MINUTES SUMMARY
Board Meeting
Thursday, August 12, 2021

The regular and supplemental meetings of the Dallas Police and Fire Pension System Board of Trustees were held at 8:30 a.m. on Thursday, August 12, 2021, via telephone conference.

REGULAR POLICE AND FIRE PENSION SYSTEM BOARD MEETING

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

A. MOMENT OF SILENCE

The Board observed a moment of silence in memory of members and pensioners who recently passed away.

B. CONSENT AGENDA

Approved by the Board, subject to the final review of the staff.

C. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

1. The Board directed Segal to use its recommended assumptions in preparing the January 1, 2021 Actuarial Valuation for the Regular Plan (Combined Plan) and approved a reduction of the assumed rate of return to 6.5%.

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

3. Approved the proposed revised Investment Policy Statement.

4. Staff provided an overview of the infrastructure asset class.

5. The Executive Director reviewed the Monthly Contribution Report.

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

7. The Chief Financial Officer presented the second quarter 2021 financial statements.

8. The Chief Financial Officer presented a review of the 2021 Operating Expense Budget detailing expenses for the first six months of the calendar year.

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

10. The Board postponed consideration of the Hardship request.

11. The Board and staff discussed legal issues.

D. BRIEFING ITEMS

1. 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.

2. The Executive Director's report was presented.

The regular Board meeting was adjourned at 10:25 a.m.

MINUTE SUMMARY
Board Meeting
Thursday, August 12, 2021

SUPPLEMENTAL POLICE AND FIRE PENSION BOARD MEETING

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

The meeting was reconvened at 10:25 a.m.

A. CONSENT AGENDA

Approved, subject to the final review of the staff.

B. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

1. The Board directed Segal to use its recommended assumptions in preparing the January 1, 2021 Actuarial Valuation for the Regular Plan (Combined Plan) and approved a reduction of the assumed rate of return to 6.5%.

2. The Chief Financial Officer presented the second quarter 2021 financial statements.

3. The Chief Financial Officer presented a review of the 2021 Operating Expense Budget detailing expenses for the first six months of the calendar year.

The meeting was adjourned at 10:27 a.m.

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Dallas Police and Fire Pension System
Thursday, August 12, 2021
8:30 a.m.
Via telephone conference

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

ROLL CALL

Board Members

Present at 8:33 a.m.	Nicholas A. Merrick, Armando Garza, Michael Brown, Robert B. French, Gilbert A. Garcia, Kenneth Haben, Tina Hernandez Patterson, Steve Idoux, Mark Malveaux
Absent:	William F. Quinn
Staff	Kelly Gottschalk, Josh Mond, Ryan Wagner, Brenda Barnes, John Holt, Damion Hervey, Cynthia Thomas, Greg Irlbeck, Milissa Romero
Others	None

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

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A. MOMENT OF SILENCE

The Board observed a moment of silence in memory of retired police officers Arlyn J. Brown, Jerry Langbein, James W. Heard, and retired firefighters M. D. Biggerstaff, Samuel H. Atchison, Brad L. Allen, S. C. Gleghorn, Paul E. Overton, Randal P. Luper.

No motion was made.

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B. CONSENT AGENDA

1. Approval of Minutes

Regular meeting of July 15, 2021

B. CONSENT AGENDA (continued)

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

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

4. **Approval of Estate Settlements**

5. **Approval of Survivor Benefits**

6. **Approval of Service Retirements**

7. **Approval of Alternate Payee Benefits**

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

9. **Approval of Payment of QDRO Buyback Contributions**

After discussion, Mr. Garza made a motion to approve the minutes of the meeting of July 15, 2021. Mr. Haben seconded the motion, which was unanimously approved by the Board.

After discussion, Mr. Garza made a motion to approve the remaining items on the Consent Agenda, subject to the final approval of the staff. Ms. Hernandez Patterson 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. **January 1, 2021 Actuarial Valuation Assumptions**

   At the June 2021 Board meeting Jeff Williams from Segal, discussed the assumptions for the January 2021 valuations and recommended no changes from the Assumptions used in the prior actuarial valuation except for possible consideration of lowering the 7% assumed rate of return. At the July 2021 Board Meeting the rate of return assumption was discussed and the Board requested that Segal prepare an impact study of various return assumptions based on estimated January 1, 2021 net asset values.

1. January 1, 2021 Actuarial Valuation Assumptions (continued)

The Executive Director reviewed with the Board Segal's impact study of lowering the assumed rate of return from the current 7% assumed rate of return to 6.75% and 6.5%.

After discussion, Mr. Garcia made a motion to direct Segal to use its recommended assumptions in preparing the January 1, 2021 Actuarial Valuation for the Regular Plan (Combined Plan) and the Supplemental Plan and approved a reduction of the assumed rate of return to 6.5%. Mr. Garza seconded the motion, which was unanimously approved by the Board.

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2. 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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3. Investment Policy Statement

Investment staff reviewed a summary of amendments to the Investment Policy Statement (IPS) reflecting the new long-term asset allocation and its implementation approved at the July 2021 Board meeting.

After discussion, Mr. Garcia made a motion to approve the proposed revised Investment Policy Statement. Mr. Haben seconded the motion, which was unanimously approved by the Board.

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4. Infrastructure Portfolio Review

Staff provided an overview of the three funds which comprise the infrastructure asset class: the Global Maritime Investment Fund managed by JPMorgan Asset Management, and the Asian Infrastructure and Related Resources Opportunity funds I and II, both managed by The Rohatyn Group.

No motion was made.

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5. Monthly Contribution Report

The Executive Director reviewed the Monthly Contribution Report.

No motion was made.

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6. Board approval of Trustee education and travel

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

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

No motion was made.

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7. Quarterly Financial Reports

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

No motion was made.

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8. 2021 Mid-Year Budget Review

The Chief Financial Officer presented a review of the 2021 Operating Expense Budget detailing expenses for the first six months of the calendar year.

No motion was made.

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9. Financial Audit Status

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

No motion was made,

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10. Hardship Request

The consideration of the Hardship request was postponed.

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11. 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 9:59 a.m.

The meeting was reopened at 10:25 a.m.

No motion was made.

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D. BRIEFING ITEMS

1. Public Comments

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

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2. Executive Director's report

a. Associations' newsletters
- NCPERS Monitor (August 2021)
- NCPERS PERSist (Summer 2021)
- TEXPERS Pension Observer (Vol. 3, 2021)
http://online.anyflip.com/mxfu/jofm/mobile/index.html

b. Open Records
c. Office Reopening Status
d. CIO Recruitment

The Executive Director's report was presented.

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Ms. Gottschalk stated that there was no further business to come before the Board. On a motion by Mr. Garza and a second by Mr. Garcia, the meeting was adjourned at 10:25 a.m.

/s/ Nicholas A. Merrick

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Nicholas A. Merrick
Chairman

ATTEST:

/s/ Kelly Gottschalk

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Kelly Gottschalk
Secretary

AGENDA

Date: August 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, August 12, 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/88237235435?pwd=ZmN5OUhJN1JXNXB0VWxDVy9sd3FBZz09 Passcode: 210109.** 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 July 15, 2021

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

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

4. **Approval of Estate Settlements**

5. **Approval of Survivor Benefits**

6. **Approval of Service Retirements**

7. **Approval of Alternate Payee Benefits**

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

9. **Approval of Payment of QDRO Buyback Contributions**

C. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

1. **January 1, 2021 Actuarial Valuation Assumptions**

2. **Portfolio Update**

3. **Investment Policy Statement**

4. **Infrastructure Portfolio Review**

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. **Quarterly Financial Reports**

8. **2021 Mid-Year Budget Review**

9. **Financial Audit Status**

10. **Hardship Request**

    Portions of the discussion under this topic may be closed to the public under the terms of Section 551.078 of the Texas Government Code.

11. **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 (August 2021)
- NCPERS PERSist (Summer 2021)
- TEXPERS Pension Observer (Vol. 3, 2021)

http://online.anyflip.com/mxfu/jofm/mobile/index.html

b. Open Records

c. Office Reopening Status

d. CIO Recruitment

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

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

DALLAS POLICE & FIRE PENSION SYSTEM

MOMENT OF SILENCE

In memory of our Members and Pensioners who recently passed away

NAME	ACTIVE/ RETIRED	DEPARTMENT	DATE OF DEATH
Arlyn J. Brown	Retired	Police	Jun. 23, 2021
Jerry Langbein	Retired	Police	Jun. 29, 2021
M. D. Biggerstaff	Retired	Fire	Jul. 6, 2021
James W. Heard	Retired	Police	Jul. 8, 2021
Samuel H. Atchison	Retired	Fire	Jul. 9, 2021
Brad L. Allen	Retired	Fire	Jul. 11, 2021
S. C. Gleghorn	Retired	Fire	Jul. 21, 2021
Paul E. Overton	Retired	Fire	Jul. 21, 2021
Randal P. Luper	Retired	Fire	Jul. 23, 2021

Regular Board Meeting –Thursday, August 12, 2021

Dallas Police and Fire Pension System
Thursday, July 15, 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, Gilbert A. Garcia, Kenneth Haben, Tina Hernandez Patterson, Mark Malveaux
Absent:	Robert B. French, Steve Idoux
Staff	Kelly Gottschalk, Josh Mond, Ryan Wagner, John Holt, Damion Hervey, Cynthia Thomas, Greg Irlbeck, Michael Yan, Carol Huffman
Others	Leandro Festino, Aaron Lally, Caitlin Grice

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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 officers Carolyn J. Hovey, Howard E. Johnson, Richard Mattingly, William F. Gentry, and retired firefighters Joseph J. Kay, R. F. Massingill, Donald D. Barree, Raymond L. Jones

No motion was made.

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B. CONSENT AGENDA

1. Approval of Minutes

Regular meeting of June 10, 2021

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

Regular Board Meeting
Thursday, July 15, 2021

B. CONSENT AGENDA (continued)

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

4. **Approval of Estate Settlements**

5. **Approval of Survivor Benefits**

6. **Approval of Service Retirements**

7. **Approval of Payment of DROP Revocation Contributions**

After discussion, Mr. Garza made a motion to approve the minutes of the meeting of June 10, 2021. Mr. Haben seconded the motion, which was unanimously approved by the Board.

After discussion, Mr. Garza made a motion to approve the remaining items on the Consent Agenda, subject to the final approval of the staff. Mr. Haben 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. **Chairman's Discussion Items**

Funding Committee Update

The Chairman briefed the Board on the Funding Committee.

No motion was made.

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2. **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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Regular Board Meeting
Thursday, July 15, 2021

3. Asset Allocation

Leandro Festino, Managing Principal of Meketa Investment Group and DPFP investment staff discussed asset allocation feedback from the June 2021 Board meeting, presented updated asset allocation mixes and reviewed implementation considerations. The Board expressed its approval of Mix D and staff and Meketa were supportive of this option. Mix D increases the Global Equity target to 55%, reduces the Safety Reserve target to 18 months of net benefit payments (currently 9% of total assets), reduces the Emerging Markets Equity target to 5% and eliminates the 4% target to Global Bonds.

Staff reviewed the implementation plan that would reduce the Safety Reserve to the new 9% target by the end of 2021. The reduction from the Safety Reserve and private market distributions would be reallocated equally into Global Equity, Emerging Markets Equity and Emerging Markets Debt, until Emerging Markets Equity and Emerging Markets Debt reach their target allocation.

After discussion, Mr. Quinn made a motion to approve Mix D for the long-term asset allocation and direct staff to bring amendments to the Investment Policy Statement reflecting the updated asset allocation back to the Board for its review at the August Board meeting. Mr. Garcia seconded the motion, which was unanimously approved by the Board.

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4. January 1, 2021 Actuarial Valuation Assumptions

DPFP staff reviewed the appropriateness of the current 7% discount rate/assumed rate of return given changing market factors and the asset allocation considerations and provided the Segal analysis from the June 2021 Board Meeting. Caitlin Grice, Consulting Actuary of Segal Consulting answered questions regarding the assumed rate of return. The Board directed that the item be brought back at the August Board meeting.

No motion was made.

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5. Report on the Investment Advisory Committee

The Investment Advisory Committee met on June 24 and June 30, 2021. The Investment Advisory Committee Chair and the Interim Chief Investment Officer commented on Committee observations and advice.

No motion was made.

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Regular Board Meeting
Thursday, July 15, 2021

6. US Small Cap Equity Manager Recommendation

Leandro Festino, Managing Principal of Meketa Investment Group and staff discussed the search process and the recommendation for a US Small Cap Core equity manager. The Investment Advisory Committee provided advice regarding the search and interviewed two finalists.

After discussion, Mr. Garcia made a motion to hire Moody Aldrich-Eastern Shore as a US Small Cap Equity Manager. Ms. Hernandez Patterson seconded the motion, which was unanimously approved by the Board.

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7. Private Asset Cash Flow Projection Update

Staff provided the quarterly update on the private asset cash flow projection model. The cash flow model projects estimated contributions to, and distributions from, private assets through the end of 2023. These estimates are intended to assist the Board in evaluating the expected time frame to reduce DPFP's exposure to these assets and the implications for the public asset redeployment, overall asset allocation, and expected portfolio risk and return.

No motion was made.

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8. Financial Audit Status

The Executive Director provided a status update on the annual financial audit.

No motion was made.

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9. Monthly Contribution Report

The Executive Director reviewed the Monthly Contribution Report.

No motion was made.

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Regular Board Meeting
Thursday, July 15, 2021

10. Board approval of Trustee education and travel

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

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

No motion was made.

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11. Board Chairman, Vice Chairman and Deputy Vice Chairman Election

Section 3.01(g) of Article 6243a-1 requires the Board in June of every odd year to elect from among its trustees a chairman, vice chairman, and a deputy vice chairman, each to serve for two-year terms. At the June 2021 Board meeting, the Board reelected the current officers but directed that this item be brought back at the July meeting.

After discussion, Mr. Haben made a motion to elect Nicholas A. Merrick, as Chairman; William F. Quinn, as Vice Chairman; and Armando Garza, as Deputy Vice Chairman. Ms. Hernandez Patterson seconded the motion, which was unanimously approved by the Board.

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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 10:21 a.m.

The meeting was reopened at 10:44 a.m.

No motion was made.

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Regular Board Meeting
Thursday, July 15, 2021

D. BRIEFING ITEMS

1. Public Comments

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

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2. Executive Director's report

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

b. Open Records
c. Office Update and Reopening Status
d. CIO Recruitment

The Executive Director's report was presented.

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Ms. Gottschalk stated that there was no further business to come before the Board. On a motion by Mr. Garza and a second by Mr. Merrick, the meeting was adjourned at 10:45 a.m.

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William F. Quinn
Chairman

ATTEST:

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Kelly Gottschalk
Secretary

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C1

Topic: **January 1, 2021 Actuarial Valuation Assumptions**

Discussion: An Actuarial Valuation is performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and it is an important part of the annual financial audit. Segal Consulting is preparing the January 1, 2021 Actuarial Valuation for the Regular Plan (Combined Plan) and the Supplemental Plan. Many economic and demographic assumptions are required to prepare the valuation. Pursuant to Article 16, Section 67 (f)(3) of the Texas Constitution, the Board determines the assumptions used in the valuation.

At the June 2021 Board meeting Jeff Williams from Segal, discussed the assumptions for the January 2021 valuations and recommended no changes from the Assumptions used in the prior actuarial valuation except for possible consideration of lowering the 7% assumed rate of return. At the July 2021 Board Meeting the rate of return assumption was discussed and the Board requested that Segal prepare an impact study of various return assumptions based on **estimated** January 1, 2021 net asset values.

Staff Recommendation: **Direct** Segal to use its recommended assumptions in preparing the January 1, 2021 Actuarial Valuation for the Regular Plan (Combined Plan) and the Supplemental Plan and give Segal further direction on the assumed rate of return to be used.

Segal

Jeffrey S. Williams
Vice President and Actuary
T 678.306.3147
jwilliams@segalco.com

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Building One, Suite 1400
Atlanta, GA 30339-4053
segalco.com

Memorandum

To: Board of Trustees - Dallas Police & Fire Pension System

From: Jeffrey S. Williams, Vice President and Actuary

Date: August 10, 2021

Re: Discount Rate Assumption for January 1, 2021 Actuarial Valuation

The charts on the following pages show the impact of 0.25% drops in the discount rate/long-term investment return assumption from 7.00% to 6.50% based on the results of the preliminary January 1, 2021 actuarial valuation. Actual results will differ once the January 1, 2021 actuarial valuation is finalized, but the relative impact of each 0.25% drop in the discount rate should be approximately the same.

Each 0.25% decline in the discount rate represents increases of approximately 6.7% to 6.8% in the total normal cost, 2.7% in the actuarial accrued liability, and 4.4% in the actuarial determined contribution. The funding ratio on the market value of assets decreases approximately 100 basis points and on the actuarial value of assets decreases approximately 112 to 114 basis points for each 0.25% decline in the discount rate.

The funding projections were prepared based on the preliminary January 1, 2021 results and assuming that the number of active participants in the Plan stays level (i.e. new hires continue to replace terminated participants) and that the City makes full contributions each year subject to the City's funding policy.

The actuarial calculations were completed under my supervision. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render this actuarial opinion.

cc: Kelly Gottschalk
Brenda Barnes
Caitlin Grice - Segal

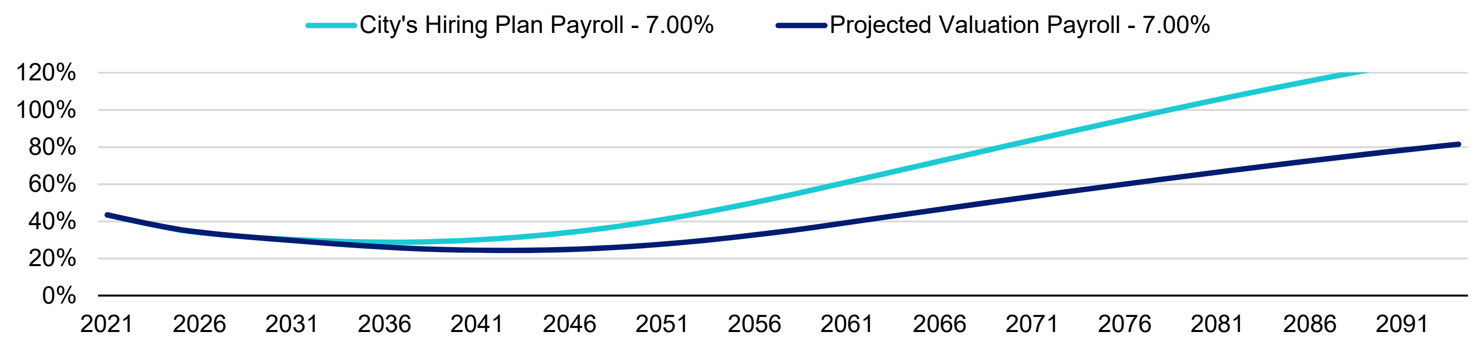
9312490v1/14362.002

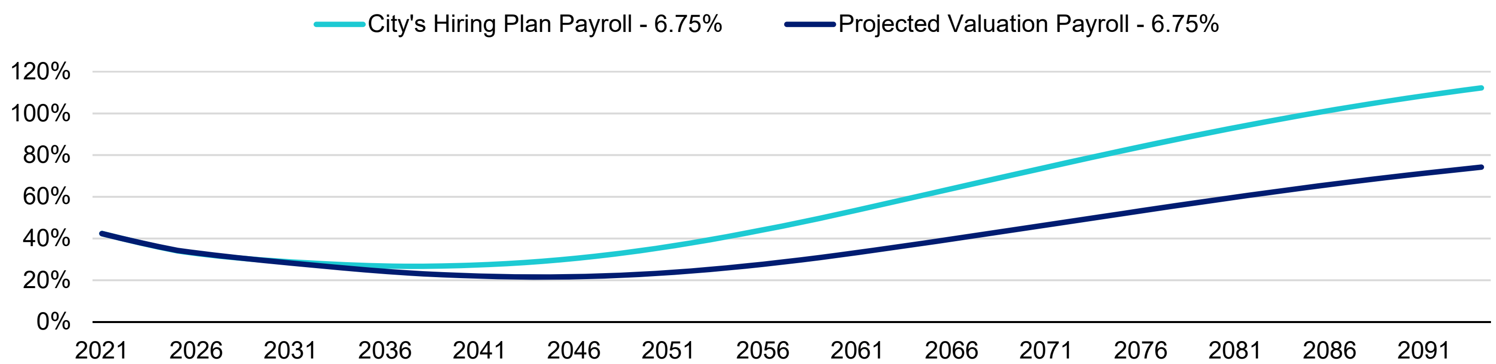
Impact of Discount Rate Change on Total Recommended Contribution (in millions)

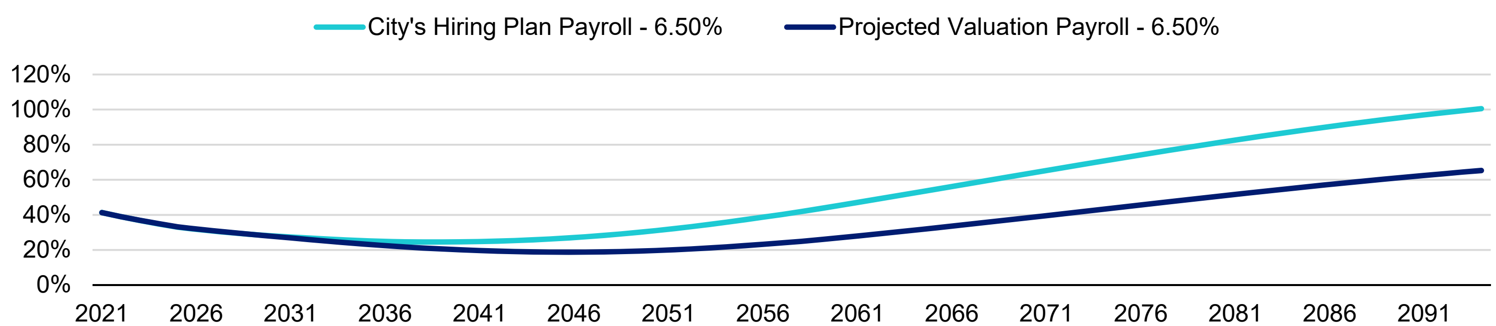
	Description	Preliminary January 1, 2021 Valuation Results	Discount Rate Change to 6.75%	Discount Rate Change to 6.50%
1	Actuarial Accrued Liability (AAL)	$4,857	$4,986	$5,122
2	Actuarial Value of Assets (AVA)	2,114	2,114	2,114
3	Unfunded Actuarial Accrued Liability (UAAL): [(1) – (2)]	$2,743	$2,872	$3,008
4	Employer Normal Cost	16	21	25
5	Payment on UAAL	179	184	188
6	**Total Recommended Contribution, Adjusted for Timing: [(4) + (5) + Interest]**	**$202**	**$211**	**$220**
7	Recommended Contribution as a % of Projected Payroll	47.31%	49.37%	51.52%
8	Projected Payroll	$427	$427	$427
9	**Funded Ratio – AVA Basis**	**43.53%**	**42.39%**	**41.27%**
10	**Funded Ratio – MVA Basis**	**38.60%**	**37.59%**	**36.60%**
11	**Estimated Full Funding Year**	**2079**	**2086**	**2094**

- For each scenario, all assumptions, plan provisions, and modeling methods used are the same as those used in the January 1, 2020 valuation, other than the discount rates as noted
- Participant data as of January 1, 2021 was used
- A preliminary January 1, 2021 market value of assets of $1.875 billion was used

Funded Level Projections







Projected Funded Level Percentages -Based on Hiring Plan Payroll Projections

January1,	7.00%	6.75%	6.50%	January1,	7.00%	6.75%	6.50%	January1,	7.00%	6.75%	6.50%
2021	44%	42%	41%	2046	34%	30%	27%	2071	84%	74%	65%
2022	41%	40%	39%	2047	35%	31%	28%	2072	86%	76%	67%
2023	39%	38%	37%	2048	36%	32%	29%	2073	88%	78%	69%
2024	37%	36%	35%	2049	38%	34%	30%	2074	91%	80%	71%
2025	35%	34%	33%	2050	39%	35%	31%	2075	93%	82%	73%
2026	34%	33%	32%	2051	41%	36%	32%	2076	95%	84%	74%
2027	33%	32%	31%	2052	43%	38%	33%	2077	97%	86%	76%
2028	32%	31%	30%	2053	44%	39%	34%	2078	99%	88%	78%
2029	31%	30%	29%	2054	46%	41%	36%	2079	101%	90%	79%
2030	31%	29%	28%	2055	48%	42%	37%	2080	103%	91%	81%
2031	30%	29%	27%	2056	50%	44%	39%	2081	106%	93%	83%
2032	30%	28%	27%	2057	52%	46%	40%	2082	108%	95%	84%
2033	29%	28%	26%	2058	54%	48%	42%	2083	110%	97%	86%
2034	29%	27%	26%	2059	57%	50%	44%	2084	112%	98%	87%
2035	29%	27%	25%	2060	59%	52%	45%	2085	114%	100%	89%
2036	29%	27%	25%	2061	61%	54%	47%	2086	116%	101%	90%
2037	29%	27%	25%	2062	63%	56%	49%	2087	118%	103%	92%
2038	29%	27%	25%	2063	66%	58%	51%	2088	120%	104%	93%
2039	29%	27%	25%	2064	68%	60%	52%	2089	121%	106%	94%
2040	30%	27%	25%	2065	70%	62%	54%	2090	123%	107%	96%
2041	30%	27%	25%	2066	73%	64%	56%	2091	125%	108%	97%
2042	31%	28%	25%	2067	75%	66%	58%	2092	127%	110%	98%
2043	31%	28%	25%	2068	77%	68%	60%	2093	128%	111%	99%
2044	32%	29%	26%	2069	79%	70%	62%	2094	130%	112%	101%
2045	33%	30%	26%	2070	82%	72%	64%				

Segal

Actuarial Statement

The estimates included in this document were performed under the supervision of Jeffrey S. Williams, FCA, ASA, MAAA, EA, who meets the qualification standards by the American Academy of Actuaries to issue Statements of Actuarial Opinion.

The document was prepared at the request of the Dallas Police and Fire Pension System. This document is not complete without verbal commentary from Segal. It should not be shared, copied or quoted, in whole or in part, without the consent of Segal, except to the extent required by law.

Projections of funding levels included in this document are based on preliminary assets and liabilities as of December 31, 2020. All assumptions, plan provisions, and methods used are the same as those used in the January 1, 2020 valuation, other than the discount rates as noted. Final assets and liabilities will be used in the January 1, 2021 actuarial valuation. The cost estimates of potential discount rate changes included in this document are estimates intended to illustrate orders of magnitude.

Projections, by their nature, are not a guarantee of future results. These projections are intended to serve as estimates of future outcomes, based on the information available to us at the time the modeling is undertaken and completed. Actual experience may differ due to such factors as demographic experience, the economy, stock market performance, future assumption changes, and the regulatory environment. Trustees making decisions about changes in assumptions, benefits and contributions need to consider many factors in addition to the current year’s results, such as the risk of changes in employment levels and investment losses.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C2

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, August 12, 2021

Portfolio Update

August 12, 2021

Executive Summary

- Liquidation of private market assets remains the top focus.
  - Received $77 million in distributions year to date.
  - Two sizable real estate investments under contract, with closing expected in August, with expected proceeds of ~$48M.
- Board approved updated long-term Asset Allocation in July. Updated Investment Policy Statement (IPS) reflecting the new Asset Allocation to be reviewed at August Board meeting.
- Rebalancing Activity:
  - Regular monthly withdrawals of $16M initiated from Safety Reserve (IR+M) to implement 6% reduction by year-end.
  - $10M each funded to Global Equity (NT Passive), EM Equity (RBC) and EM Debt (Ashmore) at the end of July, consistent with the implementation plan.
- Staff and Meketa have launched International Ex-US Small Cap search process.
- Eastern Shore (US Small Cap) contracting complete and will fund initial amount shortly.

Public Markets Performance Snapshot - Estimates

Public Markets (ex-Cash) currently make up 66% of DPFP Investment Portfolio.

Net of fees	Index	Jul-21 Manager	Jul-21 Index	Jul-21 Excess	YTD as of 7/31/21 Manager	YTD as of 7/31/21 Index	YTD as of 7/31/21 Excess
Total Public Portfolio (ex-Cash)	**60% MSCI ACWI IMI / 40% BBG Global AGG**	**0.7%**	**0.8%**	**-0.2%**	**8.4%**	**6.9%**	**1.5%**
Global Equity	**MSCI ACWI IMI**	**1.6%**	**0.5%**	**1.1%**	**14.8%**	**13.2%**	**1.6%**
Boston Partners	MSCI World	-0.6%	1.8%	-2.4%	18.2%	15.0%	3.1%
Boston Partners vs. value index	MSCI World Value	-0.6%	0.6%	-1.2%	18.2%	15.4%	2.8%
Manulife	MSCI ACWI	1.5%	0.7%	0.8%	15.7%	13.1%	2.6%
Invesco (OFI)	MSCI ACWI	2.6%	0.7%	1.9%	14.1%	13.1%	1.0%
Walter Scott	MSCI ACWI	4.3%	0.7%	3.6%	13.3%	13.1%	0.2%
Northern Trust MSCI ACWI IMI	MSCI ACWI IMI	0.5%	0.5%	0.0%	10.3%	10.2%	0.1%
EM Equity - RBC	**MSCI EM IMI**	**-5.4%**	**-6.0%**	**0.6%**	**-2.1%**	**2.3%**	**-4.4%**
Public Fixed Income (ex-Cash)	**BBG Multiverse TR**	**0.1%**	**1.3%**	**-1.1%**	**0.8%**	**-1.7%**	**2.5%**
S/T IG Bonds - IR+M	BBG 1-3YR AGG	0.2%	0.2%	0.1%	0.5%	0.1%	0.3%
IG Bonds - Longfellow	BBG US AGG	1.0%	1.1%	-0.1%	0.2%	-0.5%	0.8%
Bank Loans - Pacific Asset Mmgt	CS Leveraged Loan	0.1%	0.0%	0.1%	3.1%	3.5%	-0.3%
High Yield - Loomis Sayles	BBG USHY 2% Cap	0.1%	0.4%	-0.3%	2.9%	4.1%	-1.1%
EM Debt - Ashmore	50% JPM EMBI / 25% ELMI / 25% GBI-EM	-2.2%	-2.2%	0.0%	-3.5%	-3.5%	0.0%

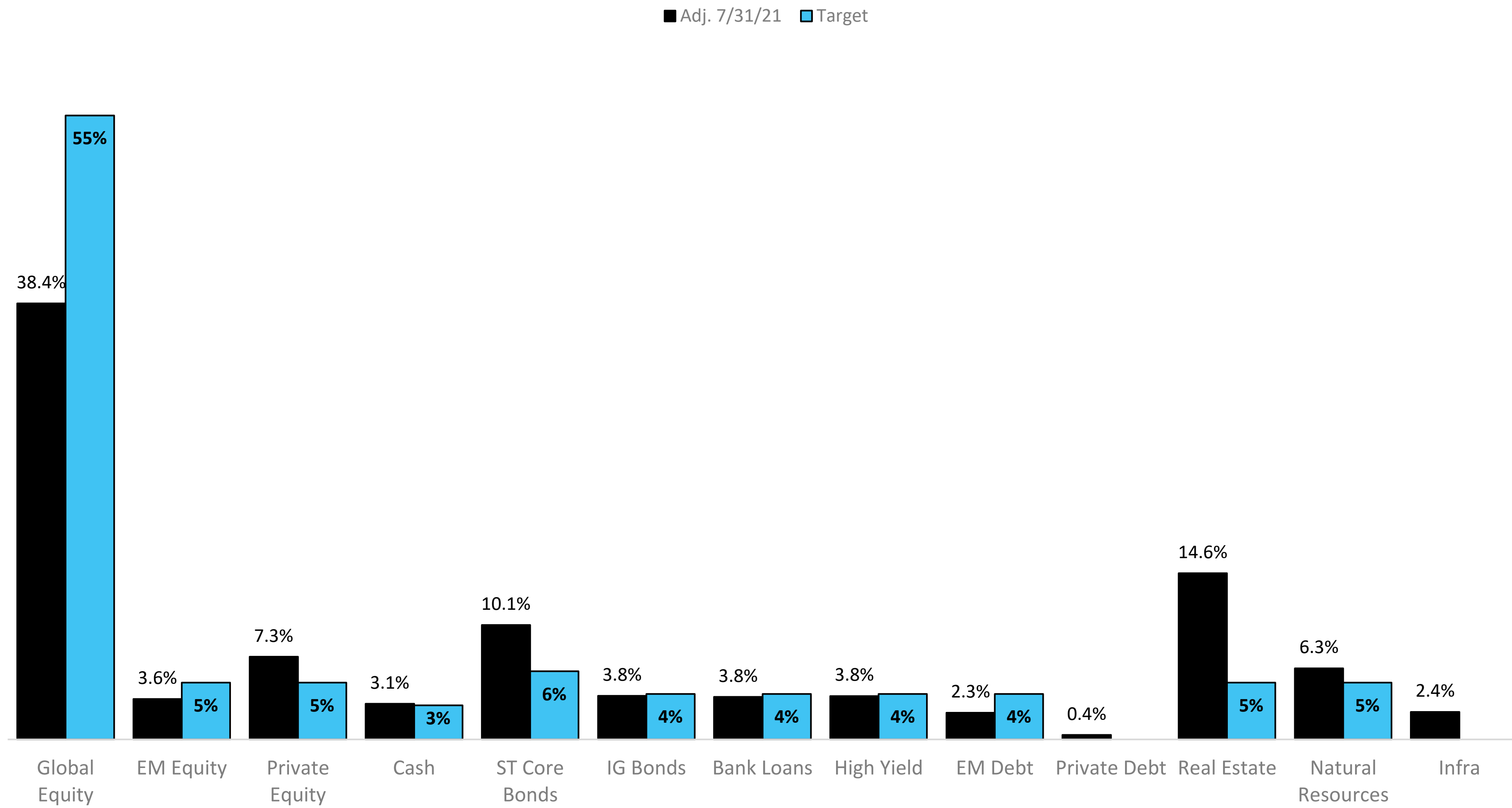
Source: JPM Morgan custody data, manager reports, Investment Staff estimates and calculations. Numbers may not foot due to rounding.

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

DALLAS POLICE & FIRE PENSION SYSTEM

Adjusted Asset Allocation – Actual vs Target

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



Adjusted Asset Allocation & Global Equity Detail

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	7/31/2021 NAV	Adjustments $ mil.	Adjustments % of NAV	Adj. NAV 7/16/2021 $ mil.	Adj. NAV 7/16/2021 %	Target $ mil.	Target %	Variance $ mil.	Variance %
Equity	**1,032**	**-46**	**-4.4%**	**987**	**49.3%**	**1,301**	**65%**	**-315**	**-15.7%**
Global Equity	770	0	0.0%	770	38.4%	1,101	55%	-332	-16.6%
Boston Partners	*142*	*0*	*0.0%*	*142*	*7.1%*	*160*	*8%*	*-18*	*-0.9%*
Manulife	*147*	*0*	*0.0%*	*147*	*7.3%*	*160*	*8%*	*-14*	*-0.7%*
Invesco (OFI)	*135*	*0*	*0.0%*	*135*	*6.7%*	*160*	*8%*	*-25*	*-1.3%*
Walter Scott	*146*	*0*	*0.0%*	*146*	*7.3%*	*160*	*8%*	*-14*	*-0.7%*
Northern Trust ACWI IMI Index	*199*	*0*	*0.0%*	*199*	*9.9%*	*300*	*15%*	*-101*	*-5.1%*
Eastern Shore US Small Cap	*0*	*0*	*0.0%*	*0*	*0.0%*	*80*	*4%*	*-80*	*-4.0%*
Future International Small Cap Mandate	*0*	*0*	*0.0%*	*0*	*0.0%*	*80*	*4%*	*-80*	*-4.0%*
Russell Transition	*0*	*0*	*0.0%*	*0*	*0.0%*	*0*	*0%*	*0*	*0.0%*
Emerging Markets Equity	71	0	0.0%	71	3.6%	100	5%	-29	-1.4%
Private Equity*	191	-46	-23.8%	146	7.3%	100	5%	46	2.3%
Fixed Income	**548**	**0**	**0.0%**	**548**	**27.4%**	**501**	**25%**	**48**	**2.4%**
Cash	63	0	0.0%	63	3.1%	60	3%	3	0.1%
ST Investment Grade Bonds	202	0	0.0%	202	10.1%	120	6%	82	4.1%
Investment Grade Bonds	77	0	0.0%	77	3.8%	80	4%	-3	-0.2%
Bank Loans	75	0	0.0%	75	3.8%	80	4%	-5	-0.2%
High Yield Bonds	77	0	0.0%	77	3.8%	80	4%	-3	-0.2%
Emerging Markets Debt	47	0	0.0%	47	2.3%	80	4%	-33	-1.7%
Private Debt*	8	0	0.0%	8	0.4%	0	0%	8	0.4%
Real Assets*	**467**	**0**	**0.0%**	**467**	**23.3%**	**200**	**10%**	**267**	**13.3%**
Real Estate*	293	0	0.0%	293	14.6%	100	5%	193	9.6%
Natural Resources*	125	0	0.0%	125	6.3%	100	5%	25	1.3%
Infrastructure*	49	0	0.0%	49	2.4%	0	0%	49	2.4%
Total	**2,048**	**-46**	**-2.2%**	**2,002**	**100.0%**	**2,002**	**100%**	**0**	**0.0%**
Safety Reserve ~$162M=18 mo net CF	265	0	0.0%	265	13.2%	180	9%	85	4.2%
*Private Mkt. Assets w/NAV Discount	667	-46	-6.8%	621	31.0%	300	15%	321	16.0%

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

Individual target percentages for Global Equity managers are expected targets based on increase in allocation to 55%. Will be reviewed by Board in September.

Numbers may not foot due to rounding

DALLAS POLICE & FIRE PENSION SYSTEM

Asset Class Returns – JPM Guide to the Markets

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	YTD	2006 - 2020 Ann.	2006 - 2020 Vol.
REITs 35.1%	EM Equity 39.8%	Fixed Income 5.2%	EM Equity 79.0%	REITs 27.9%	REITs 8.3%	REITs 19.7%	Small Cap 38.8%	REITs 28.0%	REITs 2.8%	Small Cap 21.3%	EM Equity 37.8%	Cash 1.8%	Large Cap 31.5%	Small Cap 20.0%	REITs 26.6%	Large Cap 9.9%	EM Equity 23.3%
EM Equity 32.6%	Comdty. 16.2%	Cash 1.8%	High Yield 59.4%	Small Cap 26.9%	Fixed Income 7.8%	High Yield 19.6%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	High Yield 14.3%	DM Equity 25.6%	Fixed Income 0.0%	REITs 28.7%	EM Equity 18.7%	Comdty. 23.4%	Small Cap 8.9%	REITs 23.1%
DM Equity 26.9%	DM Equity 11.6%	Asset Alloc. -25.4%	DM Equity 32.5%	EM Equity 19.2%	High Yield 3.1%	EM Equity 18.6%	DM Equity 23.3%	Fixed Income 6.0%	Fixed Income 0.5%	Large Cap 12.0%	Large Cap 21.8%	REITs -4.0%	Small Cap 25.5%	Large Cap 18.4%	Large Cap 18.0%	High Yield 7.5%	Small Cap 22.6%
Small Cap 18.4%	Asset Alloc. 7.1%	High Yield -26.9%	REITs 28.0%	Comdty. 16.8%	Large Cap 2.1%	DM Equity 17.9%	Asset Alloc. 14.9%	Asset Alloc. 5.2%	Cash 0.0%	Comdty. 11.8%	Small Cap 14.6%	High Yield -4.1%	DM Equity 22.7%	Asset Alloc. 10.6%	Small Cap 13.3%	REITs 7.1%	DM Equity 19.1%
Large Cap 15.8%	Fixed Income 7.0%	Small Cap -33.8%	Small Cap 27.2%	Large Cap 15.1%	Cash 0.1%	Small Cap 16.3%	High Yield 7.3%	Small Cap 4.9%	DM Equity -0.4%	EM Equity 11.6%	Asset Alloc. 14.6%	Large Cap -4.4%	Asset Alloc. 19.5%	DM Equity 8.3%	DM Equity 10.0%	EM Equity 6.9%	Comdty. 18.8%
Asset Alloc. 15.[illegible]%	Large Cap 5.5%	Comdty. -35.6%	Large Cap 26.5%	High Yield 14.8%	Asset Alloc. -0.7%	Large Cap 16.0%	REITs 2.9%	Cash 0.0%	Asset Alloc. -2.0%	REITs 8.6%	High Yield 10.4%	Asset Alloc. -5.8%	EM Equity 18.9%	Fixed Income 7.5%	Asset Alloc. 9.8%	Asset Alloc. 6.7%	Large Cap 16.7%
High Yield 13.7%	Cash 4.8%	Large Cap -37.0%	Asset Alloc. 25.0%	Asset Alloc. 13.3%	Small Cap -4.2%	Asset Alloc. 12.2%	Cash 0.0%	High Yield 0.0%	High Yield -2.7%	Asset Alloc. 8.3%	REITs 8.7%	Small Cap -11.0%	High Yield 12.6%	High Yield 7.0%	High Yield 2.2%	DM Equity 5.0%	High Yield 12.2%
Cash 4.8%	High Yield 3.2%	REITs -37.7%	Comdty. 18.9%	DM Equity 8.2%	DM Equity -11.7%	Fixed Income 4.2%	Fixed Income -2.0%	EM Equity -1.8%	Small Cap -4.4%	Fixed Income 2.6%	Fixed Income 3.5%	Comdty. -11.2%	Fixed Income 8.7%	Cash 0.5%	EM Equity 0.4%	Fixed Income 4.5%	Asset Alloc. 11.8%
Fixed Income 4.3%	Small Cap -1.6%	DM Equity -43.1%	Fixed Income 5.9%	Fixed Income 6.5%	Comdty. -13.3%	Cash 0.1%	EM Equity -2.3%	DM Equity -4.5%	EM Equity -14.6%	DM Equity 1.5%	Comdty. 1.7%	DM Equity -13.4%	Comdty. 7.7%	Comdty. -3.1%	Cash 0.0%	Cash 1.2%	Fixed Income 3.2%
Comdty. 2.1%	REITs -15.7%	EM Equity -53.2%	Cash 0.1%	Cash 0.1%	EM Equity -18.2%	Comdty. -1.1%	Comdty. -9.5%	Comdty. -17.0%	Comdty. -24.7%	Cash 0.3%	Cash 0.8%	EM Equity -14.2%	Cash 2.2%	REITs -5.1%	Fixed Income -0.5%	Comdty. -4.0%	Cash 0.8%

Source: Barclays, Bloomberg, FactSet, MSCI, NAREIT, Russell, Standard & Poor's, J.P. Morgan Asset Management.
Large cap: S&P 500, Small cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, Comdty: Bloomberg Commodity Index, High Yield: Bloomberg Barclays Global HY Index, Fixed Income: Bloomberg Barclays US Aggregate, REITs: NAREIT Equity REIT Index, Cash: Bloomberg Barclays 1-3m Treasury. The "Asset Allocation" portfolio assumes the following weights: 25% in the S&P 500, 10% in the Russell 2000, 15% in the MSCI EAFE, 5% in the MSCI EME, 25% in the Bloomberg Barclays US Aggregate, 5% in the Bloomberg Barclays 1-3m Treasury, 5% in the Bloomberg Barclays Global High Yield Index, 5% in the Bloomberg Commodity Index and 5% in the NAREIT Equity REIT Index. Balanced portfolio assumes annual rebalancing. Annualized (Ann.) return and volatility (Vol.) represents period from 12/31/05 to 12/31/20. Please see disclosure page at end for index definitions. All data represents total return for stated period. The "Asset Allocation" portfolio is for illustrative purposes only. Past performance is not indicative of future returns.
Guide to the Markets – U.S. Data are as of July 31, 2021.

Investment Initiatives – 2021 Quarterly Plan

Q3 2021

- Investment Policy Statement Update for Asset Allocation Targets, Ranges and Implementation
- International Small Cap Search & RFP
- Global Equity Structure Review
- EM Equity Structure/Manager Review

Q4 2021

- International Small Cap Manager Recommendation to Board

2021 Board Investment Review Plan*

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

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

*Presentation schedule is subject to change.

DISCUSSION SHEET

ITEM #C3

Topic: **Investment Policy Statement**

Discussion: At the July 2021 Board meeting, the Board approved the new long-term asset allocation and directed staff to bring amendments to the Investment Policy Statement (IPS) reflecting the updated asset allocation and its implementation back to the Board for its review and approval. A summary of changes and a red-lined version of the IPS is attached for reference.

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

DALLAS POLICE & FIRE PENSION SYSTEM

Summary of Investment Policy Statement Changes

August 12, 2021

Summary of Major Changes to IPS

1. Updated Asset Allocation targets and ranges in Appendix B
2. Removed Appendix B1 – Implementation Plan. No longer needed given only asset classes underweight are Global Equity, EM Equity and EM Debt. Staff has discussed pro-rata allocation plan with Board.
3. Added separate section on Safety Reserve and changed references from 30-months to 18-month of projected net cash outflows.
4. <u>Rebalancing:</u>
   1. Added Exec Director approval (this is how DPFP has been operating)
   2. Added provision for notification to the Board if Staff and Meketa have determined there is market stress requiring use of the Safety Reserve for liquidity purposes.
   3. Added clarification that rebalancing actions move an asset class towards target.
5. Asset Class Structures: Added clarification that this only applies to asset classes with multiple managers and is not needed for Private Markets until new investments are being made. Only applies to Global Equity for the near-term.

INVESTMENT POLICY STATEMENT

As Amended Through ~~March 11~~August 12, 2021

INVESTMENT POLICY STATEMENT

Adopted April 14, 2016
As Amended Through ~~March 11~~August 12, 2021

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DALLAS POLICE & FIRE PENSION SYSTEM

INVESTMENT POLICY STATEMENT

Adopted April 14, 2016

As Amended Through ~~March 11~~August 12, 2021

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 (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 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 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

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

B. Objectives

1. Maintain a diversified asset allocation that seeks to maximize the investment return while accepting prudent exposure to key investment risks.
2. Outperform the Policy Benchmark[1] over rolling five-year periods.
3. Control and monitor the costs of administering and managing the investments.

[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.

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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~~18 months 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.

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.

[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)

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. The IAC is composed of up to seven members including one to three current Board members and a majority of outside investment professionals.
    d. IAC members will serve two-year terms.
    e. The Board will appoint members of IAC members by vote.
    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.
    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.
   c. The IAC will advise regarding the search and selection process for investment managers and other matters that the Board may request.
   d. All investment related agenda materials for the Board will be made available to the IAC.
   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 Chair~~man~~ 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 Chair~~man~~ 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;

~~5.~~6. Approves rebalancing recommendations; and

~~6.~~7. Approves Investment Staff recommendations for presentation to the IAC and Board.

~~7.~~8. 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;
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 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]

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

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;
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. <u>Public Separate Account Investment Managers</u>
   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;

F. Investment Managers (continued)

1. Public Separate Account Investment Managers

   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;

   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);

F. Investment Managers (continued)

3. Private Investment Managers

   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.

[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.~~ Rebalancing ranges have been established to accommodate current variances to target and will be tightened over time as appropriate.

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. The Safety Reserve

Commented [RW3]: Pulled Safety Reserve into new section

The allocation to Cash and Short Term Investment Grade Bonds (the "Safety Reserve") is designed to cover approximately 18 months of projected benefit payments (net of contributions.) Based upon the current policy targets approved by the Board, the Safety Reserve target allocation is 9% of the Fund. The purpose of the Safety Reserve is to serve as the primary source of meeting any liquidity needs, particularly during a prolonged period of investment market stress. While the projected net benefit 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.

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~~B.~~C. Asset Class Structure

1. An ~~The~~ asset class structure will be prepared for any asset class with multiple managers. The purpose of the structure review is to establish~~es~~ the investment manager roles and allocations that will be used to implement the asset allocation.

   Commented [RW4]: Added language to clarify that Asset Class structures really only apply to Global Equity in the near-term.

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.

~~4.~~5. Asset class structures for Private Markets will not be conducted until such time that new investments are being made in the asset class.

~~C.~~D. 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.~~

1. It is expected to take multiple years to fully transition from the current exposure to the private markets towards the newly established long-term asset allocation.

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.

~~2.~~ Rebalancing actions must move an asset class towards its target allocation.

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~~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.~~

3. The Safety Reserve will be evaluated based on both the percentage allocation and the total dollars required for 18-months of expected, forward net benefit cash outflows when making rebalancing recommendations.

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4. The Safety Reserve is not required to be rebalanced to target if deemed prudent by Staff and Consultant during periods of market stress.

5. Staff will notify the Board if the determination has been made to draw down the Safety Reserve to meet liquidity needs, rather than rebalancing to target.

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~~4.~~6. Rebalancing recommendations should consider expected future cash flows, investment liquidity, market volatility, and costs.

~~5.~~7. Transition management should be considered to minimize transition costs.

~~6.~~8. Staff is responsible for implementing the rebalancing plan following Consultant and Executive Director approval.

~~7.~~9. Rebalancing recommendations and activity shall be reported to the Board and the IAC.

~~D.~~E. 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.
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.
   c. A description of the organization and key people:
   d. A description of the investment process and philosophy;
   e. A description of historical performance and future expectations;
   f. The risks inherent in the investment and the manager's approach;
   g. The proper time horizon for evaluation of results;
   h. Identification of relevant comparative measures such as benchmarks and/or peer samples; and
   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

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 monitoring;[6]

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

Section 9 Approval and Effective March 11, 2021Date

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
November 12, 2020
March 11, 2021

APPROVED on ~~March 11, 2021~~August 12, 2021 by the Board of Trustees of the Dallas Police and Fire Pension System.

~~William Quinn~~Nicholas Merrick
Chair~~man~~

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.

B. Income Assets (continued)

4. Asset Classes

   ~~a. **Global Bonds** 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.~~a. **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.~~b. **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.~~c. **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.~~d. **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.

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~~65%**		
Global Equity	MSCI ACWI IMI Net	55~~40~~%	~~22~~36%	~~48~~60%
Emerging Markets Equity	MSCI Emerging Markets IMI Net	~~10~~5%	~~2.5~~3%	~~12~~7%
Private Equity	Cambridge Associates U.S. All Private Equity Index 1Q Lag	5%	N/A[2]	N/A[2]
Fixed Income		**~~35~~25%**		
Cash	91 Day T-Bills	3%	0%	~~5~~6%
Short Term Investment Grade Bonds	Bloomberg Barclays 1-3 Year U.S. Aggregate TR	~~12~~6%	~~5~~0%	~~15~~9%
Investment Grade Bonds	Bloomberg Barclays U.S. Aggregate TR	4%	2%	6%
Bank Loans	Credit Suisse Leveraged Loan	4%	2%	6%
High Yield Bonds	Bloomberg Barclays U.S. Corporate High Yield TR	4%	2%	6%
~~Global Bonds~~	~~Bloomberg Barclays Global Aggregate~~	~~4%~~	~~0%~~	~~6%~~
Emerging Markets Debt	50% JPM EMBI/ 50% JPM GBI-EM	4%	2~~0~~%	6%
Private Debt	Barclays U.S. HY TR + 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~~ TR 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.~~ 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.

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~~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, 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 #C4

Topic: **Infrastructure Portfolio Review**

Discussion: Staff will provide an overview of the three funds which comprise the infrastructure asset class: the Global Maritime Investment Fund managed by JPMorgan Asset Management, and the Asian Infrastructure and Related Resources Opportunity funds I and II, both managed by The Rohatyn Group.

DALLAS POLICE & FIRE PENSION SYSTEM

Infrastructure Portfolio Review

August 12, 2021

Infrastructure Portfolio Overview

- The portfolio is in wind-down. The current allocation represents just under 2.5% of plan assets with a long-term target allocation of 0%.
- The remaining portfolio is comprised of investments in funds that have assets in global shipping and various projects in India, including wind power, thermal power, toll roads, and hospitals.
- Staff estimates it may take 3-5 years for the funds to fully liquidate.
- After relatively flat performance during the last half of 2020, the portfolio increased by 9.26% in Q1 2021, led by shipping and thermal power assets as post-COVID normalization began to resume.

as of 07/31/2021	$ millions	Weight
Infrastructure	**$48.7**	**2.37%**
JPM Global Maritime Investment Fund	$28.2	1.37%
TRG Asian Infrastructure (AIRRO)	$16.4	0.80%
TRG Asian Infrastructure II (AIRRO II)	$4.1	0.20%

JPMorgan Global Maritime Investment Fund

J.P.Morgan
Asset Management

Asset Class:	Infrastructure	Vintage Year:	2009
Investment Period / Fund Term End Dates:	Dec 2014/Dec 2022 (extended 2yrs)	Total Fund Size:	$780M
Management Fee:	1.50% on capital called for investments and fund expenses, reduced by 5% in 2021 and 10% thereafter	DPFP Commitment:	$50M
Performance Fee/Carry:	80/20 split with 12% pref	DPFP % of Fund:	6.4%

Investment Performance (In Millions)

*** - As of 12/31/20**

Paid In Capital	Unfunded Commitment	DPFP Distributions	NAV	Since Inception IRR*	TVPI	DPI
$48.6	$1.4	$5.5	**$28.2**	-9.21%	.69	.11

Fund Strategy / Portfolio

- Private capital investment in the shipping industry with a 54-vessel fleet of bulkers (34), container ships (12), car carriers (6), and tankers (2). The fund's focus now is on fleet charters and disposition opportunities.
- Charter rates, vessel prices, and vessel sales drive performance. All were disrupted by the COVID pandemic in 2020, but have shown varying degrees of improvement post-COVID, causing a valuation increase of about 15% in Q1 2021.

Strategic Plan / Timeline

- JPM expects to monetize remaining assets over the next 2 years.
- In 2021, JPM sought non-binding feedback on a proposal that provided an option to achieve near-term liquidity on some ships or roll them into a new 8-year fund. Investors were generally opposed, and no action was taken.
- The fund sold 5 vessels since Q1 2020 and made a cash distribution of approximately $1.8 million to DPFP in Q1 2021.

3

TRG Asian Infrastructure (AIRRO)

THE ROHATYN GROUP

Asset Class:	Infrastructure	Vintage Year:	2008
Investment Period / Fund Term End Dates:	Jan 2014 / Jan 2022 (extended 2yrs)	Total Fund Size:	$858M
Management Fee:	2020 – 1.75% on invested capital 2021 – 1.5% on invested capital	DPFP Commitment:	$37M
Performance Fee/Carry:	80/20 split with 8% pref	DPFP % of Fund:	4.3%

Investment Performance (In Millions)

* - As of 12/31/20

Paid In Capital	Unfunded Commitment	DPFP Distributions	NAV	Since Inception IRR*	TVPI	DPI
$37.8	$2.5	$17.9	**$16.4**	-1.44%	0.91	0.47

Fund Strategy / Portfolio

- The Fund invested in both operating and development infrastructure projects and related investments across Asia.
- Six remaining investments are all located in India include toll roads, hospitals, wind power, and thermal energy.
- JPMorgan was the original fund sponsor but facilitated a GP transfer to The Rohatyn Group (TRG) in May 2018.
- Portfolio companies generally had been performing either in-line with prior year operating levels or reporting slight YOY revenue growth in Q1 2021, which resulted in overall valuations remaining relatively flat.

Strategic Plan / Timeline

- TRG successfully secured critical refinancing on several projects during 2019. However, most of the assets face regulatory or financial hurdles to monetization. GP has communicated exits are expected to take two years.
- A fund extension request is likely. Some active sale discussions stalled in 2020 due to disruption caused by COVID.
- India was hit with a second wave of COVID at the end of March 2021, so TRG believes there are still downside risks to valuations. Portfolio companies are expected to perform in line with India GDP, as they did in 2020.

TRG Asian Infrastructure II (AIRRO II)

THE ROHATYN GROUP

Asset Class:	Infrastructure	Vintage Year:	2013
Investment Period / Fund Term End Dates:	May 2017 / Jan 2025	Total Fund Size:	$468.8M
Management Fee:	0% - waived for life of fund	DPFP Commitment:	$10M, reduced from original $40M
Performance Fee/Carry:	80/20 split with 8% pref	DPFP % of Fund:	7.89%

Investment Performance (In Millions) * - As of 12/31/20

Paid In Capital	Unfunded Commitment	DPFP Distributions	NAV	Since Inception IRR*	TVPI	DPI
$7.2	$2.4	$0.06	**$4.1**	-9.54%	0.58	0.01

Fund Strategy / Portfolio

- Originally formed as follow-on to AIRRO I, the Fund investment period was terminated early in May 2017 due to a determination that there was a lack of acceptable investment opportunities. The Fund reduced investors' commitments by 75% upon termination of the investment period in mid-2017.
- AIRRO II holds only one company, a power company with an operating asset and a development asset, that is co-owned with the AIRRO fund.
- JPMorgan was the original fund sponsor but facilitated a GP transfer to The Rohatyn Group (TRG) in May 2018.
- Valuation increased approximately 14% in Q1 2021 due to improved post-COVID operating performance.

Strategic Plan / Timeline

- The operating plant performed extremely well in Q1 2021, achieving above budget improvements in utilization and operating metrics. This was driven by higher demand and lower secured coal prices.
- The development asset has been on hold due to market conditions, and viability depends on a revival of the availability of long-term Power Purchase Agreements (PPA's).

5

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

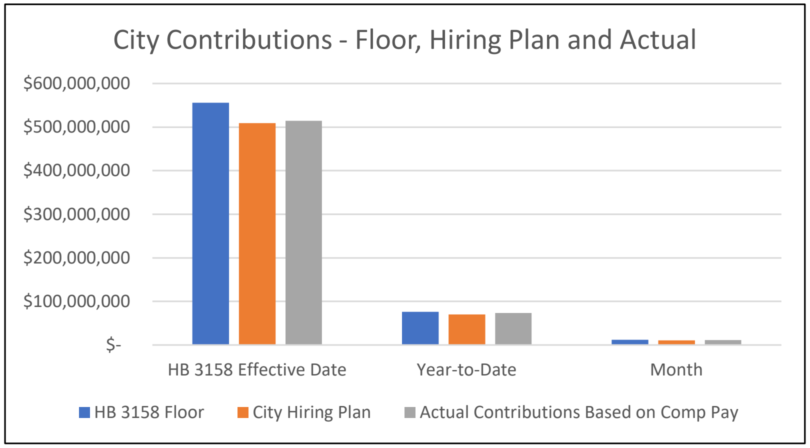
ITEM #C5

Topic: **Monthly Contribution Report**

Discussion: Staff will review the Monthly Contribution Report.

Regular Board Meeting – Thursday, August 12, 2021

Contribution Tracking Summary - August 2021 (June 2021 Data)



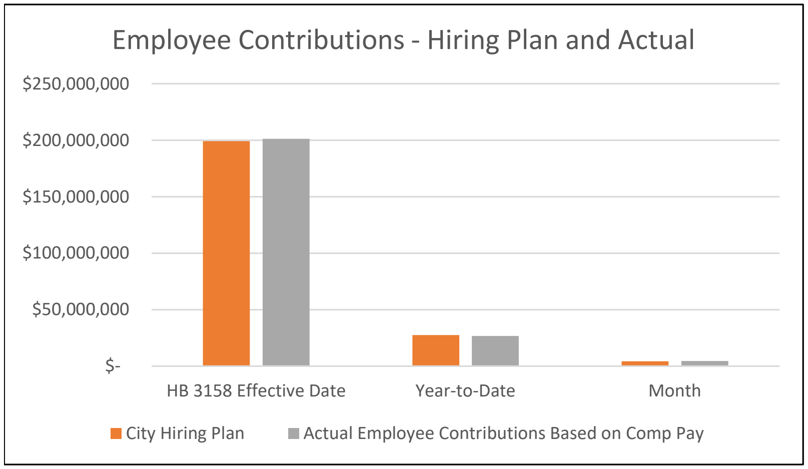
Actual Comp Pay was 101% of the Hiring Plan estimate since the effective date of HB 3158.

In the most recent month Actual Comp Pay was 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 combined actual employees was 184 less than the Hiring Plan for the pay period ending June 25, 2021. Fire was over the estimate by 27 fire fighters and Police under by 211 officers.



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

There is no Floor on employee contributions.

Contribution Summary Data

City Contributions

Jun-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	$ 11,361,817	$ 402,183	97%	105%
Year-to-Date		$ 76,466,000	$ 70,380,000	$ 73,709,787	$ 2,598,213	96%	105%
HB 3158 Effective Date		$ 555,637,000	$ 509,140,385	$ 514,497,651	$ 41,213,056	93%	101%

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

Employee Contributions

Jun-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	$ 4,445,328	$ 208,404	$ 4,236,924	105%	105%
Year-to-Date		$ 27,540,000	$ 26,818,684	$ 1,397,146	$ 27,540,006	97%	97%
HB 3158 Effective Date		$ 199,228,846	$ 201,170,128	$ 1,941,282	$ 194,119,648	101%	104%

Potential Earnings Loss from the Shortfall based on Assumed Rate of Return $ (487,406)

Does not include Supplemental Plan Contributions.

Reference Information

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

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

The HB 3158 Bi-weekly Floor ends after 2024

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

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

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

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

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

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

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

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

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

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

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

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

Comp Pay by Month - 2021	Annual Divided by 26 Pay Periods	Actual	Difference	2020 Cumulative Difference	Number of Employees - EOM	Difference
January	$ 31,384,615	$ 33,074,493	$ 1,689,878	$ 1,689,878	4960	(128)
February	$ 31,384,615	$ 33,017,462	$ 1,632,847	$ 3,322,725	4926	(162)
March	$ 31,384,615	$ 32,960,217	$ 1,575,602	$ 4,898,327	4929	(159)
April	$ 47,076,923	$ 49,564,745	$ 2,487,822	$ 7,386,148	4935	(153)
May	$ 31,384,615	$ 33,011,653	$ 1,627,037	$ 9,013,186	4913	(175)
June	$ 31,384,615	$ 32,932,804	$ 1,548,189	$ 10,561,374	4904	(184)
July				$ 10,561,374		
August				$ 10,561,374		
September				$ 10,561,374		
October				$ 10,561,374		
November				$ 10,561,374		
December				$ 10,561,374		

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 – August 12, 2021

ATTENDING APPROVED

1. **Conference:** **TEXPERS Summer Conference**
   Dates: August 29-31, 2021
   Location: San Antonio, TX
   Est Cost: $1,000

2. **Conference:** **NCPERS Accredited Fiduciary (NAF) Program**
   Modules 1 and 2
   Modules 3 and 4
   Dates: September 25-26, 2021
   Location: Scottsdale, AZ
   Est Cost: $1,915

3. **Conference:** **NCPERS Fall Conference**
   Dates: September 26-28, 2021
   Location: Scottsdale, AZ
   Est Cost: $2,115

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C7

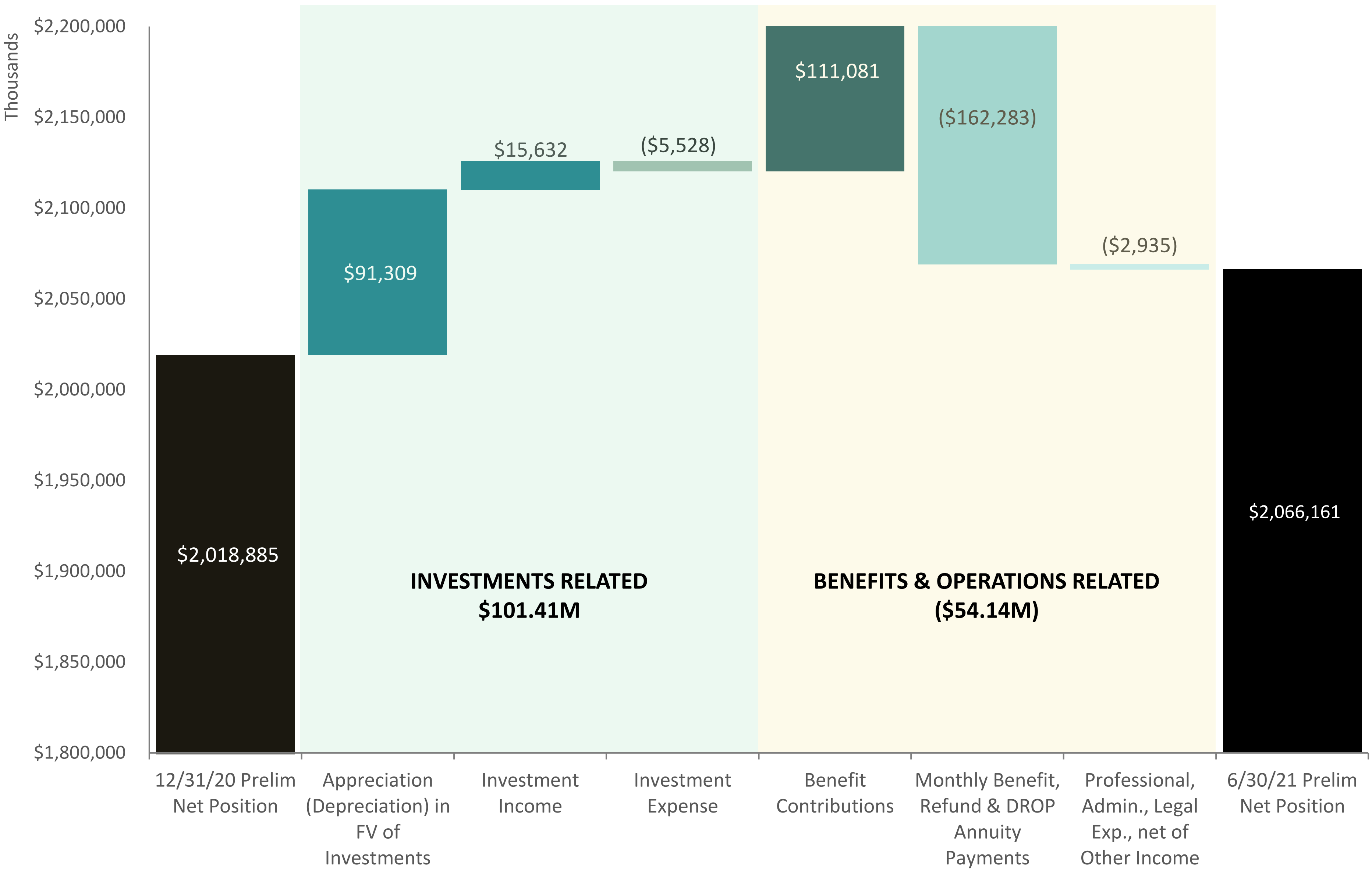
Topic: **Quarterly Financial Reports**

Discussion: The Chief Financial Officer will present the second quarter 2021 financial statements.

Regular Board Meeting – Thursday, August 12, 2021

Change in Net Fiduciary Position

PRELIMINARY - December 31, 2020 – June 30, 2021



Components may not sum exactly due to rounding.

DALLAS POLICE & FIRE PENSION SYSTEM
Combined Statements of Fiduciary Net Position

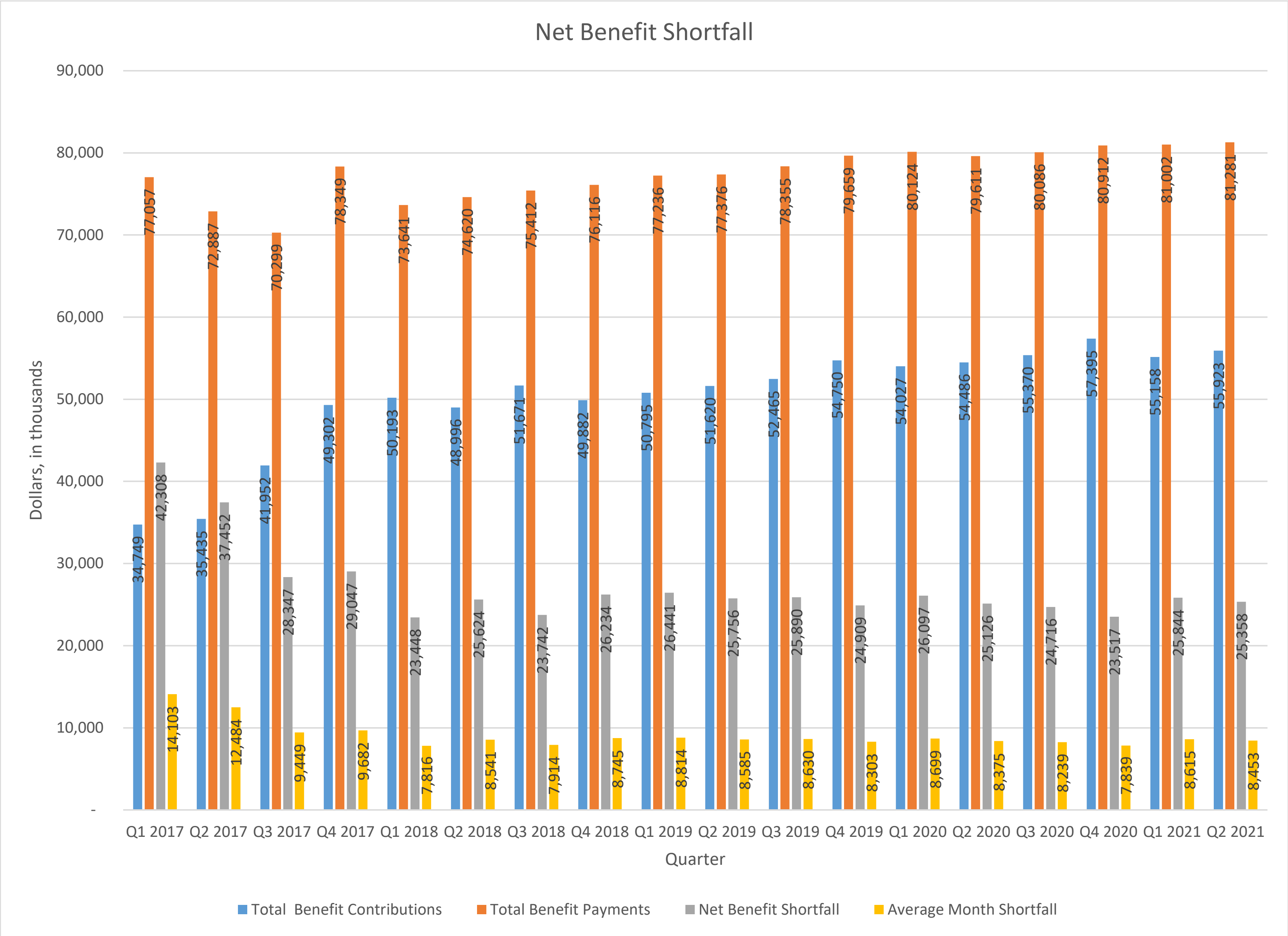
	June 30, 2021	PRELIMINARY December 31, 2020 (unaudited)	$ Change	% Change
Assets				
Investments, at fair value (NOTE)				
Short-term investments	$ 30,117,244	$ 20,430,187	$ 9,687,057	47%
Fixed income securities	485,698,320	473,421,597	12,276,723	3%
Equity securities	805,902,217	700,767,440	105,134,777	15%
Real assets	468,042,187	524,199,371	(56,157,184)	-11%
Private equity	190,669,940	197,253,569	(6,583,629)	-3%
Forward currency contracts	(14,213)	(296,918)	282,705	-95%
Total investments (NOTE)	1,980,415,695	1,915,775,246	64,640,449	3%
Receivables				
City	3,646,857	4,032,755	(385,898)	-10%
Members	1,273,475	1,445,883	(172,408)	-12%
Interest and dividends	3,987,098	3,782,403	204,695	5%
Investment sales proceeds	10,059,960	9,296,619	763,341	8%
Other receivables	119,324	675,642	(556,318)	-82%
Total receivables	19,086,714	19,233,302	(146,588)	-1%
Cash and cash equivalents	74,283,960	88,491,051	(14,207,091)	-16%
Prepaid expenses	763,863	544,957	218,906	40%
Capital assets, net	11,967,353	12,087,826	(120,473)	-1%
Total assets	$ 2,086,517,585	$ 2,036,132,382	$ 50,385,203	2%
Liabilities				
Payables				
Securities purchased	15,373,506	11,783,719	3,589,787	30%
Accounts payable and other accrued liabilities	4,982,838	5,463,419	(480,581)	-9%
Total liabilities	20,356,344	17,247,138	3,109,206	18%
Net position				
Net investment in capital assets	11,967,353	12,087,826	(120,473)	-1%
Unrestricted	2,054,193,888	2,006,797,418	47,396,470	2%
Net position held in trust - restricted for pension benefits	$ 2,066,161,241	$ 2,018,885,244	$ 47,275,997	2%

(NOTE) Private asset values have not yet been reported for Q4 20. Values will be updated as final reporting is received.

DALLAS POLICE & FIRE PENSION SYSTEM
Combined Statements of Changes in Fiduciary Net Position

	Six Months Ended 6/30/2021		Six Months Ended 6/30/2020	$ Change	% Change
Contributions					
City	$ 82,067,414		$ 80,477,658	$ 1,589,756	2%
Members	29,014,008		28,034,934	979,074	3%
Total Contributions	111,081,422		108,512,592	2,568,830	2%
Investment income					
Net appreciation (depreciation) in fair value of investments	91,309,096		(60,556,545)	151,865,641	-251%
Interest and dividends	15,631,613		16,011,371	(379,758)	-2%
Total gross investment income	106,940,709		(44,545,174)	151,485,883	-340%
less: investment expense	(5,527,859)		(3,304,793)	(2,223,066)	-67%
Net investment income	101,412,850		(47,849,967)	149,262,817	-312%
Securities lending income					
Securities lending income	-		71,583	(71,583)	-100%
Securities lending expense	-		(49,000)	49,000	-100%
Net securities lending income	-		22,583	(22,583)	-100%
Other income	174,336		176,129	(1,793)	-1%
Total additions	212,668,608		60,861,337	151,807,271	249%
Deductions					
Benefits paid to members	161,045,127		158,712,088	2,333,039	1%
Refunds to members	1,238,041		1,023,376	214,665	21%
Legal expense	10,068		138,876	(128,808)	-93%
Legal expense reimbursement	-		-	-	0%
Legal expense, net of reimbursement	10,068		138,876	(128,808)	-93%
Staff Salaries and Benefits	1,785,053		1,865,961	(80,908)	-4%
Professional and administrative expenses	1,314,322		1,349,950	(35,628)	-3%
Total deductions	165,392,611		163,090,251	2,302,360	1%
Net increase (decrease) in net position	47,275,997		(102,228,914)		
Beginning of period	2,018,885,244	*	2,075,164,750		
End of period	$ 2,066,161,241	*	$ 1,972,935,836		

*The beginning and ending period amounts are preliminary and will change as the 2020 results are finalized.


Net Benefit Shortfall
Dollars, in thousands
Quarter
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
-
Q1 2017 Q2 2017 Q3 2017 Q4 2017 Q1 2018 Q2 2018 Q3 2018 Q4 2018 Q1 2019 Q2 2019 Q3 2019 Q4 2019 Q1 2020 Q2 2020 Q3 2020 Q4 2020 Q1 2021 Q2 2021
34,749 77,057 42,308 14,103
35,435 72,887 37,452 12,484
41,952 70,299 28,347 9,449
49,302 78,349 29,047 9,682
50,193 73,641 23,448 7,816
48,996 74,620 25,624 8,541
51,671 75,412 23,742 7,914
49,882 76,116 26,234 8,745
50,795 77,236 26,441 8,814
51,620 77,376 25,756 8,585
52,465 78,355 25,890 8,630
54,750 79,659 24,909 8,303
54,027 80,124 26,097 8,699
54,486 79,611 25,126 8,375
55,370 80,086 24,716 8,239
57,395 80,912 23,517 7,839
55,158 81,002 25,844 8,615
55,923 81,281 25,358 8,453
Total Benefit Contributions
Total Benefit Payments
Net Benefit Shortfall
Average Month Shortfall

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C8

Topic: **2021 Mid-Year Budget Review**

Discussion: Attached is a review of the 2021 Operating Expense Budget detailing expenses for the first six months of the calendar year.

Expense items which are greater than the prorated budget by more than 5% and $10,000 as of June 30, 2021 are discussed in the attached review.

Supplemental Plan expenses are deducted from total expenses in arriving at total Regular Plan expenses. Expenses are allocated to the two plans on a pro-rata basis, according to the ratio of each plan's assets to the total Group Trust assets. The ratio is derived from the Unitization Report prepared by JPMorgan as of June 30, 2021. The ratio is 99.21% Regular Plan to .79% Supplemental Plan.

BUDGET REVIEW
2021 MID -YEAR REVIEW

	Description	2021 6 months Actual	2021 6 months Budget	2020 6 months Actual	Budget vs Actual Variance $ Over/(Under)	Budget vs Actual Variance % Over/(Under)
1	Legislative consultants	94,543	79,500	63,000	15,043	18.9%
2	Communications (phone/internet)	46,855	35,400	33,908	11,455	32.4%
3	IT software/hardware	17,708	8,500	11,928	9,208	108.3%
4	Miscellaneous professional services	19,260	10,775	12,126	8,485	78.7%
5	Bank Fees	9,839	1,550	1,528	8,289	534.8%
6	Public Relations Expense	2,152	-	-	2,152	100.0%
7	IT subscriptions/services/licenses	93,082	91,358	65,272	1,724	1.9%
8	Elections	-	-	-	-	100.0%
9	Depreciation exp - IT hardware	7,343	7,344	7,343	(1)	0.0%
10	Records storage	696	700	696	(4)	-0.6%
11	Memberships and dues	9,502	9,959	8,620	(457)	-4.6%
12	Staff meetings	-	500	-	(500)	-100.0%
13	Subscriptions	448	1,063	509	(615)	-57.9%
14	Business continuity	8,387	9,150	8,112	(763)	-8.3%
15	Leased equipment	11,116	12,000	11,843	(884)	-7.4%
16	Accounting services	29,500	30,385	29,500	(885)	-2.9%
17	Member educational programs	-	1,625	-	(1,625)	-100.0%
18	Employee service recognition	-	2,515	144	(2,515)	-100.0%
19	Board meetings	499	3,210	1,297	(2,711)	-84.5%
20	COVID-19 expense	-	3,750	19,367	(3,750)	-100.0%
21	Network security review	900	5,000	-	(4,100)	-82.0%
22	Conference registration/materials - board	150	5,825	-	(5,675)	-97.4%
23	Postage	4,890	10,850	14,314	(5,960)	-54.9%
24	Miscellaneous expense	-	6,000	430	(6,000)	-100.0%
25	Office supplies	6,149	12,425	7,058	(6,276)	-50.5%
26	Repairs and maintenance	35,385	42,212	11,834	(6,827)	-16.2%
27	Printing	-	7,000	-	(7,000)	-100.0%
28	Disability medical evaluations	-	8,250	2,770	(8,250)	-100.0%
29	Employment expenses	4,062	12,555	16,665	(8,493)	-67.6%
30	Travel - board	1,558	10,750	-	(9,192)	-85.5%
31	Network security monitoring	39,158	51,000	8,518	(11,842)	-23.2%
32	Pension administration software & WMS	138,059	151,000	131,808	(12,941)	-8.6%
33	Building expenses, incl depreciation	298,416	313,871	304,715	(15,455)	-4.9%
34	Conference/training registration/materials - staff	919	18,150	3,054	(17,231)	-94.9%
35	Independent audit	65,000	83,000	127,977	(18,000)	-21.7%
36	Travel - staff	2,082	21,600	1,758	(19,518)	-90.4%
37	Actuarial services	41,000	95,250	113,140	(54,250)	-57.0%
38	Liability insurance	304,420	363,574	300,350	(59,154)	-16.3%
39	Information technology projects	21,244	95,000	30,364	(73,756)	-77.6%
40	Salaries and benefits	1,785,053	1,887,621	1,865,961	(102,568)	-5.4%
41	Legal fees, net of insurance reimbursements	10,068	281,250	138,876	(271,182)	-96.4%
	Legal fee insurance reimbursements	-	-	-	-	100.0%
	Legal fees, excluding insurance reimbursements	10,068	281,250	138,876	(271,182)	-96.4%
	Gross Total	3,109,443	3,791,467	3,354,785	(682,024)	**-18.0%**
	Less: Allocation to Supplemental Plan Budget*	24,704	33,744	26,502	(9,040)	-26.8%
	Total Regular Plan Budget	**$ 3,084,739**	**$ 3,757,723**	**$ 3,328,283**	**$ (672,984)**	**-17.9%**

** Unitization split to Supplemental is based on unitization*

1	Investment portfolio operating expenses	2,231,883	388,805	363,667	1,843,078	474.0%
2	Custodian fees	116,204	110,000	108,487	6,204	5.6%
3	Investment due diligence	17,500	17,500	-	-	0.0%
4	Investment consultant and reporting	168,542	170,000	166,042	(1,458)	-0.9%
5	Fund management fees	2,993,731	3,408,362	2,666,598	(414,631)	-12.2%
	Total Investment Expenses	**5,527,860**	**4,094,667**	**3,304,794**	**1,433,193**	**35.0%**

BUDGET
2021 MID-YEAR REVIEW

Budget Changes (>5% and $10K)

	Description	2021 6 months Actual	2021 6 months Budget	Budget vs Actual Variance $ Over/(Under)	Budget vs Actual Variance % Over/(Under)	Explanation
	INCREASES:					
1	Legislative consultants	94,543	79,500	15,043	18.9%	Variance is related to the timing of expenses. The legislature was in session through June and expenses are higher during the legislative session. Budget is straight lined over the year. Expect to be within budget by the end of the year.
2	Communications (phone/internet)	46,855	35,400	11,455	32.4%	Increase in expense is for analog lines primarily related to the building. These lines are being deactivated, where viable, or ported to new services.
	REDUCTIONS:					
3	Legal fees, net of insurance reimbursements	10,068	281,250	(271,182)	-96.4%	Variance is due in part to both the timing of expenses and the amount of expenses in some cases.
4	Salaries and benefits	1,785,053	1,887,621	(102,568)	-5.4%	Lower than forecasted expenses due to three vacant staff positions and one budgeted but unfilled position - Communications Specialist.
5	Information technology projects	21,244	95,000	(73,756)	-77.6%	Budget is straight-lined over the year. Due to COVID-19 some projects have been deferred or pushed to the second half of the year.
6	Liability insurance	304,420	363,574	(59,154)	-16.3%	At renewal, Crime policy coverages were significantly reduced from budgeted amounts and projected increases in Fiduciary policies were less than projected. These declines offset increased Cyber coverages and cost.
7	Actuarial services	41,000	95,250	(54,250)	-57.0%	Variance is due in part to timing and quantity of specialized services required. Additional expenses are expected in the second half of 2021 as possible changes to the assumed rate of return are considered.
8	Travel - staff	2,082	21,600	(19,518)	-90.4%	Staff travel still significantly reduced due to COVID-19.
9	Independent audit	65,000	83,000	(18,000)	-21.7%	Variance is related to the timing of expenses. Budget is straight-lined over the year. Expect to be at budget by the end of the year.
10	Conference/training registration/materials - staff	919	18,150	(17,231)	-94.9%	Staff Conference Training attendance still significantly reduced due to COVID-19.
11	Pension administration software & WMS	138,059	151,000	(12,941)	-8.6%	Variance is primarily related to the timing of some expenses.
12	Network security monitoring	39,158	51,000	(11,842)	-23.2%	Actual monitoring costs came in below the projection when the contracts were signed in 2021.

INVESTMENT EXPENSES

	Description	2021 6 months Actual	2021 6 months Budget	Budget vs Actual Variance $ Over/(Under)	Budget vs Actual Variance % Over/(Under)	Explanation
1	Investment portfolio operating expenses	2,231,883	388,805	1,843,078	474.0%	Variance relates to the timing of some expenses and the unbudgeted Northern Trust transition costs and Lone Star costs.
2	Fund management fees	2,993,731	3,408,362	(414,631)	-12.2%	Budget and Actual are for direct fees only. Variance is due in part to the timing of expenses. Some performance fees are due and paid at year end.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C9

Topic: **Financial Audit Status**

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

Regular Board Meeting – Thursday, August 12, 2021

DISCUSSION SHEET

ITEM #C10

Topic: **Hardship Request**

Portions of the discussion under this topic may be closed to the public under the terms of Section 551.078 of the Texas Government Code.

Discussion: Article 6243a-1 Section 6.14(e-3)(2) allows a lump-sum distribution from the DROP account in the event of a financial hardship that is not reasonably foreseeable. Section 6.14(e-4) required the Board to adopt rules related to hardship distributions. The Board's rules are contained in Section G of the DROP Policy.

A Retiree DROP Annuitant submitted an application for a lump sum distribution from his DROP balance in accordance with the DROP policy. The DROP Policy requires that:

a. severe financial hardship exists at the time of the application (i.e., not one that may occur sometime in the future);
b. the hardship cannot be relieved through any other financial means (i.e., compensation from insurance or other sources, monthly annuity benefits, or liquidation of personal assets) unless using those other sources would also cause a financial hardship; and

DISCUSSION SHEET

ITEM #C10
(continued)

c. the amount requested in the application is reasonably related to and no greater than necessary to relieve the financial hardship.

Due to the timing of when documents were received for this request, at the time of posting the agenda the Executive Director has not determined whether the Hardship request will be approved or recommended to the Board for denial.

Staff Recommendation: To be **provided** at the meeting.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #C11

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.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D2

Topic: **Executive Director's report**

a. Associations' newsletters
- NCPERS Monitor (August 2021)
- NCPERS PERSist (Summer 2021)
- TEXPERS Pension Observer (Vol. 3, 2021)
  http://online.anyflip.com/mxfu/jofm/mobile/index.html

b. Open Records

c. Office Reopening Status

d. CIO Recruitment

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

THE MONITOR

AUGUST 2021 NCPERS **NO. 8**

The Latest in Legislative News

Making Sense of the Legislative Agenda

Currently, all eyes are on the bipartisan group of 22 Senators (11 from each party) who are negotiating a compromise on the traditional infrastructure bill.

Live in New York, Public Pension Funding Forum Shines Light on Sustainability

For many NCPERS members, the Public Pension Funding Forum in New York August 22-24 will mark their first time attending a business conference since the COVID-19 pandemic began.

Also in this issue: Continuing Education Provides Path to Being an Effective Trustee; Around the Regions features California, Illinois, New Jersey, and Virginia this month.

Continuing Education Provides Path to Being an Effective Trustee

Being a public pension trustee is not for the faint of heart, because governance is serious business. The word "trustee," of course, is no accident—it signifies a legal obligation on the part of board members to act solely in the interest of plan participants. When you've been entrusted with other people's money, you have a sacred responsibility to act in ways that help ensure it will be there for the long haul.

Integrity, honesty, and trustworthiness are vital in fulfilling the fiduciary responsibilities of a trustee. So is inquisitiveness and the willingness and ability to ask questions. No board is improved by the addition of a bobble-head who never speaks up and simply goes along with the pack.

Being a lay person is not an obstacle to board service – in fact, it has always been a valued perspective. Consider NCPERS President Kathy Harrell, who served for years on the board of the Ohio Police & Fire Pension Fund. As she said in a recent interview, "I didn't have an investment background, but I knew pension benefits were critically important to our members." So, she educated herself, asked questions and attended training programs. These steps, along with an independent mindset, made her an effective board member.

Most public pension boards include participant representatives, who are usually working employees and members of the retirement system. Many boards also assign seats to retiree representatives and a number of ex-officio members. These tend to be state treasurers, budget officers, superintendents of public education, etc., or designees of such officials.

One key way that trustees cultivate the qualities they need for successful board service is through continuing professional education. For participants and retiree representatives, NCPERS is a critical resource for this ongoing training. Kathy Harrell has cited NCPERS programs as vital to her effectiveness as a member of the OP&F pension fund board.

Education can also insulate participant and retiree representatives to the drumbeat of criticism they have faced in recent years, most of it highly political in nature. It isn't fair, but public employees, retirees, and especially their union representatives are under constant pressure to demonstrate that they understand their roles in detail and are acting in the long-term interest of the fund.

Learning the ropes can help trustees understand where they fit into the pension fund ecosystem—and teach them how to interact with professionals. It's important to respect the expertise of money managers, consultants, staffers, and attorneys, but not be intimated, because it's the job of the board to ask questions and insist on clear answers.

It's also important to learn about the range of matters than can come before the board. The exact mandate varies from pension system to pension system, of course, because 50 state legislatures and hundreds of municipal governments have created their own systems. Duties can thus vary widely, but good training is principles-based and focuses on the framework for making decisions, not the details of an individual pension system.

Education is a critical mission at NCPERS—one of the "big three," along with advocacy and research. NCPERS offers extensive educational programming, including three specialized programs for trustees:

The Trustee Educational Seminar (TEDS), the Program for Advanced Trustee Studies (PATS), and the NCPERS Accredited Fiduciary Program (NAF).

- TEDS is a foundational program where first-time and novice trustees can improve and brush up on their understanding of roles and responsibilities. The program is currently available on demand by visiting the NCPERS website.
- PATS is an intensive, in-depth learning seminar for experienced trustees, focusing on two current topics in an immersive way. We are excited to announce that PATS will be live again in Washington, D.C., in May 2022.
- NAF is the path to a prestigious and renewable credential—a certification program culminating in an examination that demonstrates your mastery of core topics and that provides a framework for maintaining an ongoing commitment to professional education. Hundreds of trustees have already taken the NAF program, and the next opportunity to do so will come September 25-26 in conjunction with the FALL Conference in Scottsdale, Arizona.

Serving as public pension trustee is an honor and challenge. NCPERS is here to help trustees navigate turbulent waters with top-quality professional education.

Executive Director's Corner

Live in New York, Public Pension Funding Forum Shines Light on Sustainability

For many NCPERS members, the Public Pension Funding Forum in New York August 22-24 will mark their first time attending a business conference since the COVID-19 pandemic began. We are excited to bring you a rich and dynamic agenda while continuing to heed all the appropriate health and safety precautions.

It will be gratifying to be together again, because let's face it – a lot of things happen when we are face-to-face that don't happen when we meet virtually. Facial expressions communicate responses and help speakers understand whether they're hitting the mark or need to adjust. A handshake or a light touch on the back conveys warmth and connection. And it's easier to pay attention when we are away from all the distractions of the workplace. While virtual events have played an important role over the past 18 months and will continue to do so, meeting together in person periodically strengthens the public pension community.

It is fitting that we are starting our "live" meetings with the Funding Forum, because few topics are more heated than the question of whether public pension revenues and reserves are adequate to meet current and future needs. Our aim is to dial down the heat and turn up the light as we illuminate the latest thinking about how to ensure that public pensions can remain a healthy, thriving part of a secure retirement.

The theme running through the conference is sustainability—specifically, the concept of stabilizing unfunded liabilities to keep them at fiscally sustainable levels. NCPERS Research Director Michael Kahn will provide an overview of the latest research behind the forum agenda, which shows that a relatively small down payment of 4% of the total unfunded liabilities would be sufficient to stabilize public pensions now, and minor fiscal adjustments going forward would keep them sustainable over the long haul.

As always, the conference brings together the brightest minds in public pension research and analysis, blending practical and theoretical developments.

Our closing keynote will be delivered by David Altig, executive vice president and director of research at the Federal Reserve Bank of Atlanta.

We will hear from Louise Sheiner of the Brookings Institution as she examines potential sustainability measures. Eric Atwater, a partner at Aon, and Tom Sgouros of the Brown University faculty, will discuss how to assess sustainability.

Maureen Toal, senior vice president of Public Agency Retirement Services, and Brian Binkley, senior investment consultant at Vanguard, will offer practical insights into how stabilization funds and trusts can be utilized.

In addition, we will hear about strategies to maintain mature plans with negative cashflows from Michael Buchenholz, head of U.S. pension strategy at JP Morgan Asset Management, and Sterling Gunn, managing investment director of CalPERS. Sharon Hendricks, vice chair of CalSTRS, will describe the fund's track record in standing up to big-oil interests.

Elsewhere in the program, Kristina Hooper, chief global market strategist for Invesco, will discuss the proposed unconventional monetary policy known as "helicopter money."

Gene Kalwarski, president and CEO of Cheiron, and Sandy Matheson, executive director of the Maine Public Employees Retirement System, will offer an actuarial perspective on strategies to stabilize pension plan funding. And David Wilson, who oversees global fixed income and multi-asset client portfolio management at Nuveen, will come at the same topic from an investment perspective.

As you can tell from this impressive parade of speakers and topics, the Funding Forum provides a unique, high-level focus on the research under way to ensure the long-term sustainability of public pensions. The program examines the implications of reform initiatives for ALL stakeholders—not just public employees, but also taxpayers and employers, as well as the often-overlooked spillover effects on local businesses and economies.

Public pensions have been the whipping boy of ardent free marketers for years. There is no disputing that some public pension plans have been underfunded because certain state and local governments failed to stabilize funding when times were good. But applying careful analysis demonstrates that pensions are sustainable and affordable. The Funding Forum is the must-attend conference for anyone who wants to stay abreast of this critical issue.

Making Sense of the Legislative Agenda

As this article is being written, there are numerous unanswered questions about the near-term, federal legislative agenda and how ultimately the policy priorities of the Democratic-controlled 117th Congress and the Biden Administration will be advanced.

Currently, all eyes are on the bipartisan group of 22 Senators (11 from each party) who are negotiating a compromise on the traditional infrastructure bill. This legislation will provide funding for basic infrastructure projects, including roads, bridges, waterways, rail networks, airports, and seaports.

In a recent statement, the 22 Senators said they "are optimistic that we will finalize, and be prepared to advance this historic bipartisan proposal to strengthen America's infrastructure and create good-paying jobs in the coming days."

If the Senate can muster the 60 votes needed to overcome an anticipated filibuster threat, then House Speaker Pelosi must decide whether to scuttle the House-passed infrastructure bill and whip her Members to pass the Senate version. Speaker Pelosi has said recently that she will not take this path unless the Senate is also able to approve a human infrastructure bill, which is discussed below.

Regardless of the immediate outcome of the physical infrastructure bill, the Senate and House must pivot quickly to pass a budget resolution. This measure will clear the way for a major budget reconciliation bill. This bill is being targeted to carry the human infrastructure components of the Democrats' agenda, including such as items as drug pricing reforms, Medicare benefit enhancements (dental and vision coverage), a lower age for Medicare eligibility, and funding for items such as home health care, schools, hospitals, and job training.

Lowering the Medicare eligibility age has been a priority for progressives in Congress for many years. Also be aware that Senator Sherrod Brown (D-OH) and Congressman Tom Malinowski (D-NJ) recently reintroduced the Expanding Health Care Options for Early Retirees Act, S. 2236 and H.R. 4148, respectively. This bill would allow qualified retired first responders to opt into Medicare coverage at age 50. Coverage would be identical to that provided under the existing Medicare program. Retirees would be eligible for tax credits, subsidies, and tax-advantaged contributions from their former employer or pension plan. Further, this bill specifically requires implementation in such a way that it will not negatively impact the existing Medicare program, beneficiaries, or trust fund. The legislation is a recognition that our nation's first responders generally retire well before the current Medicare eligibility age of 65.

While discussions are underway on this targeted approach and, of course, on the universal lower age proposal, it is unclear whether either proposal will be included in the reconciliation bill. It is also unclear whether the reconciliation bill, which could have a price tag of up to $3.5 trillion and is being derided by Republicans as a "Progressive Wish List," can secure the necessary votes to be approved by the House and Senate.

Medicare changes are likely to be contained in broad legislation, such as the budget reconciliation bill. However, legislation that would make numerous changes to the tax rules affecting defined benefit and defined contribution plans is expected to be considered separately. Observers believe this legislation has an excellent chance of becoming law in this Congress.

The retirement legislation that is the farthest along is H.R. 2954 (SECURE Act 2.0), which has been approved unanimously by the House Ways and Means Committee. It includes the provisions listed below that will affect either defined benefit or defined contribution plans of state and local governments.

The key provisions would:

- Allow 403(b) plans to invest in collective investment trusts;
- Increase the age trigger for Required Minimum Distributions incrementally to age 75 by 2032;
- Increase the annual limits on catch-up contributions to $10,000 for those age 62-64 and index annual catch-up contribution limits for 457(b), 403(b), and 401(k) plans;
- Allow 403(b) plans to join multiple employer plans;
- Allow employer matching contributions on account of student loan payments for 457(b), 403(b), and 401(k) plans;
- Eliminate the first-day-of-the-month rule for 457(b) plans to provide more flexibility to participants to make changes in elective deferral amounts;
- Exclude from tax certain disability payments for first responders;
- Establish hardship withdrawal rules for 403(b) plans;
- Require the Roth method, i.e. contributions must be made with after-tax dollars, for catch-up contributions to 401(a), 403(b), and 457(b) plans; and
- Provide discretion for plan fiduciaries on recovering retirement plan overpayments.

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

NCPERS will monitor these issues closely and will keep its members informed of any 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.

Around the Regions

This month, we will highlight California, Illinois, New Jersey, and Virginia.

Northeast: New Jersey

Sending a strong signal that it is serious about strengthening public pensions, New Jersey made a lump-sum payment of $5.8 billion into the state pension system on July 1, the first day of the 2022 fiscal year. The Garden State has generally made installment payments at the end of each fiscal quarter.

In addition to the lump sum, New Jersey's $90 billion-asset pension fund is also slated to receive monthly infusions of revenue from the New Jersey Lotto throughout the year, estimated at $1.1 billion.

Governor Phil Murphy, a Democrat, has prioritized properly funding the state pension system, and the payment is a sharp rebuke to years of chronic short-funding and skipped payments. The action marks the first time in 25 years that the state has fulfilled its

It is also the first time in years that the state has made a lump-sum payment rather than quarterly payments.

"After years of kicking the pension can down the road, a practice which has cost the state billions and billions of dollars, today we are officially turning the corner," New Jersey Treasurer Elizabeth Maher Muoio said in a news release. Making one up-front payment rather than spreading the costs over four quarters is also more cost effective. Quarterly payments would save the state $1.5 billion over 30 years versus a pay-as-you-go approach. The lump sum would save $2.2 billion, the treasurer's office noted.

"Today is a remarkable day for the state of New Jersey," Murphy said. "When we started this journey more than three years ago, I made a promise to the hardworking public employees and retirees of our State. Today is not only the day we officially make good on that promise, it is the day we start filling in the hole that has been dug over the last 25 years."

Midwest: Illinois

Illinois Secure Choice was closing in on 100,000 accounts at midyear, according to data it published as of June 30. At that point, Secure Choice had 99,943 "payroll contributing accounts," of which 90,403 were funded. The gap represents the startup time between enrollment and the first contribution.

Program assets reach $67 million at midyear. The average monthly contribution rate was $114.90, and the average account balance was $741.93. About one-third of eligible workers at enrolled employers had opted out of contributing.

As of midyear, 6,060 employers had registered for the program, 4,033 had uploaded employee data, and 2,837 had begun submitting payroll deductions.

Treasurer Michael Frerichs, speaking about the state's current financial position in a recent television interview, pledged to continue promoting the benefits of Secure Choice. He said the program was one of his top priorities during the last session, promoting his office retirement program and college savings program.

“The Secure Choice Retirement Savings Program allows up to 900,000 people to save money for retirement. Allows more Illinois to retire with dignity and enjoy their golden age. “I will do it,” said Frerichs.

At present, Secure Choice only applies employers with 25 or more workers that do not offer workplace benefits, versus a current threshold of five workers in Oregon and California, which have also created auto-IRA programs. In an interview in February, Frerichs said that now the state has experience with the program, “we want to lower that threshold to allow all our small businesses and workers to have access.” (Oregon has targeted requiring companies with four or fewer employees to enroll beginning in 2022.)

Frerichs pointed out that Illinois was the first state to pass legislation to create an auto-IRA program. As a result, “it's not surprising that our threshold would be higher than other states. Now that we know how well the program works, it just makes sense to give access to everyone.”

South: Virginia

Making a dramatic rebound, the Virginia Retirement System Trust Fund's assets topped $100 billion for the fiscal year that ended June 30, the Richmond Times-Dispatch reported.

The return on investment for the full fiscal year is still being finalized, but the preliminary $18 billion increase in the trust fund's assets represents a 22% rise from a year ago, the newspaper reported. As a result, contribution rates for state and local government employers should remain stable when Gov. Ralph Northam unveils a two-year budget in December.

"The health of the trust fund is strong," O'Kelly McWilliams, an employment attorney who serves as chairman of the VRS board of trustees, told the newspaper. The trustees set pension contribution rates for state employees, teachers and other state and local government workers in the fall.

"It's going to be one of the strongest fiscal years we've ever had," Chief Investment Officer Ron Schmitz told the Joint Legislative Audit and Review Commission in July, adding that preliminary results in May and June "look a little better."

Investment income generates about two-thirds of the money necessary to fund current and future benefits for more than 772,000 public employees, retirees and others who have contributed to the VRS, the 18th-largest public retirement system in the country. The return on VRS investments for the first 10 months of the fiscal year — through April 30 — was 22.3%.

The Richmond Times-Dispatch said the strong market performance could offset a potential $39 million increase in projected employer contribution rates — paid by state and local governments to cover the long-term retirement obligations to their employees — because of a new assumption that employees will live longer after retirement, requiring more money to pay long-term pension benefits.

West: California

CalPERS said a strong stock market powered it to a 21.3% return on investments in the fiscal year that ended June 30, blowing away its 7% annual target.

Based on the preliminary results, CalPERS' portfolio value reached $469 billion, an $80 billion increase for the year, CalPERS announced.

However, the stellar return triggered CalPERS' 2015 risk mitigation policy for the first time. The way the policy works is that if investment returns outstrip the assumed annual rate of return, or discount rate, by at least two percentage points, a change in asset allocation is triggered. CalPERS exceeded the discount rate by more than 14 percentage points.

The purpose of the risk mitigation policy is to lessen the impact of possible future market downturns and add stability to the fund. When it is triggered, two things happen: The discount rate is automatically lowered, and costs rise to cover the adjustment in the return. According to a presentation distributed by CalPERS in June, "classic" member contribution rates are expected to remain unchanged, but local government employees hired after 2013 would have to contribute more toward their pensions.

The Sacramento Bee reported that the CalPERS Board of Administration will continue to review the discount rate during the rest of the calendar year.

"Our investment team has done an outstanding job of capturing strong returns in this very dynamic investment environment," said Theresa Taylor, chair of the CalPERS Investment Committee, told the Sacramento Bee. "These results prove that we have the right investment strategy in place to take full advantage of what the markets have to offer."

"But as pleased as we are with these great returns, let me emphasize that we don't count on this kind of investing environment every year. We know markets go up and down. As a long-term investor, our job is to make sure we have a carefully considered plan to strengthen our fund no matter the economic climate so that we can pay the benefits our members have earned," Taylor told the newspaper.

Calendar of Events 2021

August

August 22- 24
Public Pension Funding Forum
New York, New York

September

September 26-28
FALL Conference
Scottsdale, Arizona

October

October 20-22
Chief Officers Summit
San Francisco, California

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PERSist

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NCPERS Message

NCPERS is thrilled to announce the return of in-person educational conferences! After an extraordinary 2020, we believe it is vital to return to the business of valuable in-person education. That's why NCPERS is happy to announce that we have decided to host* the Public Pension Funding Forum, the NCPERS Accredited Fiduciary (NAF) Program, the Financial, Actuarial, Legislative & Legal (FALL) Conference, and the Chief Officers Summit (COS), all in the second half of 2021!

August 22-24, we will host the Public Pension Funding Forum in New York, New York, at Sheraton New York Times Square. The Funding Forum focuses on the obstacles that stand in the way of closing the public pension funding gap and explores new solutions to overcome those obstacles. It will be held over two days, beginning with opening remarks and a program overview with NCPERS executive director Hank Kim and NCPERS director of research Michael Kahn.

Over the following days, attendees will learn about the sustainability of public pension liabilities and the measures that can be taken to stabilize them by Louise Sheiner from the Brookings Institution; stabilization funds and trusts by Maureen Toal from the Public Agency Retirement Services and Brian Binkley from Vanguard; how to assess sustainability of a public pension plan with Eric Atwater from AON and Tom Sgouros from Brown University; strategies to sustain mature plans and negative cash flows with Michael Buchenholz from JP Morgan and Sterling Gunn from CalPERS; taking on big oil with Sharon Hendricks from CalSTRS; "helicopter money" and other FRB policies to enhance sustainability of public pensions with Kristina Hooper from Invesco; strategies to stabilize pension plan funding from an actuarial perspective with Gene Kalwarski from Cherion and Sandy Matheson from Maine PERS; strategies to stabilize pension funding from an investment perspective with David Wilson from Nuveen; and finally, a discussion about COVID-19 and the U.S. economy with David Altig from the Federal Reserve Bank of Atlanta.

NCPERS' second in-person event, NCPERS Accredited Fiduciary (NAF) Program, will held September 25-26 in Scottsdale, Arizona, at the Westin Kierland Hotel. NAF is a trustee accreditation program specifically designed and tailed for individuals involved in public pension governance. We will offer all four NAF modules simultaneously.

- Module 1: Governance & The Board's Role
- Module 2: Investment & Finance
- Module 3: Legal, Risk Management & Communication
- Module 4: Human Capital

Directly following NAF, the second FALL Conference will be held September 26-28. FALL is where public pension trustees, staff, and industry partners can come together to learn, exchange ideas,

CONTINUED ON PAGE 6

In This Issue

Take the PERSist Quiz on pages 5, 6 and 7

Submit Completed Quiz Here

A Practical Guide to Using Risk Measurements

TAKE THE QUIZ

By: Tom Vicente

Photo illustration © 2021 istock.com

Introduction

Moneyball, by Michael Lewis, championed the idea that having the right statistics will allow a baseball manager to understand what is important to succeed. Pension plans, like baseball, generate many metrics that can signal future success or failure. The hard part is distinguishing which measures are the right ones to focus on. Different pension plans have different definitions of success. A common focus for many plan trustees is short term contribution stability with long term improvements in funding levels.

What Measure is the Best?

For many years, but especially since the advent of ASOP 51, actuaries have provided plans with Risk Metrics. These can be somewhat generic, often confusing, and don't always give the plan a clear understanding of where they stand. Unfortunately, there is no universal "right" measure. Even so, one statistic that can be helpful to focus on is the ratio of plan assets to the employer's payroll. This factor, also referred to as the "Asset Leverage Ratio" or "Asset Volatility Ratio" (AVR) can provide a good idea about how dramatically a plan's contribution requirements will fluctuate on a year to year basis due to investment returns.

What Does it Mean?

A higher AVR means higher volatility in the actuarially determined contribution (ADC). The key is to translate this metric into the amount of annual fluctuation in the actuarial contribution. A common funding approach is to pay down (or amortize) any deviation in investment returns from the assumed return over 15 years. For a plan with an AVR of 5, a 1% deviation of return (i.e. a 6% return versus assumed 7%) in a year will result in a difference in annual contribution of about 0.50% of pay once it is fully smoothed in under the asset smoothing method.

CONTINUED ON PAGE 5

Tom Vicente, FSA, FCA, EA, MAAA *is a Senior Consulting actuary at Bolton Inc. Tom has 30 years of experience working with public pension plans and actively participates in professional organizations such as the Society of Actuaries, Conference of Consulting Actuaries, and the American Academy of Actuaries. He recently helped the Society present their research paper,* Trends in Maturity Metrics, Asset Allocations and Expected Rates of Return for Large U. S. Public Pension Plans.

TAKE THE QUIZ

Pension Fraud Remains a Major Problem for Providers, Fraudsters are Prepared. Are You?

By: Alex Beavan

Photo Illustration © 2021 istock.com

As we slowly transition out of the global pandemic the issue of pension fraud appears somewhat forgotten in some circles. Yet it is an inescapable truth that the true extent of the problem remains unquantified and, in many instances, underestimated. Some regions have attempted to both assess and provide both reasoning and mitigation, but globally data remains elusive for reasons of poor record keeping, lack of verification steps, apathy, and in some instances poor enforcement.[1]

So, is pension fraud profitable and alluring to the average fraudster? Well therein lies a misnomer. Pension fraud is not always perpetrated by the average fraudster. Two recent cases globally clearly show the rewards from such crimes and of those behind it. In Oct 2020 in Ireland local law enforcement arrested an individual for deceased pension fraud totaling the equivalent of approximately USD 600,000 in relation to the fraudulent collection of his deceased parent's pensions for the last 33yrs.[2] In England in March 2021 an individual was extradited from Spain for pension fraud totaling over USD 19million.[3] As you can see its both profitable and conducted in some cases by surviving relatives. Losses globally from pension fraud are estimated in the billions.[4]

Currently with the alarming growth in business email compromise, pension payment diversion as well as the already mentioned deceased pension fraud remain the two most prominent concerns for pension providers for ongoing pension plans.

Such frauds can be mitigated, and pension providers should be taking the appropriate steps. For instance, in relation to pension payment diversion relevant providers must have a four-eyes approach in place. Instances of fraud have shown a continuing willingness on the part of the provider to just accept the contents of an email in relation to a mandate containing new banking details. Providers are not building in proper verification steps and teaching their employees about the red flags associated with such frauds which closely align with business email compromise. Whilst the losses may be on the small side the liability for such frauds will likely fall with the provider if they do not verify.

Alex Beavan *is currently the Head of Fraud Investigation for Western Union Business Solutions. Previously he was in Law Enforcement for 30yrs and served in the Counter Terrorism Command and Special Branch in the UK. He was also attached to the Ministry of Defence. He specialised in counter terrorism, counter-intelligence, and terrorism / serious organised crime financial investigation. He has been involved in many of the most high-profile terrorism investigations in the last 25yrs including a number as the lead financial investigator receiving several awards. He has also presented across the globe on fraud to businesses, financial institutions, law enforcement, and intelligence groups.*

CONTINUED ON PAGE 6

Life Science is a Durable Secular Theme

TAKE THE QUIZ

By: Eric R. Smith

Photo Illustration © 2021 istock.com

Institutional real estate investors seeking secure income and opportunity for appreciation are focusing more attention on the Life Science real estate sector. The life sciences industry is the most promising growth sector of the U.S. economy over the next 10 years, as the megatrends in demographic composition of the U.S. population, technology advancements and breakthrough biological innovation converge to accelerate demand, and more importantly, the pace of innovation in researching and developing novel therapeutics for bespoke treatment. Fueled by annually rising levels of venture capital funding, capital available for R&D is creating significant demand for life science (R&D) real estate to meet the increased consumer demand. L&B believes life science real estate represents a durable investment theme through 2030

Life Sciences encompasses any company engaged in the fields of biology or biochemistry, specifically on research/development, technology transfer and commercialization. Spending on healthcare skews to the population over 55, as people over 55 make up 29% of the population, but account for 56% of all healthcare spending, while people over 65 are 16% of the population and account for 36% of healthcare spending[1]. As of the 2010 census, none of the baby boom generation had turned 65. All baby boomers will be 65 or over by 2030[2]. A significant group of patented drugs became off-patent in 2011, forcing biotech companies to innovate to replace earnings. To meet that industry demand, venture capital funding for life science has increased 295% over 2014 levels and the life science employment growth rate doubled that of the national non-farm average since 2003[3]. Biology innovations combined with technology advancements (and decreased cost) in data storage, machine learning and AI resulted in significant breakthroughs in the biological sciences including genomics, cell and gene therapies, gene editing, diagnostics, vaccine development, among other significant advances in synthetic biology and chemistry. There are simply not enough life science lab facilities to meet demand at the current pace of innovation.

Cluster markets for Life Science are identified by proximity to: doctoral scientific talent, VC and NIH funding (large innovation hospitals and/or universities), and top-flight doctoral universities.

CONTINUED ON PAGE 7

Eric R. Smith, Executive Vice President, Business Development *is responsible for investor and consultant relations, strategic relationships, and product development for L&B's fund and separate account strategies.*

A member of the Management Committee, he has held various acquisitions and asset management positions within the firm over 20 years, most recently having led the office/industrial asset management group, overseeing investment performance for $3.5 billion in office and industrial assets. Mr. Smith has extensive acquisitions, dispositions, loan negotiation and valuation experience over 27 years of institutional property investment experience.

ACTUARY CONTINUED FROM PAGE 2

A plan's investment advisors can provide the likely range of deviation in a year based on the plan's investment allocations. If there is a 50% chance the return will be at least 3% but no more than 10% then the sponsor might view the 3% return as a reasonable downside scenario to plan for (creating a potential increase in the ADC rate of 2% of pay).

What to do with it?

Knowing the implications gives the sponsor the ability to make decisions:

- Stand pat - The projected impact is manageable.
- Investigate more – Initiate scenario or stress tests.
- Reduce the impact – Use actuarial and investment tools to reduce investment volatility.
- Reduce the AVR – Risk transfers or cash out programs can directly reduce plan size. Plan design features can also reduce the rate of increase.

What Next?

As plan funding improves (a good thing) the AVR naturally grows. The plan needs to monitor the growth and rate of growth and understand the potential risk exposures the AVR is indicating. "Stand pat" may be a good strategy when the AVR is 5, but not so good if the AVR grows to 10. By monitoring AVR growth, the plan can take incremental actions to ward off unmanageable costs. ◆

PERSist Quiz Actuary

How can a public pension plan prepare for future cost volatility?

❍ A. Think about what level of cost your organization can reasonably absorb

❍ B. Ask questions to understand what risk metrics are most applicable today and what they mean and devise solutions if likely outcomes are too severe

❍ C. Monitor the plan regularly for any changes in sensitivity

❍ D. All of the above

Answer: D

NCPERS MESSAGE CONTINUED FROM PAGE 1

strategize solutions, and make valuable connections. This three-day program is structured in four tracks that will equip attendees with valuable insights on financial, actuarial, legislative, and legal matters impacting public pensions. In addition, this year, we are adding a fourth track to a shine spotlight on diversity, equity, and inclusion.

Our final in-person event in 2021 will be the return of our Chief Officers Summit (COS), held October 20-22 in San Francisco, California. Candid conversations and the exchange of ideas are the heartbeat of the NCPERS COS Summit. This exclusive event draws together pension CEOs and CIOs to address their most pressing challenges and promising opportunities. NCPERS will release more details on the COS Summit at the end of the summer.

To view or register for any of our conferences, please click on the links inside the article. We look forward to seeing you in person! Stay safe and healthy! ◆

*Our plans for resuming conferences have always included precautions and protections. We are committed to hosting our events in accordance with all Centers for Disease Control & Prevention (CDC) COVID-19 safety practices and guidelines, as well as any requirements of the cities and states where we host the meetings. If the city or state in which the conference is held institutes travel restrictions or shuts down, we will not host the program. If this occurs, we will refund all registration fees. We will not host a virtual meeting in place of a cancelled conference due to time constraints.

ASSET MANAGER CONTINUED FROM PAGE 3

In the case of deceased pension fraud, it is well known that the most common methodologies include those of relatives or next-of-kins failing to notify providers about the deceased and continuing to make claims on their behalf. There are other scenarios including organized crime group involvement but the ways to mitigate the threat remain largely the same. Pension providers must build in steps to ensure their scheme members are still alive be it through some form of existence check in person or by way of video. Again, relying on just an email or letter leaves the provider at the mercy of the fraudster easily manipulating the situation.

Far too much trust is placed in emails. It is a hangover from the digital age we find ourselves in and has been exacerbated by the pandemic. An email is largely anonymous, and the receiver can be easily deceived. Fraudsters are prepared. Are you? ◆

[1] Finextra March 29, 2021
[2] Irish Times Oct 10, 2020
[3] FT Adviser March 22, 2021
[4] University of Portsmouth

PERSist Quiz — Asset Manager

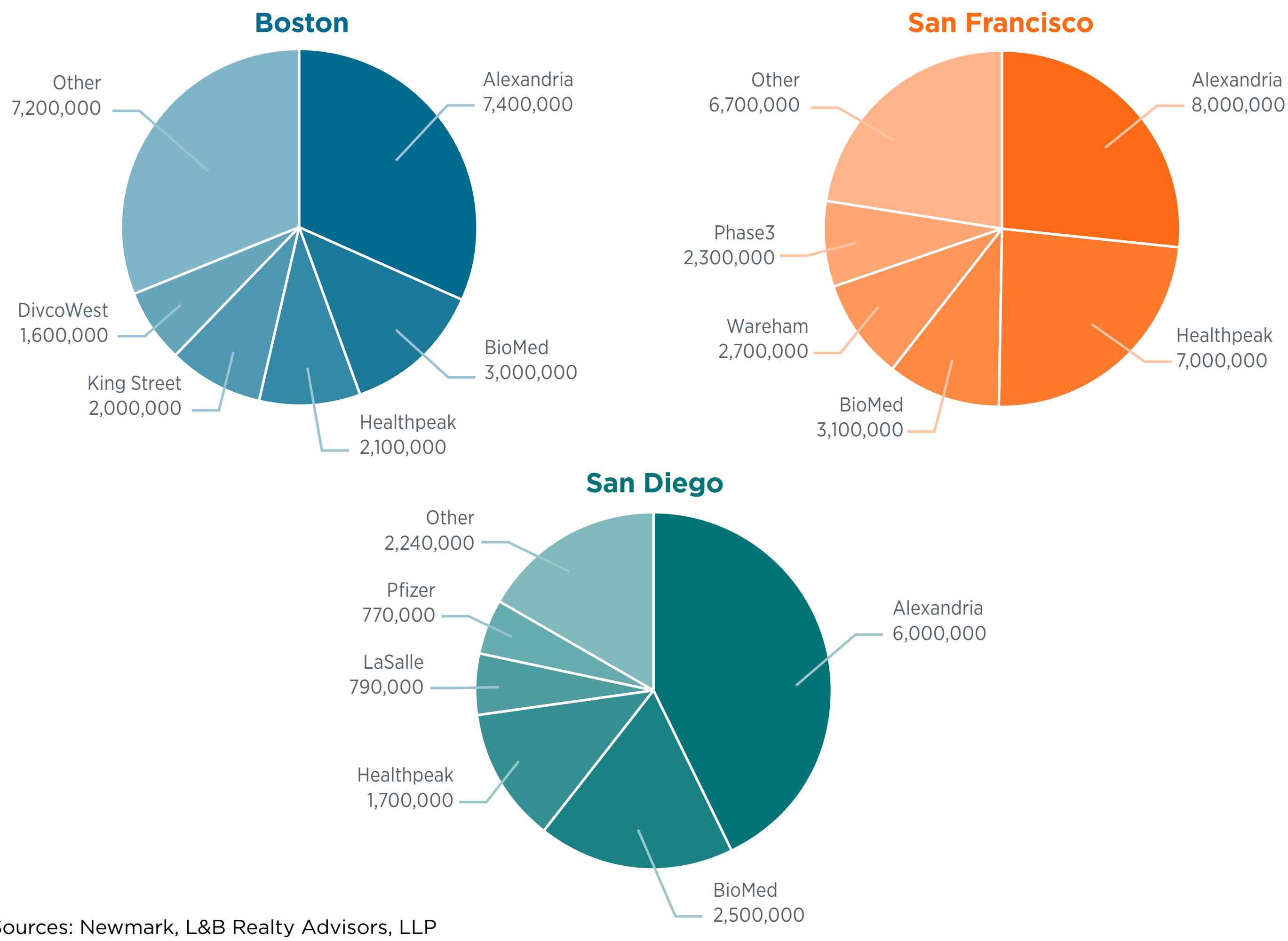
Simple and efficient way to mitigate the risk of deceased benefit fraud?

- ❍ A. Regular face-to-face contact with the legal claimant
- ❍ B. Regular correspondence through emails/letter
- ❍ C. Regular Verbal communication

Answer: A

REAL ESTATE CONTINUED FROM PAGE 4

Life Science Ownership by Market (Total Sq. Ft.)



Sources: Newmark, L&B Realty Advisors, LLP

The major markets break down into three primary Tier I Markets (Boston, San Francisco, San Diego) and four secondary Tier II markets (New York/New Jersey, Raleigh/Durham, Baltimore/D.C., Seattle). Moreover, Life Science assets in the top markets are highly concentrated among a small set of REITs and Biomed. The top five (5) owners in Boston/Cambridge control 70% of the investable Life Science market. Similarly, the top five 5 owners in both San Francisco Bay Area and San Diego control 77% and 84% of the investable Life Science market respectively.

The finite number of viable life science markets and significant barriers-to-entry in those markets are constraints to new development and provides significant opportunity for appreciation as rental rates rise with corresponding lack of supply. L&B is pursuing established cluster development opportunities in the Tier I Markets. ◆

1 Healthsystemtracker.org
2 Census.gov
3 BLS, Pitchbook, L&B Research

PERSist Quiz — Real Estate

What markets are considered Tier I Markets for life science opportunities?

❍ **A.** Boston ❍ **B.** San Francisco ❍ **C.** San Diego ❍ **D.** All of the above

Answer: D

Don't Miss NCPERS' Social Media

The Voice for Public Pensions

Calendar of Events 2021

August

[Public Pension Funding Forum (NYC)]
August 22 – 24

September

[NCPERS Accredited Fiduciary (Scottsdale, AZ)]
September 25 – 26

[FALL Conference (Scottsdale, AZ)]
September 26 – 28

October

[Chief Officers Summit (San Francisco)]
October 20 –22, 2021

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