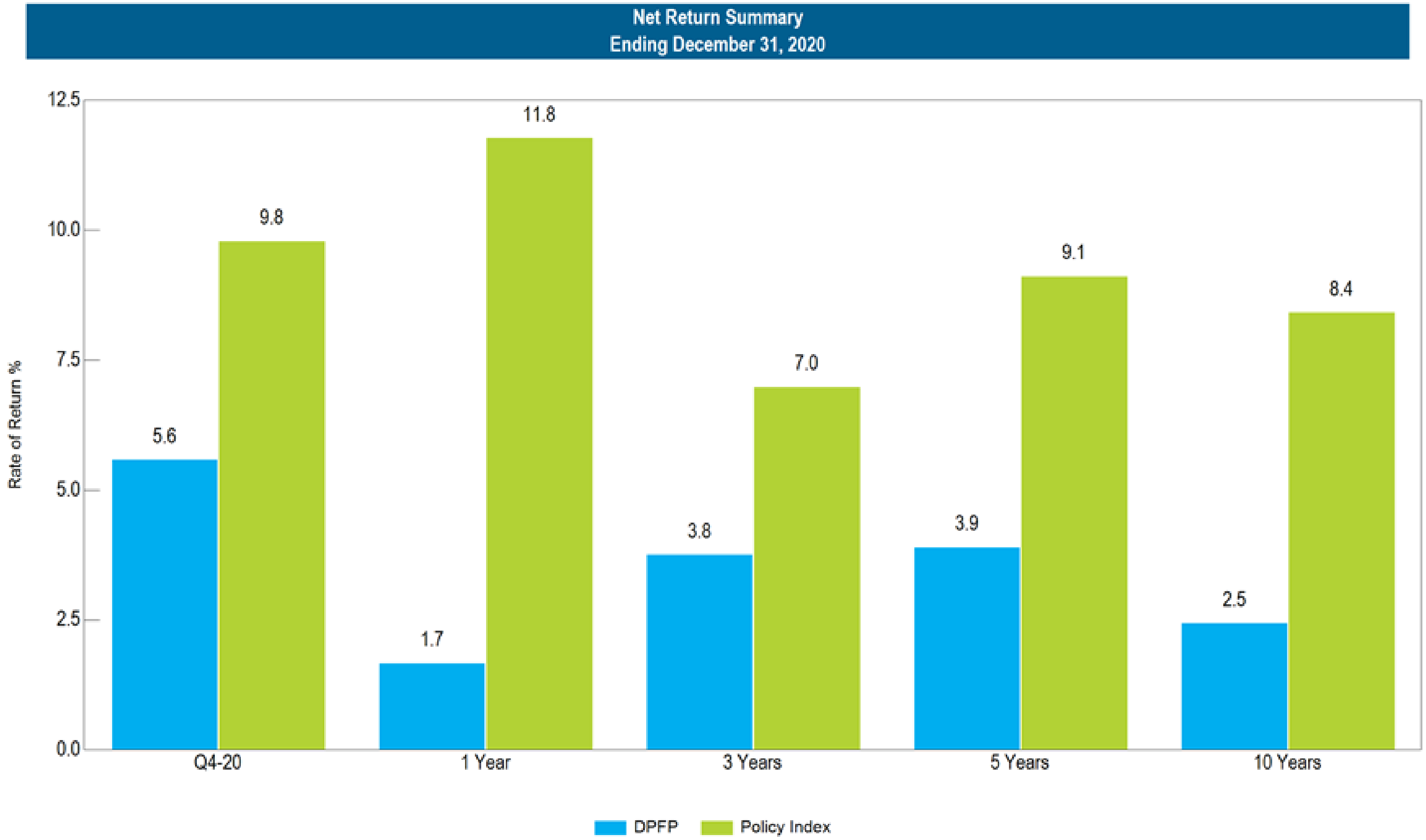
DPFP | As of December 31, 2020



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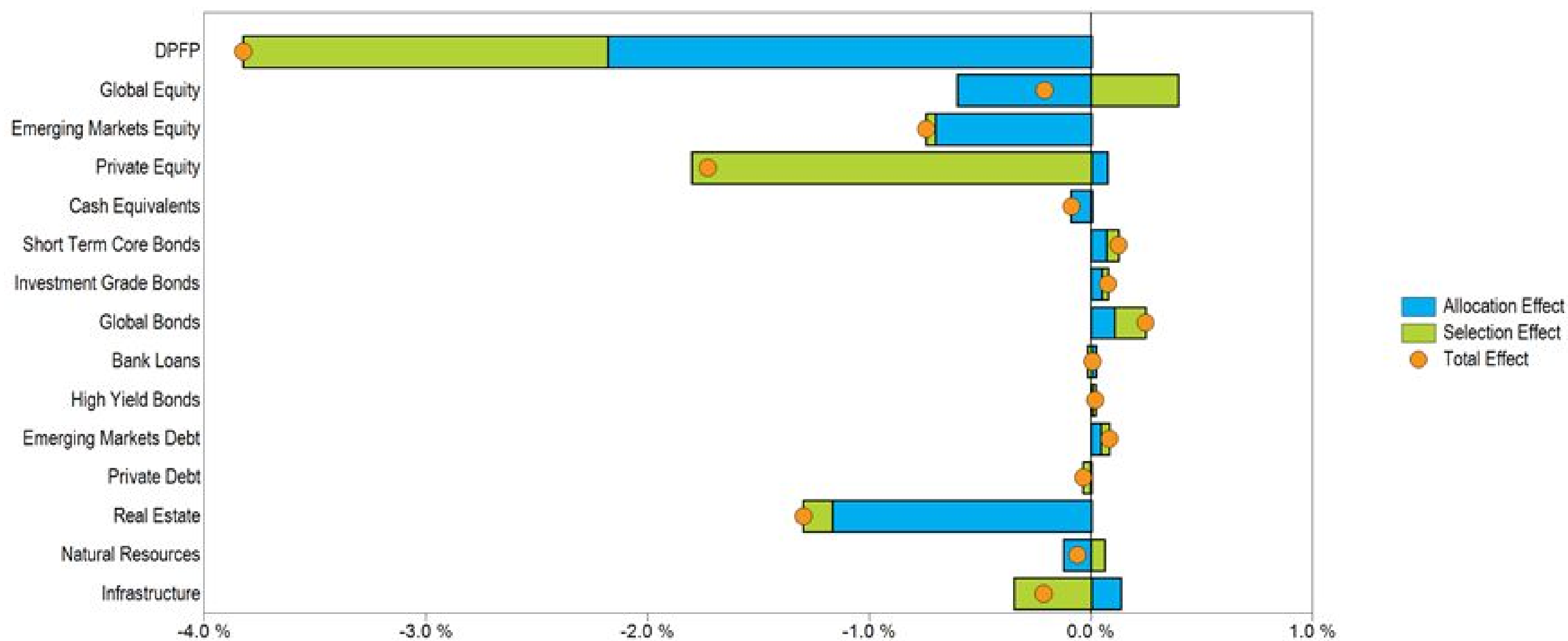
DPFP | As of December 31, 2020

Attribution Effects vs. Policy Benchmark
3 Months Ending December 31, 2020



Attribution Summary
3 Months Ending December 31, 2020

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total	**5.6%**	**9.4%**	**-3.8%**	**-1.6%**	**-2.2%**	**-3.8%**

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

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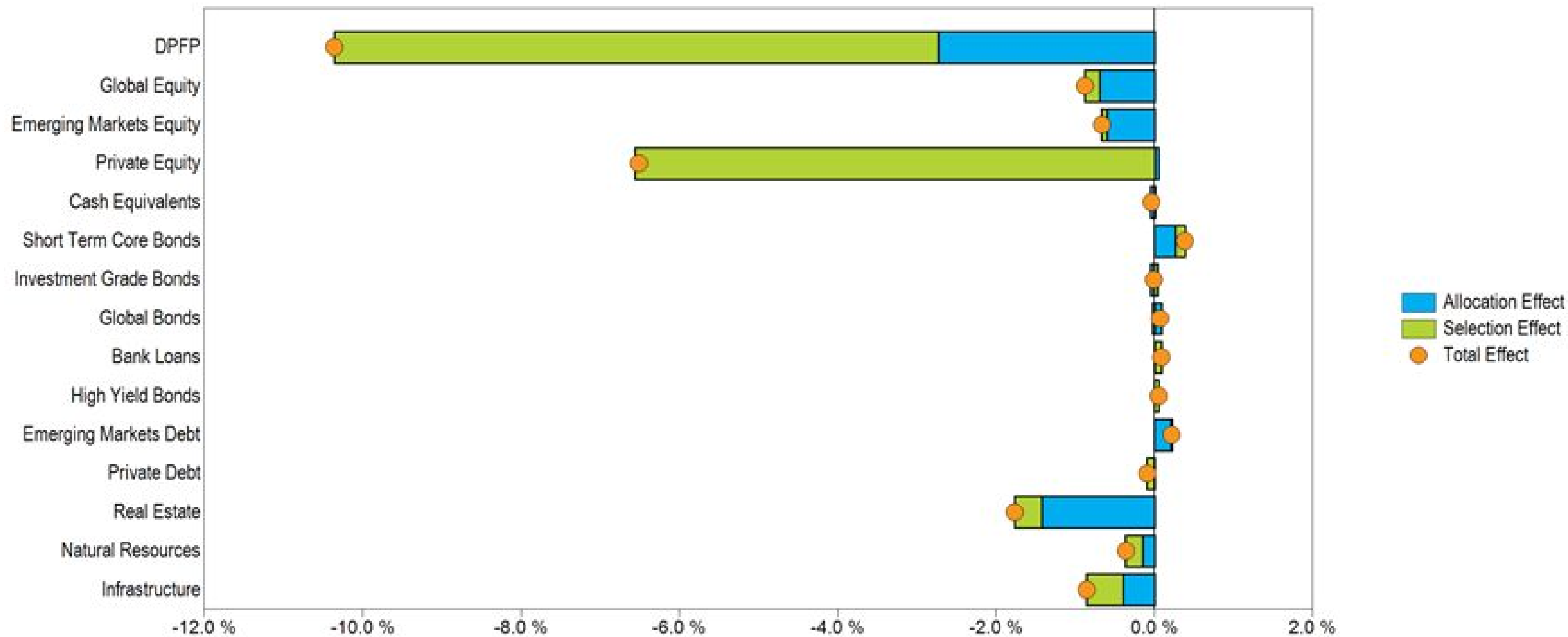
Dallas Police & Fire Pension System

DPFP | As of December 31, 2020

Attribution Effects vs. Policy Benchmark
1 Year Ending December 31, 2020



Attribution Summary
1 Year Ending December 31, 2020

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total	**1.6%**	**12.0%**	**-10.4%**	**-7.6%**	**-2.7%**	**-10.4%**

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.

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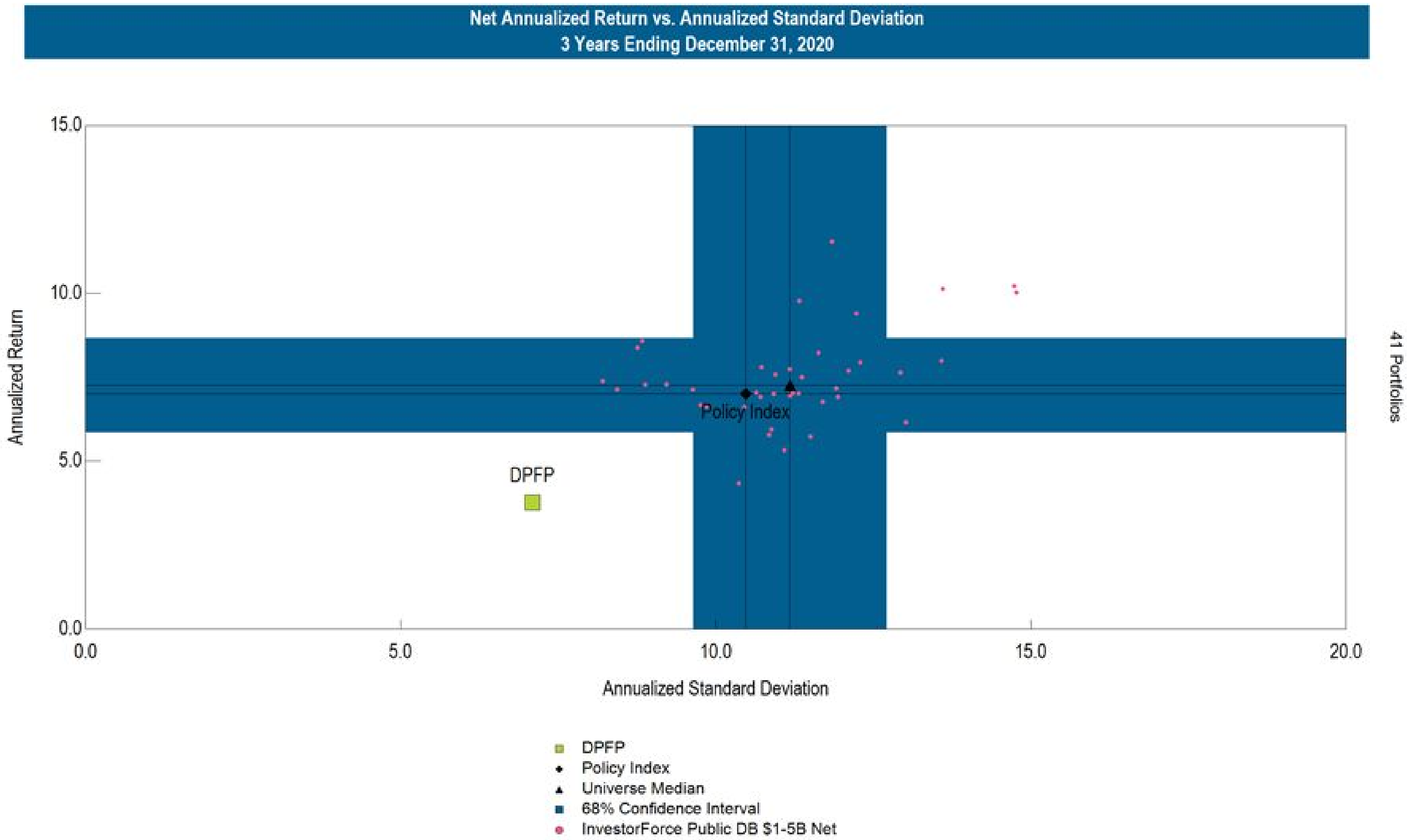
Dallas Police & Fire Pension System

DPFP | As of December 31, 2020



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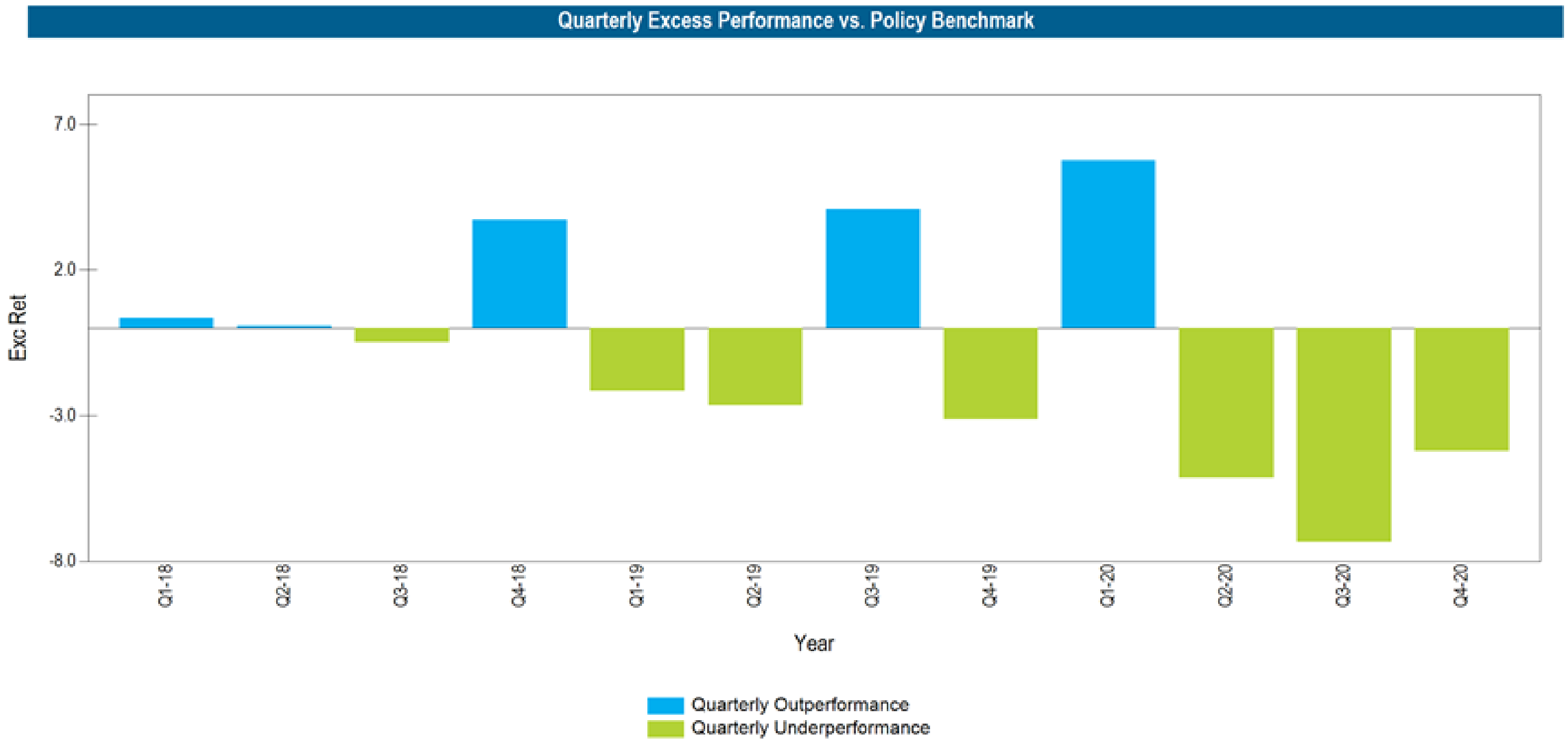
DPFP | As of December 31, 2020



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DPFP | As of December 31, 2020

Total Fund Correlation Matrix
1 Year Ending December 31, 2020

	DPFP	Policy Index	60% MSCI ACWI/40% Barclays Global Agg
DPFP	1.00	--	--
Policy Index	0.87	1.00	--
60% MSCI ACWI/40% Barclays Global Agg	0.90	0.99	1.00

Total Fund Correlation Matrix
3 Years Ending December 31, 2020

	DPFP	Policy Index	60% MSCI ACWI/40% Barclays Global Agg
DPFP	1.00	--	--
Policy Index	0.82	1.00	--
60% MSCI ACWI/40% Barclays Global Agg	0.83	0.99	1.00

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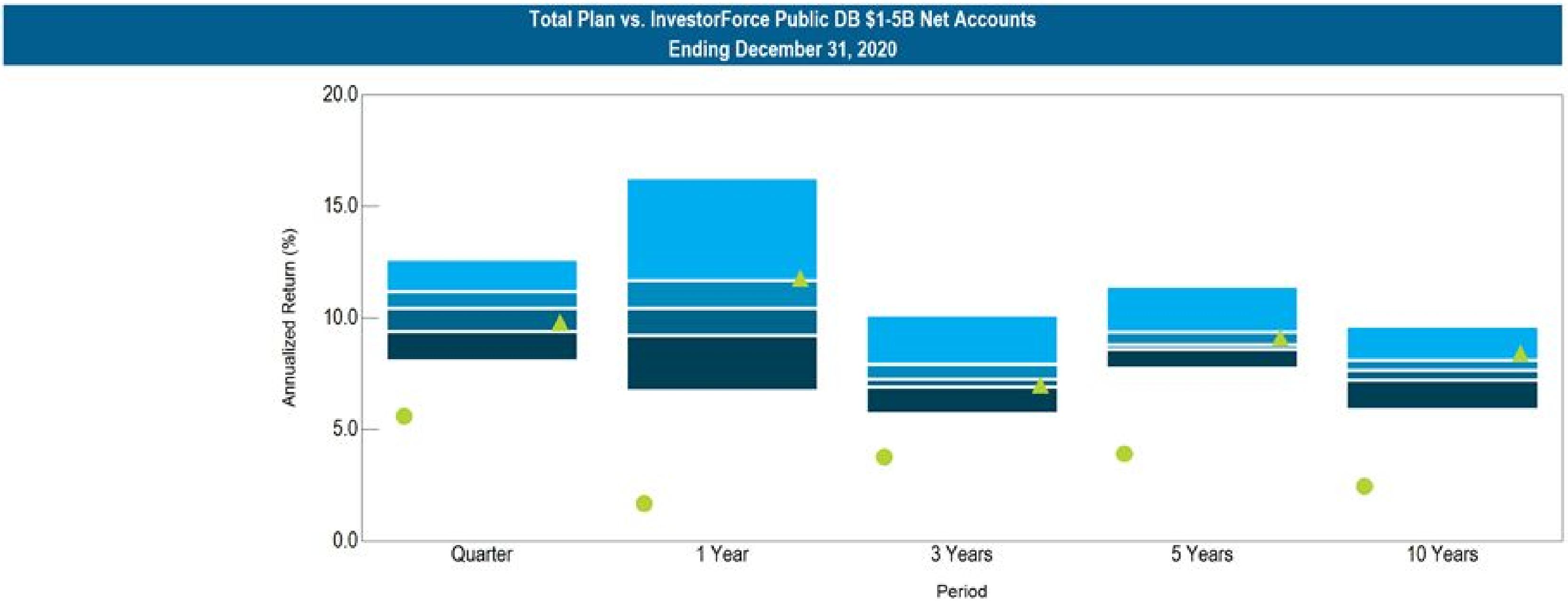
Dallas Police & Fire Pension System

DPFP | As of December 31, 2020



	Return (Rank)									
5th Percentile	12.6		16.3		10.1		11.4		9.6	
25th Percentile	11.2		11.7		7.9		9.4		8.1	
Median	10.5		10.5		7.3		8.8		7.7	
75th Percentile	9.4		9.2		6.9		8.6		7.2	
95th Percentile	8.1		6.8		5.7		7.8		5.9	
# of Portfolios	41		41		41		41		37	
● DPFP	5.6	(99)	1.7	(99)	3.8	(99)	3.9	(99)	2.5	(99)
▲ Policy Index	9.8	(71)	11.8	(25)	7.0	(68)	9.1	(31)	8.4	(16)

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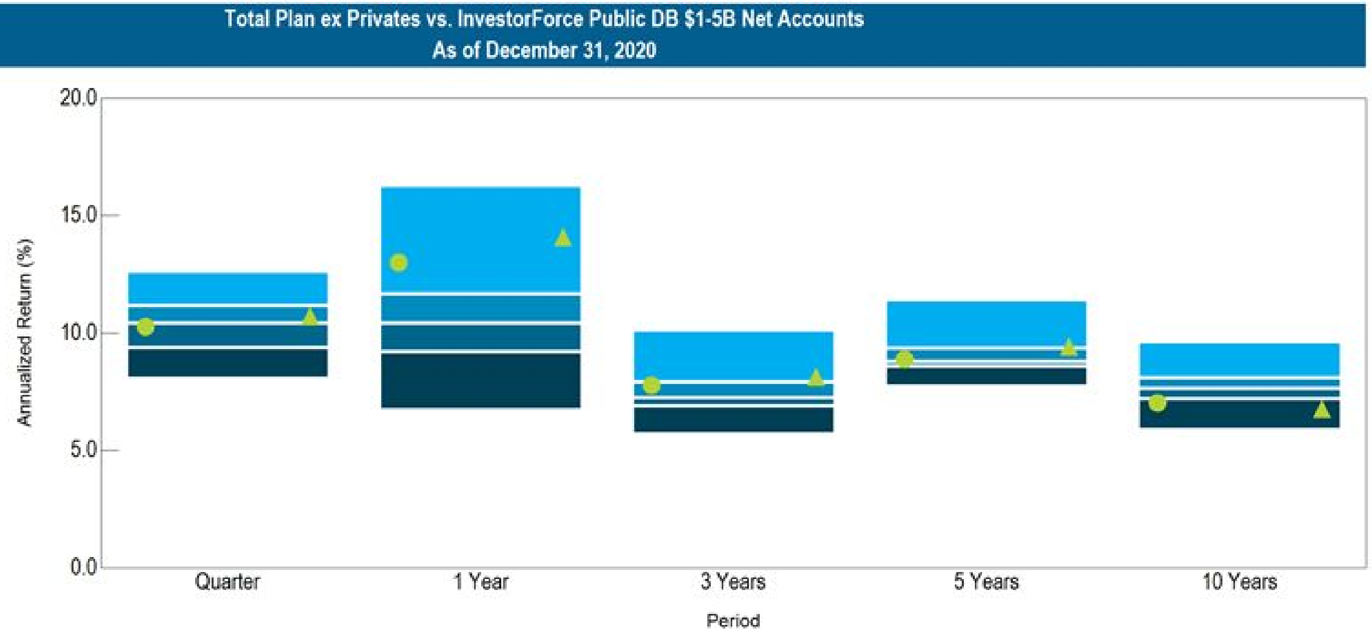
Dallas Police & Fire Pension System

DPFP | As of December 31, 2020



	Quarter		1 Year		3 Years		5 Years		10 Years	
	Return (Rank)									
5th Percentile	12.6		16.3		10.1		11.4		9.6	
25th Percentile	11.2		11.7		7.9		9.4		8.1	
Median	10.5		10.5		7.3		8.8		7.7	
75th Percentile	9.4		9.2		6.9		8.6		7.2	
95th Percentile	8.1		6.8		5.7		7.8		5.9	
# of Portfolios	41		41		41		41		37	
● Total Fund ex Privates	10.3	(53)	13.0	(22)	7.8	(29)	8.9	(45)	7.0	(84)
▲ 60% MSCI ACWI IMI Net/40% Barclays Global	10.7	(38)	14.1	(13)	8.1	(21)	9.4	(25)	6.8	(86)

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Dallas Police & Fire Pension System

DPFP | As of December 31, 2020

Asset Class Performance Summary (Net)

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
DPFP	**1,996,235,014**	**100.0**	**5.6**	**1.7**	**3.8**	**3.9**	**2.5**	**5.8**	**Jun-96**
Policy Index			*9.8*	*11.8*	*7.0*	*9.1*	*8.4*	*--*	*Jun-96*
Allocation Index			*7.4*	*9.5*	*6.7*	*8.5*	*7.4*	*7.4*	*Jun-96*
Total Fund Ex Private Markets			*10.3*	*13.0*	*7.8*	*8.9*	*7.0*	*5.9*	*Jun-96*
60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index			*10.7*	*14.1*	*8.1*	*9.4*	*6.8*	*6.5*	*Jun-96*
Global Equity	**651,117,913**	**32.6**	**16.1**	**15.7**	**10.6**	**13.0**	**9.9**	**7.5**	**Jul-06**
MSCI ACWI IMI Net USD			*15.7*	*16.3*	*9.7*	*12.1*	*9.1*	*7.1*	*Jul-06*
Emerging Markets Equity	**61,876,488**	**3.1**	**18.3**	**16.4**	**7.2**	**--**	**--**	**7.2**	**Jan-18**
MSCI Emerging Market IMI Net			*19.9*	*18.4*	*5.8*	*12.2*	*3.5*	*5.8*	*Jan-18*
Private Equity	**196,970,431**	**9.9**	**-5.6**	**-33.0**	**-6.4**	**-10.0**	**-5.7**	**-1.8**	**Oct-05**
Cambridge Associates US All PE (1 Qtr Lag)			*11.0*	*13.5*	*13.1*	*12.9*	*13.6*	*12.7*	*Oct-05*
Cash Equivalents	**87,492,079**	**4.4**	**0.1**	**0.6**	**1.6**	**1.4**	**--**	**1.3**	**Apr-15**
91 Day T-Bills			*0.0*	*0.5*	*1.5*	*1.1*	*0.6*	*1.0*	*Apr-15*
Short Term Core Bonds	**216,951,367**	**10.9**	**0.5**	**4.6**	**3.5**	**--**	**--**	**3.1**	**Jun-17**
BBgBarc US Treasury 1-3 Yr TR			*0.0*	*3.2*	*2.8*	*1.9*	*1.3*	*2.4*	*Jun-17*
Investment Grade Bonds	**74,583,469**	**3.7**	**1.4**	**8.7**	**--**	**--**	**--**	**6.9**	**Oct-19**
BBgBarc US Aggregate TR			*0.7*	*7.5*	*5.3*	*4.4*	*3.8*	*6.1*	*Oct-19*
Global Bonds	**41,692**	**0.0**	**5.7**	**6.7**	**3.9**	**5.2**	**3.4**	**3.4**	**Dec-10**
BBgBarc Global Aggregate TR			*3.3*	*9.2*	*4.8*	*4.8*	*2.8*	*2.8*	*Dec-10*
Bank Loans	**71,617,695**	**3.6**	**3.3**	**4.9**	**4.2**	**5.9**	**--**	**4.2**	**Jan-14**
Credit Suisse Leveraged Loan			*3.6*	*2.8*	*4.0*	*5.2*	*--*	*3.9*	*Jan-14*
High Yield Bonds	**74,341,762**	**3.6**	**8.0**	**8.6**	**4.5**	**8.8**	**6.3**	**6.3**	**Dec-10**
BBgBarc Global High Yield TR			*7.7*	*7.0*	*4.9*	*7.8*	*6.5*	*6.5*	*Dec-10*
Emerging Markets Debt	**38,329,800**	**1.9**	**10.3**	**2.4**	**2.2**	**6.8**	**3.7**	**3.7**	**Dec-10**
50% JPM EMBI/50% JPM GBI-EM			*7.7*	*4.0*	*4.1*	*7.0*	*3.8*	*3.8*	*Dec-10*
Private Debt	**4,552,452**	**0.2**	**-2.2**	**-16.3**	**-1.4**	**-5.0**	**--**	**-5.0**	**Jan-16**
Barclays Global High Yield +2%			*8.2*	*9.2*	*7.0*	*10.0*	*--*	*10.0*	*Jan-16*

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Dallas Police & Fire Pension System

DPFP | As of December 31, 2020

Asset Class Performance Summary (Net)

	Market Value ($)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Real Estate	**350,571,492**	**17.6**	**0.0**	**0.2**	**2.7**	**1.5**	**-3.5**	**3.6**	**Mar-85**
NCREIF Property (1-quarter lagged)			*0.7*	*2.0*	*5.1*	*6.3*	*9.4*	*7.9*	*Mar-85*
Natural Resources	**124,081,815**	**6.2**	**1.9**	**0.6**	**-0.3**	**-0.9**	**3.4**	**3.4**	**Dec-10**
NCREIF Farmland Total Return Index 1Q Lag			*1.0*	*3.8*	*5.3*	*6.1*	*10.9*	*10.9*	*Dec-10*
Infrastructure	**43,706,559**	**2.2**	**0.2**	**-20.2**	**-11.1**	**2.9**	**--**	**2.6**	**Jul-12**
S&P Global Infrastructure TR USD			*15.0*	*-5.8*	*2.7*	*7.9*	*6.5*	*7.2*	*Jul-12*

[1] Please see the Appendix for composition of the Custom Benchmarks. [2] As of 12/31/2020, the Safety Reserve exposure was approximately $304.4 million (15%).
[3] All private market data is one quarter lagged, unless otherwise noted. [4] Lone Star Funds 12/31/2019 valuation used, North Texas Fund 3/31/2020 valuation used and AEW Funds 6/30/2020 valuation used.

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Dallas Police & Fire Pension System

DPFP | As of December 31, 2020

Trailing Net Performance

	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
DPFP	**1,996,235,014**	**100.0**	**--**	**5.6**	**1.7**	**3.8**	**3.9**	**2.5**	**5.8**	**Jun-96**
Policy Index				*9.8*	*11.8*	*7.0*	*9.1*	*8.4*	*--*	*Jun-96*
Allocation Index				*7.4*	*9.5*	*6.7*	*8.5*	*7.4*	*7.4*	*Jun-96*
Total Fund Ex Private Markets				*10.3*	*13.0*	*7.8*	*8.9*	*7.0*	*5.9*	*Jun-96*
60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index				*10.7*	*14.1*	*8.1*	*9.4*	*6.8*	*6.5*	*Jun-96*
InvestorForce Public DB $1-5B Net Rank				*99*	*99*	*99*	*99*	*99*	*96*	*Jun-96*
Total Equity	**909,964,832**	**45.6**	**45.6**	**10.7**	**0.9**	**6.2**	**3.0**	**5.1**	**5.1**	**Dec-10**
MSCI ACWI IMI Net USD				*15.7*	*16.3*	*9.7*	*12.1*	*9.1*	*9.1*	*Dec-10*
Public Equity	**712,994,401**	**35.7**	**78.4**	**16.2**	**16.7**	**10.6**	**13.0**	**9.9**	**7.5**	**Jul-06**
MSCI ACWI IMI Net USD				*15.7*	*16.3*	*9.7*	*12.1*	*9.1*	*7.1*	*Jul-06*
eV All Global Equity Net Rank				*36*	*44*	*43*	*34*	*38*	*42*	*Jul-06*
Global Equity	**651,117,913**	**32.6**	**91.3**	**16.1**	**15.7**	**10.6**	**13.0**	**9.9**	**7.5**	**Jul-06**
MSCI ACWI IMI Net USD				*15.7*	*16.3*	*9.7*	*12.1*	*9.1*	*7.1*	*Jul-06*
eV All Global Equity Net Rank				*37*	*49*	*42*	*33*	*38*	*41*	*Jul-06*
Boston Partners Global Equity Fund	160,671,107	8.0	24.7	22.3	6.0	3.4	--	--	5.7	Jul-17
MSCI World Net				*14.0*	*15.9*	*10.5*	*12.2*	*9.9*	*12.2*	*Jul-17*
MSCI World Value				*15.7*	*-1.2*	*2.4*	*7.1*	*6.8*	*4.7*	*Jul-17*
eV Global Large Cap Value Eq Net Rank				*27*	*33*	*46*	*--*	*--*	*50*	*Jul-17*
Manulife Global Equity Strategy	151,920,119	7.6	23.3	11.0	7.6	8.1	--	--	8.8	Jul-17
MSCI ACWI Net				*14.7*	*16.3*	*10.1*	*12.3*	*9.1*	*11.9*	*Jul-17*
MSCI ACWI Value NR USD				*16.6*	*-0.3*	*2.4*	*7.4*	*6.1*	*4.7*	*Jul-17*
eV Global Large Cap Value Eq Net Rank				*94*	*29*	*13*	*--*	*--*	*17*	*Jul-17*

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

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

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Dallas Police & Fire Pension System

DPFP | As of December 31, 2020

	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Invesco (fka OFI) Global Equity	180,057,935	9.0	27.7	17.8	29.4	14.4	15.5	12.0	8.3	Oct-07
MSCI ACWI Net				*14.7*	*16.3*	*10.1*	*12.3*	*9.1*	*5.6*	*Oct-07*
MSCI ACWI Growth				*13.1*	*33.6*	*17.7*	*16.9*	*12.0*	*8.1*	*Oct-07*
eV Global Large Cap Growth Eq Net Rank				*14*	*43*	*79*	*68*	*62*	*53*	*Oct-07*
Walter Scott Global Equity Fund	158,468,752	7.9	24.3	13.3	19.1	15.6	15.4	11.4	11.3	Dec-09
MSCI ACWI Net				*14.7*	*16.3*	*10.1*	*12.3*	*9.1*	*9.6*	*Dec-09*
MSCI ACWI Growth				*13.1*	*33.6*	*17.7*	*16.9*	*12.0*	*12.5*	*Dec-09*
eV Global Large Cap Growth Eq Net Rank				*51*	*86*	*74*	*69*	*89*	*88*	*Dec-09*
Emerging Markets Equity	**61,876,488**	**3.1**	**8.7**	**18.3**	**16.4**	**7.2**	**--**	**--**	**7.2**	**Jan-18**
MSCI Emerging Market IMI Net				*19.9*	*18.4*	*5.8*	*12.2*	*3.5*	*5.8*	*Jan-18*
eV Emg Mkts Equity Net Rank				*68*	*59*	*35*	*--*	*--*	*35*	*Jan-18*
RBC Emerging Markets Equity	61,876,488	3.1	100.0	18.3	16.4	7.2	--	--	7.2	Jan-18
MSCI Emerging Market IMI Net				*19.9*	*18.4*	*5.8*	*12.2*	*3.5*	*5.8*	*Jan-18*
eV Emg Mkts Equity Net Rank				*68*	*59*	*35*	*--*	*--*	*35*	*Jan-18*
Private Equity	**196,970,431**	**9.9**	**21.6**	**-5.6**	**-33.0**	**-6.4**	**-10.0**	**-5.7**	**-1.8**	**Oct-05**
Cambridge Associates US All PE (1 Qtr Lag)				*11.0*	*13.5*	*13.1*	*12.9*	*13.6*	*12.7*	*Oct-05*

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

[2] Lone Star Funds 12/31/2019 valuation used.

MEKETA

Dallas Police & Fire Pension System

DPFP | As of December 31, 2020

	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Total Fixed Income and Cash	**567,910,316**	**28.4**	**28.4**	**2.8**	**5.2**	**3.7**	**5.2**	**4.8**	**5.2**	**Jul-06**
BBgBarc Multiverse TR				*3.5*	*9.0*	*4.8*	*5.0*	*3.0*	*4.2*	*Jul-06*
eV All Global Fixed Inc Net Rank				*84*	*76*	*85*	*62*	*36*	*43*	*Jul-06*
Cash Equivalents	**87,492,079**	**4.4**	**15.4**	**0.1**	**0.6**	**1.6**	**1.4**	**--**	**1.3**	**Apr-15**
91 Day T-Bills				*0.0*	*0.5*	*1.5*	*1.1*	*0.6*	*1.0*	*Apr-15*
Public Fixed Income	**475,865,785**	**23.8**	**83.8**	**3.3**	**6.2**	**4.1**	**7.0**	**5.3**	**5.3**	**Dec-10**
BBgBarc Multiverse TR				*3.5*	*9.0*	*4.8*	*5.0*	*3.0*	*3.0*	*Dec-10*
eV All Global Fixed Inc Net Rank				*75*	*67*	*80*	*26*	*29*	*29*	*Dec-10*
Short Term Core Bonds	**216,951,367**	**10.9**	**45.6**	**0.5**	**4.6**	**3.5**	**--**	**--**	**3.1**	**Jun-17**
BBgBarc US Treasury 1-3 Yr TR				*0.0*	*3.2*	*2.8*	*1.9*	*1.3*	*2.4*	*Jun-17*
IR&M 1-3 Year Strategy	216,951,367	10.9	100.0	0.5	4.6	3.5	--	--	3.1	Jul-17
BBgBarc US Govt/Credit 1-3 Yr. TR				*0.2*	*3.3*	*3.0*	*2.2*	*1.6*	*2.6*	*Jul-17*
eV US Short Duration Fixed Inc Net Rank				*43*	*21*	*25*	*--*	*--*	*33*	*Jul-17*
Investment Grade Bonds	**74,583,469**	**3.7**	**15.7**	**1.4**	**8.7**	**--**	**--**	**--**	**6.9**	**Oct-19**
BBgBarc US Aggregate TR				*0.7*	*7.5*	*5.3*	*4.4*	*3.8*	*6.1*	*Oct-19*
eV US Core Fixed Inc Net Rank				*23*	*34*	*--*	*--*	*--*	*38*	*Oct-19*
Longfellow Core Fixed Income	74,583,469	3.7	100.0	1.4	--	--	--	--	2.0	Jul-20
BBgBarc US Aggregate TR				*0.7*	*7.5*	*5.3*	*4.4*	*3.8*	*1.3*	*Jul-20*
eV US Core Fixed Inc Net Rank				*23*	*--*	*--*	*--*	*--*	*55*	*Jul-20*

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Dallas Police & Fire Pension System

DPFP | As of December 31, 2020

	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Global Bonds	**41,692**	**0.0**	**0.0**	**5.7**	**6.7**	**3.9**	**5.2**	**3.4**	**3.4**	**Dec-10**
BBgBarc Global Aggregate TR				*3.3*	*9.2*	*4.8*	*4.8*	*2.8*	*2.8*	*Dec-10*
eV All Global Fixed Inc Net Rank				*32*	*61*	*82*	*63*	*68*	*68*	*Dec-10*
Brandywine Global Fixed Income	41,692	0.0	100.0							
Bank Loans	**71,617,695**	**3.6**	**15.0**	**3.3**	**4.9**	**4.2**	**5.9**	**--**	**4.2**	**Jan-14**
Credit Suisse Leveraged Loan				*3.6*	*2.8*	*4.0*	*5.2*	*--*	*3.9*	*Jan-14*
eV US Float-Rate Bank Loan Fixed Inc Net Rank				*59*	*4*	*10*	*4*	*--*	*9*	*Jan-14*
Pacific Asset Management Corporate (Bank) Loans	71,244,807	3.6	99.5	2.9	2.6	3.9	--	--	4.0	Aug-17
Credit Suisse Leveraged Loan				*3.6*	*2.8*	*4.0*	*5.2*	*--*	*3.9*	*Aug-17*
eV US Float-Rate Bank Loan Fixed Inc Net Rank				*89*	*34*	*22*	*--*	*--*	*20*	*Aug-17*
Loomis Sayles Senior Rate and Fixed Income	372,888	0.0	0.5							
High Yield Bonds	**74,341,762**	**3.7**	**15.6**	**8.0**	**8.6**	**4.5**	**8.8**	**6.3**	**6.3**	**Dec-10**
BBgBarc Global High Yield TR				*7.7*	*7.0*	*4.9*	*7.8*	*6.5*	*6.5*	*Dec-10*
eV Global High Yield Fixed Inc Net Rank				*19*	*13*	*83*	*1*	*44*	*44*	*Dec-10*
Loomis Sayles High Yield Fund	174,076	0.0	0.2	8.0	8.6	4.5	9.0	6.7	9.0	Oct-98
BBgBarc Global High Yield TR				*7.7*	*7.0*	*4.9*	*7.8*	*6.5*	*8.2*	*Oct-98*
eV Global High Yield Fixed Inc Net Rank				*19*	*13*	*82*	*1*	*20*	*1*	*Oct-98*
Loomis US High Yield Fund	74,167,686	3.7	99.8							

[1] The Loomis Sayles Senior Rate and Fixed Income and Brandywine Global Fixed Income market values are residual balances.

[2] Brandywine Global Fixed Income was liquidated on 11/30/2020. Reporting 0% December return for Global Bonds.

[3] Loomis US HY was funded 12/31/2020, first full month of performance will be January 2021.

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Dallas Police & Fire Pension System

DPFP | As of December 31, 2020

	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	S.I. (%)	S.I. Date
Emerging Markets Debt	**38,329,800**	**1.9**	**8.1**	**10.3**	**2.4**	**2.2**	**6.8**	**3.7**	**3.7**	**Dec-10**
50% JPM EMBI/50% JPM GBI-EM				*7.7*	*4.0*	*4.1*	*7.0*	*3.8*	*3.8*	*Dec-10*
eV All Emg Mkts Fixed Inc Net Rank				*16*	*88*	*87*	*66*	*66*	*66*	*Dec-10*
Ashmore EM Blended Debt	38,329,800	1.9	100.0	10.3	2.4	2.2	--	--	2.7	Dec-17
Ashmore Blended Debt Benchmark				*6.8*	*3.9*	*3.6*	*6.2*	*3.6*	*3.9*	*Dec-17*
eV All Emg Mkts Fixed Inc Net Rank				*16*	*88*	*87*	*--*	*--*	*87*	*Dec-17*
Private Debt	**4,552,452**	**0.2**	**0.8**	**-2.2**	**-16.3**	**-1.4**	**-5.0**	**--**	**-5.0**	**Jan-16**
Barclays Global High Yield +2%				*8.2*	*9.2*	*7.0*	*10.0*	*--*	*10.0*	*Jan-16*
Total Real Assets	**518,359,866**	**26.0**	**26.0**	**0.5**	**-1.8**	**0.1**	**2.0**	**-1.9**	**-1.9**	**Dec-10**
Total Real Assets Policy Index				*0.9*	*2.9*	*5.2*	*6.2*	*10.1*	*10.1*	*Dec-10*
Real Estate	**350,571,492**	**17.6**	**67.6**	**0.0**	**0.2**	**2.7**	**1.5**	**-3.5**	**3.6**	**Mar-85**
NCREIF Property (1-quarter lagged)				*0.7*	*2.0*	*5.1*	*6.3*	*9.4*	*7.9*	*Mar-85*
Natural Resources	**124,081,815**	**6.2**	**23.9**	**1.9**	**0.6**	**-0.3**	**-0.9**	**3.4**	**3.4**	**Dec-10**
NCREIF Farmland Total Return Index 1Q Lag				*1.0*	*3.8*	*5.3*	*6.1*	*10.9*	*10.9*	*Dec-10*
Infrastructure	**43,706,559**	**2.2**	**8.4**	**0.2**	**-20.2**	**-11.1**	**2.9**	**--**	**2.6**	**Jul-12**
S&P Global Infrastructure TR USD				*15.0*	*-5.8*	*2.7*	*7.9*	*6.5*	*7.2*	*Jul-12*

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

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Dallas Police & Fire Pension System

As of September 30, 2020

Private Markets Review

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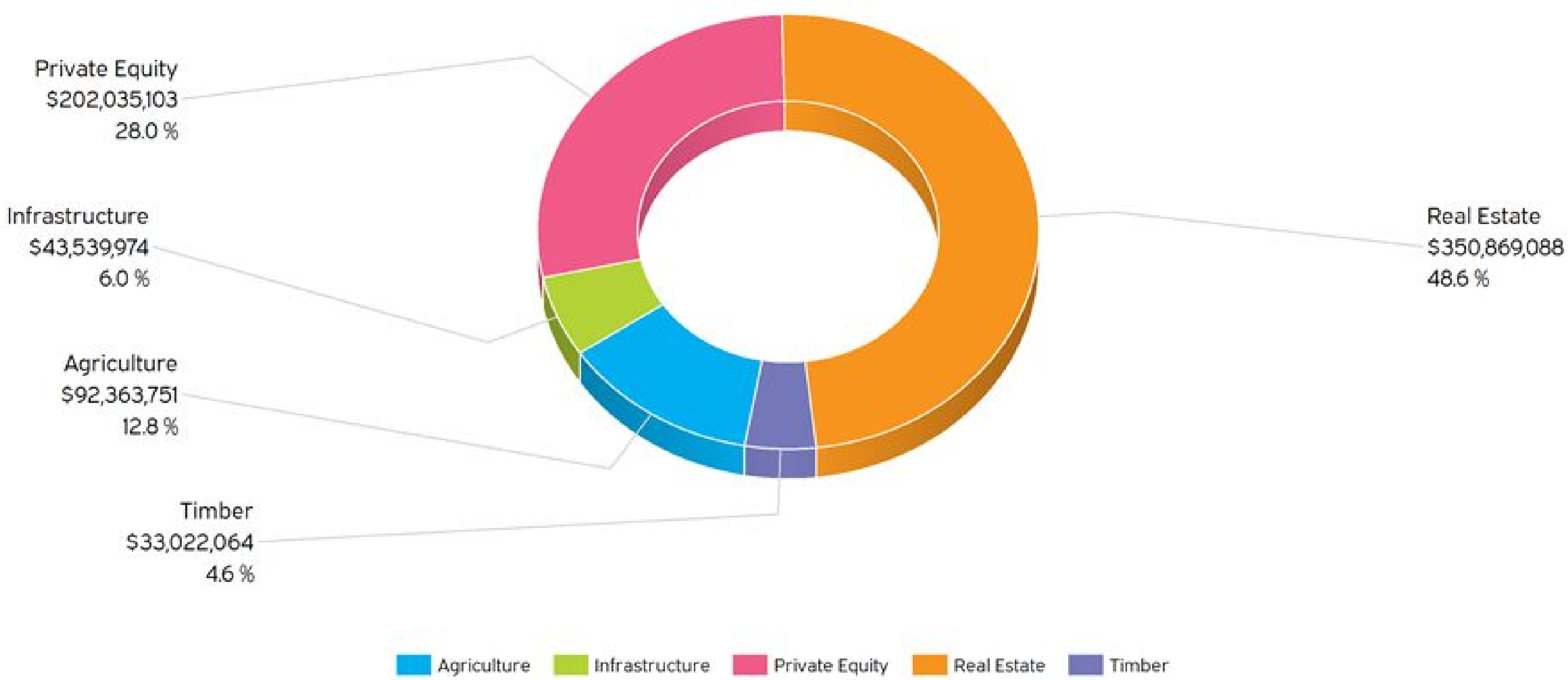
Dallas Police & Fire Pension System

Private Markets Review | As of September 30, 2020

Private Market Investments as of September 30, 2020
Market Value Allocation by Asset Class



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

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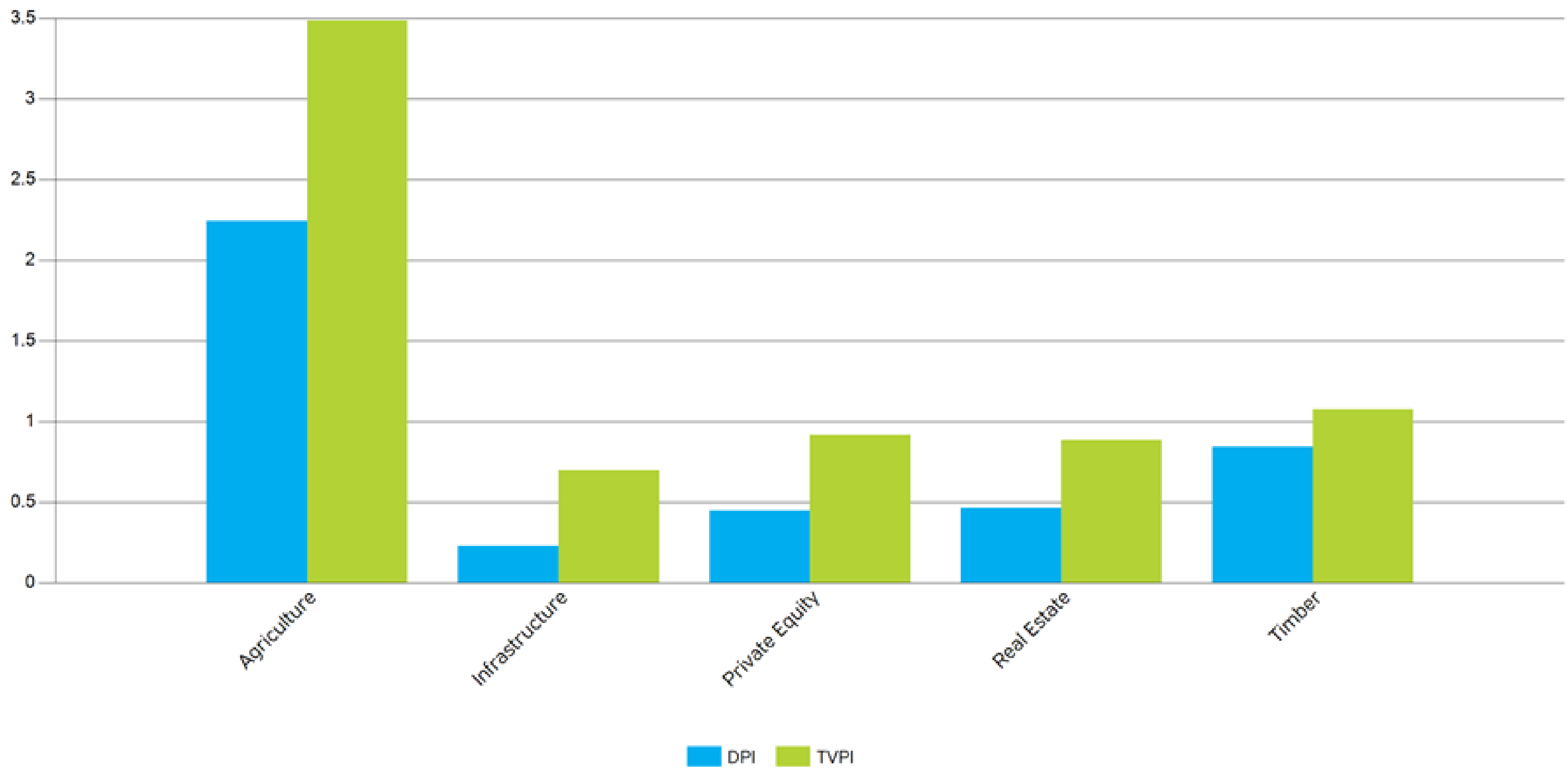
Dallas Police & Fire Pension System

Private Markets Review | As of September 30, 2020

Private Market Investments as of September 30, 2020
DPI and TVPI by Asset Class



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

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Dallas Police & Fire Pension System

Private Markets Review | As of September 30, 2020

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	167,092,840	92,363,751	259,456,591	185,036,590	1.00	2.25	3.49	14.79
Total Infrastructure	97,000,000	93,204,236	21,669,031	43,539,974	65,209,004	-27,995,231	0.96	0.23	0.70	-6.06
Total Private Equity	414,034,369	444,965,218	194,057,863	202,035,103	396,092,965	-48,872,253	1.07	0.44	0.89	-1.98
Total Real Estate	824,394,810	813,754,769	377,645,903	350,869,088	728,514,991	-85,239,778	0.99	0.46	0.90	-1.55
Total Timber	142,068,235	142,068,235	119,530,209	33,022,064	152,552,273	10,484,038	1.00	0.84	1.07	1.30
Total	**1,551,917,415**	**1,568,412,459**	**879,995,845**	**721,829,980**	**1,601,825,824**	**33,413,366**	**1.01**	**0.56**	**1.02**	**0.33**

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

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Dallas Police & Fire Pension System

Active Funds with Unfunded Commitments Overview | As of September 30, 2020

Active Funds with Unfunded Commitments				
Active Funds		Commitments		
Investment Name	Vintage Year	Commitment ($)	Paid In Capital ($)	Unfunded Commitment ($)
Infrastructure				
TRG AIRRO	2008	37,000,000	37,400,186	2,927,246
TRG AIRRO II	2013	10,000,000	7,219,074	2,368,615
JPM Maritime Fund, LP	2009	50,000,000	48,584,975	1,365,941
Total Infrastructure		**97,000,000**	**93,204,236**	**6,661,802**
Private Equity				
Huff Energy Fund LP	2006	100,000,000	99,039,897	119,979
Industry Ventures Partnership IV	2016	5,000,000	3,557,842	1,235,000
Lone Star Growth Capital	2006	16,000,000	26,560,000	2,240,000
Riverstone Credit Partners LP	2016	10,000,000	12,242,390	514,296
Yellowstone Capital	2008	5,283,254	5,112,307	170,947
Total Private Equity		**136,283,254**	**146,512,436**	**4,280,222**
Real Estate				
Hearthstone MS II Homebuilding Investors	1999	10,000,000	7,973,058	1,008,131
Hearthstone MS III Homebuilding Investors	2003	10,000,000	1,221,446	1,997,675
Total Real Estate		**20,000,000**	**9,194,504**	**3,005,806**
Total		**253,283,254**	**248,911,175**	**13,947,830**

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

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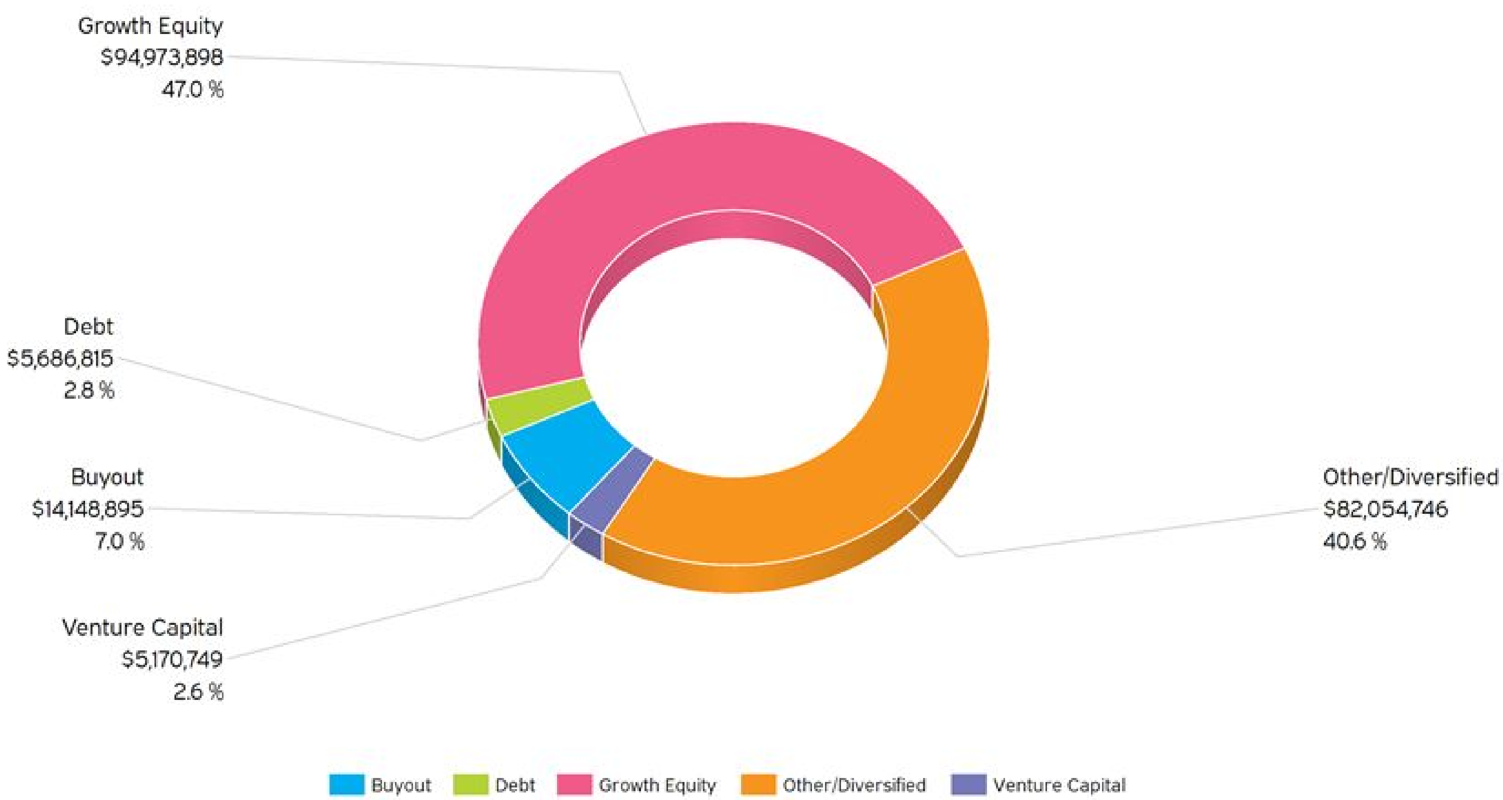
Dallas Police & Fire Pension System

Private Equity and Debt | As of September 30, 2020

Private Equity and Debt Investments as of September 30, 2020
Market Value Allocation by Strategy



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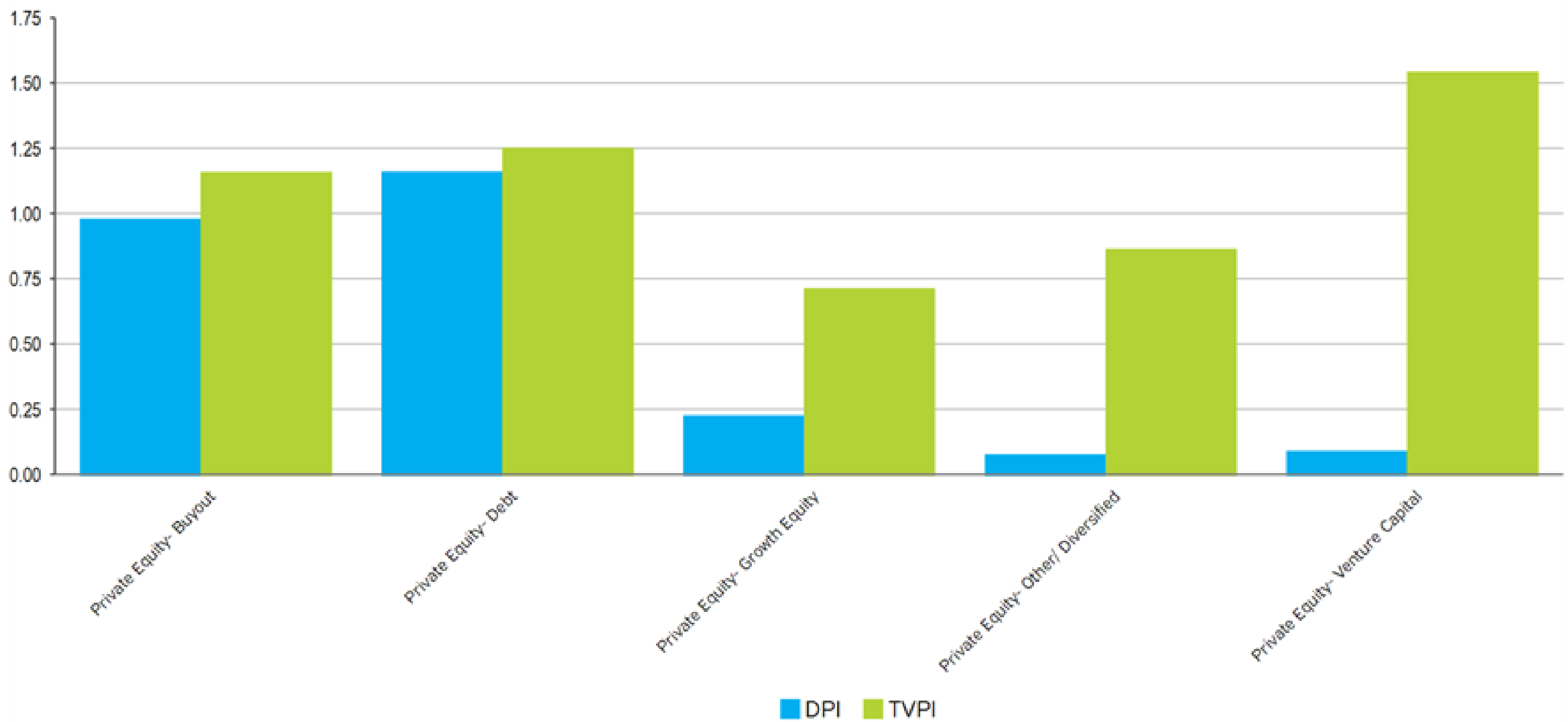
Dallas Police & Fire Pension System

Private Equity and Debt | As of September 30, 2020

Private Equity and Debt Investments as of September 30, 2020
DPI and TVPI by Strategy



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

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Dallas Police & Fire Pension System

Private Equity and Debt | As of September 30, 2020

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	75,678,933	14,148,895	89,827,828	10,994,811	1.18	0.96	1.14	1.59
Total Buyout		**66,795,718**	**78,833,017**	**75,678,933**	**14,148,895**	**89,827,828**	**10,994,811**	**1.18**	**0.96**	**1.14**	**1.59**
Debt											
Highland Crusader Fund	2003	50,955,397	50,955,397	63,561,006	1,154,452	64,715,458	13,760,061	1.00	1.25	1.27	4.18
Riverstone Credit Partners LP	2016	10,000,000	12,242,390	8,517,304	4,532,363	13,049,667	807,277	1.22	0.70	1.07	3.74
Total Debt		**60,955,397**	**63,197,787**	**72,078,310**	**5,686,815**	**77,765,125**	**14,567,338**	**1.04**	**1.14**	**1.23**	**4.15**
Growth Equity											
Hudson Clean Energy	2009	25,000,000	24,994,470	4,732,352	1,351,103	6,083,455	-18,911,015	1.00	0.19	0.24	-20.88
Lone Star CRA	2008	50,000,000	58,469,425	12,928,698	78,230,000	91,158,698	32,689,273	1.17	0.22	1.56	11.38
Lone Star Growth Capital	2006	16,000,000	26,560,000	12,800,000	9,995,307	22,795,307	-3,764,693	1.66	0.48	0.86	-5.00
Lone Star Opportunities V	2012	75,000,000	75,000,000	531,444	3,839,000	4,370,444	-70,629,556	1.00	0.01	0.06	-55.93
North Texas Opportunity Fund	2000	10,000,000	10,000,000	9,127,239	1,558,488	10,685,727	685,727	1.00	0.91	1.07	0.74
Total Growth Equity		**176,000,000**	**195,023,895**	**40,119,733**	**94,973,898**	**135,093,631**	**-59,930,264**	**1.11**	**0.21**	**0.69**	**-9.35**
Other/Diversified											
Huff Energy Fund LP	2006	100,000,000	99,039,897	4,477,394	82,054,746	86,532,140	-12,507,757	0.99	0.05	0.87	-1.30
Yellowstone Capital	2008	5,283,254	5,112,307	1,458,572	0	1,458,572	-3,653,735	0.97	0.29	0.29	-32.45
Total Other/Diversified		**105,283,254**	**104,152,204**	**5,935,966**	**82,054,746**	**87,990,712**	**-16,161,492**	**0.99**	**0.06**	**0.84**	**-1.64**
Venture Capital											
Industry Ventures Partnership IV	2016	5,000,000	3,557,842	244,921	5,170,749	5,415,670	1,857,828	0.71	0.07	1.52	17.44
Total Venture Capital		**5,000,000**	**3,557,842**	**244,921**	**5,170,749**	**5,415,670**	**1,857,828**	**0.71**	**0.07**	**1.52**	**17.44**
Unclassified											
Miscellaneous Private Equity Expenses	2016		200,473								
Total Unclassified			**200,473**								
Total		**414,034,369**	**444,965,218**	**194,057,863**	**202,035,103**	**396,092,965**	**-48,872,253**	**1.07**	**0.44**	**0.89**	**-1.98**

1. Private Markets performance reflected is composed of active investments only.
2. North Texas Opportunity Fund valuation represents 3/31/20 NAV.
3. LSGC valuation from LSGC 12/31/19 audited financials. Other Lone Star valuations are as of 12/31/19, providedby Conway Mackenzie.

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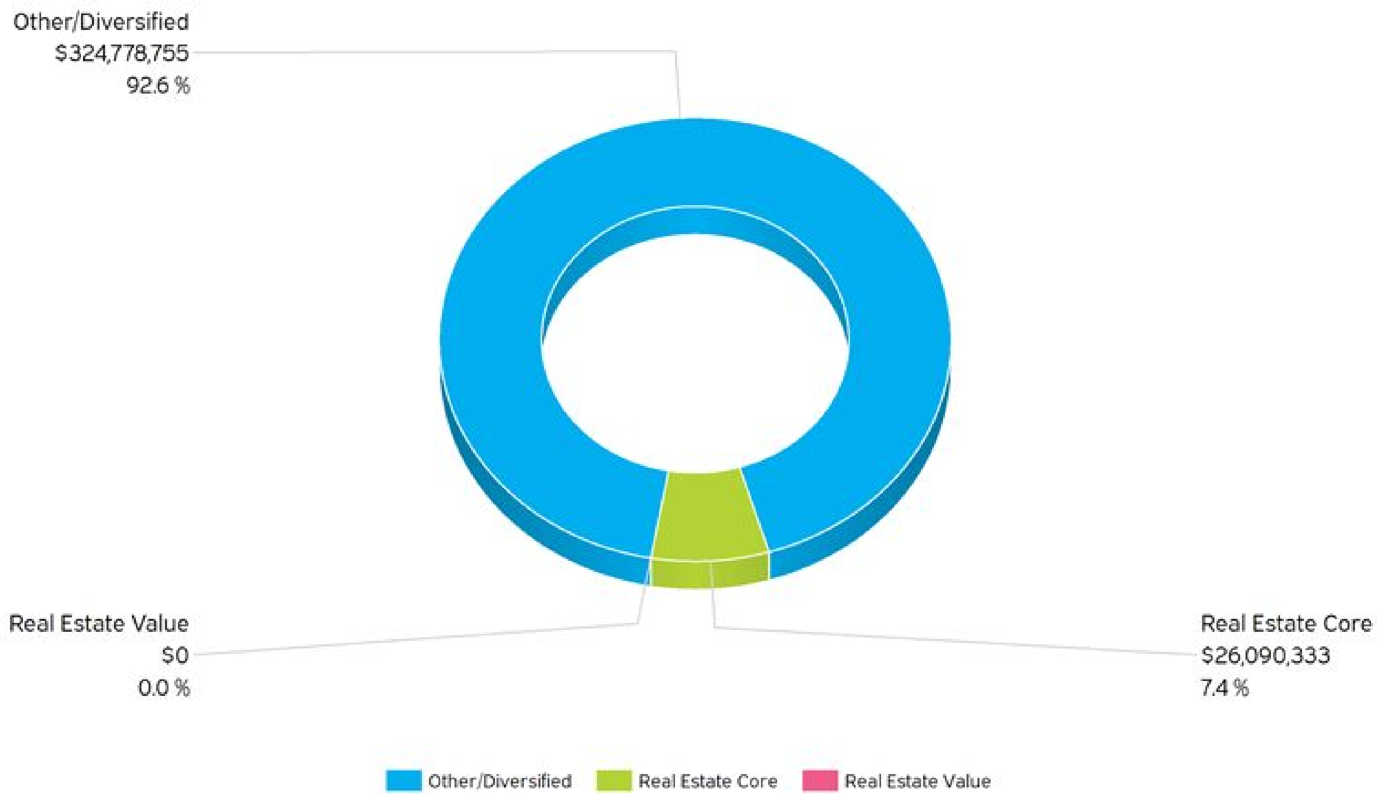
Dallas Police & Fire Pension System

Real Estate | As of September 30, 2020

Real Estate Investments as of September 30, 2020
Market Value Allocation by Strategy



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

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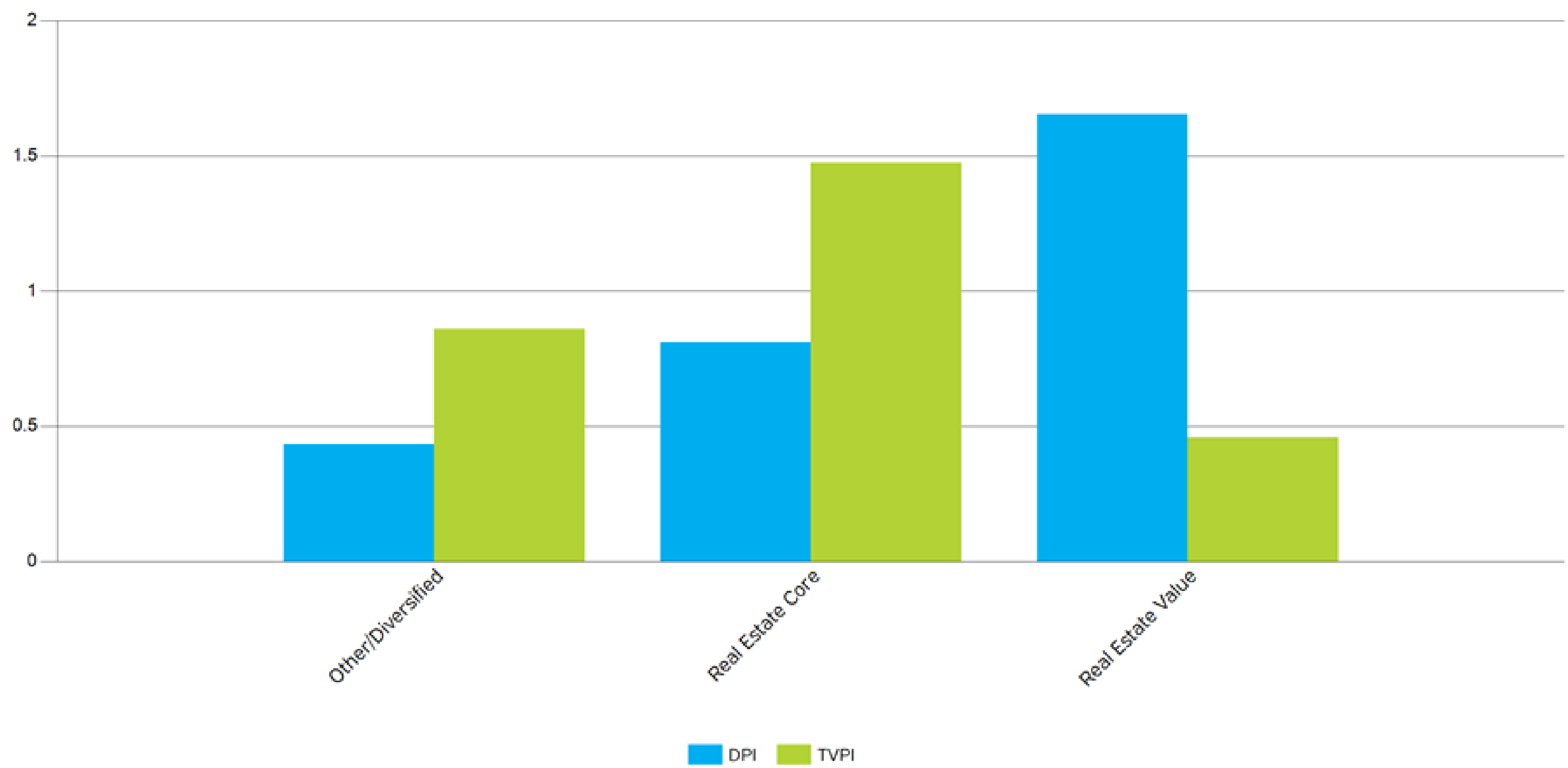
Dallas Police & Fire Pension System

Real Estate | As of September 30, 2020

Real Estate Investments as of September 30, 2020
DPI and TVPI by Strategy



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

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Dallas Police & Fire Pension System

Real Estate | As of September 30, 2020

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	764,903,924	764,903,924	329,882,447	324,778,755	654,661,202	-110,242,722	1.00	0.43	0.86	-2.11
Real Estate Core										
Total Real Estate Core	39,490,886	39,490,886	31,874,757	26,090,333	57,965,090	18,474,204	1.00	0.81	1.47	5.36
Real Estate Value										
Total Real Estate Value	20,000,000	9,194,504	15,206,576	0	15,206,576	6,012,072	0.46	1.65	1.65	25.93
Total	**824,394,810**	**813,754,769**	**377,645,903**	**350,869,088**	**728,514,991**	**-85,239,778**	**0.99**	**0.46**	**0.90**	**-1.55**

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

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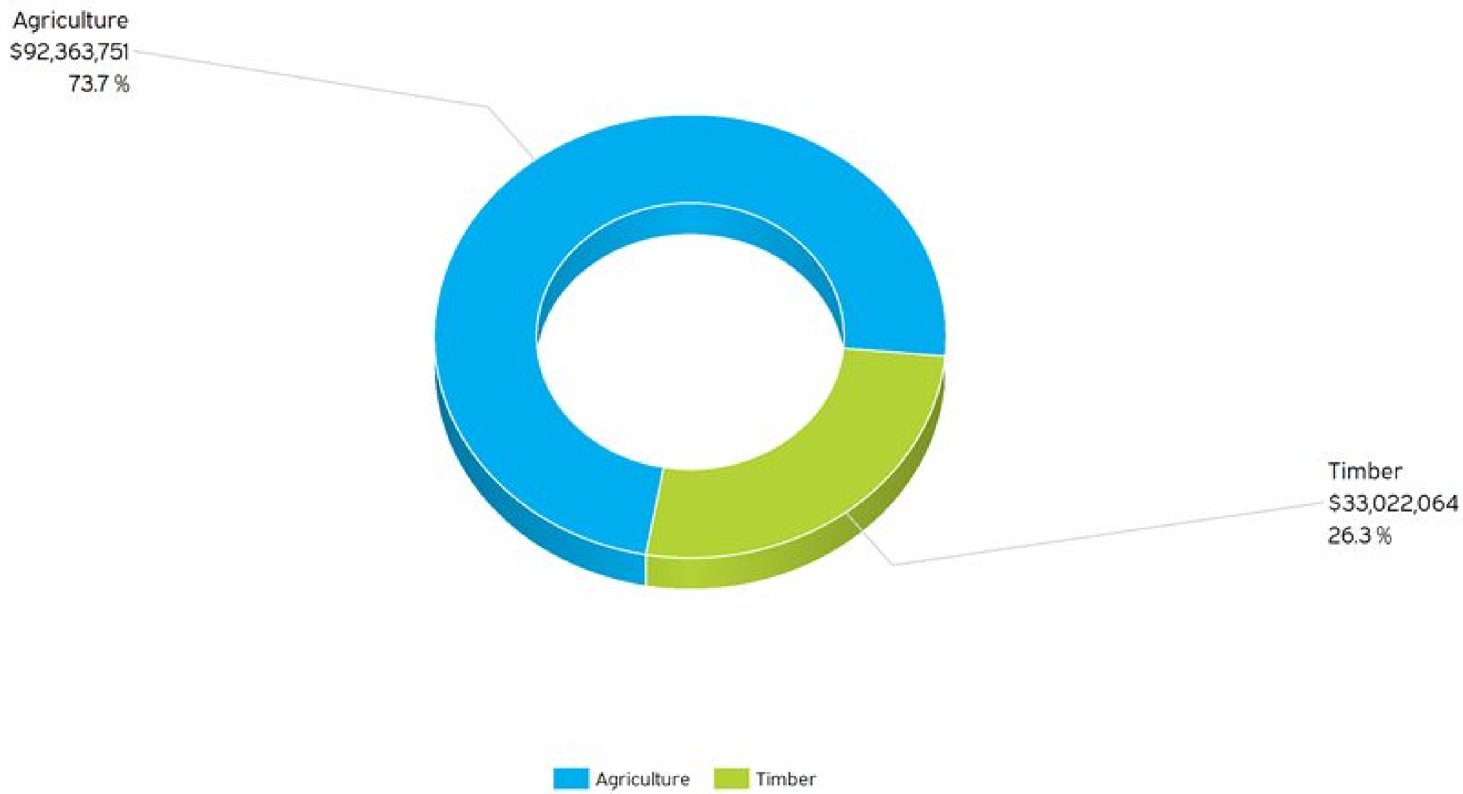
Dallas Police & Fire Pension System

Natural Resources | As of September 30, 2020

Natural Resources Investments as of September 30, 2020
Market Value Allocation by Asset Class



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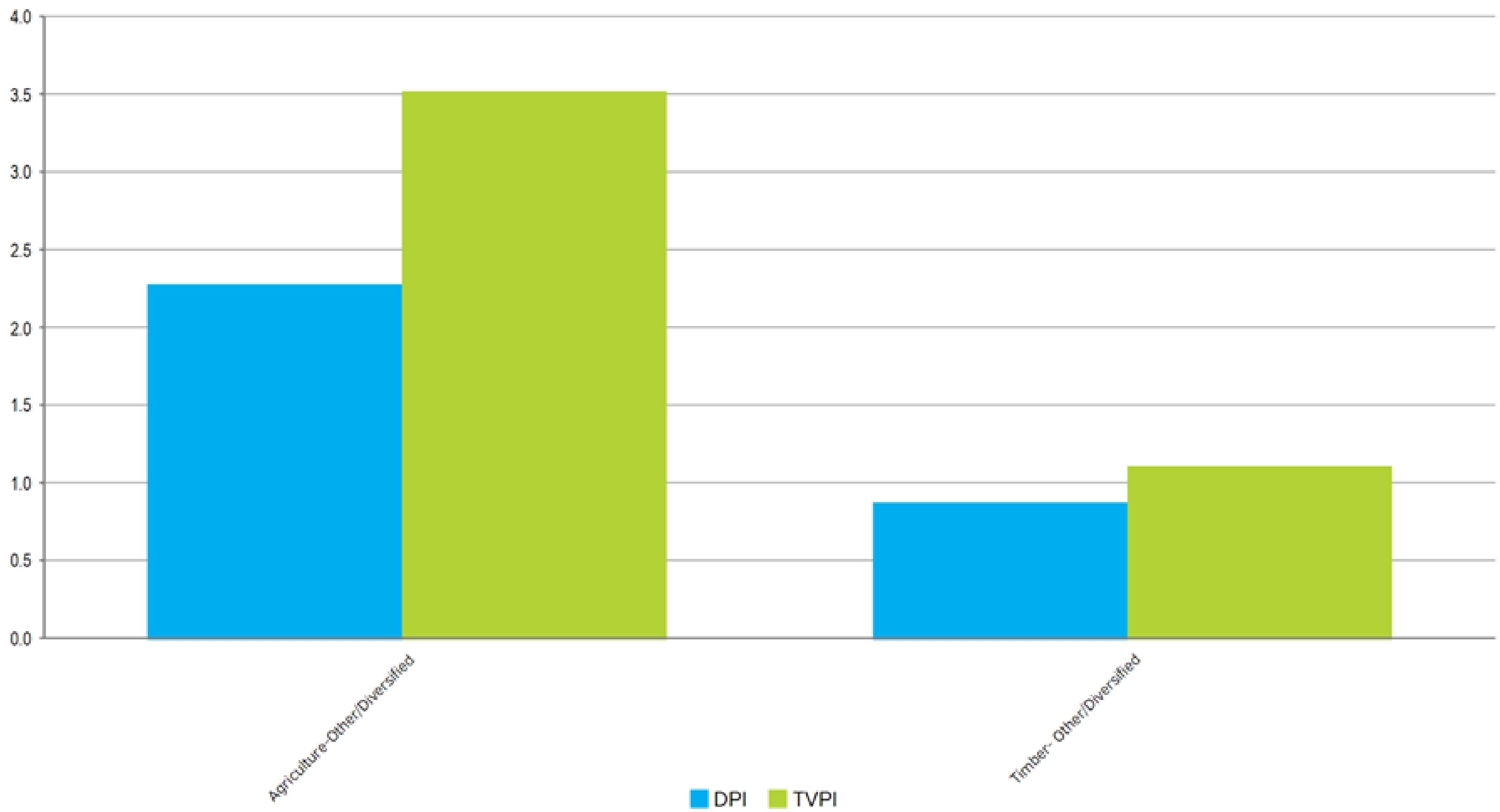
Dallas Police & Fire Pension System

Natural Resources | As of September 30, 2020

Natural Resource Investments as of September 30, 2020
DPI and TVPI by Strategy



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

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Dallas Police & Fire Pension System

Natural Resources | As of September 30, 2020

Natural Resource Investments Overview												
Active Funds		Commitments		Valuations				Performance				
Investment Name	Vintage Year	Commitment ($)	Paid In Capital ($)	Distributions ($)	Valuation ($)	Total Value ($)	Unrealized Gain/Loss ($)	Call Ratio	DPI	TVPI	IRR (%)
Agriculture											
Hancock Agricultural	1998	74,420,001	74,420,001	167,092,840	92,363,751	259,456,591	185,036,590	1.00	2.25	3.49	14.79
Total Agriculture		**74,420,001**	**74,420,001**	**167,092,840**	**92,363,751**	**259,456,591**	**185,036,590**	**1.00**	**2.25**	**3.49**	**14.79**
Timber											
BTG Pactual	2006	82,418,539	82,418,539	18,300,000	24,273,366	42,573,366	-39,845,173	1.00	0.22	0.52	-8.78
Forest Investment Associates	1992	59,649,696	59,649,696	101,230,209	8,748,698	109,978,907	50,329,211	1.00	1.70	1.84	7.70
Total Timber		**142,068,235**	**142,068,235**	**119,530,209**	**33,022,064**	**152,552,273**	**10,484,038**	**1.00**	**0.84**	**1.07**	**1.30**
Total		**216,488,236**	**216,488,236**	**286,623,049**	**125,385,815**	**412,008,864**	**195,520,628**	**1.00**	**1.33**	**1.91**	**8.72**

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

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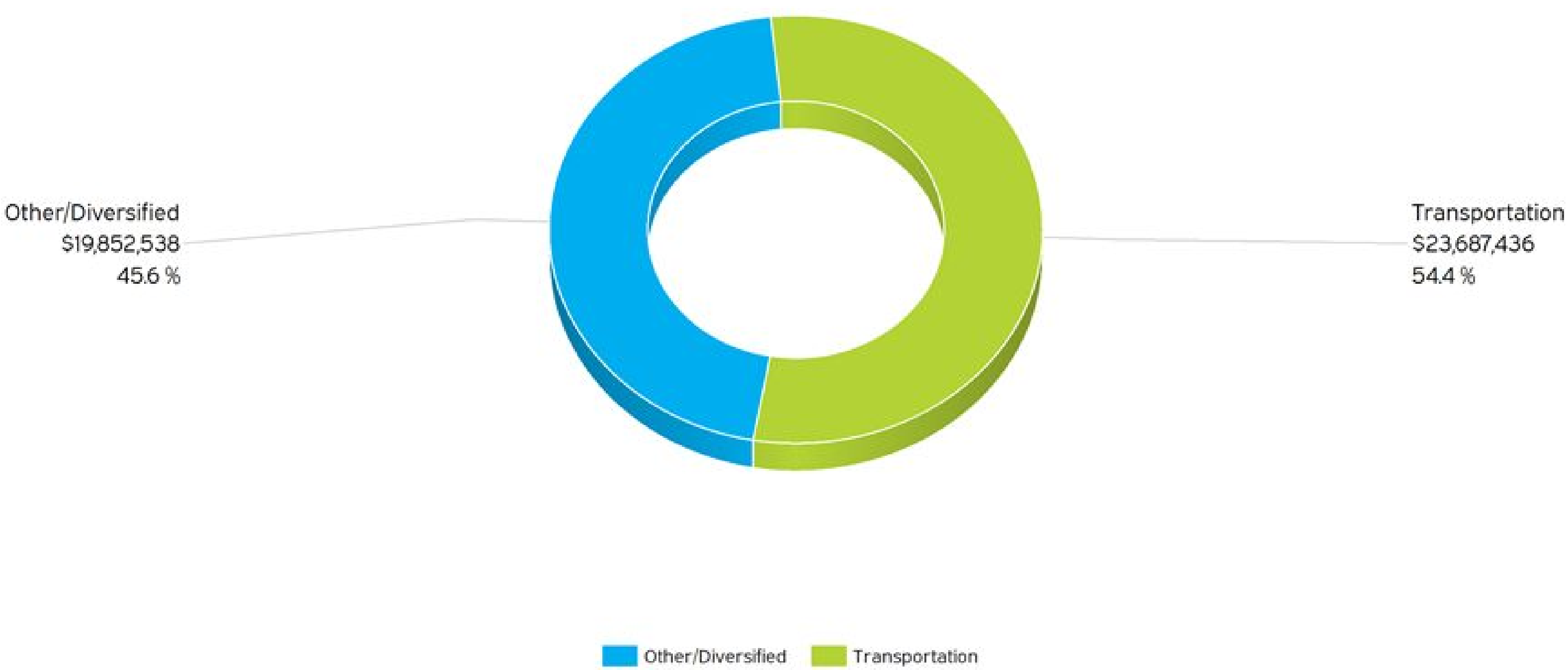
Dallas Police & Fire Pension System

Infrastructure | As of September 30, 2020

Infrastructure Investments as of September 30, 2020
Market Value Allocation by Strategy



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

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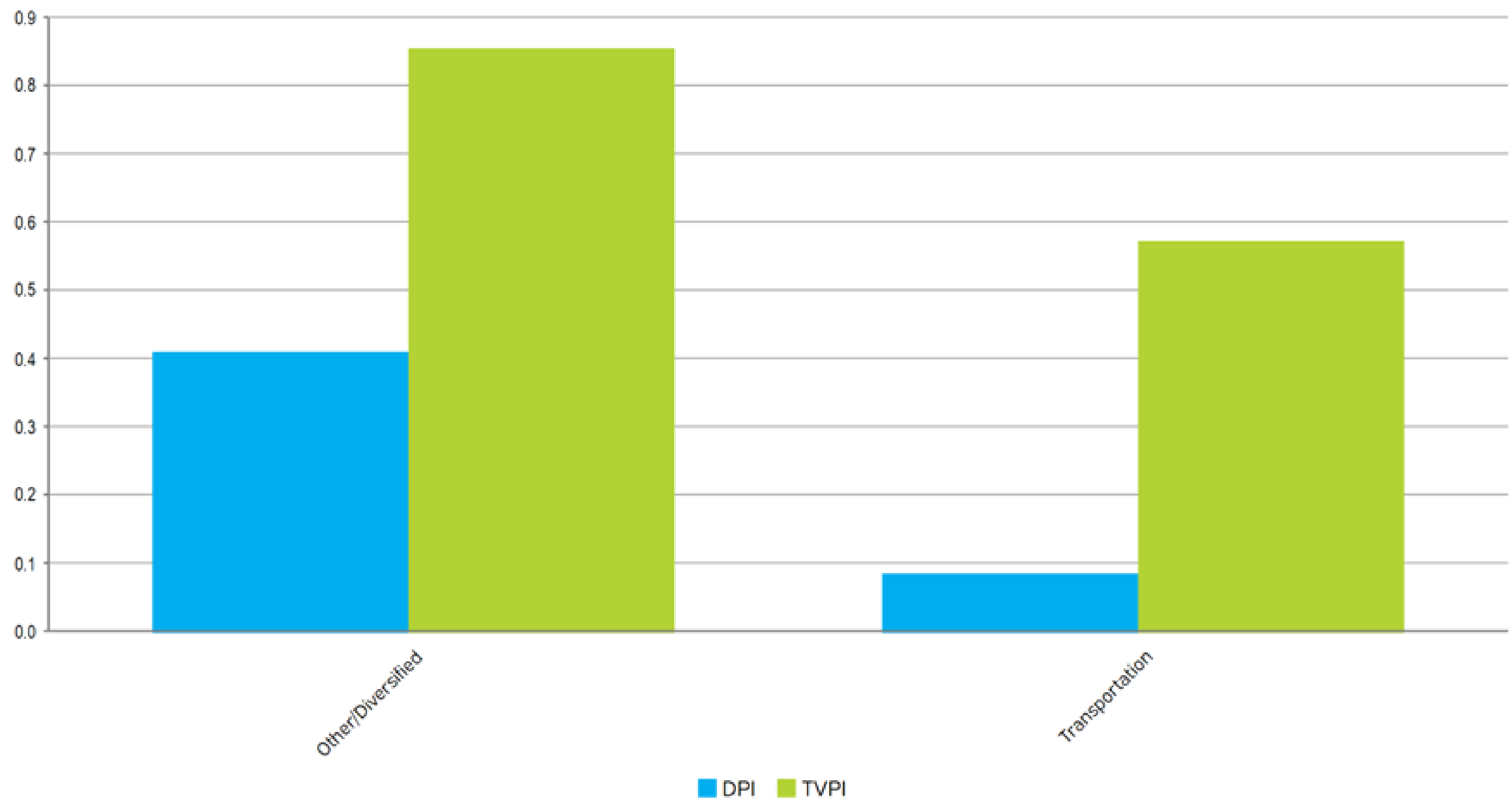
Dallas Police & Fire Pension System

Infrastructure | As of September 30, 2020

Infrastructure Investments as of September 30, 2020
DPI and TVPI by Strategy



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

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Dallas Police & Fire Pension System

Infrastructure | As of September 30, 2020

Infrastructure Investments Overview												
Active Funds		Commitments		Distributions & Valuations				Performance				
Investment Name	Vintage Year	Commitment ($)	Paid In Capital ($)	Distributions ($)	Valuation ($)	Total Value ($)	Gain/Loss ($)	Call Ratio	DPI	TVPI	IRR (%)
Infrastructure											
TRG AIRRO	2008	37,000,000	37,400,186	17,873,234	16,431,190	34,304,424	-3,095,762	1.01	0.48	0.92	-1.29
TRG AIRRO II	2013	10,000,000	7,219,074	58,731	3,421,347	3,480,078	-3,738,995	0.72	0.01	0.48	-10.58
JPM Maritime Fund, LP	2009	50,000,000	48,584,975	3,737,066	23,687,436	27,424,502	-21,160,474	0.97	0.08	0.56	-10.13
Total Infrastructure		**97,000,000**	**93,204,236**	**21,669,031**	**43,539,974**	**65,209,004**	**-27,995,231**	**0.96**	**0.23**	**0.70**	**-6.06**

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

Private Markets Review
List of Completed Funds

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Dallas Police & Fire Pension System

Private Markets Review | As of September 30, 2020

Total Real Assets Program

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

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Dallas Police & Fire Pension System

Private Markets Review | As of September 30, 2020

Private Equity & Debt Funds

Completed Funds	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Addtnl Fees	Cummulative Distributions	Valuation	Total Value	Gain/Loss	DPI Ratio	TVPI Ratio	IRR
Ashmore Global Special Situations Fund IV	2007	70,000,000	70,012,300	0	0	39,652,711	0	39,652,711	-30,359,589	0.57	0.57	-10.12%
BankCap Partners Fund I	2007	20,000,000	20,000,000	0	0	24,960,986	0	24,960,986	4,960,986	1.25	1.25	2.58%
BankCap Partners Opportunity Fund, LP	2013	20,000,000	19,587,052	0	0	18,266,454	0	18,266,454	-1,320,598	0.93	0.93	-5.69%
CDK Southern Cross	2008	1,535,316	1,535,316	0	0	0	0	0	-1,535,316	0.00	0.00	-20.08%
Highland Credit Ops	2006	35,348,165	35,348,165	0	0	29,994,190	0	29,994,190	-5,353,975	0.85	0.85	-2.06%
HM Capital Sector Performance Fund	2008	47,300,000	44,354,248	0	1,933,378	39,792,545	0	39,792,545	-6,495,081	0.86	0.86	-4.01%
Huff Alternative Income Fund	1994	40,000,000	40,000,000	0	2,018,676	66,940,198	0	66,940,198	24,921,522	1.59	1.59	17.82%
Kainos Capital Partners, L.P.	2013	35,000,000	30,316,015	0	0	43,263,688	0	43,263,688	12,947,673	1.43	1.43	24.76%
Levine Leichtman Capital Partners IV	2008	50,000,000	38,009,085	0	0	78,916,788	0	78,916,788	40,907,703	2.08	2.08	20.12%
Levine Leichtman Capital Partners V, L.P.	2013	25,000,000	19,181,272	0	-4,405	24,506,336	0	24,506,336	5,329,469	1.28	1.28	15.26%
Levine Leichtman Deep Value Fund	2006	75,000,000	75,000,000	0	11,025,662	88,688,224	0	88,688,224	2,662,562	1.03	1.03	0.73%
Levin Leichtman Private Capital Solutions II, L.P.	2012	25,000,000	17,961,807	0	-175	18,691,764	0	18,691,764	730,132	1.04	1.04	1.30%
Lone Star Fund IX (U.S.), L.P.	2014	35,000,000	24,241,467	0	0	23,459,730	0	23,459,730	-781,737	0.97	0.97	-3.28%
Lone Star Fund VII (U.S.), L.P.	2011	25,000,000	23,469,024	0	0	41,624,566	0	41,624,566	18,155,542	1.77	1.77	47.54%
Lone Star Fund VIII (U.S.), L.P.	2013	25,000,000	22,564,537	0	0	28,017,551	0	28,017,551	5,453,014	1.24	1.24	16.26%
Merit Energy Partners E-I	2004	7,018,930	7,031,052	0	-1,741	14,975,776	0	14,975,776	7,946,465	2.13	2.13	14.48%
Merit Energy Partners F-I	2005	8,748,346	8,749,275	0	0	3,801,206	0	3,801,206	-4,948,069	0.43	0.43	-17.19%
Merit Energy Partners G, LP	2008	39,200,000	39,320,050	0	0	26,756,651	0	26,756,651	-12,563,399	0.68	0.68	-9.96%
Merit Energy Partners H, LP	2010	10,000,000	10,033,415	0	0	6,870,451	0	6,870,451	-3,162,964	0.68	0.68	-13.78%
Oaktree Fund IV	2001	50,000,000	50,000,000	0	0	82,516,590	0	82,516,590	32,516,590	1.65	1.65	28.36%
Oaktree Loan Fund 2X	2007	60,000,000	60,004,628	0	0	65,066,951	0	65,066,951	5,062,323	1.08	1.08	2.24%
Oaktree Power Fund III	2011	30,000,000	16,167,147	0	0	23,839,959	0	23,839,959	7,672,812	1.47	1.47	12.35%
Pharos Capital Co-Investment, LLC	2007	20,000,000	20,000,000	0	0	10,019,157	0	10,019,157	-9,980,843	0.50	0.50	-9.92%
Pharos Capital Co-Investment, LP	2008	40,000,000	40,000,000	0	0	67,459,271	0	67,459,271	27,459,271	1.69	1.69	8.42%
Pharos Capital Partners IIA, L.P.	2005	20,000,000	20,080,306	0	0	17,715,199	0	17,715,199	-2,365,107	0.88	0.88	-2.39%
Pharos Capital Partners III, LP	2012	50,000,000	28,397,038	0	-54,286	20,196,932	0	20,196,932	-8,145,820	0.71	0.71	-19.95%
Total Completed Funds		**864,150,757**	**781,363,199**	**0**	**14,917,109**	**905,993,874**	**0**	**905,993,874**	**109,713,566**	**1.14**	**1.14**	

MEKETA

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DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C12

Topic: **Natural Resources Portfolio Review - Forest Investment Associates & BTG Pactual**

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.

Discussion: Staff will provide an overview of the Natural Resources portfolio and the strategy for DPFP's timber holdings managed by Forest Investment Associates and BTG Pactual.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C13

Topic: **Lone Star Investment Advisors Update**

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.071 of the Texas Government Code.

Discussion: Investment Staff will update the Board on recent performance, operational, and administrative developments with respect to DPFP investments in funds managed by Lone Star Investment Advisors.

DISCUSSION SHEET

ITEM #C14

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

Discussion: Counsel will brief the Board on these issues.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D1

Topic: **Public Comment**

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

Regular Board Meeting – Thursday, March 11, 2021

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D2

Topic: **Executive Director's report**

a. Associations' newsletters
- NCPERS Monitor (March 2021)
- NCPERS PERSist (Winter 2021)

b. Open Records

c. Education Update

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

Regular Board Meeting – Thursday, March 11, 2021

THE NCPERS
MONITOR
The Latest in Legislative News
March 2021

In This Issue

As Biden Administration Settles In, Priorities Emerge Slowly

Photo Illustration © 2020, adobestock.com

The sweeping aspirations of a new administration are apparent early; the details, however, take time. And the outgoing administration's delay in permitting a presidential transition means that it could take longer than usual for the Biden Administration's priorities to emerge in sharp focus.

We've known for many months that the Biden Administration would pursue policies that foster a dignified retirement for older Americans, strengthen Social Security, and equalize savings incentives that currently favor higher-income households. Those are the headlines, if you will—the words "writ large" that tell us the direction the administration wants to go.

The details are more elusive. One signal came from the Biden Administration on February 5, when the Department of Labor withdrew its support of the plaintiffs in the CalSavers lawsuit currently pending before the U.S. Court of Appeals for the 9th Circuit. The Biden Administration said it would not participate as a friend of the court in the effort to invalidate the CalSavers program on grounds that it violates ERISA. The withdrawal of opposition at the highest levels of government is a win for NCPERS members, who have championed the idea of auto-IRAs since NCPERS outlined the Secure Choice model in an influential 2011 report.

In another small sign of progress, a key Presidential appointment is advancing. The Senate Committee on Health, Education, Labor, and Pensions vote February 11 to approve President

CONTINUED ON PAGE 6

The Second Reconciliation Bill and Beyond

By Tony Roda

Photo illustration © 2021, adobestock.com

Congress appears to be on a glide path toward approving President Biden's $1.9 billion, Covid-19 relief package and presenting it to him for signature by mid-March. This first major piece of legislation has been a galvanizing force for Congressional Democrats. While consideration by the Senate is still ahead, in my view, Democrats have too much at stake to fall into squabbles. The success of the Biden Administration, the Democratic-controlled Congress, and most importantly the nation, are at stake.

The bill is being considered under the rules of budget reconciliation, which allows expedited consideration in the Senate and requires only a simple majority vote for passage. Given the slim majorities the Democrats hold in each chamber, party discipline is paramount.

Once this bill is enacted, the Biden Administration and the Democratic Congress are expected to pivot quickly to a second reconciliation bill, which will be less Covid-19 relief and more economic stimulus and job growth. This bill, unlike the Covid-19 relief package, will present many cross pressures for Democrats.

A threshold issue will be whether to offset the spending in the bill. Will it be completely offset, a portion of it, or none of it? And, if revenue raisers are needed, what will they be? President Trump's 2017 tax cut legislation is the logical place to start. Rolling back tax cuts on corporations could be the very first item in play, but there will be others, such as the tax rates on capital gains and dividends.

Progressives in the Democratic Party will want to undo broad sections of the 2017 bill, which they view as a give-away to corporations and wealthy individuals. At the same time, more moderate Democrats, centrists, and Blue Dogs from swing districts will want to show that they are being fiscally prudent. These two interests combine to create the likelihood that some, or all, of the second reconciliation package will be offset with revenue raisers.

A new annual cap of $10,000 on deductions for state and local taxes and a reduced cap of $750,000 (loan amount) on mortgage interest deductions were also imposed by the 2017 bill. These provisions have been criticized as attacks on high-tax, Blue States. I expect that they will be revisited, but any changes to them will be scored as losing revenue and may be difficult to achieve in the second Reconciliation Bill.

For purposes of the public pension community, we will watch closely for any attempts to impose the Unrelated Business Income Tax (UBIT), mandate after-tax, Roth-only contributions to defined contribution plans, such as 457(b) and 403(b) plans, or create a new Financial Transactions Tax.

A central focus of the second reconciliation bill is expected to be infrastructure. In the past, House Budget Committee Chairman John Yarmuth (D-KY) has floated legislation that would create a National Infrastructure Development Bank, which would be financed through the sale of $75 billion worth of Rebuild America Bonds on the credit of the U.S. Treasury. Importantly for the public pension plan community, the bonds may be purchased only by pension plans – both plans governed by ERISA and governmental plans as defined by ERISA, which includes state and local governmental pension plans. The bonds will bear an interest rate of 200 basis points above the 30-year Treasury bond.

Also, some proponents of greater participation by public plans in infrastructure investing argue that it would be a benefit to plans to have full or partial ownership of the actual infrastructure asset and the revenue stream produced by that asset. They have identified a barrier in federal tax law to such acquisitions, namely whether public pension plans would meet the criteria for an instrumentality of one or more states or political subdivisions. Legislation may be considered on this technical tax matter.

CONTINUED ON PAGE 7

NCPERS Executive Directors Corner

Pushing Ahead with a Dynamic Education Agenda in 2021

Photo illustration © 2021, adobestock.com

Education, it is said, is like rowing upstream. If you don't advance, you drop back. We work in a field where rapid currents and shifts in direction were part of our daily lives even before a global pandemic made crisis the norm. Our recognition that public pensions constantly have to deal with the winds of change is why education has always been a cornerstone of the services NCPERS provides to its members.

Education, it is said, is like rowing upstream. If you don't advance, you drop back.

Virtual programming has, of course, become essential. We are all learning as we go about what works and what doesn't, and we at NCPERS are tailoring our programs to meet member needs.

We've just concluded our first virtual FALL Conference—the Financial, Actuarial, Legislative and Legal Conference. This program brought multiple streams of knowledge together in a single, efficient format. We thank everyone who participated. And please remember: You can still register and receive access to all FALL presentations until Friday, March 12. With FALL on Demand, you get full access to all 20 educational sessions, which you can view at your leisure from anywhere in the country.

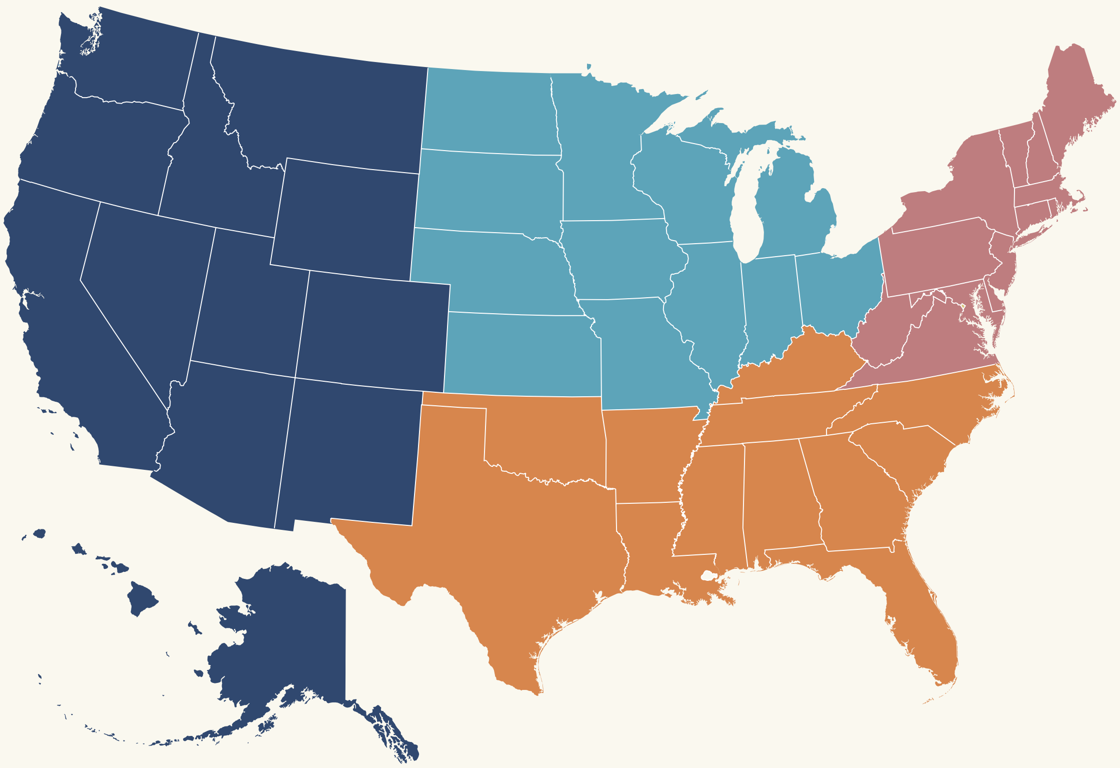
Much more is coming. In March, the NCPERS Accredited Fiduciary Program, or NAF, resumes in a virtual format. The NAF program is designed to equip trustees and staff of public pension plans with the key competencies they need to fulfill their fiduciary responsibilities.

NAF Module 1 (Governance and the Board's Role) and Module 2 (Investment and Finance) will be presented March 2-5, requiring a three-hour time commitment over four days. Module 3 (Legal, Risk Management and Communication) and Module 4 (Human Capital) will be present March 9-12, with the same time commitment. Participants who complete all four modules are eligible to take the NAF test, which culminates in the Accredited Fiduciary designation for successful participants. If they pass, they join the 149 students who have already earned their Accredited Fiduciary credentials.

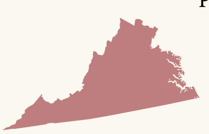
CONTINUED ON PAGE 7

NCPERS Around the Regions

This month, we will highlight Virginia, Illinois, Arkansas and California.



NORTHEAST: Virginia



The VirginiaSaves auto-IRA program was progressing through the state legislature as of late February. The House of Delegates on January 26 passed a bill to create the program. On February 5 the Senate Finance and Appropriations Committee approved it on a 16-0 vote, clearing its way for consideration by the full Senate and eventual enactment.

The sponsor of the bill, HB 2174, is House Appropriations Committee Chairman Luke Torian, a Democrat. He noted in a press release that 45 percent of Virginia's workforce lacks access to a workplace retirement savings plan. Payroll savings program have proved successful in helping workers to save.

The legislation stipulates that the VirginiaSaves program would be sponsored and administered by the governing board of the Virginia College Savings Plan, also known as Virginia529, which would establish a program advisory committee to provide specialized expertise. The program would require participation by employers that do not already offer a retirement benefit and that have five or more workers. It would begin enrolling eligible employees no later than July 1, 2023, and would establish a maximum penalty for non-compliance of $200 per eligible employee per year.

"Virginia529 can do for retirement planning what it did for college savings," Torian said." VirginiaSaves could be a crucial wealth building mechanism so that a single unexpected expense does not force Virginians to borrow or cut essentials from a fixed budget."

Torian said HB 2174 has been supported by Governor Northam, AARP Virginia, Small Business Majority, and The Pew Charitable Trusts.

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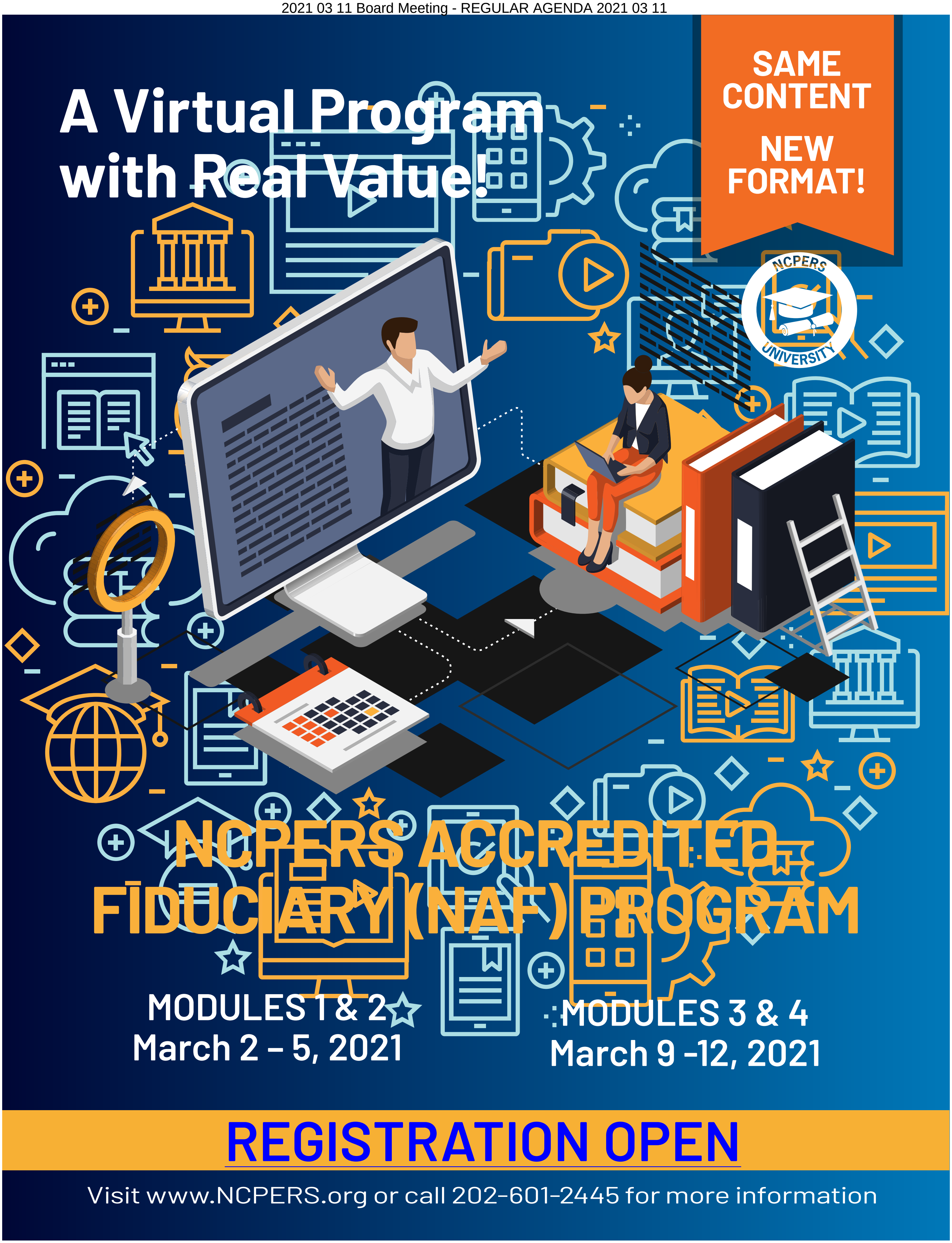
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NEW FORMAT!
NCPERS
UNIVERSITY
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MODULES 1 & 2
March 2 – 5, 2021
MODULES 3 & 4
March 9 -12, 2021
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BIDEN ADMINISTRATION CONTINUED FROM PAGE 1

Biden's nomination of Boston Mayor Marty Walsh to be Secretary of Labor. The vote was 18-4, with seven of the committee's 11 Republicans joining all the Democrats in support of the nomination. At press time, the nomination was awaiting a vote by the full Senate.

Now, as the Biden Administration settles into the job of governing, there are some things to watch for.

For example, will President Biden's plan for 401(k) plans move forward? During the campaign, candidate Biden issued a proposal outlining how he would replace the tax deduction for contributing to a 401(k) plan with a tax credit. This would address an inequity: Currently, putting money aside in a 401(k) plan favors high earners because their tax break is proportionately larger than the break for low and middle earners. Changing the tax break from a deduction to a credit would give bigger benefit to low and middle earners. One thing is clear: Changes are more feasible now that Democrats command a majority, albeit a thin one, in the Senate.

A key question on this matter is how the Biden Administration will navigate the inevitable chorus of complaints from the mutual fund and investment management lobbies about the impact of any revisions that disadvantage wealthy customers, who are their bread-and-butter clients.

Details about priorities may continue to trickle out, but it is likely that there will be more information when President Biden submits his Fiscal Year 2022 budget request to Congress, probably sometime in May.

We are saying probably because exactly when the budget will emerge is far from clear. For one thing, the $1.9 trillion COVID-19 relief bill was consuming most of the oxygen on Capitol Hill at press time in late February.

Also, Presidential press Secretary Jen Psaki has refused to put a timeline on the federal budget process. The U.S. Office of Management and Budget has emphasized that the delay in the transition is to blame.

"In a dramatic departure from past presidential transitions, the previous administration's political appointees at OMB placed severe limits on the type of assistance career professionals could provide the Biden transition team, including blocking analytical work that is necessary to developing a budget," OMB spokesman Rob Friedlander told CQ Roll Call.

Additionally, opposition to the President's nominee to head the U.S. Office of Management and Budget, Neera Tanden, had intensified at press time. A delayed nomination or the need to withdraw the nomination could exert a further drag on the budget process.

According to the Congressional Research Service, Clinton and Bush didn't submit full, detailed budget volumes to Congress in their first years in office until early April. Obama didn't submit his until May 7; Trump waited until May 23. ◆

SECOND RECONCILIATION BILL CONTINUED FROM PAGE 2

Later in the year, the attention of the tax-writing committees is expected to turn to the SECURE Act 2.0, which will be legislation largely aimed at enhancing the savings option under defined contribution plans, including 457(b) and 403(b) plans. Efforts are already underway to include improvements to Section 402(l) of the federal tax code, known as HELPS, which allows retired public safety officers to exclude from gross income up to $3,000 per year from governmental retirement plan distributions, provided the monies are paid directly from the retirement plan to a health care or long-term care provider. The proposed changes would increase the annual exclusion amount to $6,000 (H.R. 4897, 116th), index the new exclusion amount for inflation in subsequent years, and repeal the direct payment requirement (H.R. 6436, 116th).

In addition, Congress has been looking at further increases in the age trigger for Required Minimum Distributions (RMDs). Federal tax law was changed through enactment of the SECURE Act at the end of 2019 to increase the age trigger for Required Minimum Distributions (RMDs) to 72 from the previous age of 70 ½. The RMD rules apply to Internal Revenue Code Section 401(a) plans, 401(k) plans, 457(b) plans, 403(b) plans, and IRAs. RMDs do not apply to Roth accounts.

At the end of the 116th Congress, legislation was pending to increase the age trigger yet again and these proposals are likely to be considered during action on the SECURE Act 2.0. The House bill would have increased the age to 75 beginning in year 2021; the Senate bill would have moved the trigger to age 75 as well but not until 2029. In addition, the House legislation included an exception from the RMD rules for holders of small accounts, which was defined as aggregate defined contribution account holdings of less than $100,000.

Please be assured that NCPERS will closely monitor the issues discussed in this article as well as new issues as they arise. We will keep our members informed of significant developments. ◆

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

EXECUTIVE DIRECTORS CORNER CONTINUED FROM PAGE 3

Our Legislative Conference is always a highlight of the year. This year, we will present it as a free webcast. We will come to you on April 20 from the National Press Club. Over the course of a three-hour program, we will present an array of speakers from Capitol Hill and the executive branch. We will also feature policy analysts and experts, including our esteemed outside counsel, Anthony J. Roda of Williams & Jensen, who specialize in deciphering and demystifying what is happening in Washington so that we can plan and pursue necessary policy action. Scheduled speakers will be announced closer to the date.

June 8-9 will bring our popular Trustee Education Seminar and Program for Advanced Trustee Studies. TEDS and PATS will be virtual offerings in 2021. We have opted to skip the Chief Officers Summit in 2021 as much of the content was moved in the FALL program.

As we look ahead to the second half of 2021, we are hopeful that we will be able to return to at least some in-person programming. It's a delicate balance, however; we need to be good stewards of our financial resources, and the costs of planning a conference only to have it cancelled due to a surge in infections would be significant. So we are keeping a close watch on the progress of vaccinations and on other trend lines.

We expect to make a decision in the spring to determine whether any 2021 program can be in-person for those who wish to attend. Regardless of what we decide about in-person programming, our remaining 2021 program will be available virtually and on-demand.

We are exploring the possibility of in-person delivery of our Public Pension Funding Forum, scheduled for August 24-24 at University of California-Los Angeles; if that is not, possible, the show will go on anyway with a virtual conference.

Finally, we are exploring options for bringing you a live Annual Conference and Exhibition in 2021. Seeing everyone would be a joyful homecoming, and clear evidence that the waters have grown calmer.

The dynamic nature of life is that it isn't always smooth. Continuing education places big demands on us, especially as we battle a global pandemic. But if there's one think I know about NCPERS members, it's that you are know how critical it is to just keep rowing even when times are tough. ◆

NCPERS Around the Regions

AROUND THE REGIONS CONTINUED FROM PAGE 4

Nationally, three auto-IRA programs are in operation, and additional programs are in the start-up phase. The three active programs are OregonSaves, Illinois Secure Choice, and California's CalSavers, which administered a combined $172.5 million in auto-IRA assets as of January 31, according to the Georgetown Center for Retirement Initiatives at Georgetown University. About two-thirds of eligible employees currently participate, with the remainder opting out.

That report provides a number of other policy recommendations to be taken up as bills in the General Assembly to solve some of the challenges faced by older Illinoisans. They include expansion of telehealth to increase healthcare access, and targeted broadband expansion to communities of color so older adults of color can access resources and services.

The coalition described the report and policy recommendations as the first phase in a multiyear initiative to create systemic policy changes on behalf of older adults of color in Illinois.

MIDWEST: Illinois

A coalition of organizations including AARP Illinois is advocating an expansion of the Secure Choice program as part of a broader push to reduce racial disparities that prevent people from living longer, healthier and more productive lives.

The coalition announced the initiative as it launched its "Disrupt Disparities: Challenges & Solutions for 50+ Illinoisans of Color" report on February 8. Other members are the Chicago chapters of Asian Americans Advancing Justice and the Urban League, as well as the Resurrection Project. The research was conducted by Loyola University Chicago.

Specifically, they advocated enacting legislation to expand the Secure Choice program by reducing the employee threshold from a minimum of 25 employees to one. Passing this legislation would expand retirement savings access to around 1.2 million Illinois workers, they said. Particular gains would be achieved in the African American/Black, Hispanic/Latino and Asian American/Pacific Islander communities.

Currently, businesses that do not provide a retirement plan for their workers are only required to enroll in Secure Choice if they have 25 employees or more and have been operational for two years.

The report noted that the state of Illinois is aging. More than 34 percent of the state population of Illinois is above the age of 50 and continues to age. Of Illinois residents above the age of 50, more than a third are African American/Black, Hispanic/Latino, or Asian American/Pacific Islander.

SOUTH: Arkansas

Republican State Rep. Les Warren has spearheaded the reintroduction of legislation to create a state-sponsored retirement savings plan for private-sector workers whose employers do not offer such a benefit.

Warren introduced House Bill 1349, The Every Arkansan Retirement Opportunity Act, on January 29. Upon its introduction, HB 1349 had bipartisan support from co-sponsors in the House and 13 in the Senate. A similar bill died in Arkansas' 2019 legislative session.

"There are too many people retiring without having put enough money back for that time. They retire and then find out they cannot survive on Social Security alone," Warren said, according to the *Arkansas Democrat-Gazette*.

Arkansas has 530,000 private sector workers who stand to benefit if the bill is adopted, according to the legislation, including private sector workers, independent contractors, and self-employed persons. The legislation pointed to the state's college saving program as an example of the auto-IRA program's advantages.

"The Arkansas 529 GIFT Plan demonstrates the feasibility of a public-private partnership that outsources investment and administration to assist the citizens of this state in saving on a voluntary and cost-efficient basis," the bill said.

CONTINUED ON PAGE 9

NCPERS Around the Regions

AROUND THE REGIONS CONTINUED FROM PAGE 8

Participating employers would automatically enroll eligible employees, who would have the right to opt out. The bill would establish a mandatory exit as the program amasses assets: Once a participating employer's combined contributions reached $600,000, the employer would have to withdraw from the Every Arkansan Retirement Plan Opportunity and hire a private organization to manage the accumulated funds.

The bill would create a seven-person governing board operating within the office of the state treasurer.

WEST: California

With the change in administrations, the U.S. Department of Labor has withdrawn its participation as a friend of the court in a federal case seeking to invalidate the California Secure Choice program, known as Savers.

The Biden Administration's Labor Department notified the U.S. Court of Appeals for the 9th Circuit that it does not stand by the amicus curiae brief submitted in June 2020 by the previous administration. The new administration also signaled that it will be neutral in the matter, stating in its filing that it "does not support either side."

The Trump Administration had supported the plaintiff, the Howard Jarvis Taxpayers Association, which filed suit in 2018 claiming that the state-run auto-IRA program is pre-empted by the Employee Retirement Income Security Act (ERISA).

Attorneys have notified the 9th U.S. Circuit Court of Appeals that, "after the change in administration," the Department of Labor (DOL) no longer wishes to participate as an amicus curiae in the case arguing that California's state-run automatic individual retirement account (IRA) program is pre-empted by the Employee Retirement Income Security Act (ERISA).

The case was dismissed by a lower court in March 2020 and the appeal to the 9th Circuit was filed. The Labor Department argued at the time that subjecting multi-state employers to a patchwork of state laws that regulate how employers must structure retirement benefit program and plans violates ERISA.

At the end of January, CalSavers held $35.8 million in assets in more than 106,000 funded accounts. More than 8,000 employers were registered. ◆

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Calendar of Events 2021

March

NCPERS Accredited Fiduciary Program (NAF): Modules 1&2

March 2 – 5, 2021
Virtual

NCPERS Accredited Fiduciary Program (NAF): Modules 3&4

March 9 -12, 2021
Virtual

April

2021 Legislative Conference Webcast

April 20, 2021

The Voice for Public Pensions

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NCPERS 1941

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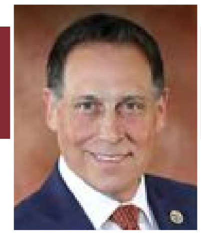
The Voice for Public Pensions | Winter 2020 | Volume 34 | Number 1

Message from the President



Daniel Fortuna
NCPERS President

NCPERS has successfully hosted our first virtual Financial, Actuarial, Legislative, and Legal (FALL) Conference! From February 2-3, 2021, we hosted over 250 members in our new dynamic, vibrant, and virtual conference platform. We have risen to the challenge during these unprecedented times. By adapting to a new virtual format, we have maintained our excellence in delivering valuable education.

FALL kicked off with a great opening keynote from Randi Weingarten, president of the American Federation of Teachers. Randi discussed the three crises impacting public employees today- COVID-19, economic downturn, and ongoing racial inequities. “The truth is that we can’t afford NOT to fund public pensions fully, we can’t afford to turn our backs on public employees, and we can’t afford NOT to make sure every American can count on a secure retirement,” Weingarten declared.

After that inspiring keynote, NCPERS moved to our new three-track system of education- a financial track, an actuarial track, and a legislative & legal track. The track system of instruction allows for focused education of significant issues facing public pensions today. Our financial track began with a global equity markets update with Ron Temple from Lazard Asset Management. The track continued with a discussion on infrastructure debt with Paul David from Allianz Global Investors, and asset allocation conversation with Jeffrey Covell from Arthur J. Gallagher & Co. Passive management was the focus for Julian Regan and Maureen O’Brien from Segal Marco Advisors. Michael Hunstad from Northern Trust Asset Management began day two of the financial track discussing a new type of volatility public pensions needs to prepare for in their portfolios. Best practices in structuring and implementing a

CONTINUED ON PAGE 9

In This Issue

Take the PERSist Quiz on pages 9, 10, 11, 12, 13 and 14

Submit Completed Quiz Here

TAKE THE QUIZ

What Can Be Risky about Pension Obligation Bonds?

By: Todd Tauzer

Photo illustration © 2021 istock.com

During an extraordinary 2020, interest in pension obligation bonds (POBs) for public pension financing has risen. S&P Global Ratings noted[1] that by October 2020, POB issuances were three times 2019 levels and seven times 2018 levels in California alone.

When a state or local government wants to raise capital, one approach is issuing bonds (debt) to help finance their objectives. POBs are taxable bonds where the proceeds are contributed to a pension plan to reduce the government's unfunded pension obligations. The interest charged on these bonds determines their cost, related to the government's credit rating and other market factors. The goal is that in total the invested proceeds' returns will be higher than the interest cost. While this sentiment has some validity, POBs are far from risk free, so it is crucial to approach them with understanding and caution.

Why the Resurgence?

Interest rates are at low levels with no indication of upward movement. So the spread between the interest that a government must pay on POBs and the return on pension investments it hopes to realize has widened, making POBs more attractive. Additionally, COVID has caused many governments' revenues to decline, squeezing budgets. POBs appear to provide some net budget relief at little perceived risk.

[1] S&P Global Ratings' "Pension Brief: POBs See Increasing Activity in Low-Interest-Rate Environment" October 14, 2020, by Todd Kanaster

Understanding the Risks

POBs may be a useful capital generating tool in certain situations, but they also have potential pitfalls that must be understood:

- **Hidden Costs** – POBs can be structured in ways that can hide potential costs. An **imprudent structure** such as initial interest-only payments or very long amortization periods can back-load and compound costs for future taxpayers. A **complex structure** that incorporates market instruments like swaps or derivatives can obscure built-in costs and introduce additional forms of market risk.

- **Hidden Risks** – POBs are inherently governments taking on debt to invest in the market. This **speculative leverage** could be followed by investments not performing as expected, leaving the issuer with a higher combination of pension contributions and debt service. Taking on fixed debt service to invest in variable pension assets should never be considered arbitrage. Additionally, these supplemental assets immediately boost contribution sensitivity to market movements. That is, contributions have **elevated volatility** after the issuance of pension obligation bonds as the pension plan rides market ups and downs with more assets. This elevated volatility is especially noticeable in the years immediately following the issuance, leading to a **timing vulnerability** of when might be a beneficial or disastrous time to issue.

CONTINUED ON PAGE 10

TAKE THE QUIZ

Answers to 3 Common Questions on How Investment Programs Can Become More Diverse

By: Derek K. Jones

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Are There Traits Common to Those Who Have Achieved Diversity in Their Investment Programs?

Yes, there are common traits. For one, these investors have a thorough knowledge of the diverse manager universe. They meet frequently with managers and are proactively source talent rather than relying solely on placement agents or general partners (GPs) that approach them.

Successful limited partners (LPs) also immerse themselves in the diverse manager community and participate in relevant industry organizations. Being involved with associations of diverse professionals can create new relationships and strengthen existing ones.

These investors also can consider managers with complex stories or shorter track records. Thus, they are prepared to invest early in funds that may be smaller and less-known and can often move quickly to execute co-investments with managers.

Finally, LPs in this space often have diversity on their boards and investment teams. This is not necessarily a requirement, but there's an element of "walking the walk" in doing so.

What About LPs Who Wish to Invest with Diverse Managers, But Are Short on Resources?

Investors can supplement their efforts by working with an advisor or consultant at varying levels of engagement. For example, LPs in the early stages of diverse investing may require advisors for help with sourcing, due diligence, and implementation. Others may play a more active role by participating in deal flow calls to get an advisor's views on managers or invest alongside the advisor in its commitment to a particular manager.

When it comes to maintaining a pipeline, LPs should hold themselves and their advisors accountable and leave no stone unturned to find the very best opportunities. It is not about meeting quotas, but LPs may benefit from being more "intentional" in asking themselves questions like: Are we invested with diverse managers who have generated exceptional performance? If not, why not? How many diverse managers have we met with this quarter? And if we've not met with many, why not? Who's in the pipeline?

CONTINUED ON PAGE 9

Derek K. Jones *is a member of the Private Equity, Real Estate, and Infrastructure Investment Committee and serves on the Global Investment Council and the Diversity, Equity and Inclusion Committee. He co-heads the firm's private equity co-investment practice and diverse manager practice. His responsibilities include deal sourcing and investment underwriting activities. Prior to joining GCM Grosvenor, Mr. Jones was a Managing Partner at Oncore Capital, as well as a General Partner at Provender Capital. He started his private equity career at Prudential Insurance Company as part of Prudential Equity Investors, which subsequently became Cornerstone Equity Investors, where he was a partner. Mr. Jones received his Bachelor of Arts in Economics from American University and his Master of Business Administration in Finance from New York University.*

TAKE THE QUIZ

Should investors consider a stand-alone All-China equity allocation?

By: Anthony Wong and Christian McCormick

Photo Illustration © 2021 istock.com

As China's weight within global equity indices increases and its markets mature, should US public pension plans consider a dedicated All-China allocation or continue gaining their Chinese equities exposure via international or emerging market (EM) allocations? Our research suggests that despite the growing opportunity, institutions are typically under-exposed to Chinese equity.

Chinese equity markets are rapidly changing. Whereas historically China's economy was powered by State Owned Enterprises (SOEs), the modern economy is increasingly driven by small- and mid-size private companies, foreign investment, increasing capital supply and investment in biotech, artificial intelligence, 5G and other innovative sectors.

As a result, we contend that All-China equity is the best way to take advantage of these trends. The market, from Hong Kong to A-share exchanges and the new Nasdaq-like STAR board, has matured and is evolving in five constructive ways: 1) China's economy is no longer dominated by SOEs; 2) Corporate governance has improved; 3) Capital markets have developed; 4) China's benchmark weightings are rising, and; 5) China's new consumer increasingly buys domestic.

At the same time, Beijing is also investing heavily in "new infrastructure"—technologies in which it wants to reduce its foreign reliance; artificial intelligence, 5G, cybersecurity, alternative energy, electric vehicles and semiconductors. Beijing's policies are encouraging a startup culture it hopes can rival Silicon Valley while also attracting institutional investors.

Against this backdrop, we believe that allocating to China by index tracking is the wrong approach to exploit inefficiencies and maximize potential alpha. **Exhibit 1** shows MSCI ACWI weightings heavily favor large-cap "offshore" firms—those traded in Hong Kong and in New York as ADRs—while having a negligible exposure to the faster-growing, domestic Chinese firms that trade as A-shares. MSCI's EM Index (**Exhibit 2**) is similarly weighted toward offshore China at the expense of A-shares.

So, allocating to China by tracking benchmarks is akin to gaining US equity exposure by overweighting mega-caps at the expense of everything else. An All-China equities allocation offers a more balanced approach and enhances the odds of capturing potential future returns. Another challenge is aggregating China and EM allocations. China is already 42.1% of the MSCI EM Index (**Exhibit 2**) and as the free float of A-shares increases in the coming years and as market access improves, that dominance will grow, reducing portfolio diversification.

Investors should consider the alpha opportunity in Chinese equity markets, which still have inefficiencies that can exploited: Over the past decade, the median China A-shares strategy outperformed the

Anthony Wong, CFA, *is Hong Kong/China portfolio manager and* ***Christian McCormick, CFA,*** *is a Senior Product Specialist China Equity, both at Allianz Global Investors.*

CONTINUED ON PAGE 10

NCPERS Healthcare

The Not-so-hidden Cost of Retiree Health Care

TAKE THE QUIZ

By: Dutch Ross

Photo Illustration © 2021 istock.com

It's no secret. Health care in the United States is expensive, and the cost is only going up. Rising costs continue to impact employees' household budgets and employers' bottom lines. More and more cost shifting to employees may have far reaching effects. Besides the obvious stress factor, it can erode employees' spendable income and overall financial wellbeing, cause them to work past retirement eligibility, and rob them of opportunities to realize lifelong dreams.

Employers face a different set of challenges, such as figuring out how to do more with less, how to continue attracting and retaining top talent, slower organizational and financial growth, and less resources to invest in personnel, facilities, technology, etc.

Projected Cost of Retirement Health Care

During active employment, employees are typically better positioned to absorb and manage out-of-pocket costs while still earning an income. They have more flexibility to make adjustments to their budget, pay down debt, increase savings, and take advantage of employer-sponsored accounts, such as health reimbursement arrangements (HRAs), flexible spending accounts (FSAs), or health savings accounts (HSAs). What many employees fail to recognize is how increasing healthcare costs translate into retirement. Moreover, Americans are generally living longer than their parents and grandparents, which adds to the problem and makes saving up for retiree health care even more important today than in the past.

Fidelity Investments' Annual Healthcare Cost Estimate states that a 65-year-old couple retiring in 2018 would need approximately $280,000 to cover healthcare costs in retirement—a 75% increase from 2002 (Fidelity Investments). This boils down to about $1,230 per month, assuming the couple lives until age 84. This is similar to taking on a new mortgage in your retirement years!

Regardless of the cost, retirees have to find a way to pay for health care. Besides pension and Social Security income, options may include general savings, or income from a retirement plan such as a 401(k), IRA, Roth-IRA, 457, or 403(b). However, note that each of these sources has one thing in common: they are all subject to taxation at some point, either up front or as withdrawals are made. So, is there something better?

Funded HRAs are Tax Free

Funded HRAs (similar to HSAs) are growing in popularity among public sector and non-profit employers and Taft-Hartley trusts. Funded HRAs help employees get a jump on retiree healthcare costs. Employer contributions can come from any number of

CONTINUED ON PAGE 12

__Dutch Ross__ is the National Sales Director for HealthInvest HRA and has 20 years of health and welfare consulting and brokerage experience, including over 10 years with Gallagher. Prior to joining Gallagher's HRA team, Dutch worked within Gallagher's public sector practice assisting health and welfare consulting clients with self-funded plan administration, including collective bargaining negotiations. He continues to serve on Gallagher's public sector niche leadership team.

Dutch graduated from University of Colorado Boulder with a Bachelor of Arts in Philosophy, and is a licensed consultant and producer in multiple states.

NCPERS Investment Consultant

TAKE THE **QUIZ**

Trust the Process: Public Pension Investment Strategy

By: Katie Comstock

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Public pension plans have long been a veritable punching bag for critics in the institutional world. Nuance tied to the benefit structure, funding policy, investment strategy (asset allocation), governance framework, and the interplay of each is often boiled down to a quick talking point about funded ratio or investment return expectations. Instead, stakeholders should seek to understand the underlying factors, as there is more to the story than is typically portrayed.

In this article we highlight three key underlying factors that are often overlooked and that exemplify prudent investment management of public pension member benefits.

- **Most plans endure a rigorous asset-liability study when setting asset allocation.** An asset-liability study is a rigorous process that factors in market risk and return expectations, liability profile, investment horizon, contribution policy, and stress testing across various economic scenarios. These studies inform plan sponsors of the appropriate investment strategy and provide fiduciaries confidence to stay the course through market volatility.

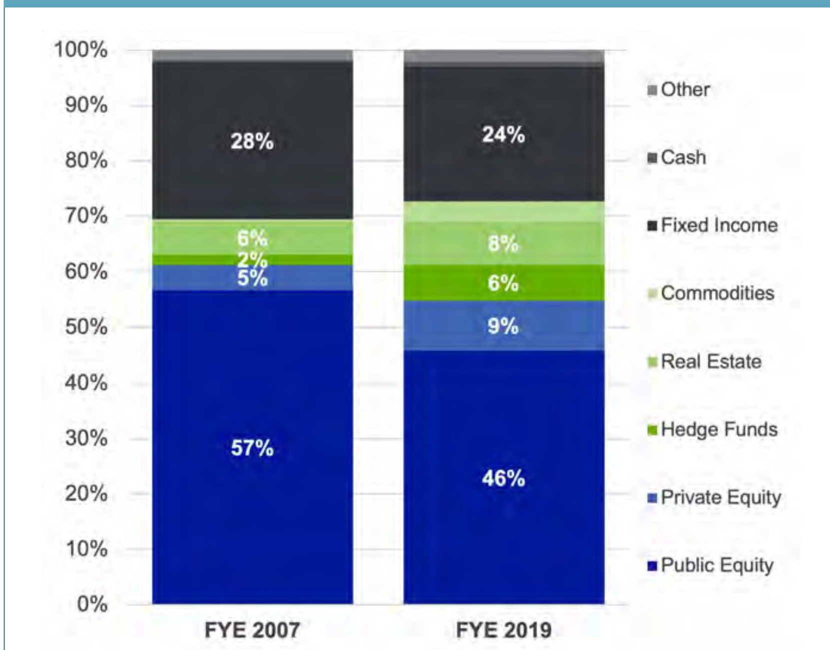
- **The average public plan has increased its allocation to diversifying asset classes.** The most notable shift in asset allocation over the past 10 years has been a reduction in public equities and corresponding increases to diversifying investments such as private equity, real estate, and hedge funds, as shown in Figure 1[1].

  This evolution allows public pension plans to better weather periods of market volatility, such as experienced in the Spring of 2020. Diversification away from public equities (which declined 22%[2] in 1Q 2020) proved beneficial in preserving assets during this market sell-off.

- **Today, the average public pension plan is better positioned for a volatile market.** Greater x diversification better positions portfolios to weather a variety

CONTINUED ON PAGE 14

Figure 1: Average Public Pension Asset Allocation



TAKE THE QUIZ

Nasdaq Files Proposal with SEC to Require Diverse Board for Listed Companies

Photo illustration © 2021 istock.com

On December 1, 2020, Nasdaq Inc. filed a proposal with the Securities and Exchange Commission to adopt Rule 5605(f) (Diverse Board of Representation). This rule would require all publicly listed companies to have one woman on their boards, a director who is a minority, or one who identifies as LGBTQ+, at a minimum. Any company that does not meet this standard would be required to justify its reason to remain listed on Nasdaq, and any company that does not disclose diversity information may be subject to potential delisting.

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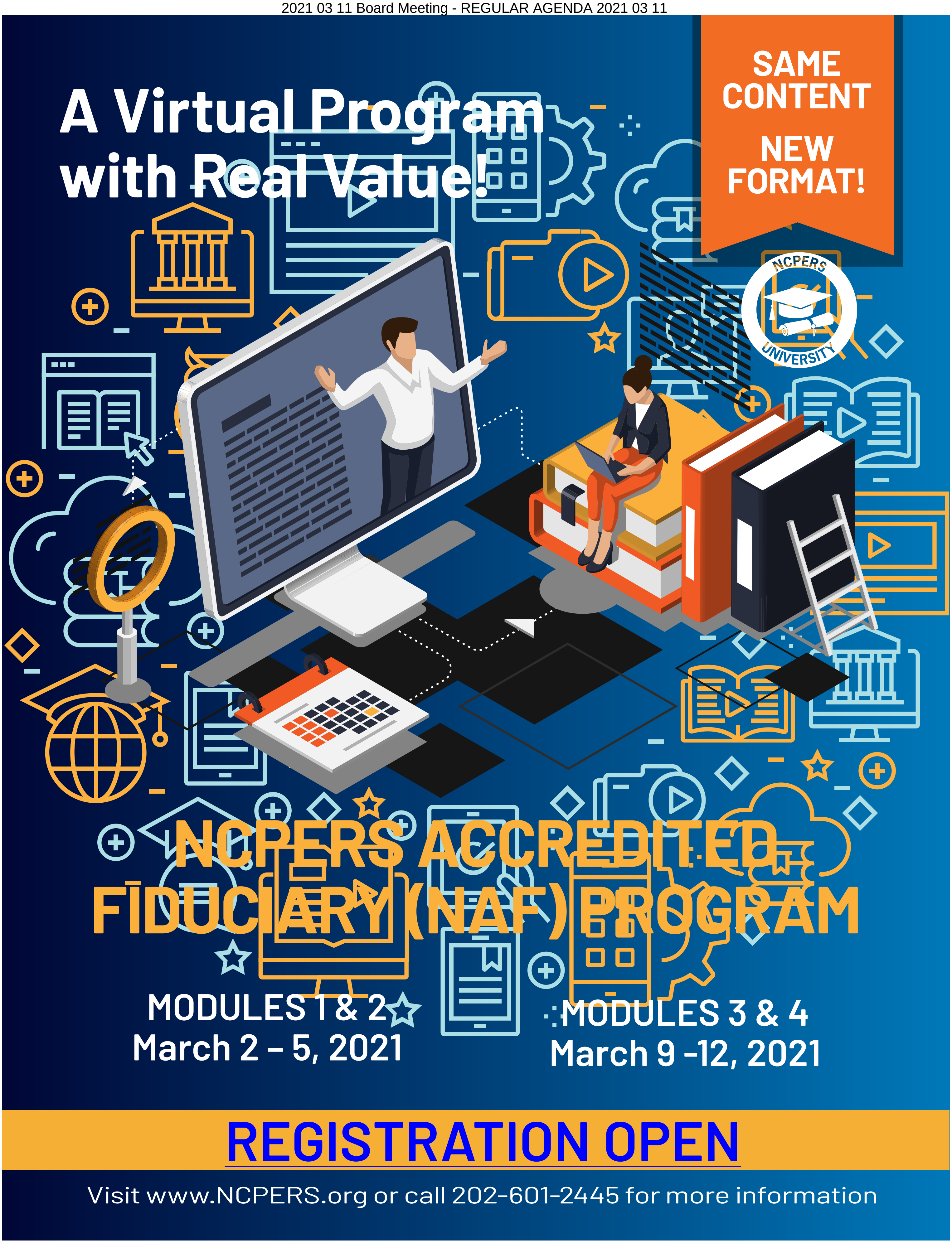
The timeframe in which a company must meet the minimum board composition expectation is based on a company's listing tier. "All companies will be expected to have one diverse director within two years of the SEC's approval of the listing rule. Companies listed on the Nasdaq Global Select Market and Nasdaq Global Market will be expected to have two diverse directors within four years of the SEC's approval of the listing rule. Companies listed on the Nasdaq Capital Market will be expected to have two diverse directors within five years of the SEC's approval," stated Nasdaq. If companies cannot meet the new board composition expectations within the specified timeframe, they will not be subject to delisting as long as they provide a public explanation for their reasoning for not meeting the new rules.

Robbins Geller is currently litigating important board diversity cases involving companies such as Advanced Micro Devices, Inc., Cisco Systems, Inc., and Intuit, Inc. These cases allege the directors of these companies breached their fiduciary duties by failing to consider and nominate African Americans to their respective boards of directors. According to Shawn Williams, one of the Robbins Geller partners working on those cases: "Some public companies have for years boasted of a commitment to building diversity amongst their employee and leadership ranks but have fallen far short of those commitments. By compelling the expansion of diverse members on corporate boards, the proposed rule will help publicly traded companies overcome various forms of resistance to achieving more diverse and balanced leadership consistent with their own stated diversity and financial performance goals."

According to Adena Friedman, Nasdaq's President and CEO: "Nasdaq's purpose is to champion inclusive growth and prosperity to power stronger economies. Our goal with this proposal is to provide a transparent framework for Nasdaq-listed companies to

CONTINUED ON PAGE 12

Robbins Geller Rudman & Dowd LLP, *is a leading law firm that has recovered billions of dollars for defrauded investors in global securities litigation. With 200 lawyers in 9 offices, Robbins Geller consistently outperforms other law firms by attaining greater investor recoveries in more resolved cases year after year, including many of the largest securities class action recoveries in history. Beyond the Firm's unmatched results, Robbins Geller also specializes in implementing meaningful corporate governance reforms, helping to improve the financial markets for investors worldwide. Robbins Geller attorneys are consistently recognized by courts, professional organizations, and the media as leading lawyers in the industry. Please visit rgrdlaw.com for more information.*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MESSAGE FROM THE PRESIDENT CONTINUED FROM PAGE 1

diverse manager program were the hot topic in GCM Grosvenor's Peter Braffman and Jason Howard's presentation. The final two sessions were on ESG investing from Chris McDonald of Kennedy Capital Management, and the positives of negative cash flow from Vijoy Chattergy of Sakala Portfolio Solutions and Scott Strone from Pentegra Investors.

Not to be left out of the fun, the actuarial track kicked off with a popular discussion on the COVID-19 societal changes and challenges we can expect to affect retirement systems. This discussion was led by Jeffrey Williams and Megan Yost from Segal. Aon's speakers, Eric Atwater, Mark Meyer, and Bryan Falato, spoke to attendees about assessing their retirement systems' health. Joseph Newton from Gabriel, Roeder, Smith & Company focused on ensuring sustainable public pension plans. At the same time, Douglas Anderson from Club Vita and Doug Anderson from Minnesota PERA discussed how factor-based mortality models could capture diversity in plans. Our final actuarial track looked at pension obligation bonds with Paul Angelo and Todd Tauzer from Segal.

The third track, legislative & legal, was just as topical and informative. Securities fraud during COVID-19 was the hot topic for Mark Soloman of Robbins Geller Rudman & Dowd and Josh Ruthizer from Wolf Popper. As always, Brad Kelly and Peter Landers from Global Governance Advisors brought a great conversation about preparing your board for the post-COVID world. Our legal, legislative, and regulatory update from Rob Gauss of Ice Miller, Peter Mixon of Nossman LLP, and Tony Roda of Williams & Jensen, updated attendees on what legislation to expect in the future. Motley Rice's Marlon Kimpson and Meredith Weatherby focused on what we can expect from the new Biden administration and provided tips on avoiding healthcare fraud scams. And finally, Chuck Campbell and Alyca Garrison from Jackson Walker LLP discussed recent DOL guidance and fiduciary implementations of ESG investing.

The FALL Conference closed with an exciting and hopeful conversation with Charles Triano from Pfizer, and Rhett Brown and Ron Temple with Lazard Asset Management. Chuck Triano discussed the Pfizer COVID-19 vaccine development from research to production, what we can expect from Pfizer on a global scale, and new studies we can expect. Our panel answered attendees' questions live, including reassurance of the vaccine's safety and efficacy.

I'm very pleased with the success of the FALL Conference and how it ushers in a new era for virtual learning for NCPERS and our members. Remember to join us in March for our NCPERS Accredited Fiduciary (NAF) Program and April 20 for our Legislative Conference Webcast! I look forward to seeing you all in person soon! ◆

ASSET MANAGER CONTINUED FROM PAGE 3

Can an LP Apply Its Same Investment Process to Source and Evaluate Diverse Managers?

Yes and no. Diverse managers are not an asset class based on ethnicity or gender. A buyout manager is a buyout manager and is evaluated on the same criteria – alignment, track record, stability of team, strategy, and potential competitive advantage – and nothing should be compromised. LPs are looking for benchmarked performance and, just because it's a diverse manager, the standards for underwriting don't change.

That said, there may be nuances in sourcing – how and where investors are finding diverse managers. LPs must be able to sort through complexity to identify and evaluate managers that may lack a long history or typical track record. But that's a common theme in emerging manager investing broadly. So, when we are asked by LPs, "Why isn't my manager roster diverse?" we often answer with another question: "Are you looking in the right places?" Frequently, that answer is "no." ◆

PERSist Quiz — Asset Manager

Can an LP Apply Its Same Investment Process to Source and Evaluate Diverse Managers?

❍ A. Yes ❍ B. No ❍ C. Yes and no

Answer: C

ACTUARY CONTINUED FROM PAGE 2

On the surface POBs may appear more advantageous in today's marketplace. However, they can carry potential pitfalls and do not replace the need for plans to use prudent assumptions and effective methods for setting contribution rates. Any government considering POBs should first explore these analytical considerations in order to make an informed decision aligned with their long-term financial objectives and risk tolerances. ◆

__Todd Tauzer, FSA, CERA, FCA, MAAA,__ is a vice president and actuary in Segal's San Francisco office. He works with major city and county retirement systems throughout the state of California. Previously he was Director of Municipal Pensions from S&P Global Ratings.

PERSist Quiz Actuary

What has spurred the renewed interest in POBs?

❍ A. Low interest rates with no anticipated upward movement

❍ B. Decline in governments' revenue

❍ C. Both a. and b.

Answer: C

CUSTODIAN BANK CONTINUED FROM PAGE 4

MSCI China A Onshore index by 8.2%, annualized, according to eVestment data as of September 30. Meanwhile, in global emerging market equities over the same period, the median manager only outperformed the MSCI EM index by 0.9%, annualized. So, for long-only equity investors, China offers a rare source of meaningful, sustainable alpha potential.

While the specific All-China allocation for any investor depends on factors such as risk appetite and mandate restrictions, we believe that current allocations to China do not reflect the country's bright prospects and that US institutions should consider an All-China allocation beyond current benchmark levels, now 5.1% of the MSCI ACWI Index. Less benchmark-sensitive investors sharing our

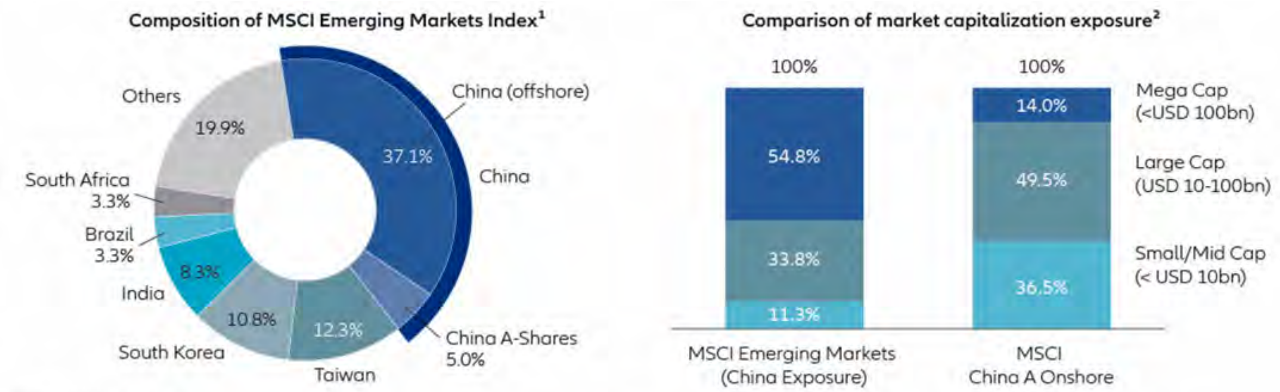
CONTINUED ON PAGE 11

Exhibit 1: MSCI's evolving weightings are changing the balance of China equity allocations

As of August 31, 2020
Note: "November 2019" data represents regional/country weightings at the time of the final step of the first phase of MSCI's inclusion process for China A-shares into the MSCI ACWI Index while "Future" represents potential future allocations. As of the time of writing this paper, MSCI had not disclosed a formal timeline for the second phase of inclusion.
Source: Bank of America Merrill Lynch, Allianz Global Investors

CUSTODIAN BANK CONTINUED FROM PAGE 10

Exhibit 2: MSCI EM Index leaves investors underweight China A-shares and overweight large caps



As of August 31, 2020
[1] MSCI Country Category as of 31st August 2020. Figures may not sum to 100% due to rounding errors.
[2] For more detail, see The Time is Right to Use China A-Shares to Optimize Equity Allocation, Allianz Global Investors, March 2020.
Source: Bloomberg, Allianz Global Investors

conviction in China's improving outlook could consider carving out an even larger All-China allocation. ◆

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PERSist Quiz | Custodian Bank

What is current weight for China equity in the MSCI All Country World Index?

❍ **A.** 5.1% ❍ **B.** 10.2% ❍ **C.** 15.3%

Answer: A

LEGAL CONTINUED FROM PAGE 7

present their board composition and diversity philosophy effectively to all stakeholders; we believe this listing rule is one step in a broader journey to achieve inclusive representation across corporate America."

Similarly, in California, a new law effective January 1, 2021 requires publicly traded corporations based in the state to have a diverse board of directors. The bill requires that: "No later than the close of the 2021 calendar year, such corporation[s] have a minimum of one director from an underrepresented community, as defined. The bill would require, no later than the close of the 2022 calendar year, such a corporation with more than 4 but fewer than 9 directors to have a minimum of 2 directors from underrepresented communities, and such a corporation with 9 or more directors to have a minimum of 3 directors from underrepresented communities."

The SEC will now solicit public comments, which typically lasts several weeks, and then will decide on how to proceed further. ◆

PERSist Quiz | Legal

What are the diversity options a company must adhere to for the new proposed Nasdaq rule?

❍ **A.** One woman on a company's board

❍ **B.** A director who is a minority, or one who identifies as LGBTQ+

❍ **C.** Both

Answer: C

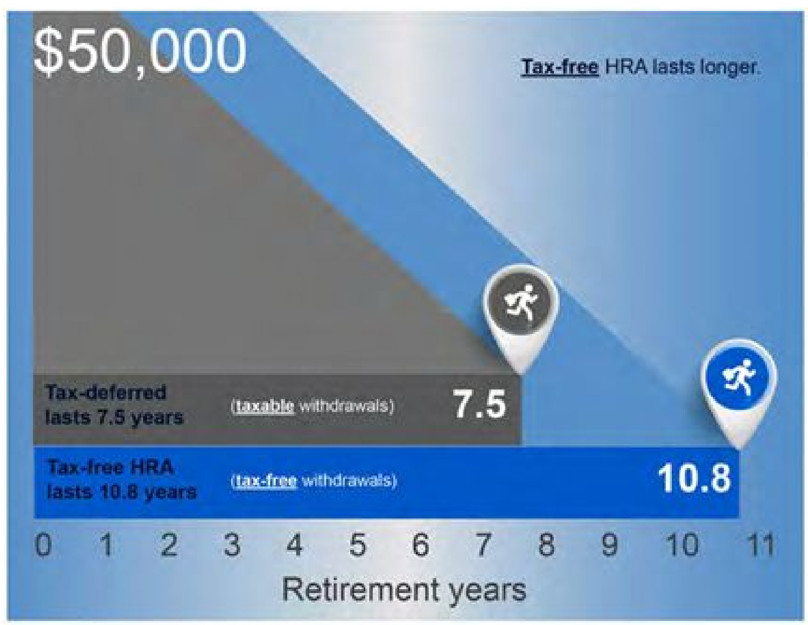
HEALTHCARE CONTINUED FROM PAGE 5

sources. Often, employers and unions simply agree to redirect funds that would otherwise be paid to employees as taxable wages (unused leave (PTO) cash outs, per-hour or per-pay period contributions, COLAs, pay raises, mandatory employee contributions (similar to a contributory retirement plan), etc.).

The tax advantages for employers and employees are win-win. Contributions, investment earnings, and withdrawals (claims) for qualified medical care expenses and premiums are completely tax-free—not tax-deferred. This results in greater purchasing power and longevity compared to tax-deferred accounts.

For example, let's say two individuals retire today. One has $50,000 in a tax-deferred 401(k) or 457 account. The other has $50,000 in a tax-free HRA. They each need $500 per month to help with healthcare expenses. The tax-free HRA outlasts the tax-deferred account by more than three years!

Exhibit 1



HRA Advantages

Funded HRAs typically cover the participant's spouse and dependents, even if the participant passes away. They also offer several important advantages compared to FSAs and HSAs.

- No high-deductible health plan (HDHP) coverage requirements like HSAs
- No annual use-it-or-lose-it or annual carryover limits like FSAs
- No IRS contribution limits like HSAs and FSAs
- Participant-directed investments, similar to 403(b) 457, or 401(k) plans

CONTINUED ON PAGE 13

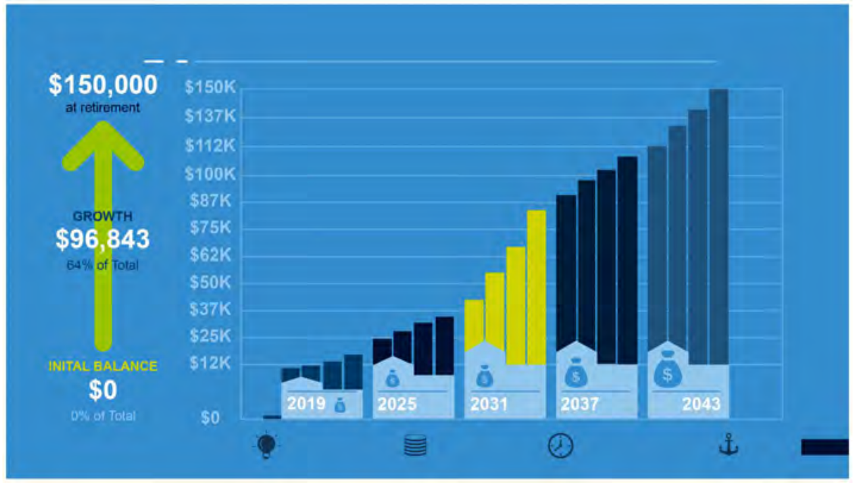
HEALTHCARE CONTINUED FROM PAGE 12

HRA Funding Works

Can employees really save enough to make a significant impact to their retirement healthcare savings? Yes, they can! Look at this typical example.

John Dixon is a 35-year-old employee. His employer begins contributing $150 per month to an HRA ($75 from the employer, plus a $75 mandatory employee contribution from John's pay check). John invests these funds and saves them up until he retires at age 65. Assuming his HRA investments earned 6%, John now has over $150,000 in his HRA. In addition, John's employer will cash out 50% of his unused vacation leave and add it to his HRA. John's HRA will help him cover his healthcare expenses and premiums for many years into retirement—completely tax-free!

Exhibit 2



To sum things up, retirement health care is expensive, and it will eat up a significant portion of a retiree's budget. It's time to start saving for these costs in a smarter, more effective way. ◆

PERSist Quiz | Healthcare

If a tax-free HRA and tax-deferred investment account both held $50,000 and were being used to pay the same post-employment monthly medical premium, approximately how much longer would the HRA last?

❍ **A.** No difference ❍ **B.** 1 year ❍ **C.** 2 years ❍ **D.** 3 years

Answer: D

INVESTMENT CONSULTANT CONTINUED FROM PAGE 6

of market environments. As shown in Figure 2[3], the FYE 2019 average asset allocation is expected to have better risk/reward characteristics relative to the FYE 2007 average asset allocation. Diversification[4] serves to smooth returns in both up and down markets and is most beneficial over full market cycles.

Figure 2

Trust the Process and Capitalize on Competitive Advantages

Looking ahead, focusing on competitive advantages can supplement a plan's strategic framework to ensure preparedness for the future. Not all public pension plans will enjoy every advantage, but most will embrace at least a few of the following:

- Strong governance structure
- Deep investment expertise
- Board or committee expertise
- Fund size
- Longer time horizons

Although asset allocation strategies are better positioned today, public pension plans continue to cope with significant risks, many of which are heightened in today's environment. The strategic process followed by many public pension plans is rigorous and statistics over the past decade show that the average asset allocation has evolved to a more diversified portfolio. This diversification positions plans better today than they were prior to the global financial crisis, validating our guidance to trust the process. ◆

1 Source: Public Plans Data (publicplansdata.org) as of July 2020.

2 MSCI All Country World IMI Index

3 Expected returns are using Aon Q2 2020 30 Year Capital Market Assumptions (CMAs) as of 6/30/2020, which are projections about the future returns of asset classes. For asset classes that can be implemented passively, which includes most public assets, alpha and active management fees are not included in the return expectations. For asset classes that can only be implemented actively, such as hedge funds and private assets, we assume alpha and higher active manager fees. Expected returns are geometric (long-term compounded). Expected returns presented are models and do not represent the returns of an actual client account. Actual returns will be reduced by fees and other expenses. Not a guarantee of future results. Please see the link to our latest CMAs for disclosure pages.

4 Diversification does not ensure a profit, nor does it protect against loss of principal. Diversification among investment options and asset classes may help to reduce overall volatility.

Katie Comstock *is an Associate Partner within Aon Investments. She has served within Aon's advisory practice for over 10-years. Her primary focus has been within the public pension space and currently consults to five public fund clients with assets ranging from $9 billion to $170 billion in assets under management. Katie provides consultant services related to asset-liability studies, asset allocation reviews, risk budgeting, investment policy, benchmarking, manager structure and selection and performance reporting. In addition to client responsibilities, Katie has contributed to the firm's research and is a leading member of the Public Fund Interest Group, a subset of consultants who specialize in issues facing public pension funds. Katie holds a B.B.A. in finance and a B.S. in psychology from Emory University—Goizueta Business School.*

PERSist Quiz | Investment Consultant

Select the answer that appropriately fills in the blanks:

The most notable change in the average public plan's asset allocation over the past decade has been a decrease in _______ in favor of _______, which has served to improve diversification and risk/return expectations.

❍ **A.** Fixed Income / Public Equity

❍ **B.** Public Equity / Diversifying Asset Classes

❍ **C.** Diversifying Asset Classes / Public Equity

Answer: B

Calendar of Events 2021

February

Webinar: NCPERS 2020 Public Retirement System Study
February 16, 2021
Zoom

March

NCPERS Accredited Fiduciary Program (NAF): Modules 1&2
March 2 – 5, 2021
Virtual

NCPERS Accredited Fiduciary Program (NAF): Modules 3&4
March 9 -12, 2021
Virtual

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