AGENDA

Date: December 5, 2019

The regular meeting of the Dallas Police and Fire Pension System Board of Trustees will be held at **8:30 a.m. on Thursday, December 12, 2019, in the Second Floor Board Room at 4100 Harry Hines Boulevard, Dallas, Texas.** Items of the following agenda will be presented to the Board:

A. TRUSTEES

Welcome New and Reappointed Trustees

B. MOMENT OF SILENCE

C. CONSENT AGENDA

1. Approval of Minutes

Regular meeting of November 19, 2019

2. **Approval of Refunds of Contributions for the Month of November 2019**

3. **Approval of Activity in the Deferred Retirement Option Plan (DROP) for December 2019**

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 Military Leave Contributions**

D. DISCUSSION AND POSSIBLE ACTION REGARDING ITEMS FOR INDIVIDUAL CONSIDERATION

1. **Investment Advisory Committee Appointment**

2. **Chairman’s Discussion Items**

    2020 Board Calendar

3. **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, including claims against City of Dallas regarding unpaid contributions under USERRA, claims involving overpayment of benefits, consideration of legal options regarding DPFP's interests in funds managed by Lone Star Investment Advisors 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.**

4. **Lone Star Investment Advisors Update**

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

5. **Portfolio Update**

6. **Third Quarter 2019 Investment Performance Analysis and Second Quarter 2019 Private Markets & Real Assets Review**

7. **Fixed Income Portfolio Review**

8. **Interpretation of Qualified Surviving Spouse Special Death Benefit**

9. **2020 Proposed Budget**

10. Funding Policy – Combined Pension Plan

11. Report on Professional Services Committee

12. Monthly Contribution Report

13. Board approval of Trustee education and travel

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

14. Pension Obligation Bonds

15. Performance Review of Executive Director

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

E. BRIEFING ITEMS

1. Public Comment

2. Executive Director's report

a. Associations' newsletters
- NCPERS PERSist (Fall 2019)

b. Open Records

c. Seeking Trustee Input for Executive Performance Reviews

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

DISCUSSION SHEET

ITEM #A1

Topic: **Welcome New and Reappointed Trustees**

Discussion: The terms of Nicholas Merrick, Ray Nixon and Kneeland Youngblood ended on August 31, 2019. These three trustees have been serving as hold-over trustees waiting for Mayor Johnson to make his trustee appointments. Mayor Johnson made the following appointments:

Steve Idoux
Mark Malveaux
Allen R. Vaught

The terms of the new trustees will end on August 31, 2021.

In addition, Robert Walters resigned from the Board and Mayor Johnson appointed Nicholas Merrick to complete the remaining term which ends August 31, 2020.

Memorandum

CITY OF DALLAS

DA E November 26, 2019

O Kelly Gottschalk, DPFPS Executive Director

SUBJEC Mayoral Appointments to the DPFPS Board of Trustees

Pursuant to H.B. 3158, following consultation with the Dallas City Council, I hereby appoint the following individuals to the Dallas Police & Fire Pension System Board of Trustees for two-year terms ending August 31, 2021:

- Steve Idoux
- Mark Malveaux
- Allen Vaught

In addition, I hereby appoint Nicholas Merrick to the Dallas Police & Fire Pension System Board of Trustees to serve out Robert Walters' unexpired term, which ends August 31, 2020.

Additional information on the new appointees is attached.

Please let me know if you have any questions.

Best regards,

Eric Johnson
Mayor

"Our Product is Service"
Empathy | Ethics | Excellence | Equity

ROBERT C. WALTERS
[redacted]

November 22, 2019

Mayor Eric L. Johnson
City of Dallas
[redacted]

Dear Mayor Johnson:

Please accept this letter as the notice of my resignation from the Dallas Police and Fire Pension System's board. It has been my distinct honor and privilege to serve as a trustee for the past two years.

As I know you appreciate, the health and of the pension system is crucial to public safety and the vitality of our City. During these important years, our board and system staff worked diligently and together to guide the system through the overhaul mandated by HB 3158, a vital piece of legislation intended to normalize and place the system on a path to solvency. I endeavored to contribute my knowledge and efforts during this complex transition process. We made good progress, and while the fund is far from where it needs to be, we stabilized a pension system that threatened the City's finances, led to credit downgrades, and spurred an exodus of veteran police officers and firefighters. Because my expertise is less important for the board's purposes going forward, I believe it is in the City's and pension system's best interest that I step aside at this juncture. Of course, you may be assured that I will continue to work in any way I can to advance the system's and the City's interests.

Finally, I want to thank you for your leadership and for your service to Dallas. We are deeply in your debt for your ongoing efforts on behalf of the City and its citizens. I very much look forward to working with you in the years ahead to better our City.

Mayor Eric Johnson
November 22, 2019
Page 2

Best personal regards.

Very truly yours,

Bob Walters

Robert C. Walters

c: Mr. William Quinn, Chair
Ms. Kelly Gottschalk, Executive Director

Steve Idoux

Steve joined Lockton Dunning Benefits in March 2007 as partner and vice president. Prior to joining Lockton Dunning Benefits, Steve served in a sales and account management role at CIGNA. He is a recognized thought leader in employee benefits and possesses extensive experience aligning various types of health and welfare plans to corporate business objectives.

Over the course of his career. Steve has helped his clients save hundreds of millions of dollars in all areas of human resources including employee benefits. compensation. technology and operations.

Education

The University of Oklahoma, B.B.A., Management Information Systems

Professional Affiliations

DFW Business Group on Health, Member

International Society of Certified Employee Benefits Specialists. Member Southwest Benefits Association. Member

Professional Licensing

Group I - General Lines - Life, Accident. Health and HMO

Texas Property and Casualty

Civic Involvement

Dallas Friday Group, Board Member

Friends of the Dallas Police. Vice President

March of Dimes. Board Member

- 2015 Chair - March for Babies
- 2015 - Ambassador Family
- 2012-2015 - Breakfast with a Champion
- 2018 Chair - Signature Chefs

Step Up!, Board Member

Teach for America

State Fair of Texas. Chairman's Task Force

Awards and Recognition

Dallas Business Journal, 40 under 40

University of Oklahoma. 40 Most Influential Alumni

Mark Malveaux

Mark Malveaux joined the law firm of McCall, Parkhurst and Horton L.L.P. in 1993 and became a partner January 2000. Mr. Malveaux was the first African American public finance partner at a majority firm in the State of Texas. Mr. Malveaux received his Juris Doctor from the University of Virginia School of Law in 1992, where he was a quarterfinalist in the law school's Minor-Lile Moot Court competition and was awarded the Bracewell & Patterson Oral Advocacy Award.

Mr. Malveaux received his B.S. in Economics, magna cum laude, from Southern University in 1989. As an undergraduate, he was the first student at the school to be selected as a Harry S. Truman Scholar in 1987. Mr. Malveaux also studied public policy as a Sloan Fellow at Princeton University's Woodrow Wilson School of Public and International Affairs. Mr. Malveaux's practice includes work as bond counsel, underwriter's counsel and disclosure counsel.

Mr. Malveaux has extensive experience in public finance and fixed income. Mr. Malveaux has served as bond counsel to DFW Airport for nearly 20 years and has served as its counsel in over $10 billion dollars of debt obligations. Mr. Malveaux also has served on transactions for other large Texas issuers. Mr. Malveaux's expertise extends to serving as securities/disclosure counsel to governmental entities. Moreover, Mr Malveaux has served on the board of the transportation solution startup company, Savoya, where he was an angel investor.

Mr. Malveaux's professional affiliations include membership in the Texas State Bar, the American Bar Association, the Dallas Bar Association and the National Association of Bond Lawyers (NABL). He is also a fellow at the American College of Bond Counsel. Mr. Malveaux also served as a member of the board of directors of Texas C-Bar, a non-profit organization that provides pro bono transactional legal services. Mr. Malveaux has also been a financial supporter of the groundbreaking Dallas area boarding school experience AT LAST!, which will provide boarding school opportunities to Dallas Independent School District students.

Allen Vaught

Allen Vaught has been a licensed attorney for over 21 years. His practice primarily focuses on employment law and includes wage payment requirements (FLSA), medical leave (FMLA), and military service leave (USERRA). Vaught has tried many cases in state and federal court and has the distinction of having won every FLSA case taken to trial.

Vaught served in the Texas House of Representatives from 2007 to 2011 where he was appointed as Vice Chair of the Committee on Defense and Veterans Affairs, Vice Chair of the Criminal Jurisprudence Committee, Chair of the Subcommittee on Violent Crimes, and Chair of the Subcommittee on Border, Health, and School Centered Emergencies. Vaught was also a member of the Family Law committee. He introduced and helped pass the Veteran's Court Bill making Texas the second state in the United States to address mental health needs of our Veterans in the state judicial system. He received top legislator awards from many non-partisan groups, including the Texas Police Chiefs Association, Texas PTA, Children's Hospital Association of Texas, and Texas District and County Attorneys Association.

Vaught served as a U.S. Army captain in Iraq from April 2003 until March 2004 and led the first Civil Affairs/PSYOPS team to enter Fallujah. After eventually being transferred to Sadr City, Vaught was injured by an IED. He was honorably discharged from the Army as a result of his injuries. Vaught's awards include the Purple Heart, Combat Action Badge, and Order of the Spur. His unit also received the Valorous Unit Award for their Fallujah operations.

EDUCATION

Baylor University (B.B.A. – Accounting, 1995).

- Member, Baylor football team.
- Vice President, Sigma Alpha Epsilon.

South Texas College of Law (J.D., 1997).

- Mock trial championship team 1997.
- Phi Delta Phi.

LAW PRACTICE

Vaught Firm, LLC, 1910 Pacific Avenue, Suite 9150, Dallas, Texas 75201. Litigation practice primarily focused on federal and state employment law. Significant trial and appellate experience and many published federal cases.

LAW PRACTICE (cont.)

Licensed Attorney:

Texas, 1998, Mississippi, 2005.

Admitted to practice before the:

- United States Courts of Appeal for the Fifth Circuit, Ninth Circuit, and Armed Forces;
- United States District Courts for the following Districts: Eastern and Western Districts of Arkansas; District of Colorado; Southern District of Indiana; Southern District of Mississippi; District of New Mexico; Northern District of Ohio; Western District of Oklahoma; Northern, Eastern, Southern, and Western Districts of Texas; and the Eastern and Western Districts of Wisconsin; and
- United States Court of Federal Claims.

Legal Awards/Distinctions:

Named 2012, 2013, 2014, 2015, 2016, 2017, 2018, & 2019 “Super Lawyer” by Thomson Reuters Super Lawyers publication (Employment and Labor Law emphasis – limited to top 5% of Texas lawyers).

Texas Lawyer “Litigator of the Week” Award (Sep. 10, 2012) (relative to jury verdict for unpaid overtime wages for employees misclassified as independent contractors).

Member of National Employment Lawyers Association (“NELA”).

ELECTED OFFICE

Texas House of Representatives, Texas House District 107 - Dallas, 2007 to 2011.

Texas House Committee Leadership Positions:

- Vice Chairperson, Committee on Defense and Veterans Affairs, 2009 to 2011.
- Chairperson, Interim Subcommittee on Border Security, Health, and School Centered Emergencies, 2010 to 2011.
- Chairperson, Subcommittee on Violent Crimes, 2009.
- Vice Chairperson, Committee on Criminal Jurisprudence, 2007 to 2009.

Top Legislator/Legislator of the Year Awards:

- Golden Bootie Award, Children’s Hospital Association of Texas (2010).
- Law and Order Award, Texas District and County Attorneys Association (2009).
- Legislative Award, Texas Police Chiefs Association (2009).
- Children’s Advocacy Award, Texas Pediatric Society (2009).
- Legislative Advocate of the Year, Texas PTA (2009).
- Legislative Initiatives Nurturing Children Award, Children’s Medical Center of Dallas (2009).
- Legislator of the Year, Association of Texas Professional Educators, Region 10 (2009).
- Friends of Veterans Award, Texas Criminal Justice Coalition (2009).

DALLAS POLICE & FIRE PENSION SYSTEM

ITEM #B

MOMENT OF SILENCE

In memory of our Members and Pensioners who recently passed away

NAME	ACTIVE/ RETIRED	DEPARTMENT	DATE OF DEATH
Ricky P. Alberts	Retired	Fire	Nov. 12, 2019
Royce Massingill	Retired	Police	Nov. 17, 2019
Terry L. Speulda	Retired	Fire	Nov. 17, 2019

Regular Board Meeting – Thursday, December 12, 2019

DRAFT

Dallas Police and Fire Pension System
Tuesday, November 19, 2019
8:30 a.m.
4100 Harry Hines Blvd., Suite 100
Second Floor Board Room
Dallas, TX

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

ROLL CALL

Board Members

Present at	William F. Quinn, Nicholas A. Merrick, Joseph P. Schutz, Robert B. French, Ray Nixon, Susan M. Byrne, Tina Hernandez Patterson (by phone), Robert C. Walters, Armando Garza, Kneeland Youngblood (by phone)
Present at 9:58	Tina Hernandez Patterson
Absent:	Gilbert A. Garcia
Staff	Kelly Gottschalk, Josh Mond, Kent Custer, Brenda Barnes, John Holt, Damion Hervey, Cynthia Thomas, Ryan Wagner, Greg Irlbeck, Michael Yan, Milissa Romero
Others	Jill Svoboda, Matt Liu, Scott Freeman, Robert Jones, Jerry Rhodes, Sandy Alexander, Janis Elliston, David Elliston, Sheri Kowalski

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The meeting was called to order at 8:30 a.m.

The meeting was recessed at 10:22 a.m. and reconvened at 10:23 a.m.

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A. MOMENT OF SILENCE

The Board observed a moment of silence in memory of retired police officers Thomas E. Williams, Johnnie L. Sullivan, Felix G. Woodrow, Fredrick H. Smith, Robert E. McKinney, and retired firefighters M. E. Jungjohann, W. E. Sheppeard, Charles R. Pitman, John L. Ellison, Robert A. Davis, Luanne E. Kimball-East, H. K. Cops, Edward H. Ryer.

No motion was made.

Regular Board Meeting
Tuesday, November 19, 2019

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B. CONSENT AGENDA

1. Approval of Minutes

a. Required Public meeting of October 10, 2019
b. Regular meeting of October 10, 2019

After discussion, Ms. Byrne made a motion to approve the minutes of the required public meeting of October 2019. Mr. Walters seconded the motion, which was unanimously approved by the Board.

After discussion, Mr. Nixon made a motion to approve the minutes of the regular meeting of October 2019. Mr. Walters seconded the motion, which was unanimously approved by the Board.

After discussion, Mr. Merrick made a motion to approve the remaining items on the Consent Agenda, subject to the final approval of the staff. Ms. Byrne 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. Lone Star Investment Advisors Fund Extensions and Update

The Lone Star Growth Capital fund original term expired in October 2018 and has been extended twice. The Lone Star CRA fund original term expired in April 2019 and has been extended once. The current extensions for both funds expired on October 25, 2019. The General Partner proposed a six-month extension of each fund term with no management fee. Investment Staff updated the Board on recent performance, operational, and administrative developments with respect to DPFP investments in funds managed by Lone Star Investment Advisors.

The Board went into closed executive session – Legal at 8:33 a.m.

The meeting was reopened at 9:20 a.m.

After discussion, Mr. Merrick made a motion to authorize the Executive Director to enter into six-month extensions with no management fee on the Lone Star Growth Capital and Lone Star CRA funds. Ms. Byrne seconded the motion, which was unanimously approved by the Board.

DRAFT

Regular Board Meeting
Tuesday, November 19, 2019

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2. **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, including claims against City of Dallas regarding unpaid contributions under USERRA, consideration of legal options regarding DPFP's interests in funds managed by Lone Star Investment Advisors, claims related to overpayment of benefits 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 – Legal at 8:33 a.m.

   The meeting was reopened at 9:20 a.m.

   No motion was made.

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3. **Chairman's Discussion Item**

   Mayoral Trustee Appointments

   The Chairman briefed the Board on the status of the Mayoral Trustee Appointments.

   No motion was made.

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4. **Financial Audit**

   a. 2018 Audit Results
   b. Audit Committee
   c. 2019 Auditing Services Provider

   a. Representatives from BDO, DPFP's independent audit firm, were present to discuss the results of their audit for the year ended December 31, 2018.

   After discussion, Ms. Byrne made a motion to approve issuance of the 2018 audit report, subject to final review and approval by BDO and the Executive Director. Mr. Walters seconded the motion, which was unanimously approved by the Board.

DRAFT

Regular Board Meeting
Tuesday, November 19, 2019

4. Financial Audit (continued)

b. The Audit Committee met with representatives of BDO on October 30, 2019. The Committee Chair commented on Committee observations and advice.

c. In 2015, the Board gave direction to conduct a competitive selection process for specific service providers, including the audit firm, every five years unless the Board explicitly waives or extends the requirement. BDO has conducted the audit for six years. Staff discussed the pros and cons of conducting a competitive selection process for auditing services.

After discussion, Mr. Quinn made a motion to extend for one year the requirement to conduct a selection process for auditing services to allow BDO to conduct the 2019 audit. Ms. Hernandez Patterson seconded the motion, which was approved by the following vote:
For: Mr. Quinn, Mr. Merrick, Mr. Schutz, Mr. Nixon, Ms. Byrne, Ms. Hernandez Patterson, Mr. Walters, Mr. Garza, Mr. Youngblood
Against: Mr. French

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5. 2018 Comprehensive Annual Financial Report

Staff presented a draft of the 2018 Comprehensive Annual Financial Report.

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

After discussion, Mr. Nixon made a motion to authorize the Executive Director to issue the 2018 Comprehensive Annual Financial Report upon finalization. Ms. Hernandez Patterson seconded the motion, which was unanimously approved by the Board.

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6. Funding Path Sensitivity

In response to Mr. Merrick's request of the Actuary, Segal, at the October 2019 Board meeting, staff presented detail about the impact of a 6.5% rate of return assumption on the projected funding path for the Combined Plan.

No motion was made.

DRAFT

Regular Board Meeting
Tuesday, November 19, 2019

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7. Funding Policy

Senate Bill 2224 was adopted by the Texas Legislature in 2019 and requires that the Board adopt a funding policy that details the Board's plan for achieving a funded ratio for DPFP that is equal to or greater than 100 percent.

The Funding Policy must be adopted prior to January 1, 2020. The Board provided feedback on the draft funding policy and staff will present the final policy for adoption at the December 2019 Board meeting.

No motion was made.

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Mr. Merrick and Mr. Nixon left the meeting at 10:39 a.m.

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8. Quarterly Financial Reports

The Chief Financial Officer presented the third quarter 2019 financial statements.

No motion was made.

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9. Monthly Contribution Report

Staff presented the Monthly Contribution Report.

No motion was made.

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10. Required Training Manual Delivery

Section 3.013(c) of Article 6243a-1 requires the Executive Director annually deliver a training manual covering certain subject areas set forth in Section 3.013(b).

DRAFT

Regular Board Meeting
Tuesday, November 19, 2019

10. Required Training Manual Delivery (continued)

The Executive Director provided an overview of the contents, addressed new items in the manual and answered questions concerning the training manual.

No motion as made.

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11. Second reading and discussion of the 2020 Budget

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

After discussion, the Board directed staff to present the amended budget to the Board for consideration at the December 12, 2019 Board meeting. The Board also authorized forwarding the 2020 proposed budget to the City of Dallas for comment and the posting of the proposed budget to www.dpfp.org for member review prior to the December meeting.

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12. Portfolio Update

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

No motion was made.

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13. Benefit Underpayment Notification

Pursuant to the Correction of Errors in Benefits Payments Policy the Executive Director briefed the Board about an underpayment of a benefit in excess of $10,000.

No motion was made.

DRAFT

Regular Board Meeting
Tuesday, November 19, 2019

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14. Board approval of Trustee education and travel

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

No discussion was held, and no motion was made regarding Trustee education and travel. There was no future investment-related travel.

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15. Hardship Request

The Board went into closed executive session – Medical at 9:21 a.m.

The meeting was reopened at 9:26 a.m.

After discussion, Mr. Nixon made a motion to deny the hardship request because the expense could be relieved through other financial means. Mr. Garza seconded the motion, which was unanimously approved by the Board.

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D. BRIEFING ITEMS

1. Public Comment

The Board received public comments during the open forum.

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2. Executive Director's report

a. Associations' newsletters
  (1) NCPERS Monitor (October 2019)
  (2) NCPERS Monitor (November 2019)
b. Open Records

The Executive Director's report was presented.

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DRAFT

Regular Board Meeting
Tuesday, November 19, 2019

Ms. Gottschalk stated that there was no further business to come before the Board. On a motion by Mr. Schutz and a second by Ms. Byrne, the meeting was adjourned at 11:42 a.m.

____
William F. Quinn
Chairman

ATTEST:

____
Kelly Gottschalk
Secretary

DRAFT

DISCUSSION SHEET

ITEM #D1

Topic: **Investment Advisory Committee Appointment**

Discussion: The Board will discuss possible candidates to serve on the Investment Advisory Committee.

Staff Recommendation: **Appoint** members of the Investment Advisory Committee.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D2

Topic: **Chairman's Discussion Items**

2020 Board Calendar

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

DALLAS POLICE & FIRE PENSION SYSTEM

2020 BOARD MEETING DATES

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

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

DISCUSSION SHEET

ITEM #D3

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, including claims against City of Dallas regarding unpaid contributions under USERRA, claims involving overpayment of benefits, consideration of legal options regarding DPFP's interests in funds managed by Lone Star Investment Advisors 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.

DISCUSSION SHEET

ITEM #D4

Topic: **Lone Star Investment Advisors Update**

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

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

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D5

Topic: **Portfolio Update**

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

Regular Board Meeting – Thursday, December 12, 2019

DALLAS POLICE & FIRE PENSION SYSTEM

Portfolio Update

December 12, 2019

Asset Allocation

DPFP Asset Allocation	% weight				$ millions		
	11/30/19	Target	Variance		11/30/19	Target	Variance
Equity	**40.8%**	**55.0%**	**-14.2%**		**846**	**1,142**	**-295**
Global Equity	24.1%	40.0%	-15.9%		500	830	-331
Emerging Markets	2.4%	10.0%	-7.6%		50	208	-157
Private Equity*	14.3%	5.0%	9.3%		296	104	193
Fixed Income	**31.8%**	**35.0%**	**-3.2%**		**660**	**726**	**-66**
Safety Reserve - Cash	4.8%	3.0%	1.8%		99	62	37
Safety Reserve - ST IG Bonds	12.7%	12.0%	0.7%		263	249	13
Investment Grade Bonds	1.8%	4.0%	-2.2%		37	83	-46
Global Bonds	3.2%	4.0%	-0.8%		67	83	-16
High Yield Bonds	4.1%	4.0%	0.1%		84	83	1
Bank Loans	3.9%	4.0%	-0.1%		80	83	-3
Emerging Mkt Debt	1.0%	4.0%	-3.0%		21	83	-62
Private Debt*	0.5%	0.0%	0.5%		9	0	9
Real Assets*	**27.4%**	**10.0%**	**17.4%**		**569**	**208**	**362**
Real Estate*	18.3%	5.0%	13.3%		379	104	276
Natural Resources*	6.5%	5.0%	1.5%		134	104	30
Infrastructure*	2.7%	0.0%	2.7%		56	0	56
Total	**100.0%**	**100.0%**	**0.0%**		**2,076**	**2,076**	**0**
Safety Reserve	17.4%	15.0%	2.4%		362	311	50
*Private Market Assets	42.2%	15.0%	27.2%		875	311	564

Source: Preliminary JP Morgan Custodial Data, Staff Calculations

DALLAS POLICE & FIRE PENSION SYSTEM

2019 Investment Review Calendar*

1Q19 ✓	• Real Estate Reviews: Vista 7, King's Harbor, & Museum Tower • Real Estate Presentations: Clarion, AEW • Global Equity Structure Review (Staff/Meketa)
2Q19 ✓	• Staff Timber Portfolio Review (FIA & BTG) • Natural Resources: Hancock Presentation • Real Estate: Hearthstone Presentation
July ✓	• Infrastructure: Staff review of AIRRO and JPM Maritime
Sept. ✓	• Private Equity: Staff review of Private Equity and Debt
October ✓	• Global Equity Manager Reviews
December	• Fixed Income Manager Reviews

*Presentation schedule is subject to change.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D6

Topic: **Third Quarter 2019 Investment Performance Analysis and Second Quarter 2019 Private Markets & Real Assets Review**

Attendees: Aaron Lally, Executive Vice President – Meketa Investment Group
Shawn Bowen, Assistant Vice President – Meketa Investment Group

Discussion: Meketa and Investment Staff will review investment performance.

Regular Board Meeting – Thursday, December 12, 2019

FUND EVALUATION REPORT

Dallas Police & Fire Pension System

Quarterly Review
As of September 30, 2019

MEKETA INVESTMENT GROUP

Boston Massachusetts | Chicago Illinois | Miami Florida | New York New York | Portland Oregon | San Diego California | London United Kingdom

www.meketagroup.com

Agenda

1. **Executive Summary**
2. **3Q19 Review**
3. **Disclaimer, Glossary, and Notes**

Executive Summary

Third Quarter Performance Driver

- Total third quarter DPFP performance was significantly skewed (positively) from one private equity investment.
- The impact (+$83.7 million in unrealized appreciation) is due to the updated December 31, 2018 valuation of Huff Energy Fund.
- DPFP's net asset value in the fund increased from $98.0 million to $181.7 million. No cash flows occurred in-between valuation dates. The increase in fund NAV was directly attributable to a single portfolio company.
- The December 31, 2018 valuation was released in late August 2019 and applied to the third quarter DPFP performance report.
- Staff follow-up confirmed that the valuation process was consistent with the prior years and that the valuation increase was primarily driven by changes in assumptions.

DPFP 3Q19 Flash Summary

Category	Result	Notes
Total Fund Performance Return	**Positive**	4.1%
Performance vs. Policy Index	**Outperformed**	4.1% vs. 0.1%
Performance vs. Peers	**Outperformed**	1st percentile in peer group in 3Q19[1]
Asset Allocation vs. Targets	**Favorable**	Overweight PE and underweight EM helped
Safety Reserve Exposure	**Sufficient**	$351 million (approximately 17%)
Active Management	**Favorable**	Private Equity
DPFP Public Markets vs. 60/40[2]	**Underperformed**	-0.3% vs. 0.2%
DPFP Public Markets vs. Peers	**Underperformed**	97th percentile in peer group in 3Q19[1]
Compliance with Targets	**No**	Under minimums in Investment Grade Bond and EM Debt[3]

1 InvestorForce Public DB $1-$5 billion net accounts.
2 Performance of Total Fund excluding private market investments relative to a 60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index.
3 Investment Grade Bonds and Emerging Market Debt are below target minimums in accordance with following the implementation plan approved by the Trustees.

DPFP Trailing One-Year Flash Summary

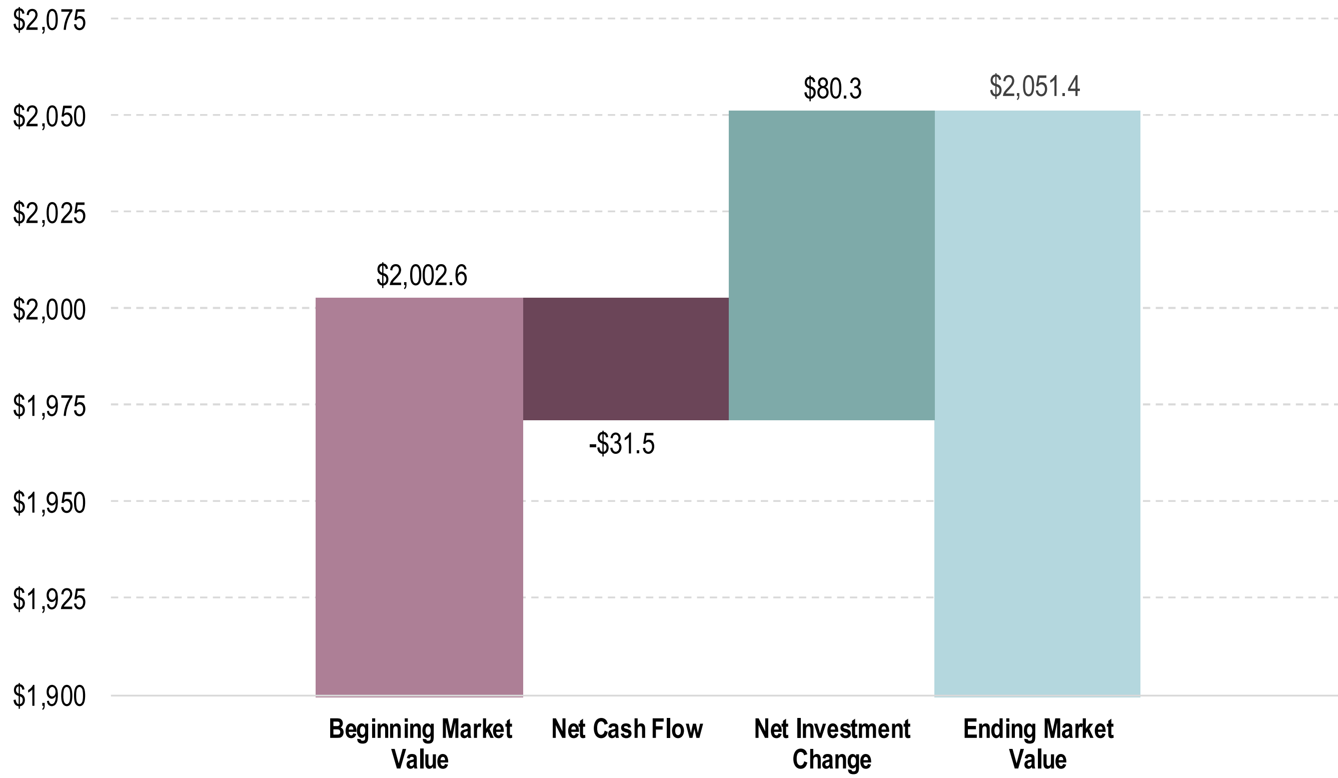
Category	Trailing 1 YR Result	1 YR Notes
Total Fund Performance Return	Positive	5.2%
Performance vs. Policy Index	Outperformed	5.2% vs. 1.9%
Performance vs. Peers	Outperformed	5th percentile in peer group[1]
Asset Allocation vs. Targets	Favorable	Overweight PE and underweight EM helped
Active Management	Favorable	PE, Global Equity, EM Equity - Positive Selection
DPFP Public Markets vs. 60/40[2]	Underperformed	3.2% vs. 3.7%
DPFP Public Markets vs. Peers	Underperformed	51st percentile in peer group[1]

DPFP Trailing Three-Year Flash Summary

Category	Trailing 3 YR Result	3 YR Notes
Total Fund Performance Return	Positive	4.1%
Performance vs. Policy Index	Underperformed	4.1% vs. 6.3%
Performance vs. Peers	Underperformed	99th percentile in peer group[1]
Active Management	Detracted	PE, NR, RE and PD - Negative Selection
DPFP Public Markets vs. 60/40[2]	Underperformed	5.6% vs. 6.4%
DPFP Public Markets vs. Peers	Underperformed	99th percentile in peer group[1]

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

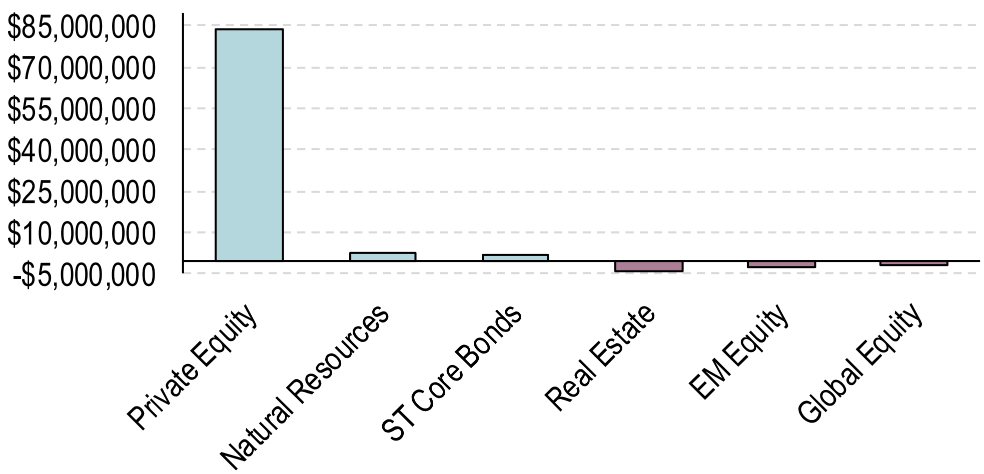
Quarterly Change in Market Value



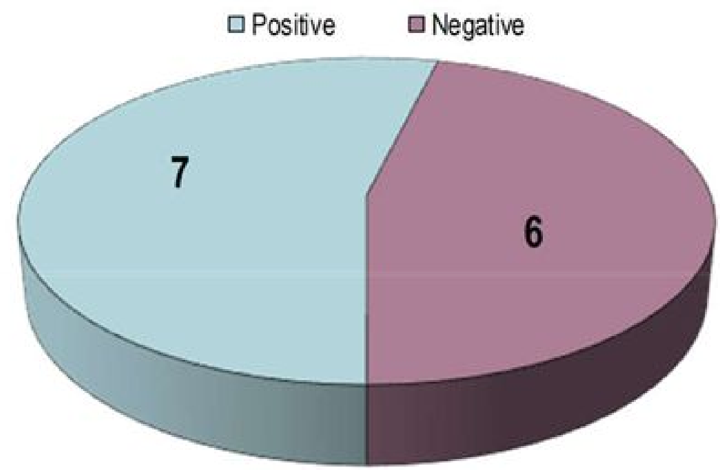
- Total market value increased due to positive investment performance.

Quarterly Absolute Performance

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



Asset Class Absolute Performance[2]

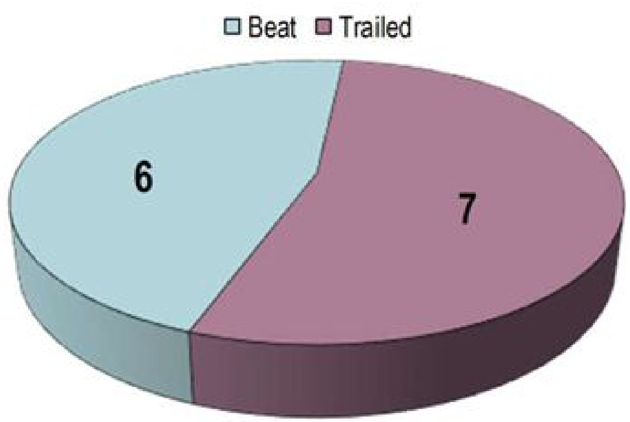


- Asset class performance was mixed during the quarter.
- In absolute terms, private equity appreciated the most, gaining approximately $84 million in market value.
- Real estate depreciated the most, losing approximately $4 million in market value.

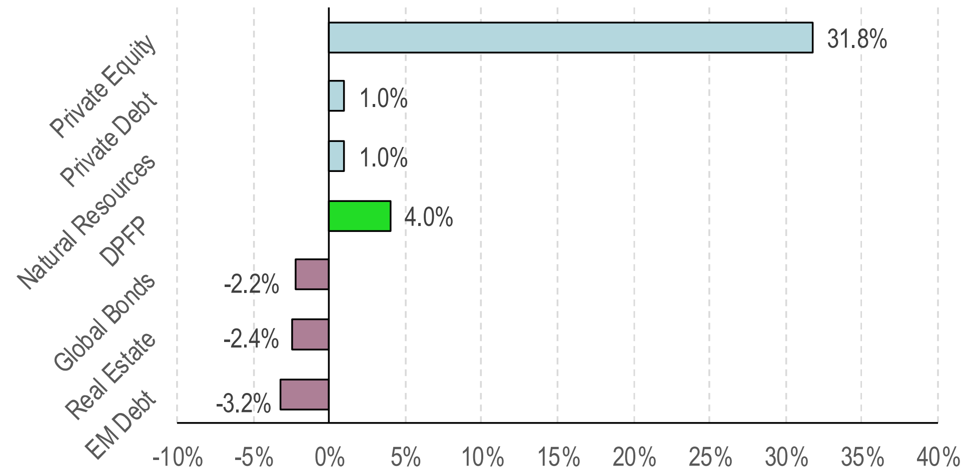
[1] Estimated gain/loss calculated by multiplying beginning market value by quarterly performance.
[2] Investment grade bonds was funded on September 4 and was not included in this analysis.

Quarterly Relative Performance

Asset Classes vs. Benchmarks[1]



Top Three and Bottom Three Asset Classes vs. Benchmarks

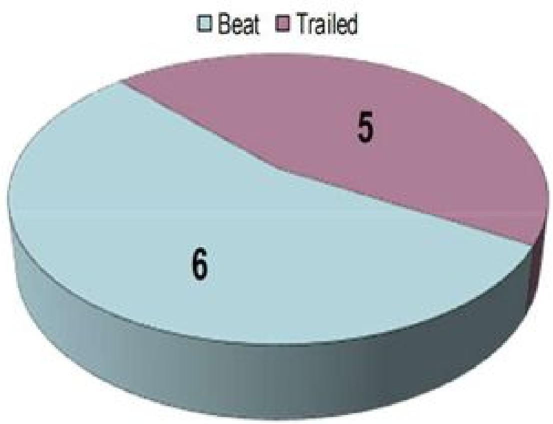


- In the quarter, private equity, private debt and natural resources had the best relative performance.
- Emerging markets debt, real estate and global bonds had the worst relative performance in the quarter.
- Six of the thirteen asset classes delivered positive relative performance versus respective benchmarks.

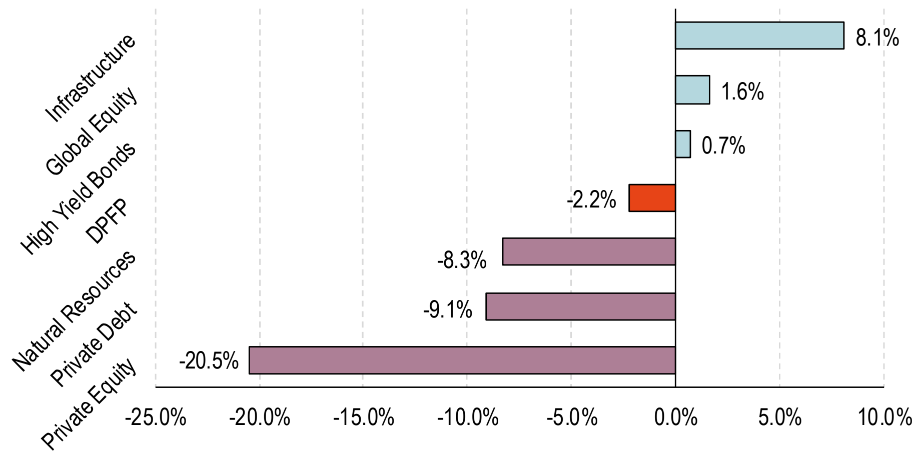
[1] Investment grade bonds was funded on September 4 and was not included in this analysis.

Trailing Three-Year Relative Performance

Asset Classes vs. Benchmarks



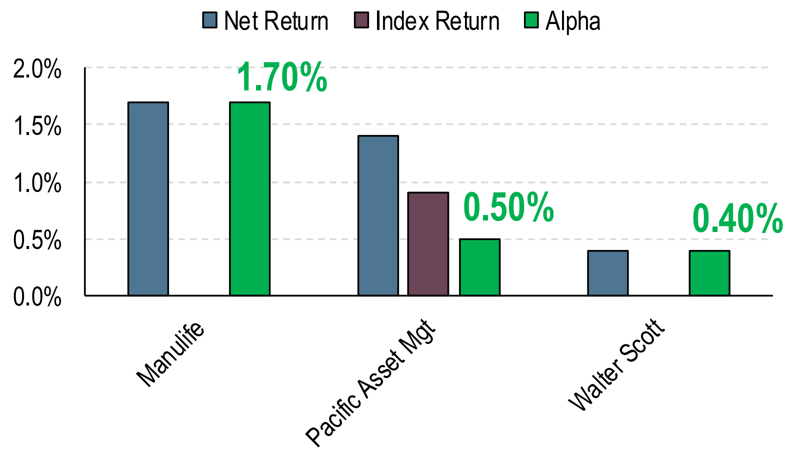
Top Three and Bottom Three Asset Classes vs. Benchmarks



- Six of the eleven asset classes with trailing three-year return history have delivered positive relative performance versus respective benchmarks.
- Over the trailing three-year period, the best relative performance came from infrastructure, global equity and high yield bonds.
- Private equity, private debt and natural resources had the worst relative performance over the three-year trailing period.

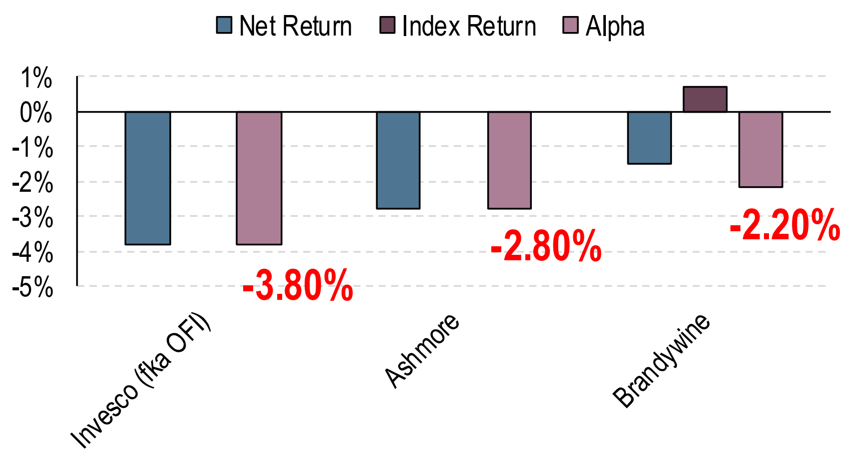
Public Manager Alpha

Top Three Outperformers in Quarter



$280 million combined exposure

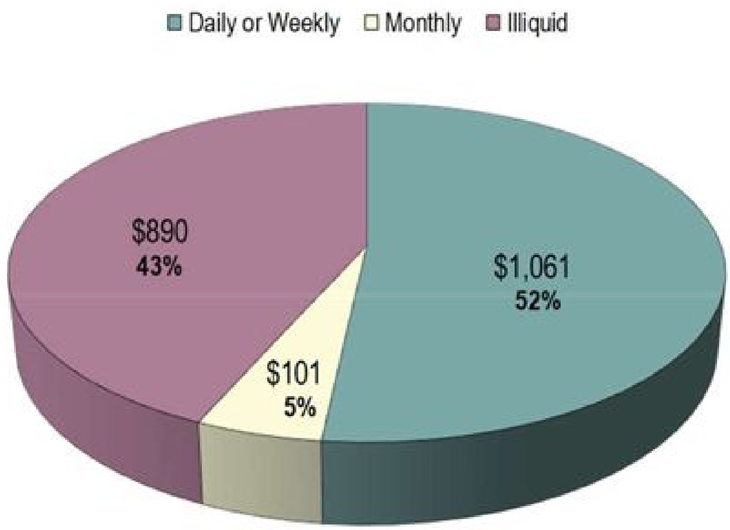
Bottom Three Underperformers in Quarter



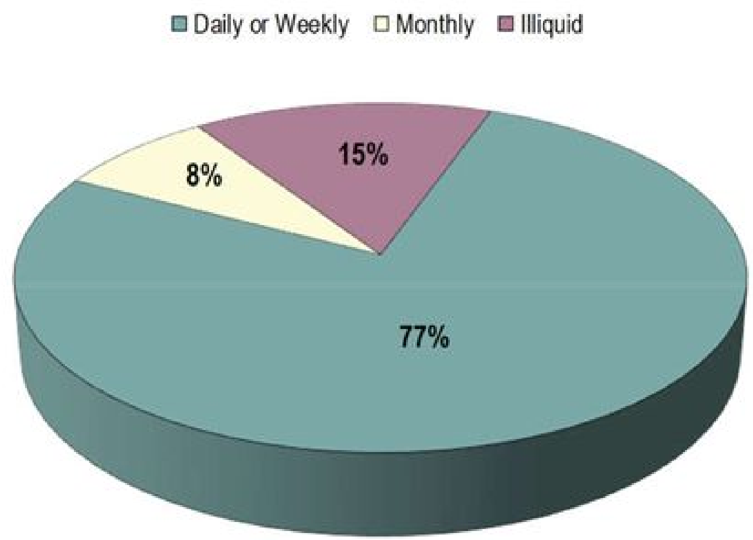
$203 million combined exposure

Liquidity Exposure
as of September 30, 2019

Exposure ($mm)



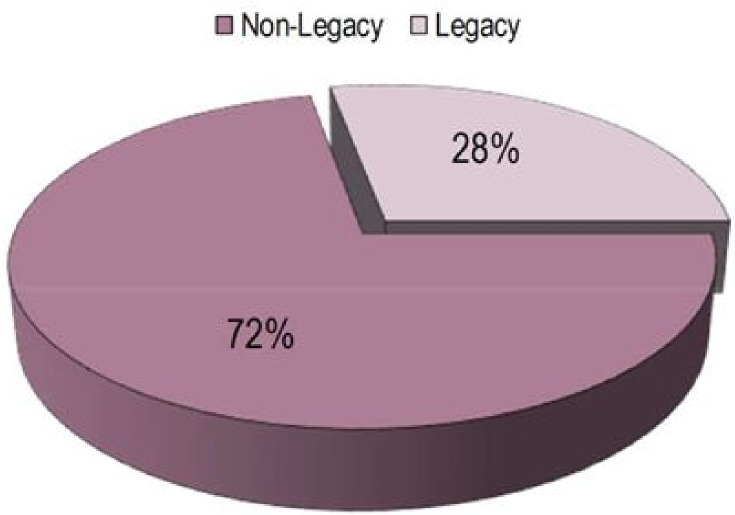
Targets



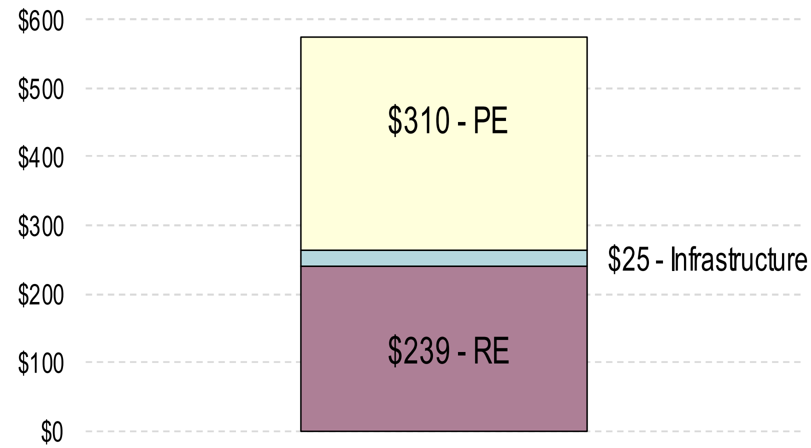
- Approximately 43% of the System's assets are illiquid versus 15% of the target allocation.

* Assets can be redeemed between monthly and annual basis often with gating, lock-ups or notice of more than 30 days required.

Legacy Assets



Exposure ($ mm)



$574 million

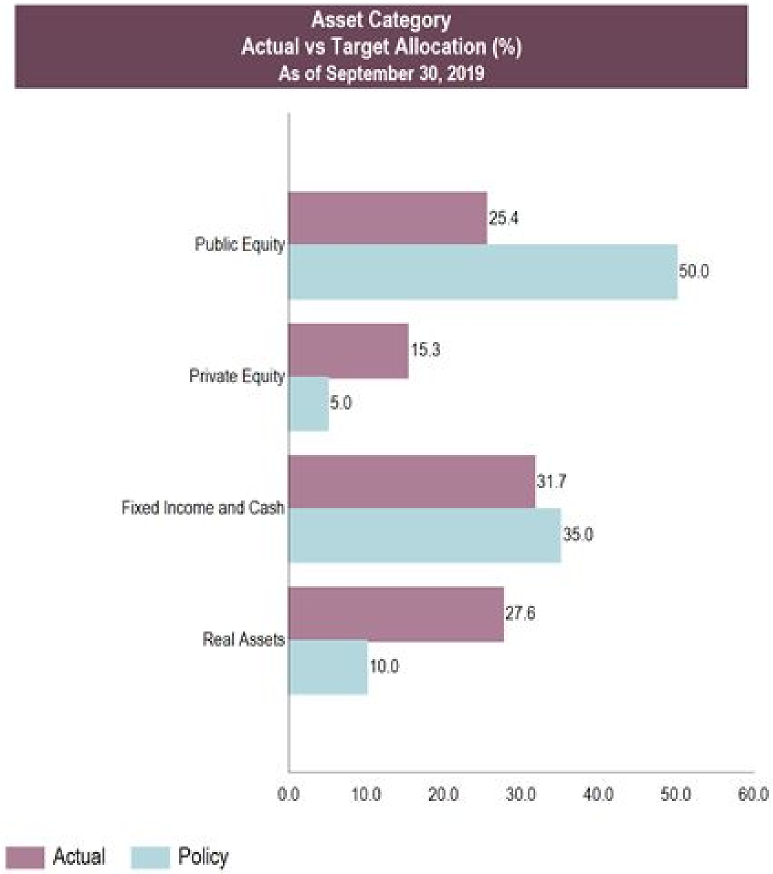
Net Asset Value of Legacy Assets

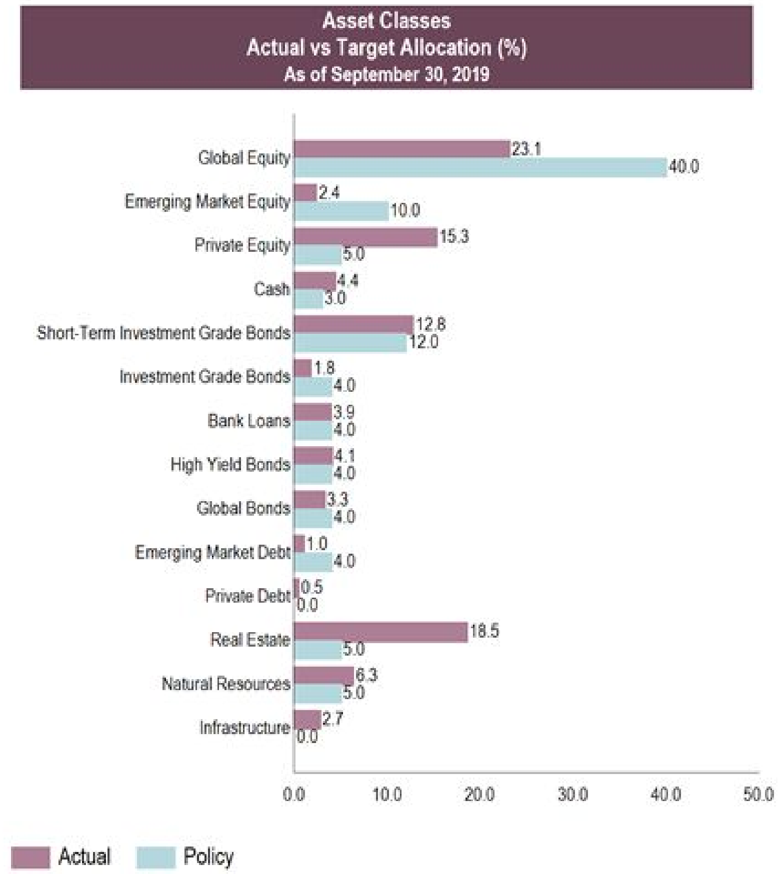
3Q19 Review

Dallas Police & Fire Pension System

DPFP

As of September 30, 2019





Dallas Police & Fire Pension System

DPFP

As of September 30, 2019

Allocation vs. Targets and Policy

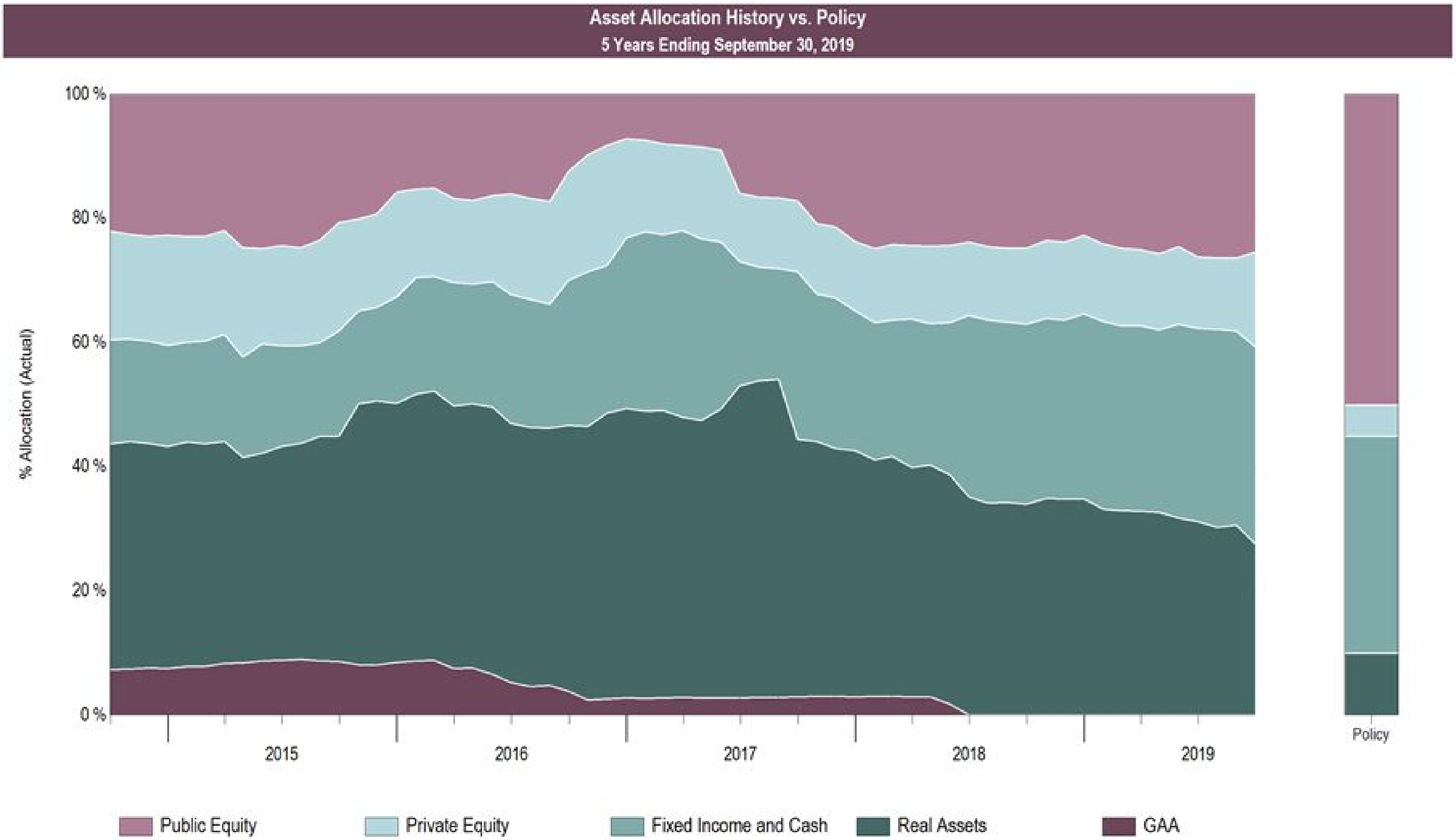
	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
Equity	**$835,669,923**	**41%**	**55%**		
Global Equity	$473,766,806	23%	40%	18% - 48%	Yes
Emerging Market Equity	$48,313,408	2%	10%	0% - 12%	Yes
Private Equity	$313,589,709	15%	5%		
Fixed Income and Cash	**$649,404,340**	**32%**	**35%**		
Cash	$89,679,516	4%	3%	0% - 5%	Yes
Short-Term Investment Grade Bonds	$261,582,683	13%	12%	5% - 15%	Yes
Investment Grade Bonds	$36,706,556	2%	4%	2% - 6%	No
Bank Loans	$80,511,192	4%	4%	2% - 6%	Yes
High Yield Bonds	$83,880,156	4%	4%	2% - 6%	Yes
Global Bonds	$66,941,579	3%	4%	2% - 6%	Yes
Emerging Market Debt	$20,537,798	1%	4%	2% - 6%	No
Private Debt	$9,564,860	0%	0%		
Real Assets	**$566,358,857**	**28%**	**10%**		
Real Estate	$380,103,520	19%	5%		
Natural Resources	$130,193,631	6%	5%		
Infrastructure	$56,061,706	3%	0%		
Total	**$2,051,433,119**	**100%**	**100%**		

As of 9/30/2019, the Safety Reserve exposure was approximately $351.3 million (17.1%).
Rebalancing ranges are not established for illiquid assets (Private Equity, Private Debt, Natural Resources, Infrastructure and Real Estate)

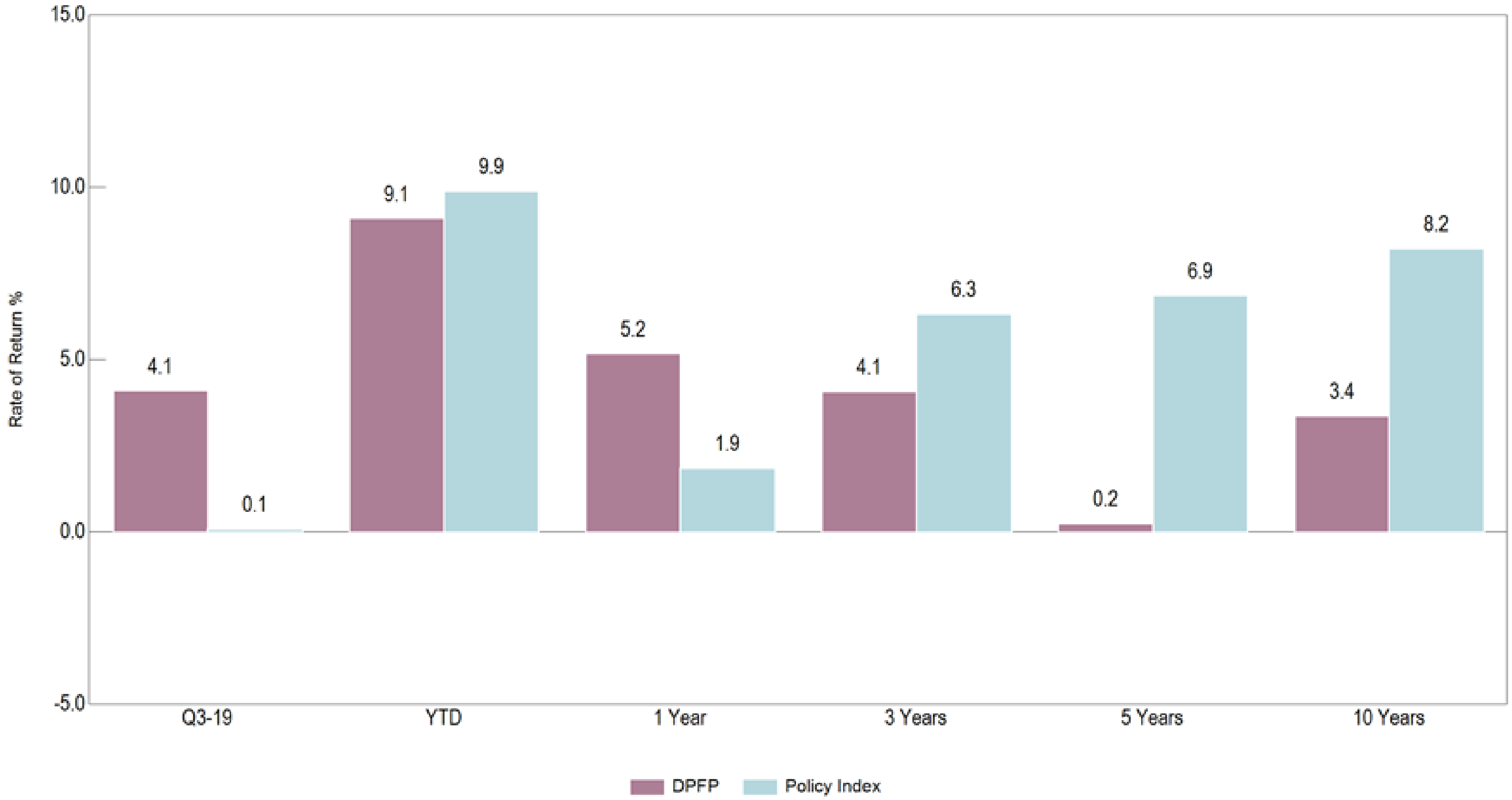
Dallas Police & Fire Pension System

DPFP

As of September 30, 2019



Net Return Summary
Ending September 30, 2019

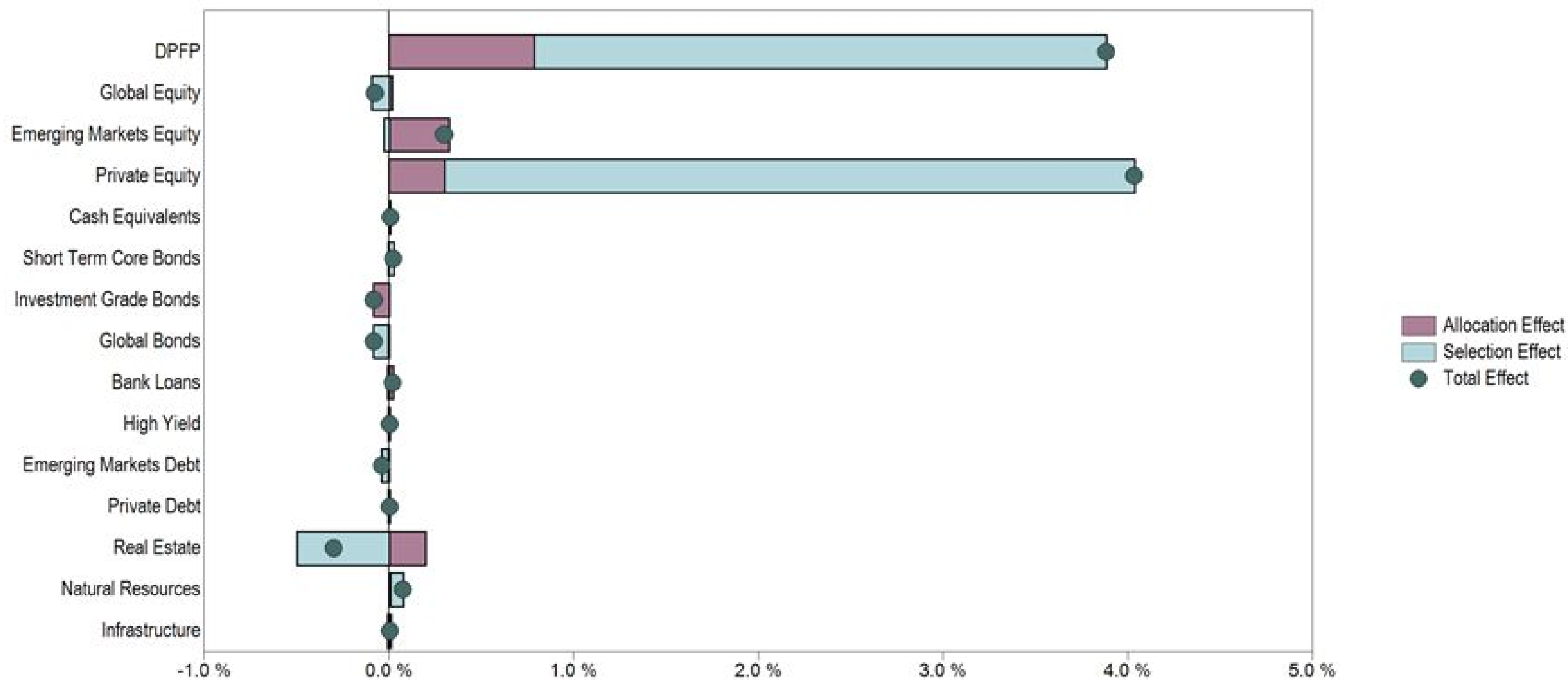


Dallas Police & Fire Pension System

DPFP

As of September 30, 2019

Attribution Effects vs. Policy Benchmark
3 Months Ending September 30, 2019



Attribution Summary
3 Months Ending September 30, 2019

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Total	**4.1%**	**0.2%**	**3.9%**	**3.1%**	**0.8%**	**3.9%**

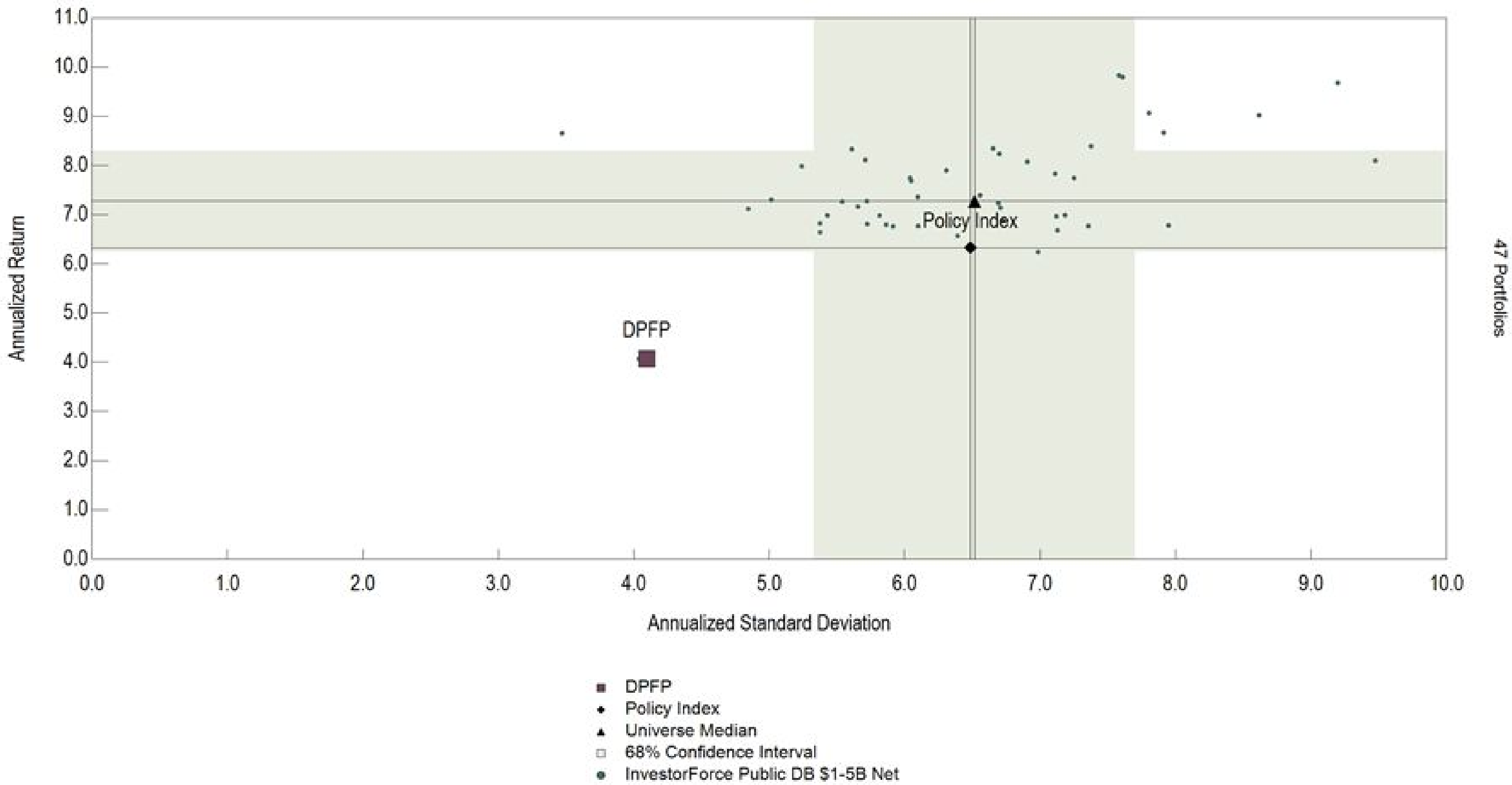
The performance claculation methodology in attribution tables is different from the standard time weighted returns (geometric linkage of monthly returns) found throughout the rest of the report. In attribution tables, the average weight of each asset class (over the specified time period) is multiplied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

Dallas Police & Fire Pension System

DPFP

As of September 30, 2019

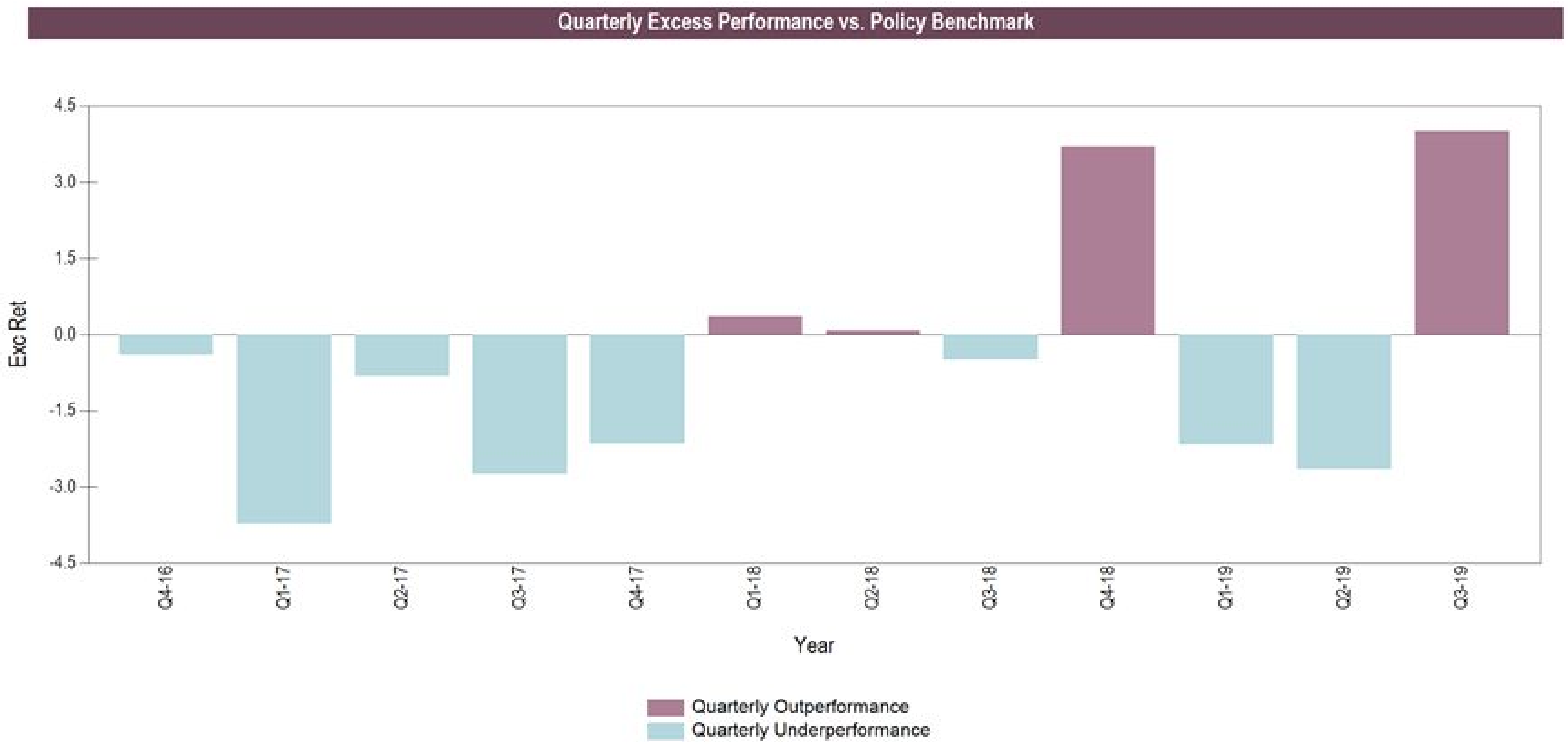
Net Annualized Return vs. Annualized Standard Deviation
3 Years Ending September 30, 2019



Dallas Police & Fire Pension System

DPFP

As of September 30, 2019



Dallas Police & Fire Pension System

DPFP

As of September 30, 2019

Total Fund Correlation Matrix
1 Year Ending September 30, 2019

	DPFP	Policy Index	60% MSCI ACWI/40% Barclays Global Agg
DPFP	1.00	--	--
Policy Index	0.73	1.00	--
60% MSCI ACWI/40% Barclays Global Agg	0.67	0.99	1.00

Total Fund Correlation Matrix
3 Years Ending September 30, 2019

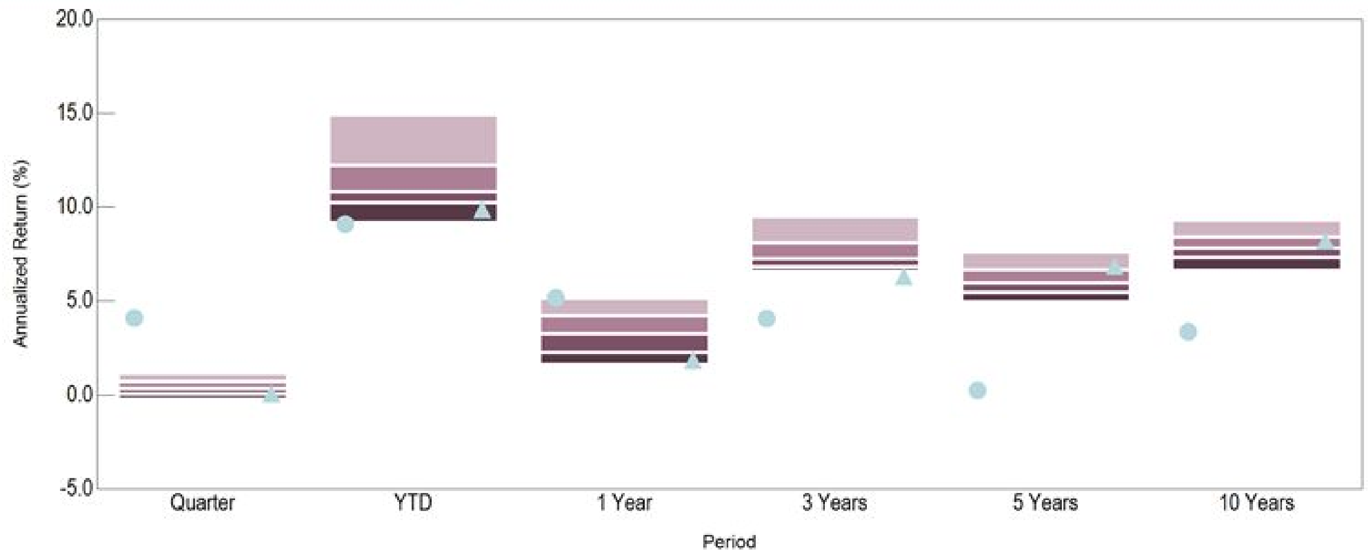
	DPFP	Policy Index	60% MSCI ACWI/40% Barclays Global Agg
DPFP	1.00	--	--
Policy Index	0.70	1.00	--
60% MSCI ACWI/40% Barclays Global Agg	0.65	0.97	1.00

Dallas Police & Fire Pension System

DPFP

As of September 30, 2019

Total Plan vs. InvestorForce Public DB $1-5B Net Accounts
Ending September 30, 2019

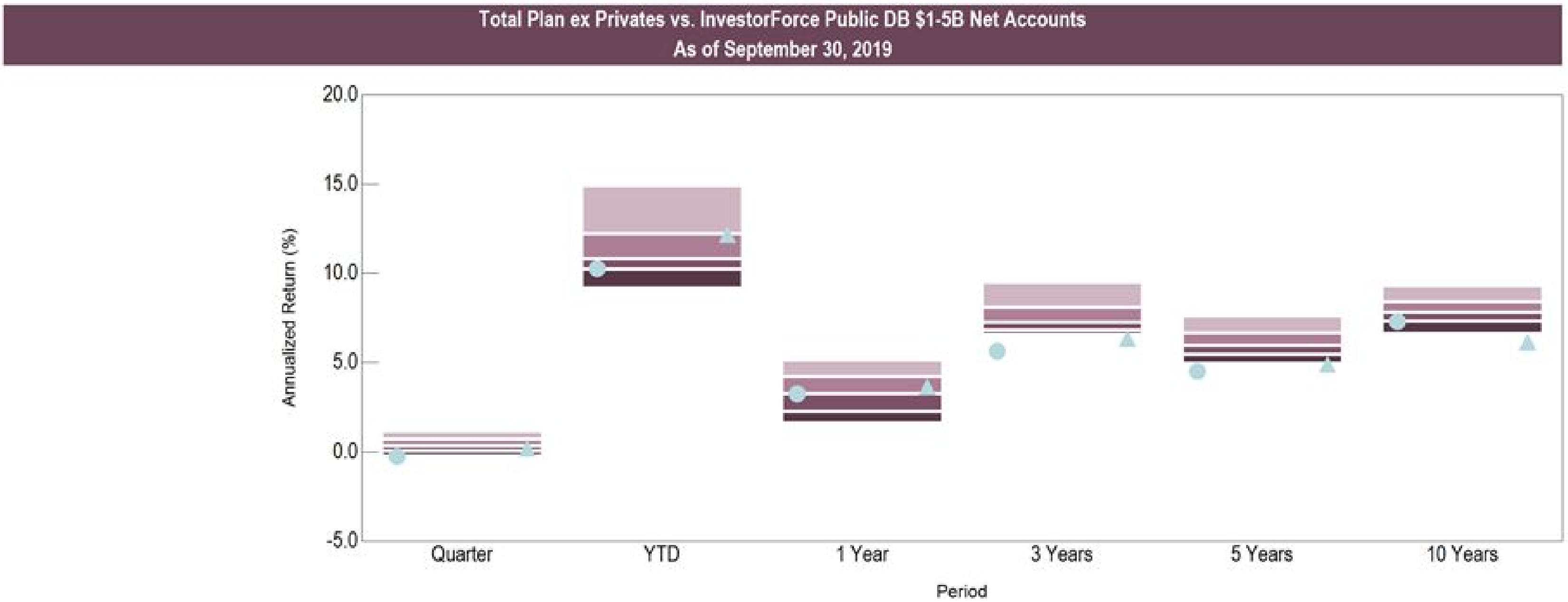


	Quarter		YTD		1 Year		3 Years		5 Years		10 Years	
	Return (Rank)											
5th Percentile	1.1		14.9		5.2		9.5		7.6		9.3	
25th Percentile	0.7		12.2		4.2		8.1		6.7		8.4	
Median	0.4		10.9		3.3		7.3		6.0		7.9	
75th Percentile	0.1		10.2		2.3		6.8		5.5		7.3	
95th Percentile	-0.2		9.2		1.6		6.6		5.0		6.7	
# of Portfolios	47		47		47		47		46		42	
DPFP	4.1	(1)	9.1	(98)	5.2	(5)	4.1	(99)	0.2	(99)	3.4	(99)
Policy Index	0.1	(76)	9.9	(81)	1.9	(89)	6.3	(98)	6.9	(20)	8.2	(30)

Dallas Police & Fire Pension System

DPFP

As of September 30, 2019



	Quarter Return	(Rank)	YTD Return	(Rank)	1 Year Return	(Rank)	3 Years Return	(Rank)	5 Years Return	(Rank)	10 Years Return	(Rank)
5th Percentile	1.1		14.9		5.2		9.5		7.6		9.3	
25th Percentile	0.7		12.2		4.2		8.1		6.7		8.4	
Median	0.4		10.9		3.3		7.3		6.0		7.9	
75th Percentile	0.1		10.2		2.3		6.8		5.5		7.3	
95th Percentile	-0.2		9.2		1.6		6.6		5.0		6.7	
# of Portfolios	47		47		47		47		46		42	
Total Fund ex Privates	-0.3	(97)	10.3	(74)	3.2	(51)	5.6	(99)	4.5	(98)	7.3	(79)
60% MSCI ACWI IMI Net/40% Barclays Global	0.2	(71)	12.2	(26)	3.7	(40)	6.4	(98)	4.9	(97)	6.2	(97)

Dallas Police & Fire Pension System

DPFP

As of September 30, 2019

Asset Class Performance Summary (Net)

	Market Value ($)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
DPFP	**2,051,433,119**	**100.0**	**4.1**	**9.1**	**5.2**	**4.1**	**0.2**	**3.4**	**5.9**	**Jun-96**
Policy Index			*0.1*	*9.9*	*1.9*	*6.3*	*6.9*	*8.2*	*--*	*Jun-96*
Allocation Index			*1.0*	*8.0*	*3.0*	*6.7*	*7.1*	*7.9*	*7.2*	*Jun-96*
Total Fund Ex Private Markets			*-0.3*	*10.3*	*3.2*	*5.6*	*4.5*	*7.3*	*5.4*	*Jun-96*
60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index			*0.2*	*12.2*	*3.7*	*6.4*	*4.9*	*6.2*	*6.0*	*Jun-96*
Global Equity	**473,766,806**	**23.1**	**-0.3**	**18.1**	**2.1**	**11.0**	**8.3**	**9.5**	**6.4**	**Jul-06**
MSCI ACWI IMI Net USD			*-0.2*	*15.9*	*0.5*	*9.4*	*6.6*	*8.4*	*5.9*	*Jul-06*
Emerging Markets Equity	**48,313,408**	**2.4**	**-5.1**	**7.2**	**3.3**	**--**	**--**	**--**	**-2.2**	**Jan-18**
MSCI Emerging Market IMI Net			*-4.3*	*5.4*	*-2.4*	*5.4*	*2.0*	*3.4*	*-6.1*	*Jan-18*
Private Equity	**313,589,709**	**15.3**	**36.5**	**25.2**	**24.2**	**-4.9**	**-6.4**	**-0.7**	**1.0**	**Oct-05**
Cambridge Associates US All PE (1 Qtr Lag)			*4.7*	*8.0*	*12.0*	*15.6*	*11.7*	*14.7*	*12.9*	*Oct-05*
Cash Equivalents	**89,679,516**	**4.4**	**0.6**	**1.8**	**2.4**	**1.6**	**--**	**--**	**1.5**	**Apr-15**
91 Day T-Bills			*0.5*	*1.7*	*2.3*	*1.5*	*1.0*	*0.5*	*1.1*	*Apr-15*
Short Term Core Bonds	**261,582,683**	**12.8**	**0.8**	**3.7**	**4.7**	**--**	**--**	**--**	**2.5**	**Jun-17**
BBgBarc US Treasury 1-3 Yr TR			*0.6*	*3.1*	*4.4*	*1.5*	*1.3*	*1.2*	*2.0*	*Jun-17*
Investment Grade Bonds	**36,706,556**	**1.8**								
BBgBarc US Aggregate TR			*2.3*	*8.5*	*10.3*	*2.9*	*3.4*	*3.7*	*8.8*	*Aug-18*
Global Bonds	**66,941,579**	**3.3**	**-1.5**	**5.1**	**3.8**	**1.9**	**1.8**	**--**	**2.7**	**Dec-10**
BBgBarc Global Aggregate TR			*0.7*	*6.3*	*7.6*	*1.6*	*2.0*	*2.3*	*2.1*	*Dec-10*
Bank Loans	**80,511,192**	**3.9**	**0.9**	**5.9**	**2.7**	**4.8**	**4.1**	**--**	**4.1**	**Jan-14**
S&P/LSTA Leveraged Loan			*1.0*	*6.8*	*3.1*	*4.5*	*4.0*	*--*	*3.8*	*Jan-14*
High Yield	**83,880,156**	**4.1**	**-0.6**	**5.7**	**-0.4**	**5.5**	**3.2**	**--**	**6.0**	**Dec-10**
BBgBarc Global High Yield TR			*-0.7*	*8.8*	*5.0*	*4.8*	*4.5*	*7.4*	*6.2*	*Dec-10*
Emerging Markets Debt	**20,537,798**	**1.0**	**-2.8**	**7.0**	**6.5**	**3.8**	**3.3**	**--**	**3.5**	**Dec-10**
50% JPM EMBI/50% JPM GBI-EM			*0.4*	*10.4*	*10.9*	*3.9*	*3.1*	*--*	*3.5*	*Dec-10*
Private Debt	**9,564,860**	**0.5**	**0.8**	**2.3**	**0.9**	**-2.2**	**--**	**--**	**-2.1**	**Jan-16**
Barclays Global High Yield +2%			*-0.2*	*10.4*	*7.1*	*6.9*	*--*	*--*	*9.8*	*Jan-16*

[1] Please see the Appendix for composition of the Custom Benchmarks. [2] As of 9/30/2019, the Safety Reserve exposure was approximately $351.3 million (17.1%).[3] All private market data is one quarter lagged, unless otherwise noted.

Prepared by Meketa Investment Group

Dallas Police & Fire Pension System

DPFP

As of September 30, 2019

Asset Class Performance Summary (Net)

	Market Value ($)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Estate	**380,103,520**	**18.5**	**-0.9**	**0.3**	**0.9**	**4.2**	**-6.3**	**-3.5**	**3.7**	**Mar-85**
NCREIF Property (1-quarter lagged)			*1.5*	*4.8*	*6.5*	*6.9*	*8.8*	*9.3*	*8.1*	*Mar-85*
Natural Resources	**130,193,631**	**6.3**	**1.7**	**5.4**	**4.3**	**-2.0**	**1.4**	**--**	**4.1**	**Dec-10**
NCREIF Farmland Total Return Index 1Q Lag			*0.7*	*4.3*	*5.7*	*6.3*	*8.0*	*11.1*	*11.9*	*Dec-10*
Infrastructure	**56,061,706**	**2.7**	**0.4**	**-2.8**	**-6.0**	**16.1**	**7.1**	**--**	**6.8**	**Jul-12**
S&P Global Infrastructure TR USD			*0.6*	*20.8*	*14.6*	*8.0*	*5.8*	*7.8*	*8.6*	*Jul-12*

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

Dallas Police & Fire Pension System

DPFP

As of September 30, 2019

Trailing Net Performance

	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
DPFP	**2,051,433,119**	**100.0**	**--**	**4.1**	**9.1**	**5.2**	**4.1**	**0.2**	**3.4**	**5.9**	**Jun-96**
Policy Index				*0.1*	*9.9*	*1.9*	*6.3*	*6.9*	*8.2*	*--*	*Jun-96*
Allocation Index				*1.0*	*8.0*	*3.0*	*6.7*	*7.1*	*7.9*	*7.2*	*Jun-96*
Total Fund Ex Private Markets				*-0.3*	*10.3*	*3.2*	*5.6*	*4.5*	*7.3*	*5.4*	*Jun-96*
60% MSCI ACWI IMI Net/40% Barclays Global Aggregate Index				*0.2*	*12.2*	*3.7*	*6.4*	*4.9*	*6.2*	*6.0*	*Jun-96*
InvestorForce Public DB $1-5B Net Rank				*1*	*98*	*5*	*99*	*99*	*99*	*82*	*Jun-96*
Total Equity	**835,669,923**	**40.7**	**40.7**	**10.6**	**19.9**	**9.5**	**1.0**	**2.1**	**--**	**5.1**	**Dec-10**
MSCI ACWI IMI Net USD				*-0.2*	*15.9*	*0.5*	*9.4*	*6.6*	*8.4*	*7.5*	*Dec-10*
Public Equity	**522,080,214**	**25.4**	**62.5**	**-0.7**	**17.0**	**2.2**	**10.6**	**8.0**	**9.4**	**6.3**	**Jul-06**
MSCI ACWI IMI Net USD				*-0.2*	*15.9*	*0.5*	*9.4*	*6.6*	*8.4*	*5.9*	*Jul-06*
eV All Global Equity Net Rank				*60*	*47*	*40*	*30*	*33*	*43*	*41*	*Jul-06*
Global Equity	**473,766,806**	**23.1**	**90.7**	**-0.3**	**18.1**	**2.1**	**11.0**	**8.3**	**9.5**	**6.4**	**Jul-06**
MSCI ACWI IMI Net USD				*-0.2*	*15.9*	*0.5*	*9.4*	*6.6*	*8.4*	*5.9*	*Jul-06*
eV All Global Equity Net Rank				*51*	*39*	*40*	*26*	*30*	*40*	*39*	*Jul-06*
Boston Partners Global Equity Fund	119,473,739	5.8	25.2	0.4	11.7	-4.8	--	--	--	3.1	Jul-17
MSCI World Net				*0.5*	*17.6*	*1.8*	*10.2*	*7.2*	*9.0*	*7.9*	*Jul-17*
eV Global Large Cap Value Eq Net Rank				*47*	*61*	*78*	*--*	*--*	*--*	*64*	*Jul-17*
Manulife Global Equity Strategy	120,848,508	5.9	25.5	1.7	21.9	8.2	--	--	--	7.1	Jul-17
MSCI ACWI Net				*0.0*	*16.2*	*1.4*	*9.7*	*6.7*	*8.3*	*7.2*	*Jul-17*
eV Global Large Cap Value Eq Net Rank				*15*	*1*	*1*	*--*	*--*	*--*	*13*	*Jul-17*
Invesco (fka OFI) Global Equity	115,255,884	5.6	24.3	-3.8	17.3	-1.8	12.0	7.9	10.1	5.9	Oct-07
MSCI ACWI Net				*0.0*	*16.2*	*1.4*	*9.7*	*6.7*	*8.3*	*4.1*	*Oct-07*
eV Global Large Cap Growth Eq Net Rank				*93*	*87*	*89*	*73*	*84*	*74*	*65*	*Oct-07*
Walter Scott Global Equity Fund	118,188,675	5.8	24.9	0.4	20.8	6.3	13.6	9.9	--	9.9	Dec-09
MSCI ACWI Net				*0.0*	*16.2*	*1.4*	*9.7*	*6.7*	*8.3*	*8.2*	*Dec-09*
eV Global Large Cap Growth Eq Net Rank				*36*	*65*	*49*	*39*	*34*	*--*	*70*	*Dec-09*

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

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	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Markets Equity	**48,313,408**	**2.4**	**9.3**	**-5.1**	**7.2**	**3.3**	**--**	**--**	**--**	**-2.2**	**Jan-18**
MSCI Emerging Market IMI Net				*-4.3*	*5.4*	*-2.4*	*5.4*	*2.0*	*3.4*	*-6.1*	*Jan-18*
eV Emg Mkts Equity Net Rank				*82*	*57*	*22*	*--*	*--*	*--*	*10*	*Jan-18*
RBC Emerging Markets Equity	48,313,408	2.4	100.0	-5.1	7.2	3.3	--	--	--	-2.2	Jan-18
MSCI Emerging Market IMI Net				*-4.3*	*5.4*	*-2.4*	*5.4*	*2.0*	*3.4*	*-6.1*	*Jan-18*
eV Emg Mkts Equity Net Rank				*82*	*57*	*22*	*--*	*--*	*--*	*10*	*Jan-18*
Private Equity	**313,589,709**	**15.3**	**37.5**	**36.5**	**25.2**	**24.2**	**-4.9**	**-6.4**	**-0.7**	**1.0**	**Oct-05**
Cambridge Associates US All PE (1 Qtr Lag)				*4.7*	*8.0*	*12.0*	*15.6*	*11.7*	*14.7*	*12.9*	*Oct-05*
Total Fixed Income	**649,404,340**	**31.7**	**31.7**	**0.2**	**4.3**	**3.2**	**3.0**	**2.0**	**6.4**	**5.2**	**Jul-06**
BBgBarc Multiverse TR				*0.6*	*6.5*	*7.5*	*1.8*	*2.1*	*2.5*	*3.9*	*Jul-06*
eV All Global Fixed Inc Net Rank				*75*	*85*	*81*	*64*	*76*	*14*	*39*	*Jul-06*
Cash Equivalents	**89,679,516**	**4.4**	**13.8**	**0.6**	**1.8**	**2.4**	**1.6**	**--**	**--**	**1.5**	**Apr-15**
91 Day T-Bills				*0.5*	*1.7*	*2.3*	*1.5*	*1.0*	*0.5*	*1.1*	*Apr-15*
Public Fixed Income	**550,159,964**	**26.8**	**84.7**	**0.1**	**4.7**	**3.4**	**4.6**	**3.3**	**--**	**5.2**	**Dec-10**
BBgBarc Multiverse TR				*0.6*	*6.5*	*7.5*	*1.8*	*2.1*	*2.5*	*2.3*	*Dec-10*
eV All Global Fixed Inc Net Rank				*76*	*83*	*81*	*36*	*48*	*--*	*24*	*Dec-10*
Short Term Core Bonds	**261,582,683**	**12.8**	**47.5**	**0.8**	**3.7**	**4.7**	**--**	**--**	**--**	**2.5**	**Jun-17**
BBgBarc US Treasury 1-3 Yr TR				*0.6*	*3.1*	*4.4*	*1.5*	*1.3*	*1.2*	*2.0*	*Jun-17*
IR&M 1-3 Year Strategy	261,582,683	12.8	100.0	0.8	3.7	4.7	--	--	--	2.5	Jul-17
BBgBarc US Treasury 1-3 Yr TR				*0.6*	*3.1*	*4.4*	*1.5*	*1.3*	*1.2*	*2.0*	*Jul-17*
eV US Short Duration Fixed Inc Net Rank				*56*	*57*	*45*	*--*	*--*	*--*	*46*	*Jul-17*
Investment Grade Bonds	**36,706,556**	**1.8**	**6.7**								
BBgBarc US Aggregate TR				*2.3*	*8.5*	*10.3*	*2.9*	*3.4*	*3.7*	*8.8*	*Aug-18*
Vanguard Total Bond Market Index Inst	36,706,556	1.8	100.0								
BBgBarc US Aggregate TR				*2.3*	*8.5*	*10.3*	*2.9*	*3.4*	*3.7*	*--*	*Oct-19*

[1] All Private Equity market values are one quarter lagged unless otherwise noted. Lone Star NAV as of 12/31/2018.

Dallas Police & Fire Pension System

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	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Global Bonds	**66,941,579**	**3.3**	**12.2**	**-1.5**	**5.1**	**3.8**	**1.9**	**1.8**	**--**	**2.7**	**Dec-10**
BBgBarc Global Aggregate TR				*0.7*	*6.3*	*7.6*	*1.6*	*2.0*	*2.3*	*2.1*	*Dec-10*
eV All Global Fixed Inc Net Rank				*91*	*81*	*79*	*75*	*79*	*--*	*67*	*Dec-10*
Brandywine Global Fixed Income	66,941,579	3.3	100.0	-1.5	5.1	3.8	1.9	1.6	4.4	4.5	Oct-04
BBgBarc Global Aggregate TR				*0.7*	*6.3*	*7.6*	*1.6*	*2.0*	*2.3*	*3.6*	*Oct-04*
eV All Global Fixed Inc Net Rank				*91*	*81*	*79*	*75*	*84*	*46*	*57*	*Oct-04*
Bank Loans	**80,511,192**	**3.9**	**14.6**	**0.9**	**5.9**	**2.7**	**4.8**	**4.1**	**--**	**4.1**	**Jan-14**
S&P/LSTA Leveraged Loan				*1.0*	*6.8*	*3.1*	*4.5*	*4.0*	*--*	*3.8*	*Jan-14*
eV US Float-Rate Bank Loan Fixed Inc Net Rank				*68*	*75*	*61*	*10*	*29*	*--*	*11*	*Jan-14*
Loomis Sayles Senior Rate and Fixed Income	39,671,717	1.9	49.3	0.5	4.9	1.9	4.5	3.9	--	4.0	Jan-14
S&P/LSTA Leveraged Loan				*1.0*	*6.8*	*3.1*	*4.5*	*4.0*	*--*	*3.8*	*Jan-14*
eV US Float-Rate Bank Loan Fixed Inc Net Rank				*90*	*90*	*81*	*15*	*42*	*--*	*14*	*Jan-14*
Pacific Asset Management Corporate (Bank) Loan Strategy	40,839,475	2.0	50.7	1.4	7.1	3.6	--	--	--	4.4	Aug-17
Credit Suisse Leveraged Loan				*0.9*	*6.4*	*3.1*	*4.7*	*4.1*	*--*	*4.1*	*Aug-17*
eV US Float-Rate Bank Loan Fixed Inc Net Rank				*19*	*19*	*21*	*--*	*--*	*--*	*7*	*Aug-17*
High Yield	**83,880,156**	**4.1**	**15.2**	**-0.6**	**5.7**	**-0.4**	**5.5**	**3.2**	**--**	**6.0**	**Dec-10**
BBgBarc Global High Yield TR				*-0.7*	*8.8*	*5.0*	*4.8*	*4.5*	*7.4*	*6.2*	*Dec-10*
eV Global High Yield Fixed Inc Net Rank				*89*	*94*	*95*	*64*	*90*	*--*	*61*	*Dec-10*
Loomis Sayles High Yield Fund	83,880,156	4.1	100.0	-0.6	5.7	-0.4	5.5	3.5	8.0	8.9	Oct-98
BBgBarc Global High Yield TR				*-0.7*	*8.8*	*5.0*	*4.8*	*4.5*	*7.4*	*8.2*	*Oct-98*
eV Global High Yield Fixed Inc Net Rank				*89*	*94*	*95*	*63*	*85*	*11*	*26*	*Oct-98*
Emerging Markets Debt	**20,537,798**	**1.0**	**3.7**	**-2.8**	**7.0**	**6.5**	**3.8**	**3.3**	**--**	**3.5**	**Dec-10**
50% JPM EMBI/50% JPM GBI-EM				*0.4*	*10.4*	*10.9*	*3.9*	*3.1*	*--*	*3.5*	*Dec-10*
eV All Emg Mkts Fixed Inc Net Rank				*94*	*85*	*86*	*54*	*56*	*--*	*58*	*Dec-10*
Ashmore EM Blended Debt	20,537,798	1.0	100.0	-2.8	7.0	6.5	--	--	--	1.3	Dec-17
Ashmore Blended Debt Benchmark				*0.0*	*8.8*	*9.0*	*3.6*	*3.0*	*4.2*	*2.7*	*Dec-17*
eV All Emg Mkts Fixed Inc Net Rank				*94*	*85*	*86*	*--*	*--*	*--*	*67*	*Dec-17*

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As of September 30, 2019

	Market Value ($)	% of Portfolio	% of Sector	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Debt	**9,564,860**	**0.5**	**1.5**	**0.8**	**2.3**	**0.9**	**-2.2**	**--**	**--**	**-2.1**	**Jan-16**
Barclays Global High Yield +2%				*-0.2*	*10.4*	*7.1*	*6.9*	*--*	*--*	*9.8*	*Jan-16*
Total Real Assets	**566,358,857**	**27.6**	**27.6**	**-0.2**	**1.3**	**1.2**	**5.4**	**-3.0**	**--**	**-1.8**	**Dec-10**
Total Real Assets Policy Index				*1.1*	*4.5*	*6.1*	*6.6*	*8.4*	*--*	*11.2*	*Dec-10*
Real Estate	**380,103,520**	**18.5**	**67.1**	**-0.9**	**0.3**	**0.9**	**4.2**	**-6.3**	**-3.5**	**3.7**	**Mar-85**
NCREIF Property (1-quarter lagged)				*1.5*	*4.8*	*6.5*	*6.9*	*8.8*	*9.3*	*8.1*	*Mar-85*
Natural Resources	**130,193,631**	**6.3**	**23.0**	**1.7**	**5.4**	**4.3**	**-2.0**	**1.4**	**--**	**4.1**	**Dec-10**
NCREIF Farmland Total Return Index 1Q Lag				*0.7*	*4.3*	*5.7*	*6.3*	*8.0*	*11.1*	*11.9*	*Dec-10*
Infrastructure	**56,061,706**	**2.7**	**9.9**	**0.4**	**-2.8**	**-6.0**	**16.1**	**7.1**	**--**	**6.8**	**Jul-12**
S&P Global Infrastructure TR USD				*0.6*	*20.8*	*14.6*	*8.0*	*5.8*	*7.8*	*8.6*	*Jul-12*

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

Benchmark History
As of September 30, 2019

DPFP		
1/1/2019	Present	40% MSCI ACWI IMI Net USD / 10% MSCI Emerging Market IMI Net / 5% Cambridge Associates US All PE (1 Qtr Lag) / 12% BBgBarc US Treasury 1-3 Yr TR / 4% BBgBarc Global Aggregate TR / 4% BBgBarc Global High Yield TR / 4% BBgBarc US Aggregate TR / 4% S&P/LSTA Leveraged Loan / 4% 50% JPM EMBI/50% JPM GBI-EM / 5% NCREIF Farmland Total Return Index 1Q Lag / 5% NCREIF Property (1-quarter lagged) / 3% 91 Day T-Bills
10/1/2018	12/31/2018	40% MSCI ACWI Gross / 10% MSCI Emerging Markets Gross / 5% Private Equity Custom Benchmark / 12% BBgBarc US Treasury 1-3 Yr TR / 4% BBgBarc Global Aggregate TR / 4% BBgBarc Global High Yield TR / 4% S&P/LSTA Leveraged Loan / 4% BBgBarc US Aggregate TR / 4% 50% JPM EMBI/50% JPM GBI-EM / 5% Natural Resources Benchmark (Linked) / 5% NCREIF Property Index / 3% 91 Day T-Bills
4/1/2016	9/30/2018	20% MSCI ACWI Gross / 5% MSCI Emerging Markets Gross / 5% Private Equity Custom Benchmark / 2% BBgBarc US Treasury 1-3 Yr TR / 3% BBgBarc Global Aggregate TR / 5% BBgBarc Global High Yield TR / 6% S&P/LSTA Leveraged Loan / 6% HFRI RV: FI (50/50-ABS/Corp) / 6% 50% JPM EMBI/50% JPM GBI-EM / 5% Barclays Global High Yield +2% / 5% 60% MSCI ACWI/40% Barclays Global Agg / 3% 60% MSCI ACWI/40% Barclays Global Agg / 2% HFRX Absolute Return Index / 5% Natural Resources Benchmark (Linked) / 5% S&P Global Infrastructure TR USD / 12% NCREIF Property Index / 3% CPI + 5% (Seasonally Adjusted) / 2% 91 Day T-Bills
4/1/2014	3/31/2016	15% MSCI ACWI / 15% S&P 500 + 2% / 10% Total Global Natural Resources Custom Benchmark / 15% BBgBarc Global Aggregate TR / 20% CPI + 5% (Seasonally Adjusted) / 10% CPI + 5% (Seasonally Adjusted) / 15% NCREIF Property Index
1/1/2014	3/31/2014	15% MSCI ACWI / 15% Private Markets / 10% Total Global Natural Resources Custom Benchmark / 15% BBgBarc Global Aggregate TR / 20% CPI + 5% (Seasonally Adjusted) / 10% Infrastructure / 15% Real Estate
Ashmore EM Blended Debt		
12/1/2017	Present	50% JP Morgan EMBI Global Diversified / 25% JPM ELMI+ TR USD / 25% JP Morgan GBI EM Global Diversified TR USD
Total Real Assets		
12/31/2010	Present	50% NCREIF Property (1-quarter lagged) / 50% NCREIF Farmland Total Return Index 1Q Lag

Disclaimer, Glossary, and Notes

Disclaimer

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Notes

The Russell Indices®, TM, SM are trademarks/service marks of the Frank Russell Company.

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

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

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

FUND EVALUATION REPORT

Dallas Police & Fire Pension System

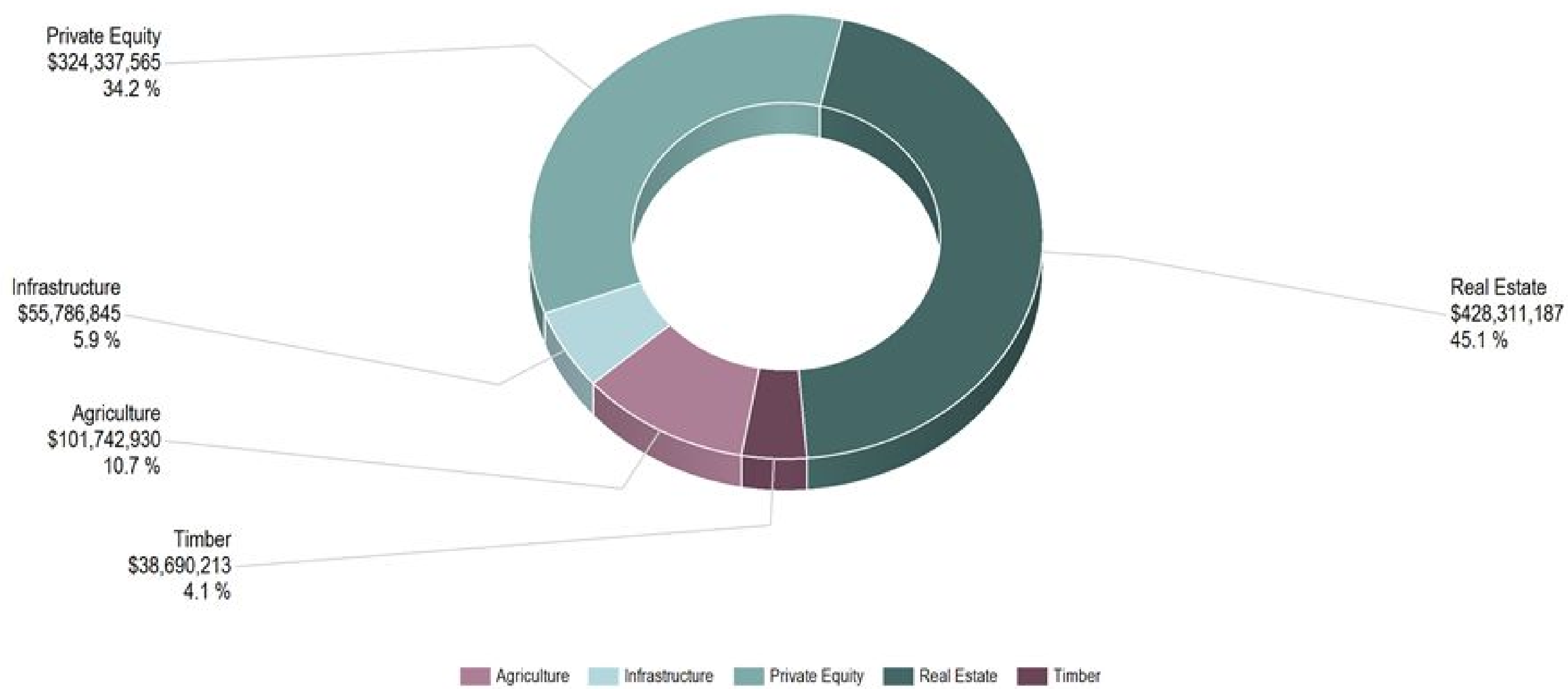
Private Markets Review
As of June 30, 2019

MEKETA INVESTMENT GROUP

Boston	Chicago	Miami	New York	Portland	San Diego	London
Massachusetts	Illinois	Florida	New York	Oregon	California	United Kingdom

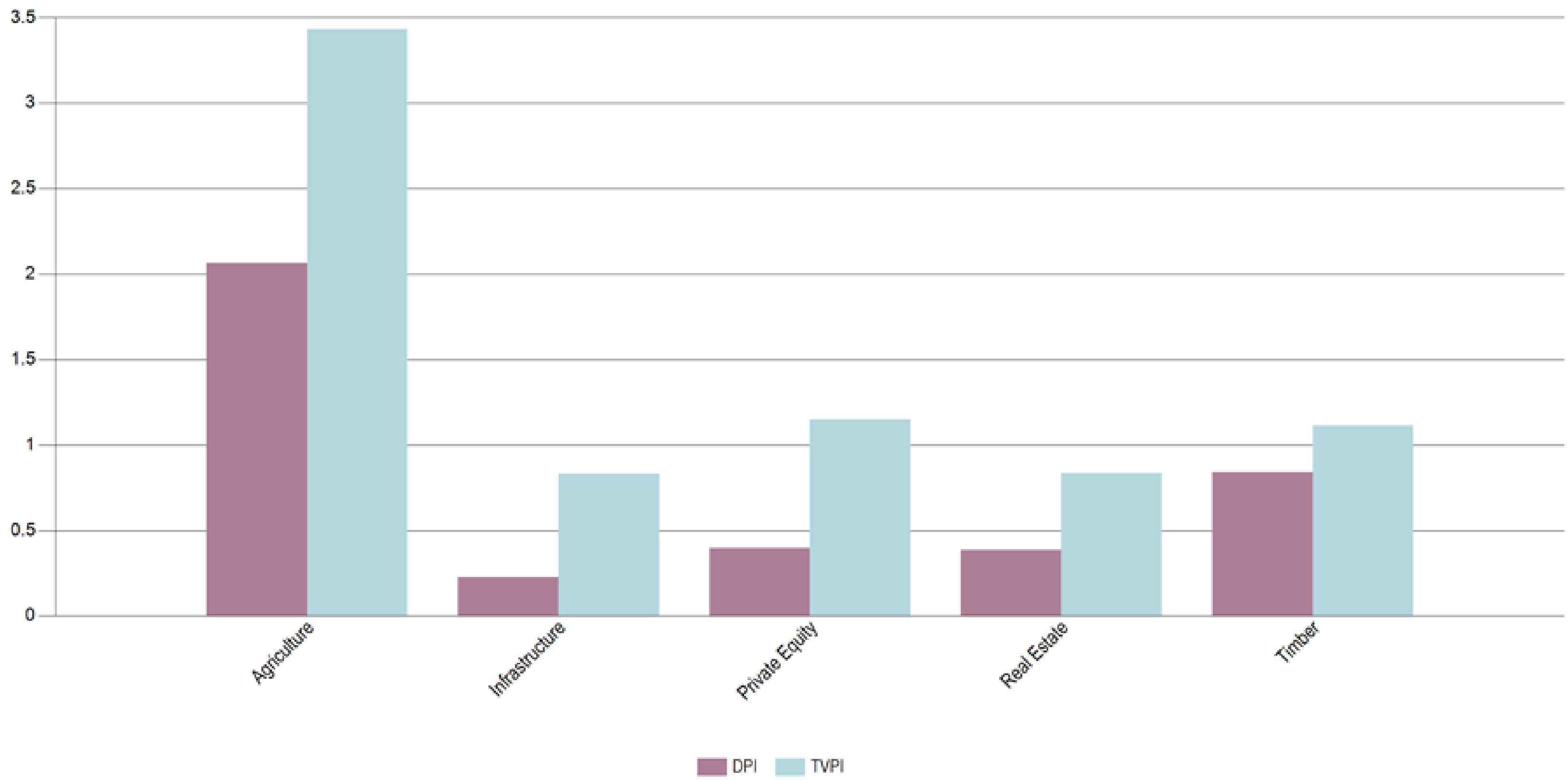
www.meketagroup.com

Private Market Investments as of June 30, 2019
Market Value Allocation by Asset Class



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

Private Market Investments as of June 30, 2019
DPI and TVPI by Asset Class



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

Dallas Police & Fire Pension System

Private Markets Review

As of June 30, 2019

Private Market Investments Overview

Active Funds	Commitments		Distributions & Valuations				Performance			
Asset Class	Commitment ($)	Paid In Capital ($)	Distributions ($)	Valuation ($)	Total Value ($)	Gain/Loss ($)	Call Ratio	DPI	TVPI	IRR (%)
Total Agriculture	74,420,001	74,420,001	153,803,328	101,742,930	255,546,258	181,126,257	1.00	2.07	3.43	15.09
Total Infrastructure	97,000,000	92,482,192	21,348,653	55,786,845	77,135,498	-15,346,694	0.95	0.23	0.83	-3.52
Total Private Equity	414,034,369	443,969,452	171,614,966	324,337,565	495,952,531	51,983,078	1.07	0.39	1.12	1.92
Total Real Estate	963,753,204	953,103,683	367,956,139	428,311,187	796,267,326	-156,836,358	0.99	0.39	0.84	-2.63
Total Timber	141,765,343	141,765,343	119,030,209	38,690,213	157,720,422	15,955,079	1.00	0.84	1.11	1.97
Total	1,690,972,917	1,705,740,671	833,753,294	948,868,740	1,782,622,034	76,881,362	1.01	0.49	1.05	0.72

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

Dallas Police & Fire Pension System

Active Funds with Unfunded Commitments Overview

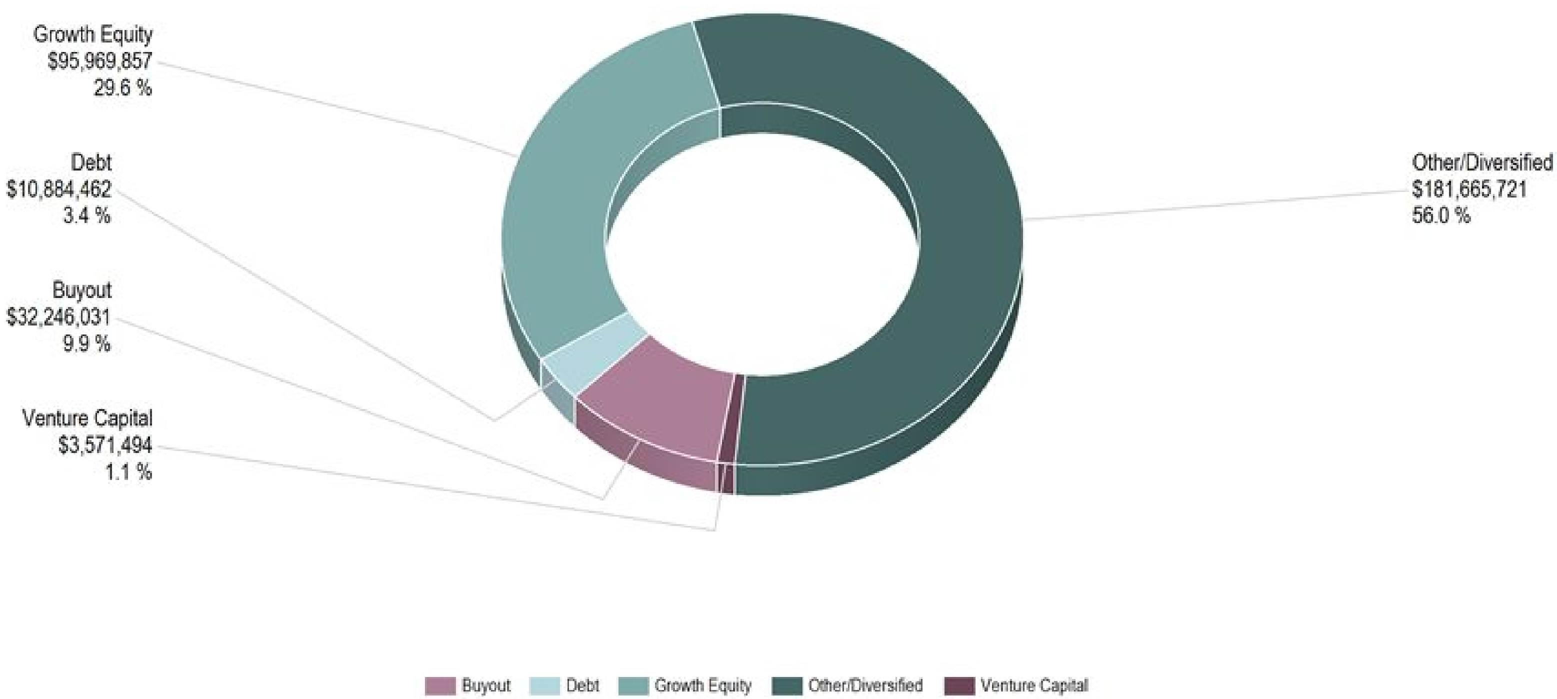
As of June 30, 2019

Active Funds with Unfunded Commitments

Active Funds		Commitments		
Investment Name	**Vintage Year**	**Commitment ($)**	**Paid In Capital ($)**	**Unfunded Commitment ($)**
Infrastructure				
TRG AIRRO	2008	37,000,000	36,763,471	3,588,496
TRG AIRRO II	2013	10,000,000	7,133,745	2,453,943
JPM Maritime Fund, LP	2009	50,000,000	48,584,975	1,365,941
Total Infrastructure		**97,000,000**	**92,482,192**	**7,408,380**
Private Equity				
Huff Energy Fund LP	2006	100,000,000	98,932,684	119,979
Industry Ventures Partnership IV	2016	5,000,000	3,200,000	1,800,000
Lone Star Growth Capital	2006	16,000,000	26,560,000	2,240,000
Riverstone Credit Partners LP	2016	10,000,000	12,242,390	1,510,021
Yellowstone Capital	2008	5,283,254	5,112,307	170,947
Total Private Equity		**136,283,254**	**146,047,381**	**5,840,947**
Real Estate				
Hearthstone MS II Homebuilding Investors	1999	10,000,000	7,973,058	1,008,131
Hearthstone MS III Homebuilding Investors	2003	10,000,000	1,221,446	1,278,554
Total Real Estate		**20,000,000**	**9,194,504**	**2,286,685**
Total		**253,283,254**	**247,724,077**	**15,536,012**

1. Private markets performance reflected is composed of active investments only
2. The funds and figures above represent investments with unfunded capital commitments
3. Lone Star valuations as directed by Dallas Police and Fire investment staff

Private Equity and Debt Investments as of June 30, 2019
Market Value Allocation by Strategy

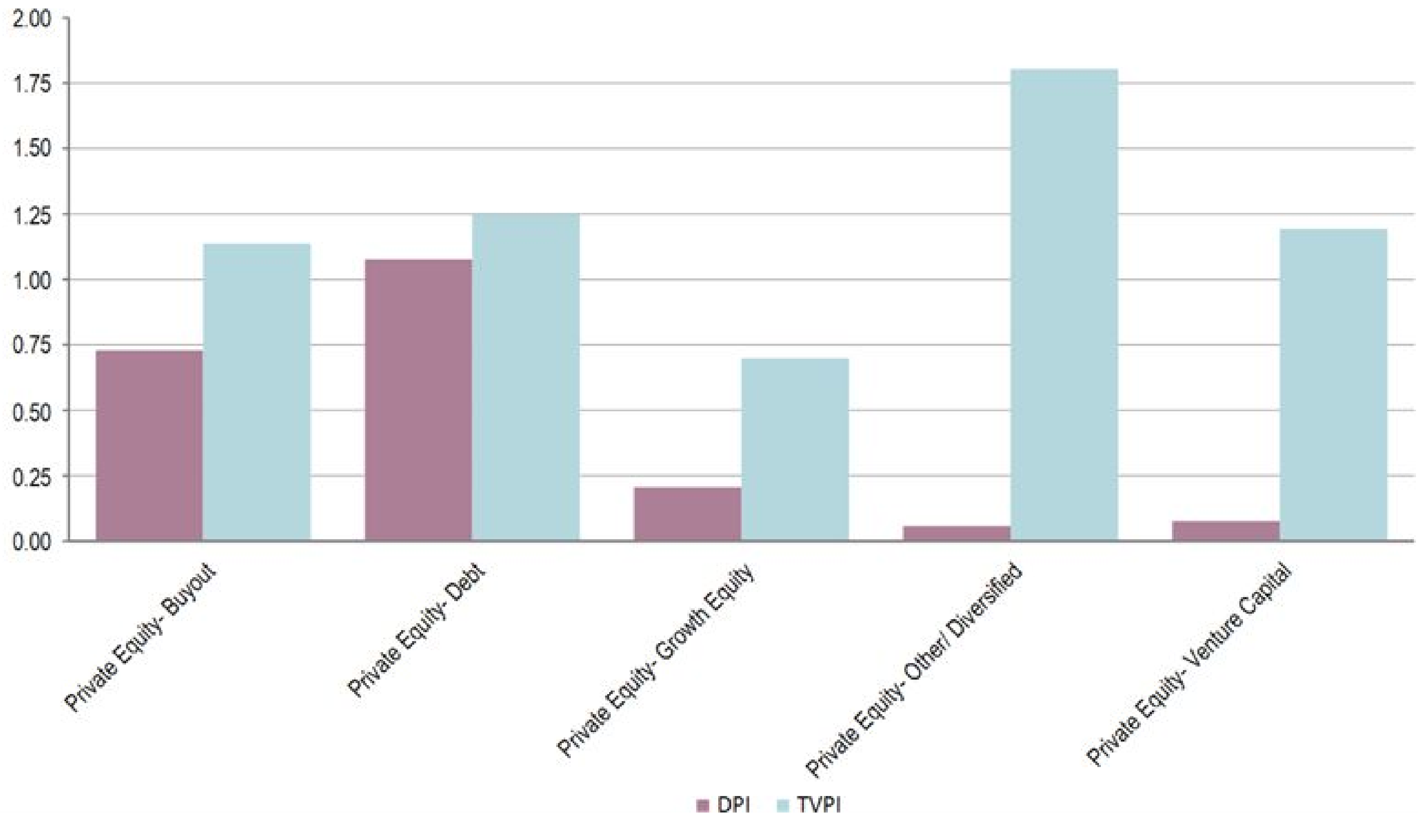


Dallas Police & Fire Pension System

Private Equity and Debt

As of June 30, 2019

Private Equity and Debt Investments as of June 30, 2019
DPI and TVPI by Strategy



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

Dallas Police & Fire Pension System

Private Equity and Debt

As of June 30, 2019

Private Equity and Debt Investments Overview

Active Funds		Commitments		Distributions & Valuations				Performance			
Investment Name	Vintage Year	Commitment ($)	Paid In Capital ($)	Distributions ($)	Valuation ($)	Total Value ($)	Gain/Loss ($)	Call Ratio	DPI	TVPI	IRR (%)
Buyout											
Huff Alternative Fund	2000	66,795,718	78,818,394	57,386,716	32,246,031	89,632,747	10,814,353	1.18	0.73	1.14	1.61
Total Buyout		**66,795,718**	**78,818,394**	**57,386,716**	**32,246,031**	**89,632,747**	**10,814,353**	**1.18**	**0.73**	**1.14**	**1.61**
Debt											
Highland Crusader Fund	2003	50,955,397	50,955,397	62,263,032	2,464,559	64,727,591	13,772,194	1.00	1.22	1.27	4.19
Riverstone Credit Partners LP	2016	10,000,000	12,242,390	5,707,992	8,419,903	14,127,895	1,885,505	1.22	0.47	1.15	9.85
Total Debt		**60,955,397**	**63,197,787**	**67,971,024**	**10,884,462**	**78,855,486**	**15,657,699**	**1.04**	**1.08**	**1.25**	**4.42**
Growth Equity											
Hudson Clean Energy	2009	25,000,000	24,994,470	4,688,958	2,885,789	7,574,747	-17,419,723	1.00	0.19	0.30	-17.93
Lone Star CRA	2008	50,000,000	57,956,053	12,928,698	59,026,786	71,955,484	13,999,431	1.16	0.22	1.24	7.99
Lone Star Growth Capital	2006	16,000,000	26,560,000	12,800,000	13,266,322	26,066,322	-493,678	1.66	0.48	0.98	-0.59
Lone Star Opportunities V	2012	75,000,000	75,000,000	531,444	19,291,765	19,823,209	-55,176,791	1.00	0.01	0.26	-41.89
North Texas Opportunity Fund	2000	10,000,000	10,000,000	9,127,239	1,499,195	10,626,434	626,434	1.00	0.91	1.06	0.69
Total Growth Equity		**176,000,000**	**194,510,523**	**40,076,339**	**95,969,857**	**136,046,196**	**-58,464,327**	**1.11**	**0.21**	**0.70**	**-12.61**
Other/Diversified											
Huff Energy Fund LP	2006	100,000,000	98,932,684	4,477,394	181,665,721	186,143,115	87,210,431	0.99	0.05	1.88	6.92
Yellowstone Capital	2008	5,283,254	5,112,307	1,458,572	0	1,458,572	-3,653,735	0.97	0.29	0.29	-32.45
Total Other/Diversified		**105,283,254**	**104,044,991**	**5,935,966**	**181,665,721**	**187,601,687**	**83,556,696**	**0.99**	**0.06**	**1.80**	**6.50**
Venture Capital											
Industry Ventures Partnership IV	2016	5,000,000	3,200,000	244,921	3,571,494	3,816,415	616,415	0.64	0.08	1.19	14.34
Total Venture Capital		**5,000,000**	**3,200,000**	**244,921**	**3,571,494**	**3,816,415**	**616,415**	**0.64**	**0.08**	**1.19**	**14.34**
Unclassified											
Miscellaneous Private Equity Expenses	2016		197,758								
Total Unclassified			**197,758**								
Total		**414,034,369**	**443,969,452**	**171,614,966**	**324,337,565**	**495,952,531**	**51,983,078**	**1.07**	**0.39**	**1.12**	**1.92**

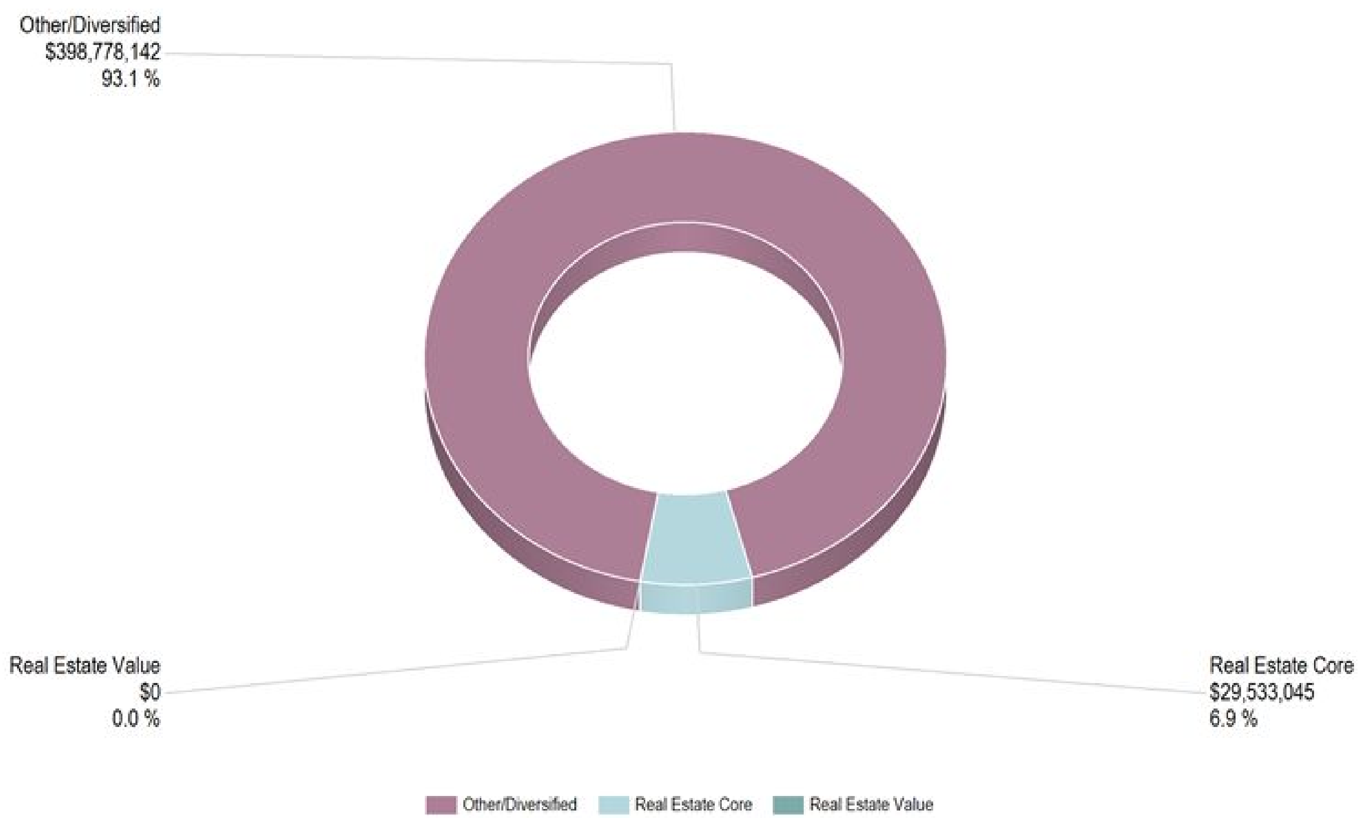
1. Private Markets performance reflected is composed of active investments only.
2. Lone Star valuations directed by Dallas Police and Fire investment staff.

Dallas Police & Fire Pension System

Real Estate

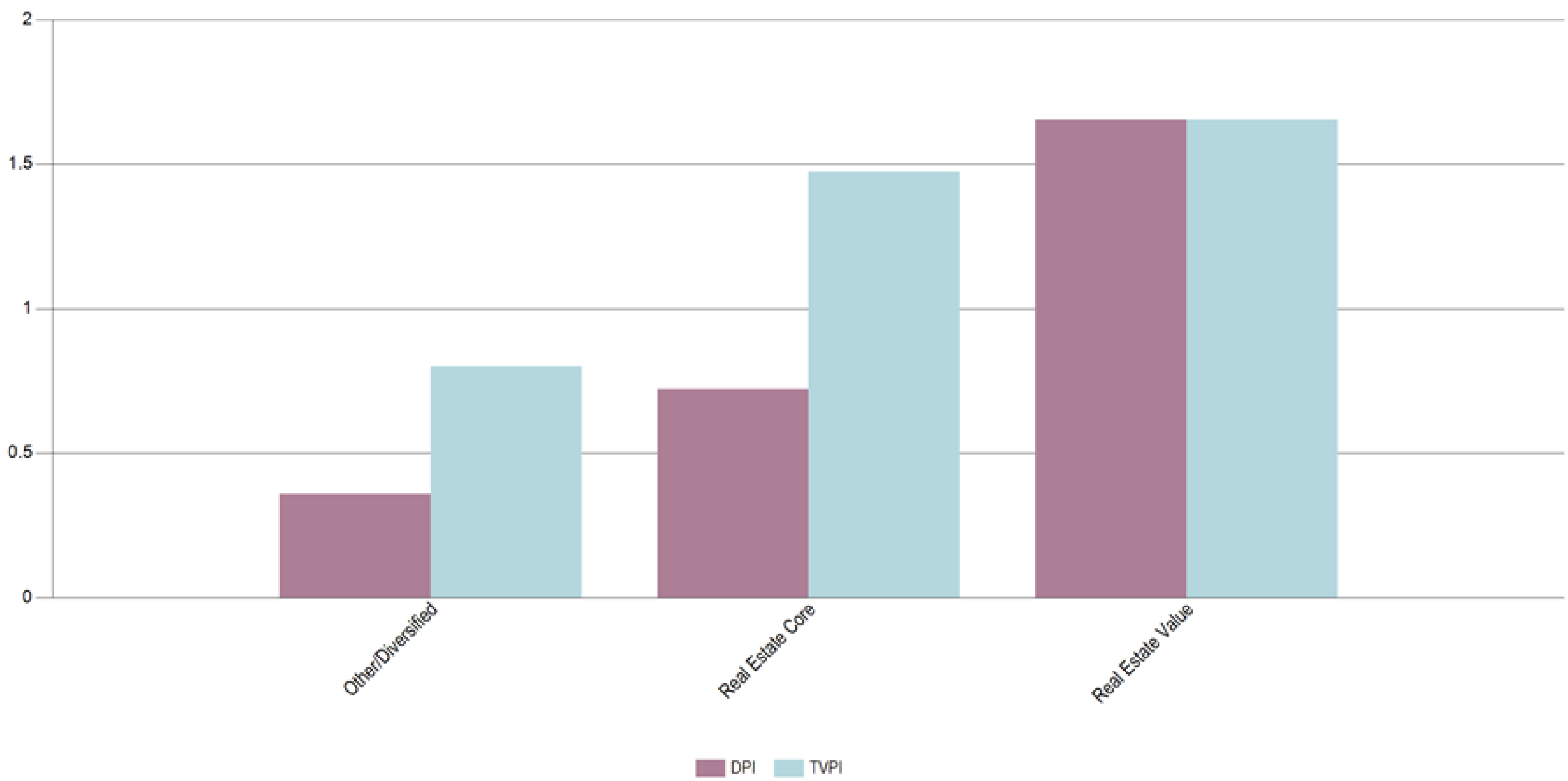
As of June 30, 2019

Real Estate Investments as of June 30, 2019
Market Value Allocation by Strategy



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

Real Estate Investments as of June 30, 2019
DPI and TVPI Call Ratio by Strategy



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

Dallas Police & Fire Pension System

Real Estate

As of June 30, 2019

Real Estate Investments Overview

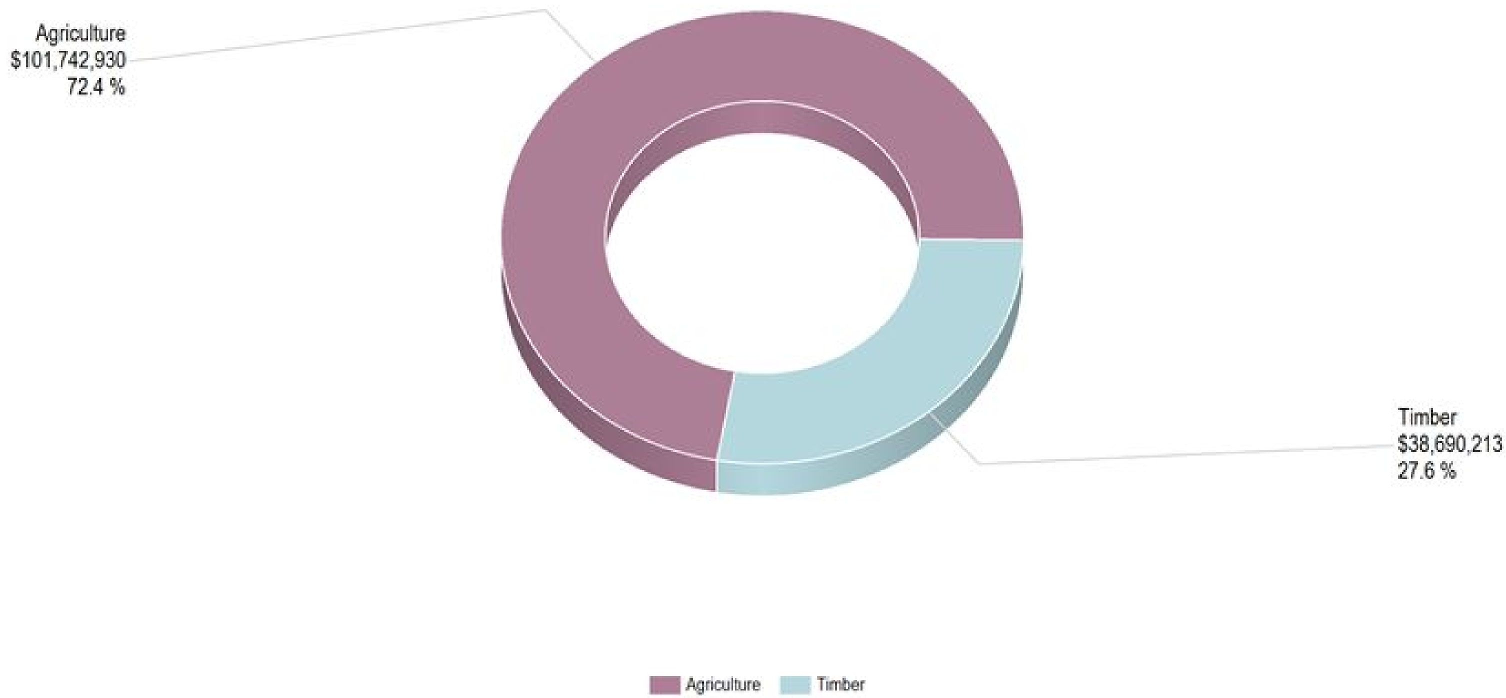
Active Funds	Commitments		Valuations				Performance			
Investment Name	Commitment ($)	Paid In Capital ($)	Distributions ($)	Valuation ($)	Total Value ($)	Gain/Loss ($)	Call Ratio	DPI	TVPI	IRR (%)
Total Other/Diversified	904,387,008	904,387,008	323,674,789	398,778,142	722,452,931	-181,934,077	1.00	0.36	0.80	-3.20
Real Estate Core										
Total Real Estate Core	39,366,196	39,366,196	28,406,265	29,533,045	57,939,310	18,573,114	1.00	0.72	1.47	5.79
Real Estate Value										
Total Real Estate Value	20,000,000	9,194,504	15,206,576	0	15,206,576	6,012,072	0.46	1.65	1.65	25.93
Total	963,753,204	953,103,683	367,956,139	428,311,187	796,267,326	-156,836,358	0.99	0.39	0.84	-2.63

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

Natural Resources

As of June 30, 2019

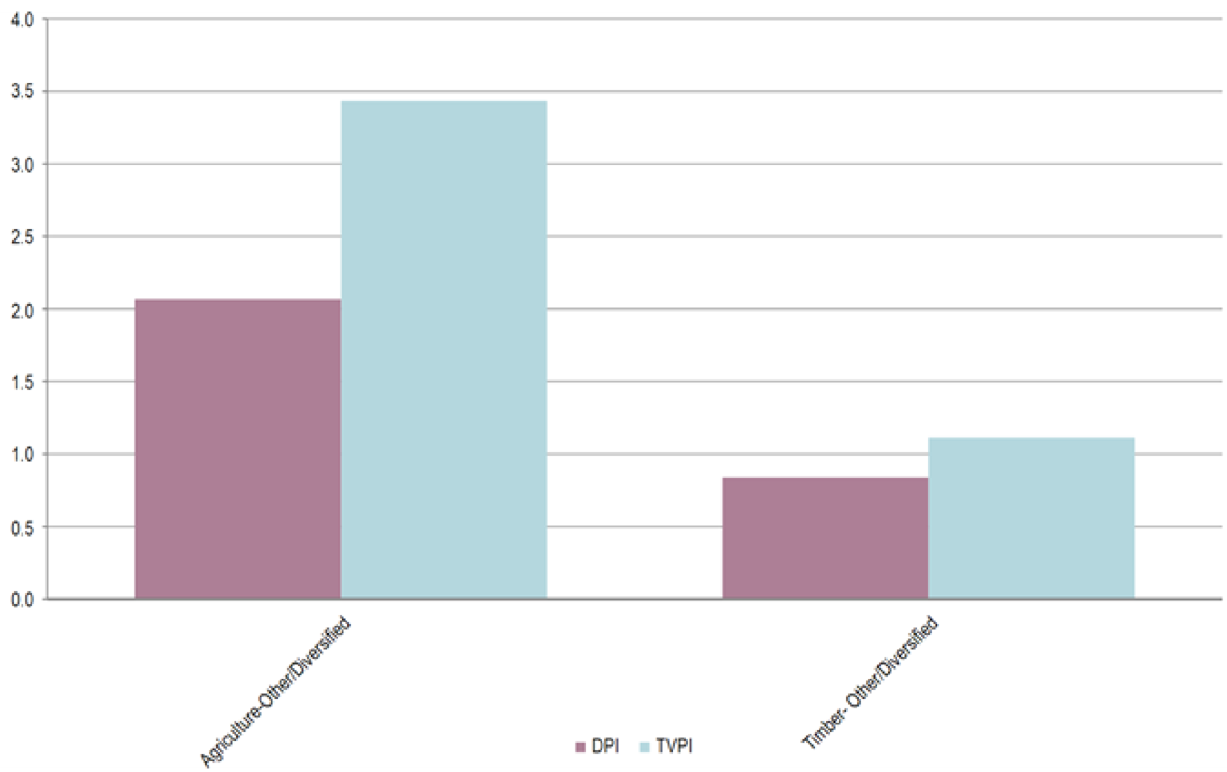
Natural Resources Investments as of June 30, 2019
Market Value Allocation by Asset Class



Natural Resources

As of June 30, 2019

Natural Resource Investments as of June 30, 2019
DPI and TVPI by Strategy



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

Dallas Police & Fire Pension System

Natural Resources

As of June 30, 2019

Natural Resource Investments Overview

Active Funds		Commitments		Valuations				Performance			
Investment Name	**Vintage Year**	**Commitment ($)**	**Paid In Capital ($)**	**Distributions ($)**	**Valuation ($)**	**Total Value ($)**	**Unrealized Gain/Loss ($)**	**Call Ratio**	**DPI**	**TVPI**	**IRR (%)**
Agriculture											
Hancock Agricultural	1998	74,420,001	74,420,001	153,803,328	101,742,930	255,546,258	181,126,257	1.00	2.07	3.43	15.09
Total Agriculture		**74,420,001**	**74,420,001**	**153,803,328**	**101,742,930**	**255,546,258**	**181,126,257**	**1.00**	**2.07**	**3.43**	**15.09**
Timber											
BTG Pactual	2006	82,115,647	82,115,647	18,300,000	29,982,683	48,282,683	-33,832,964	1.00	0.22	0.59	-7.74
Forest Investment Associates	1992	59,649,696	59,649,696	100,730,209	8,707,530	109,437,739	49,788,043	1.00	1.69	1.83	7.72
Total Timber		**141,635,229**	**141,635,229**	**119,030,209**	**38,690,213**	**157,720,422**	**15,955,079**	**1.00**	**0.84**	**1.11**	**1.97**
Total		**216,185,344**	**216,185,344**	**272,833,537**	**140,433,143**	**413,266,680**	**197,081,336**	**1.00**	**1.26**	**1.91**	**9.02**

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

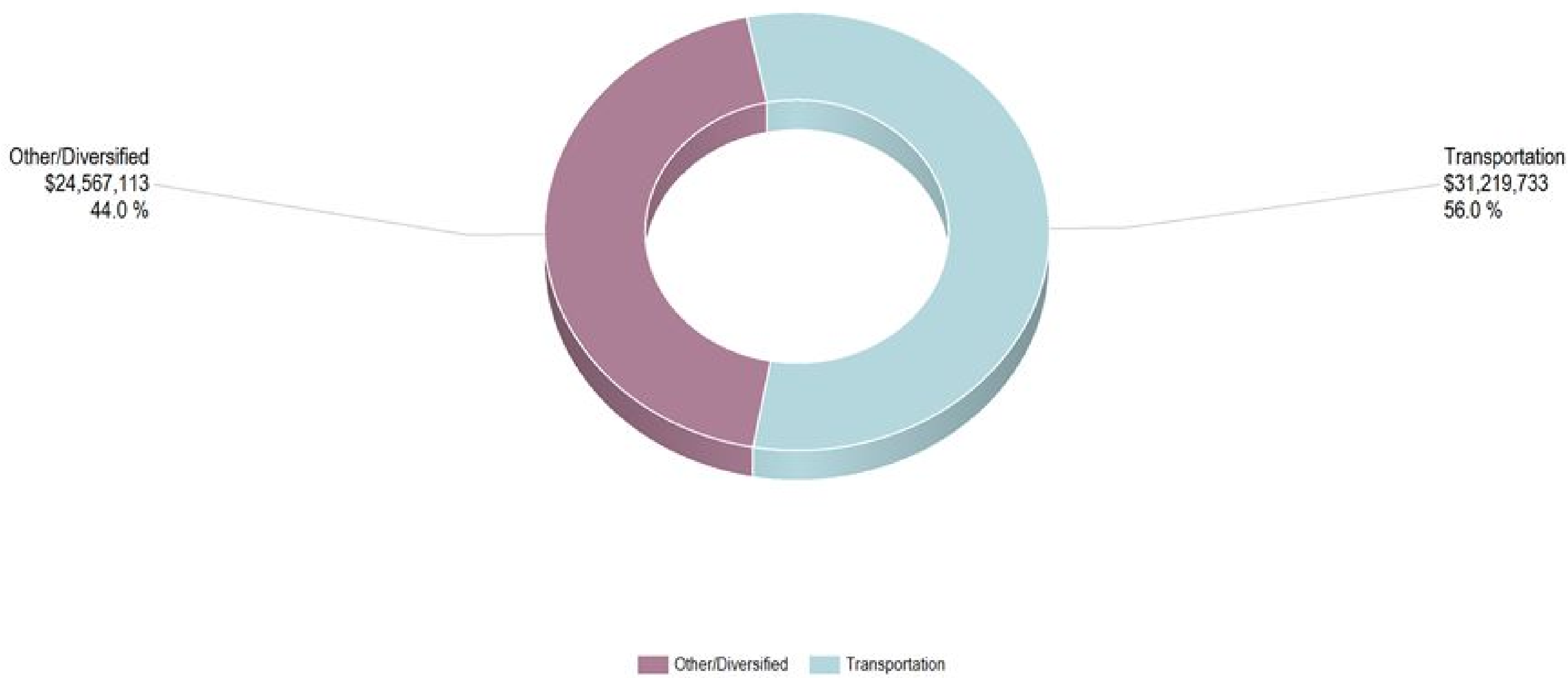
Prepared by Meketa Investment Group

Dallas Police & Fire Pension System

Infrastructure

As of June 30, 2019

Infrastructure Investments as of June 30, 2019
Market Value Allocation by Strategy



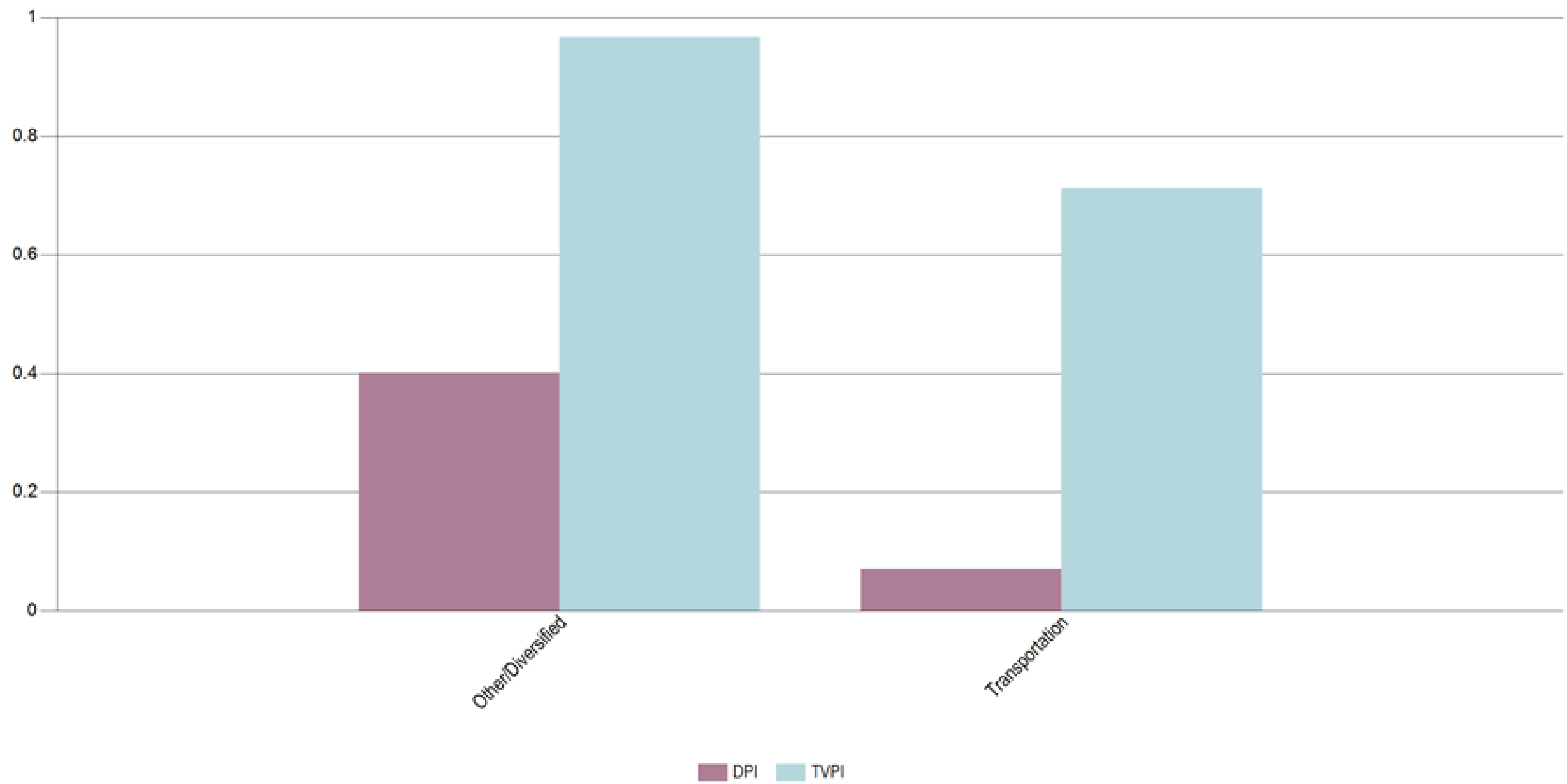
1.'Other/Diversified' is composed of various operating and developing infrastructure project exposure

Dallas Police & Fire Pension System

Infrastructure

As of June 30, 2019

Infrastructure Investments as of June 30, 2019
DPI and TVPI by Strategy



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

Dallas Police & Fire Pension System

Infrastructure

As of June 30, 2019

Infrastructure Investments Overview

Active Funds		Commitments		Distributions & Valuations				Performance			
Investment Name	Vintage Year	Commitment ($)	Paid In Capital ($)	Distributions ($)	Valuation ($)	Total Value ($)	Gain/Loss ($)	Call Ratio	DPI	TVPI	IRR (%)
Infrastructure											
TRG AIRRO	2008	37,000,000	36,763,471	17,873,234	19,912,900	37,786,134	1,022,663	0.99	0.49	1.03	0.43
TRG AIRRO II	2013	10,000,000	7,133,745	58,731	4,654,212	4,712,943	-2,420,802	0.71	0.01	0.66	-7.37
JPM Maritime Fund, LP	2009	50,000,000	48,584,975	3,416,688	31,219,733	34,636,421	-13,948,555	0.97	0.07	0.71	-7.55
Total Infrastructure		**97,000,000**	**92,482,192**	**21,348,653**	**55,786,845**	**77,135,498**	**-15,346,694**	**0.95**	**0.23**	**0.83**	**-3.52**

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

Private Markets Review

List of Completed Funds

Dallas Police & Fire Pension System

Private Markets Review

As of June 30, 2019

Total Real Assets Program

Completed Funds	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Addtnl Fees	Cummulative Distributions	Valuation	Total Value	Gain/Loss	DPI Ratio	TVPI Ratio	IRR
AEW Creative Holdings	2007	13,035,849	13,035,849	0	0	0	0	0	-13,035,849	0.00	0.00	N/A
BTG U.S. Timberland	2007	22,230,000	22,230,000	0	0	33,065,920	0	33,065,920	10,835,920	1.49	1.49	4.82%
CDK Multifamily I	2014	10,559,876	10,617,376	0	0	10,025,434	0	10,025,434	-591,942	0.94	0.94	-1.99%
Clarion 1210 South Lamar	2014	10,500,000	10,201,489	0	0	13,214,065	0	13,214,065	3,012,576	1.30	1.30	12.85%
Clarion 4100 Harry Hines Land	2006	3,088,810	3,092,788	0	0	3,641,946	0	3,641,946	549,158	1.18	1.18	1.69%
Clarion Beat Lofts	2005	8,729,783	8,730,183	0	0	1,137,817	0	1,137,817	-7,592,366	0.13	0.13	-30.76%
Clarion Bryan Street Lofts	2005	5,112,048	5,112,048	0	0	4,163,659	0	4,163,659	-948,389	0.81	0.81	-2.23%
Clarion Four Leaf	2005	16,892,767	16,892,767	0	0	3,733,148	0	3,733,148	-13,159,619	0.22	0.22	-39.69%
Hearthstone Dry Creek	2005	52,303,043	52,303,043	0	0	8,973,059	0	8,973,059	-43,329,984	0.17	0.17	-38.78%
Hearthstone Nampa	2006	11,666,284	11,666,284	0	0	2,562,654	0	2,562,654	-9,103,630	0.22	0.22	-31.90%
JP Morgan Infrastructure Investments Fund	2007	37,000,000	37,000,000	0	-5,658	44,302,131	0	44,302,131	7,307,789	1.20	1.20	2.48%
L&B Realty Advsiors Beach Walk	2006	33,013,796	33,013,796	0	0	36,752,690	0	36,752,690	3,738,894	1.11	1.11	2.19%
L&B Realty Advisors KO Olina	2008	28,609,658	28,609,658	0	0	30,529,136	0	30,529,136	1,919,478	1.07	1.07	1.11%
L&B Realty Advisors West Bay Villas	2007	8,712,411	8,712,411	0	0	3,785,480	0	3,785,480	-4,926,931	0.43	0.43	-8.29%
LBJ Infrastructure Group Holdings, LLC (LBJ)	2009	50,000,000	44,346,229	0	0	77,892,000	0	77,892,000	33,545,771	1.76	1.76	12.77%
Lone Star Fund III (U.S.), L.P.	2000	20,000,000	19,827,576	0	0	40,701,250	0	40,701,250	20,873,674	2.05	2.05	31.88%
Lone Star Fund IV (U.S.), L.P.	2001	20,000,000	19,045,866	0	0	43,898,442	0	43,898,442	24,852,576	2.30	2.30	30.15%
Lone Star Fund V (U.S.), L.P.	2005	22,500,000	22,275,229	0	0	20,605,895	0	20,605,895	-1,669,334	0.93	0.93	-1.41%
Lone Star Fund VI (U.S.), L.P.	2008	25,000,000	20,034,018	0	0	31,712,968	0	31,712,968	11,678,950	1.58	1.58	21.76%
Lone Star Real Estate Fund (U.S.), L.P.	2008	25,000,000	20,743,769	0	0	25,403,707	0	25,403,707	4,659,938	1.22	1.22	5.15%
Lone Star Real Estate Fund II	2011	25,000,000	22,169,907	0	0	32,789,371	0	32,789,371	10,619,464	1.48	1.48	24.73%
Lone Star Real Estate Fund III	2014	25,000,000	23,490,784	0	0	26,638,028	0	26,638,028	3,147,244	1.13	1.13	8.20%
M&G Real Estate Debt Fund II	2013	29,808,841	21,523,663	0	0	17,088,107	0	17,088,107	-4,435,556	0.79	0.79	-15.04%
NTE 3a-3b	2012	50,000,000	23,794,565	0	0	28,186,978	0	28,186,978	4,392,413	1.18	1.18	16.03%
NTE Mobility Partners Holding, LLC (NTE)	2009	50,000,000	43,397,054	0	0	105,890,000	0	105,890,000	62,492,946	2.44	2.44	19.33%
Olympus II-Hyphen Solutions	2007	836,511	836,511	0	0	1,418,149	0	1,418,149	581,638	1.70	1.70	5.96%
P&F Housing IV	2006	134,015,889	134,015,889	0	0	83,179,802	0	83,179,802	-50,836,087	0.62	0.62	-8.44%
RREEF North American Infrastructure Fund	2007	50,000,000	50,000,000	0	846,289	55,238,755	0	55,238,755	4,392,466	1.09	1.09	12.59%
Sungate	2005	6,481,568	6,481,568	0	0	308,624	0	308,624	-6,172,944	0.05	0.05	-22.30%
Tucson Loan	2014	4,500,000	4,500,000	0	0	5,082,785	0	5,082,785	582,785	1.13	1.13	5.75%
Total Completed Funds		**799,597,134**	**737,700,320**	**0**	**840,631**	**791,922,000**	**0**	**791,922,000**	**53,381,049**	**1.07**	**1.07**	

Dallas Police & Fire Pension System

Private Markets Review

As of June 30, 2019

Private Equity & Debt Funds

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

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

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DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D7

Topic: **Fixed Income Portfolio Review**

Discussion: Staff will provide an overview of DPFP public fixed income investments.

Regular Board Meeting – Thursday, December 12, 2019

DALLAS POLICE & FIRE PENSION SYSTEM

Public Fixed Income Portfolio Review

December 12, 2019

Public Fixed Income Structure Overview

DPFP Asset Allocation	% weight				$ millions		
	11/30/2019	Target	Variance		11/30/2019	Target	Variance
Fixed Income	**31.8%**	**35.0%**	**-3.2%**		**660**	**726**	**-66**
Safety Reserve - Cash	4.8%	3.0%	1.8%		99	62	37
Safety Reserve - ST IG Bonds	12.7%	12.0%	0.7%		263	249	13
Investment Grade Bonds	1.8%	4.0%	-2.2%		37	83	-46
Global Bonds	3.2%	4.0%	-0.8%		67	83	-16
High Yield Bonds	4.1%	4.0%	0.1%		84	83	1
Bank Loans	3.9%	4.0%	-0.1%		80	83	-3
Emerging Mkt Debt	1.0%	4.0%	-3.0%		21	83	-62
Private Debt*	0.5%	0.0%	0.5%		9	0	9

Fixed Income Portfolio Milestones

- April 2016 : Added short-term investment grade bond allocation and funded IR+M with $50MM in June 2017
- December 2017: Transition from Ashmore Dollar Denominated Emerging Market Debt & Ashmore Local Currency Emerging Market Debt portfolios to Ashmore's Blended Emerging Market Debt portfolio
- April 2018: Increased safety reserve allocation and added $198MM to IR+M in 2Q 2018
- Oct 2018: Approved new asset allocation which included a new 4% allocation to investment grade bonds
- Dec 2018: Approved Vanguard (VBTIX) as new investment grade bond investment and funded with $37MM in Sept 2019

DALLAS POLICE & FIRE PENSION SYSTEM

Portfolio Performance & Characteristics

Performance as of 9/30/19	QTD	YTD	1 Yr	3 Yrs	5 Yrs	SI (Dec-10)
DPFP Public Fixed Income	0.1%	4.7%	3.3%	4.5%	3.3%	5.2%
DPFP Public Fixed Income (ex IR+M)	-0.5%	5.7%	2.2%	4.3%	3.2%	5.1%
Barclays Multiverse Total Return	0.6%	6.5%	7.5%	1.8%	2.1%	2.3%

**Performance is net of investment management fees provided by Meketa*

as of 9/30/19	IR+M (Short Investment Grade)	Vanguard (Investment Grade)	Brandywine (Global Bonds)	Loomis (High Yield)	Loomis (Bank Loans)	Pacific Asset (Bank Loans)	Ashmore (Emerging Market Debt)	DPFP (Total)
Yield to Maturity	2.1%	2.3%	3.8%	6.2%	6.4%	5.6%	7.4%	3.6%
Average Quality	AA	AA	A	BB	B	B	BB	A
Weighted Avg Maturity	1.9	8.3	9.8	5.2	4.7	4.6	10.1	4.2
Average Duration	1.8	6.2	5.5	3.7	0.4	0.3	6.0	2.5
3 Year Statistics								
Standard Deviation	0.96%	3.45%	6.99%	4.61%	2.65%	3.34%	2.31%	2.71%
Beta	0.91	1.01	1.14	0.75	0.91	1.04	1.24	0.38
Information Ratio	1.74	-0.17	0.06	0.24	-0.02	0.61	0.03	0.78
Sharpe Ratio	0.46	0.40	0.05	0.91	1.26	1.28	0.28	1.11
5 Year Statistics								
Standard Deviation	0.89%	3.22%	6.75%	6.77%	3.62%	3.04%	8.63%	4.51%
Beta	0.90	1.01	1.17	1.04	1.13	0.89	1.30	0.60
Information Ratio	1.69	-0.17	-0.11	-0.30	-0.06	0.32	0.29	0.28
Sharpe Ratio	0.89	0.75	0.08	0.39	0.85	1.35	0.33	0.51

**Metrics provided by Meketa*

Investment Manager Performance

as of 9/30/19	QTD	YTD	1 Yr	3 Yrs*	5 Yrs*	10Yrs*	SI (6/2017)
Income Research + Management Short-term Investment Grade	0.76%	3.66%	4.72%	*2.10%*	*1.91%*	*2.24%*	2.36%
Barclays UST 1-3 Year	0.58%	3.07%	4.43%	*1.53%*	*1.33%*	*1.18%*	2.01%
Excess Return	0.18%	0.59%	0.29%	*0.57%*	*0.58%*	*1.06%*	0.35%
as of 9/30/19	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10Yrs	SI (9/1995)
Vanguard Total Bond Market Index Fund (VBTIX)**	2.43%	8.70%	10.45%	2.91%	3.36%	3.71%	5.17%
Barclays US Aggregate Float Adjusted***	2.33%	8.72%	10.44%	2.96%	3.40%	3.78%	--
Excess Return	0.10%	-0.02%	0.01%	-0.05%	-0.04%	-0.07%	--
as of 9/30/19	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10Yrs	SI (12/2004)
Brandywine Global Bonds	-1.50%	5.14%	3.82%	1.97%	1.58%	4.32%	4.52%
Barclays Global Aggregate	0.71%	6.32%	7.60%	1.59%	1.99%	2.34%	3.26%
Excess Return	-2.21%	-1.18%	-3.78%	0.38%	-0.41%	1.98%	1.26%
as of 9/30/19	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10Yrs	SI (11/1998)
Loomis Sayles Full Discretion High Yield	-0.39%	6.29%	-0.29%	5.59%	3.60%	7.97%	9.43%
Barclays Global High Yield	-0.67%	8.76%	4.97%	4.40%	4.69%	7.14%	7.79%
Excess Return	0.28%	-2.47%	-5.26%	1.19%	-1.09%	0.83%	1.64%
as of 9/30/19	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10Yrs	SI (1/2014)
Loomis Sayles Senior Floating Rate & Fixed Income	0.46%	4.85%	1.94%	4.51%	3.91%	--	3.99%
S&P Leveraged Loan	0.99%	6.79%	3.10%	4.53%	3.98%	--	3.84%
Excess Return	-0.53%	-1.94%	-1.16%	-0.02%	-0.07%	--	0.15%
as of 9/30/19	QTD	YTD	1 Yr	*3 Yrs**	*5 Yrs**	*10Yrs**	SI (7/2017)
Pacific Asset Management Bank Loans	1.34%	7.13%	3.58%	*4.98%*	*4.27%*	*5.51%*	4.55%
Credit Suisse Leveraged Loan	0.92%	6.39%	3.11%	*4.68%*	*4.11%*	*5.38%*	4.11%
Excess Return	0.42%	0.74%	0.47%	*0.30%*	*0.16%*	*0.13%*	0.44%
as of 9/30/19	QTD	YTD	1 Yr	*3 Yrs**	*5 Yrs**	*10Yrs**	SI (12/2017)
Ashmore Emerging Market Debt	-2.74%	7.27%	6.88%	*3.86%*	*3.95%*	*5.15%*	1.32%
50% JPM EMBI GD / 25% JPM ELMI+ / 25% JPM GBIEM GD	0.04%	8.75%	8.97%	*3.56%*	*3.00%*	*4.20%*	2.70%
Excess Return	-2.78%	-1.48%	-2.09%	*0.30%*	*0.95%*	*0.95%*	-1.38%

**Composite returns for IR+M, Pacific Asset Management and Ashmore EM Debt for 3yr, 5yr and 10yr returns*

***DPFP invested in Vanguard (VBTIX) in September 2019. VBTIX is a mutual fund and historical returns are shown for the fund.*

****Barclays US Aggregate Float Adjusted does not go back to inception*

*****Performance is net of investment management fees and provided by investment managers and Meketa*

DALLAS POLICE & FIRE PENSION SYSTEM

Income Research + Management

Short Term Investment Grade Bonds

Market Value *(09-30-2019):*	$261,572,726	Inception Date:	June 2017
Investment Structure:	Separate Account	Benchmark:	Barclays US Treasury 1-3Yr

Philosophy

- Relative-value orientation with a duration neutral approach that emphasizes bottom-up security selection
- Careful security selection and risk management provide superior results over the long term
- Allocations to securitized bonds can add both high-quality diversification and yield to a portfolio
- This allocation is used as a secondary source of liquidity to DPFP while offering enhanced returns over cash

Process

- The Investment Committee sets sector allocation targets and the sector teams focus on security selection
- Research analysts perform security analysis on structure, price and credit (quality, liquidity and management)
- Portfolio construction is handled by the portfolio strategy team who takes into consideration the sector positioning, security selection, investment guidelines and cash flow needs of the portfolio
- Risk team conducts market risk evaluation, accesses relative value and monitors exposure to sectors & issuers

Organization

- Headquartered in Boston with consistent management since inception (1987)
- ~200 employees and 49 investment professionals with average tenure of 15 years for investment committee
- 55 employee shareholders who own >50% of the company, excluding founders' ownership
- $75 Billion of assets focused exclusively on US fixed income management

Income Research + Management

Performance as of 9/30/19	QTD	YTD	1 Yr	SI (6/2017)	3 Yrs	Composite 5 Yrs	10 Yrs
IR + M	0.76%	3.66%	4.72%	2.36%	2.10%	1.91%	2.24%
Barclays UST 1-3 Yr	0.58%	3.07%	4.43%	2.01%	1.53%	1.33%	1.18%
Excess Return	0.18%	0.59%	0.29%	0.35%	0.57%	0.58%	1.06%
Alpha	--	--	0.67%	0.34%	0.57%	0.61%	1.12%
Beta	--	--	0.82	0.87	0.91	0.90	0.91

**Performance is net of investment management fees*

Volatility as of 9/30/19	3 Yrs	5 Yrs	10 Yrs
Standard Deviation	0.96%	0.89%	0.95%
Tracking Error	0.24%	0.25%	0.52%

**Composite used for metrics prior to inception*

Max Drawdown	Feb-18	Nov-16	2008	2Q '04
IR + M	-0.59%	-0.41%	-3.44%	-0.93%
Barclays UST 1-3 Yr	-0.80%	-0.59%	-1.14%	-1.06%

Performance Expectations

- Stable returns with low volatility, consistent with the fund mandate and role in our portfolio
- Long-term outperformance driven by overweight of high-quality spread sectors relative to the benchmark
- Modest underperformance during risk-off/spread widening environments
- Down-market protection is provided by typically having shorter duration than the benchmark, coupon interest and positive convexity

Performance Commentary

- Followed expectations with outperformance in 2018 and 2019 due to a decline in rates and an overweight to high quality spread sectors. The fund experienced slight underperformance in 4Q18 due to underperformance of spread sectors vs. US Treasuries during the risk-off environment.
- Currently underweight US Treasuries and overweight all other sectors, which is in line with the strategy. This results in a higher yield and lower credit quality relative to the benchmark.
- Added incrementally to high-quality, liquid securitized sectors in the first half of 2019.
- There has been minimal changes in allocation in 3Q19.

DALLAS POLICE & FIRE PENSION SYSTEM

IR+M

Vanguard Total Bond Market Index Fund

Investment Grade Bonds

Market Value *(09-30-2019)*:	$36,706,555	Inception Date:	Sept 2019
Investment Structure:	Mutual Fund Ticker: VBTIX	Benchmark:	Barclays US Aggregate Float Adjusted

Philosophy

- Provide broad passive diversified exposure to the investment-grade US bonds
- Provide moderate current income with high credit quality
- Track the Bloomberg Barclays US Aggregate Float Adjusted Index using index sampling

Process

- Tight index tracking is accomplished with duration and yield-curve matching, broad sector matching, subsector, quality & mortgage backed structure matching and tight issuer risk controls

Organization

- Vanguard is an American registered investment advisor based in Malvern, PA
- Largest provider of mutual funds and second largest provider of ETFs with $5.3 trillion of assets
- More than 180 portfolio managers, traders, analysts, researchers and support

Vanguard Total Bond Market Index Fund (VBTIX)

Performance as of 9/30/19	QTD	YTD	1 Yr	3Yrs	5Yrs	10Yrs
Vanguard (VBTIX)**	2.43%	8.70%	10.45%	2.91%	3.36%	3.71%
Barclays US Agg Float Adj	2.33%	8.72%	10.44%	2.96%	3.40%	3.78%
Excess Return	0.10%	-0.02%	0.01%	-0.05%	-0.04%	-0.07%
Alpha	--	--	0.01%	-0.06%	-0.06%	-0.13%
Beta	--	--	1.00	1.01	1.01	1.02

**Performance is net of investment management fees*

***Returns include changes in share price and reinvestments of dividends and capital gains*

Volatility as of 9/30/19	3Yrs	5 Yrs	10 Yrs
Standard Deviation	3.45%	3.22%	3.06%
Tracking Error	0.00%	0.00%	0.02%

Max Drawdown	Oct-18	Nov-16	Aug-13	Oct-08
Vanguard (VBTIX)	-2.44%	-3.64%	-3.72%	-3.93%
Barclays US Agg Float Adj	-2.51%	-3.42%	-3.65%	-3.83%

Performance Expectations

- To track the Bloomberg Barclays US Aggregate Float Adjusted Index with minimal tracking error
- The fund is expected to trail the benchmark slightly due to management fees of 3.5 bps

Performance Commentary

- Fund has tracked the benchmark with minimal tracking error as expected
- Asset class positioning: 43% US Treasuries, 22% Government Mortgage Backed Securities, 16% Industrials, 9% financials, 5% foreign government and 5% other
- Maturity positioning: 1% (< 1year), 24% (1-3 year), 26% (3-5 year), 30% (5-10 year), 4% (10-20 year), 14% (20-30 year) & 1% (>30 years)

Brandywine

Global Bonds

Market Value *(09-30-2019):*	$66,941,578	Inception Date:	December 2004
Investment Structure:	Separate Account	Benchmark:	Barclays Global Aggregate

Philosophy

- Value oriented & focused on real yields; believes extreme asset prices trigger economic policies leading to mean reversion
- Macroeconomic driven; believes interest rates and currencies are regulators of economic activity
- Benchmark agnostic because benchmarks tend to favor the biggest debtors, not most disciplined debtors
- Performance objective is to exceed the Barclays Global Aggregate Index by 1.50% net over a full market cycle

Process

- Starts with systematic macro-economic research focused on business & liquidity cycles, politics and ESG
- Then incorporates valuation research focused on real yields & rates, inflation, default, PPP and currencies
- Constructs portfolio and establishes investment themes (country, currency, duration & credit) using research
- Investment, performance, trading & compliance teams manage risk at the security, portfolio & firm level

Organization

- Headquartered in Philadelphia & founded in 1986; became a wholly owned subsidiary of Legg Mason in 1998
- 253 employees and 52 investment professionals with an average tenure of 21.5 years
- Last major departure in Global Fixed Income Portfolio was a portfolio manager in 2014
- $75B in assets that have been steadily growing with $50B in fixed income, $17.5B in equities and $7.2B in alternatives

Brandywine

Performance as of 9/30/19	QTD	YTD	1 Yr	3 Yrs	5yrs	10Yrs	SI (12/2004)
Brandywine	-1.50%	5.14%	3.82%	1.97%	1.58%	4.32%	4.52%
Barclays Global Agg	0.71%	6.32%	7.60%	1.59%	1.99%	2.34%	3.26%
Excess Return	-2.21%	-1.18%	-3.78%	0.38%	-0.41%	1.98%	1.26%
Alpha	--	--	-5.11%	0.38%	-0.58%	1.80%	1.06%
Beta	--	--	1.25	1.14	1.17	1.10	1.10

**Performance is net of investment management fees*

Volatility as of 9/30/19	3 Yrs	5 Yrs	10 Yrs	SI (12/2004)
Standard Deviation	6.99%	6.75%	6.61%	7.29%
Tracking Error	4.65%	4.38%	4.00%	4.33%

Max Drawdown	Oct-18	Q4 '15	2013	2008/09
Brandywine	-9.80%	-9.84%	-8.11%	-15.75%
Barclays Global Agg	-5.84%	-10.26%	-7.27%	-8.96%

Performance Expectations

- Relative underperformance during periods of stress in global bonds, but relative outperformance during market recoveries (due to a focus on under-valued bonds and currencies, with real yield being the primary definition of value) and risk-neutral markets (due to inefficiencies in the index)

Performance Commentary

- The fund is overweight emerging market bonds and currencies while underweight the US Dollar, Euro and Yen.
- Brandywine believes the US Dollar is over-valued and avoids countries with negative interest rates. This has hurt 2019 performance as changes in US monetary policy and the US/China trade war has fueled the US market and US Dollar while slowing foreign growth. In addition, bonds with negative yields continued to head into more negative territory in 2019.
- Recent underperformance is consistent with expected positioning and tracking error.

Loomis Sayles Full Discretion High Yield

High Yield

Market Value *(09-30-2019)*:	$83,852,777	Inception Date:	November 1998
Investment Structure:	Separate Account	Benchmark:	Barclays Global High Yield

Philosophy

- Uses top down and bottom up research to make investment decisions
- Believe 80% of high yield returns are driven by coupon income, 20% by capital appreciation
- Contrarian value-driven approach with a strong emphasis on security selection to avoid defaults

Process

- Starts with top down research from the macro, US Yield Curve and global asset allocation teams
- Then goes to product teams who apply long-term themes & sector strategies for security selection
- Broad investment guidelines allow for flexibility to invest opportunistically outside of the benchmark
- Portfolio managers manage the strategy by monitoring sector targets, security selection, quality & duration
- Overall risk is monitored through sensitivity testing of rates, spreads, currencies and concentration

Organization

- Headquartered in Boston & founded in 1926; wholly owned by Natixis Global Asset Management
- 695 employees and 293 investment professionals with an average tenure of 10 years
- $288B firmwide assets; $221B in fixed income ($7.4B with the Full Discretion HY team) and $67B in equities
- Dan Fuss (Vice Chairman and Lead Portfolio Manager) transitioned off the portfolio in April 2019. His responsibilities have been transferred to Matt Eagan and Elaine Stokes (Co-Portfolio managers).

Loomis Sayles Full Discretion High Yield

Performance as of 9/30/19	QTD	YTD	1 Yr	3 Yrs	5yrs	10Yr	SI (11/1998)
Loomis Sayles HY	-0.39%	6.29%	-0.29%	5.59%	3.60%	7.97%	9.43%
Barclays Global HY	-0.67%	8.76%	4.97%	4.40%	4.69%	7.14%	7.79%
Excess Return	0.28%	-2.47%	-5.26%	1.19%	-1.09%	0.83%	1.64%
Alpha	--	--	-4.94%	1.90%	-1.24%	-0.56%	0.50%
Beta	--	--	0.88	0.75	1.04	1.21	1.19

**Performance is net of investment management fees*

Volatility as of 9/30/19	3 Yrs	5 Yrs	10 Yrs	SI (11/1998)
Standard Deviation	4.61%	6.77%	7.55%	11.26%
Tracking Error	3.16%	3.34%	3.35%	4.37%

Max Drawdown	Dec -18	Jan-16	Nov-08	Jul-02
Loomis Sayles HY	-6.07%	-17.95%	-36.40%	-24.57%
Barclays Global HY	-5.19%	-9.63%	-33.37%	-11.68%

Performance Expectations

- Underperform during down markets, but outperform during the following market recovery
- Higher volatility than the benchmark in this strategy due to the opportunistic approach

Performance Commentary

- Underperformance in the past year is attributed to barbell overweights to cash/short-term US Treasuries and high yield energy credit which have lagged as high yield rebounded in 2019.
- Negative selection in the energy sector also detracted in 2019
- Starting in 3Q 2019, Loomis is gradually reducing the barbell to more closely align with the composite
- As a result of this re-allocation, the portfolio has experienced a modest decline in credit quality as cash is deployed

DALLAS POLICE & FIRE PENSION SYSTEM

LOOMIS | SAYLES®

Loomis Sayles Senior Floating Rate and Fixed Income

Bank Loans

Market Value *(09-30-2019):*	$39,675,374	Inception Date:	January 2014
Investment Structure:	Commingled Fund (Biweekly Liquidity)	Benchmark:	S&P Leveraged Loan

Philosophy

- Long term, value-driven and opportunistic approach focused on macro-economic risk
- Believes the risk environment drives alpha more than security selection, because bank loans do not have many disparities to exploit through security selection (exception is when defaults are unusually high)
- Allocates outside of benchmark for offensive & defensive purposes in different business cycles

Process

- Starts with top down global asset allocation research that looks at a risk-on risk-off model comparing BBs and Bs
- Then portfolio managers combine bottom up research from sector teams to construct the portfolio
- Overall risk is monitored through sensitivity testing and awareness of concentration risk

Organization

- Headquartered in Boston & founded in 1926; wholly owned by Natixis Global Asset Management
- 695 employees and 293 investment professionals with an average tenure of 10 years
- $288B firmwide assets; $221B in fixed income ($7.3B in floating rate loan strategies) and $67B in equities
- Kevin Perry (co-portfolio manager) retired in March 2019. John Bell (co-portfolio manager) has become the sole portfolio manager and has final authority on all portfolio decisions.

Loomis Sayles Senior Floating Rate & Fixed Income

Performance as of 9/30/19	QTD	YTD	1 Yr	3 Yrs	5yrs	SI (1/2014)
Loomis Sr Floating Rate	0.46%	4.85%	1.94%	4.51%	3.91%	3.99%
S&P Leveraged Loan	0.99%	6.79%	3.10%	4.53%	3.98%	3.84%
Excess Return	-0.53%	-1.94%	-1.16%	-0.02%	-0.07%	0.15%
Alpha	--	--	-1.05%	0.25%	-0.46%	-0.18%
Beta	--	--	0.86	0.91	1.13	1.11

**Performance is net of investment management fees*

Volatility as of 9/30/19	3 Yrs	5 Yrs	SI (1/2014)
Standard Deviation	2.65%	3.62%	3.42%
Tracking Error	0.97%	1.33%	1.29%

Max Drawdown	Dec-18	Feb-16	Dec-14
Loomis Sr Floating Rate	-2.77%	-7.69%	-1.33%
S&P Leveraged Loan	-3.45%	-4.95%	-1.25%

Performance Expectations

- Goal is to exceed the S&P/LSTA Leveraged Loans Index by 100 basis points annually, gross of fees
- Outperform in up markets and underperform in down markets due to the strategic focus on higher yield and an overweight to lower credit quality (Bs & CCCs).

Performance Commentary

- Historically we see underperformance during risk-off followed by outperformance. For example, during the energy crisis of 2015 the fund had a max drawdown of -7.69% (vs. -4.95% benchmark) from Aug 2015 to Feb 2016. The subsequent market recovery saw the fund return +11.86% (vs. +8.70% benchmark) from March 2016 to Sept 2016).
- However, in the past year we have seen Beta decrease as the portfolio has increased credit quality.
- While the addition of US Treasuries and a higher allocation to cash has shifted the portfolio up in quality, the portfolio remains overweight to lower rated credits (Bs & CCCs). This overweight has caused underperformance as BBs have outperformed over the past year.
- Security selection in the energy sector also detracted.

Pacific Asset Management

Bank Loans

Market Value *(09-30-2019)*:	$40,621,888	Inception Date:	July 2017
Investment Structure:	Commingled Fund (Biweekly Liquidity)	Benchmark:	Credit Suisse Leveraged Loan

Philosophy

- Target the largest and most liquid US bank loans using bottom up credit analysis focused on capital preservation and downside risk
- Minimize defaults by investing in companies with large margins of safety (3 defaults since inception)
- High conviction approach that leads to a selective portfolio of 80-150 issuers

Process

- Begins with top down research looking at macro and sector trends to determine portfolio weights
- Then portfolio managers and research teams screen the US Bank Loans universe for size and liquidity
- Bottom up credit analysis is incorporated and looks at loan structure, capital structure and credit
- Securities are then selected and brought to the investment committee for approval
- Risk is monitored through attribution analysis as a quantitative check on the results of the decision making

Organization

- Headquartered in Newport Beach, CA & founded in 2007 as a subsidiary of Pacific Life Insurance
- $11.7B institutional fixed income firm with $4.2B in bank loans (largest and longest tenured asset class)
- In 2019 the firm had inflows of $2 Billion in assets with $200MM going to bank loans
- 22 investment professionals with an average tenure of 8 years; employees own 30% of the equity of Pacific
- No investment professional departures and 4 additions to the team in the last 3 years

Pacific Asset Management

Performance as of 9/3019	QTD	YTD	1 Yr	SI (7/2017)	3 Yrs	Composite 5 Yrs	10 Yrs
Pacific Asset	1.34%	7.13%	3.58%	4.55%	4.98%	4.27%	5.51%
CS Leveraged Loan	0.92%	6.39%	3.11%	4.11%	4.68%	4.11%	5.38%
Excess Return	0.42%	0.74%	0.47%	0.44%	0.30%	0.16%	0.13%
Alpha	--	--	0.43%	0.44%	0.18%	0.50%	0.03%
Beta	--	--	1.05	1.00	1.04	0.89	1.02

**Performance is net of investment management fees*

Volatility as of 9/30/19	3 Yrs	5 Yrs	10 Yrs	SI* (1/2007)
Standard Deviation	3.34%	3.04%	3.68%	8.01%
Tracking Error	0.43%	1.06%	1.21%	3.30%

**Since Inception of Composite*

Max Drawdown	Dec-18	Feb-16	Dec-14
Pacific Asset	-3.20%	-1.11%	-1.25%
CS Leveraged Loan	-3.09%	-4.70%	-1.10%

***Composite used for metrics prior to inception*

Performance Expectations

- Outperformance in down markets and underperformance in up markets due to the quality bias of the strategy
- Low number of defaults as a result of investing in large firms with high margins of safety

Performance Commentary

- Bank loans have rallied this year and we would expect modest underperformance from Pacific due to the quality bias. However, the bank loan market has been driven by high quality loans which as been a tailwind for this strategy.
- The portfolio also focuses on large-cap bank loans which has benefited performance. During the year, larger facility sizes outperformed smaller facility sizes.
- The portfolio has seen a shifted up in quality in 2019. The goal is to be positioned with a particularly high-quality portfolio at the end of the year.

DALLAS POLICE & FIRE PENSION SYSTEM

PACIFIC ASSET MANAGEMENT

Ashmore Emerging Markets Blended Debt

Emerging Markets Debt

Market Value *(09-30-2019)*:	$20,537,798	Inception Date:	December 2017
Investment Structure:	Commingled Fund (Biweekly Liquidity)	Benchmark:	50% JP Morgan Emerging Market Bond Global Diversified 25% JP Morgan Emerging Local Markets Plus 25% JP Morgan Government Bond Emerging Markets

Philosophy

- Strategy allocates across EM external debt, local currency debt, corporate debt and rates
- Predominately top-down focused on macro-economics, politics, interest rates and currencies
- Value driven to exploit a lack of quality information in EM and liquidity obsessed for risk monitoring

Process

- Investment committee meets weekly to review macros, countries, corporate credit, FX and theme allocation
- Portfolio construction considers investment committee outlooks, absolute & relative value, liquidity, concentration, portfolio limits/mandates and funding availability for each trade idea
- Risk is monitored through frequent portfolio sensitivity analysis of G7 duration, credit risk, FX risk, liquidity, yield curve, concentration and correlation

Organization

- Headquartered in London, founded in 1992 as part of the Australia and New Zealand Banking Group
- Became independent in 1999 and listed on the London exchange (FTSE: ASHM) in 2006
- 307 employees and 95 investment professionals with average tenure of 17 years for investment committee
- Mark Coombs (founder) owns 40% and other employees own 9%
- $92B of assets all in emerging markets with $84.4B in EM Debt and $20.4B in EM Blended Debt

Ashmore Emerging Markets Blended Debt

Performance as of 9/30/19	QTD	YTD	1 Yr	SI (12/2017)	Composite 3 Yrs	5 Yrs	10 Yrs
Ashmore EMD	-2.74%	7.27%	6.88%	1.32%	3.86%	3.95%	5.15%
Benchmark*	0.04%	8.75%	8.97%	2.70%	3.56%	3.00%	4.20%
Excess Return	-2.78%	-1.48%	-2.09%	-1.38%	0.30%	0.95%	0.95%
Alpha	--	--	-3.69%	-1.49%	-0.18%	0.35%	0.14%
Beta	--	--	1.24	1.20	1.24	1.30	1.22

**50% JPM EMBI GD / 25% JPM ELMI+ / 25% JPM GBIEM GD*
***Performance is net of investment management fees*

Volatility as of 9/30/19	3 Yrs	5 Yrs	10 Yrs	SI* (6/2003)
Standard Deviation	2.3%	8.6%	8.9%	10.0%
Tracking Error	7.5%	2.9%	2.6%	3.2%

**Since Inception of Composite*

Max Drawdown	2018	Jan-16	2013/14	4Q '08
Ashmore EMD	-9.17%	-16.46%	-10.27%	-23.70%
Benchmark*	-8.08%	-11.82%	-9.71%	-19.69%

**50% JPM EMBI GD / 25% JPM ELMI+ / 25% JPM GBIEM GD*
***Composite used for metrics prior to inception*

Performance Expectations

- The fund's value style buys into cheapness at times of market dislocation when value is at its greatest
- Therefore, underperformance is expected during market sell offs where price volatility remains high, followed by outperformance through the subsequent market recovery

Performance Commentary

- Performance for 1H 2019 was positive. However, 3Q 2019 underperformance caused YTD returns to lag the benchmark.
- Key detractors in 3Q 2019 were related to exposure in Argentina and Venezuela, both of which are experiencing political turmoil. Positioning is consistent with their philosophy and process. Ashmore believes these markets are now attractive and will add relative contribution once there as eventual political stability leads to market recovery.
- Local currency positioning has been relatively more dynamic in the past 4 quarters, which is attributed to the anticipation and reaction of dollar strength.

DISCUSSION SHEET

ITEM #D8

Topic: **Interpretation of Qualified Surviving Spouse Special Death Benefit**

Discussion: Section 6.09 of Article 6243a-1 provides for a special death benefit in certain situations. Part of the calculation in Section 6.09 requires an interpretation of the term “average monthly computation pay.” This term is not defined in the plan. As such, the Board has the authority to define this term pursuant to Section 3.01(j-3) which provides that “The board may correct any defect, supply any omission, and reconcile any inconsistency that may appear in this article…”

Staff will present to the Board its recommendation for the interpretation of the term “average monthly computation pay.”

Staff Recommendation: To be presented at the meeting.

DALLAS POLICE & FIRE PENSION SYSTEM

Special Survivor Death Benefit

December 12, 2019

The Issue

HB 3158 created a bifurcated benefit based on the sum of two separate calculations for service time before and after 9-1-2017.

- A part of the calculation of a Member's benefit is to determine the Computation Pay value using both the highest average 36-months (for the pre 9-1-17 benefit calculation) and highest average 60-months of Computation Pay (for the post 9-1-17 benefit calculation). This calculation is clear in the benefit calculation section.
- However, the term "Average Monthly Computation Pay" is not defined in Section 6.09 – Qualified Surviving Spouse Special Death Benefits nor anywhere else in the plan.

Special Survivor Death Benefit Calculation

- The calculation uses a math formula and defines A in the formula as "A=average monthly computation pay at the time the primary party begins service retirement…"
- Because "average monthly computation pay" is not defined, Section 3.01(j-3) of the plan enables the Board to adopt an interpretation. Given the bifurcated nature of the Member's benefits for pre and post 9-1-2017 time, staff believes time weighting computation pay for pre and post 9-1-2017 time is the best method to achieve the statutes intent.
- The staff recommendation is, that for the purposes of calculating the Special Survivor Death Benefit the "average monthly computation pay" should be calculated by weighting the two average computation pay values by the percentage of total service time earned both pre and post 9-1-2017 and all previous benefit calculations affected by this interpretation be adjusted on a prospective basis.

Example of the Average Computation Pay based on Staff's Recommendation

Member's Benefit Calculation		Pre 9-1-2017	Post 9-1-2017	Total
Average Monthly Computation Pay	a	$7,106.08	$6,882.12	
Service Time (years)	b	20.0000	10.0000	30.0000
Multiplier		3.00%	2.50%	
Benefit		$4,263.65	$1,720.53	$5,984.18

Average Computation Pay for Special Survivor Benefit Calculation				Ave Computation
Weighted Service Time	c	66.667%	33.333%	
Average Comp Pay Weighted for Service Time	d	$4,737.39	$2,294.04	$7,031.43

Assumptions: Member hired prior to 3-1-2011 and age 58 at retirement.

Sec. 6.09. QUALIFIED SURVIVING SPOUSE SPECIAL DEATH BENEFIT.

(a) A person who is the spouse of a Group A primary party, who is a qualified survivor, and who is entitled to death benefits under Sections 6.06, 6.061, 6.062, 6.063, and 6.07 of this article is also entitled to a special death benefit under this section if:

(1) the Group A primary party:

(A) had at least 20 years of pension service, left active service after October 1, 1985, and was at least 55 years of age on the earlier of the date the primary party:

(i) left active service; or

(ii) began participation in DROP; or

(B) had at least 20 years of pension service, left active service on or after May 31, 2000, and on the earlier of the date the primary party left active service or began participation in DROP, had a total of at least 78 credits, with each year of pension service, prorated for fractional years, equal to one credit and with each year of age, prorated for fractional years, equal to one credit; or

(2) the spouse has attained 55 years of age and there are no children who are qualified survivors eligible for death benefits.

(b) Until the requirements of Subsection (a) of this section are satisfied, a qualified survivor who is the spouse of a Group A primary party shall receive a Group A death benefit in accordance with Section 6.07 of this article.

(c) The special Group A death benefit under Subsection (a) of this section is calculated based on the following formula:

$$(P \times P \times A) + (P \times C) + D, \text{ where}$$

A = base pay at the time the Group A primary party began participation in DROP, begins service retirement, dies, or becomes disabled, plus longevity pay, plus one-twelfth of last-received city service incentive pay;

B = Group A primary party's benefit calculated at the time the Group A primary party began participation in DROP, begins service retirement, dies, or becomes disabled;

P = B/A (expressed as a percentage or a decimal);

C = the number of adjustments made to a Group A primary party's retirement pension, disability pension, or periodic disability compensation, multiplied by the amount of the adjustments; and

D = the number of adjustments made under this article to the Group A death benefit of a spouse who is a qualified survivor under Section 6.07 of this article, multiplied by the amount of the adjustments.

(d) A person who is the spouse of a Group B primary party, who is a qualified survivor, and who is entitled to any death benefits under Sections 6.06, 6.061, 6.062, 6.063, and 6.08 of this article is also entitled to a special benefit under this section if:

(1) the Group B primary party:

(A) had at least 20 years of pension service, left active service after October 1, 1985, and was at least 55 years of age at the earlier of the date the primary party left active service or began participation in DROP; or

(B) on or after May 31, 2000, left active service or began participation in DROP, whichever was earlier, having a total of at least 78 credits, with each year of pension service, prorated for fractional years, equal to one credit and with each year of age, determined at the time the Group B primary party left active service or began participation in DROP, prorated for fractional years, equal to one credit; or

(2) the spouse has attained 55 years of age, and there are no children of the primary party who are qualified survivors.

(d-1) Until the requirements of Subsection (d) of this section are satisfied, a spouse who is a qualified survivor may only receive a Group B death benefit in accordance with Sections 6.06, 6.061, 6.062, 6.063, and 6.08 of this article.

(e) The special Group B death benefit under Subsection (d) of this section is calculated based on the following formula:

$$(P \times P \times A) + (P \times C) + D, \text{ where}$$

A = average monthly computation pay at the time the Group B primary party begins service retirement, dies, becomes disabled, or begins participation in DROP;

B = the Group B primary party's benefit calculated at the time the Group B primary party begins participation in DROP, begins to receive service retirement, dies, or becomes disabled;

P = B/A (expressed as a percentage or a decimal);

C = the number of post-retirement adjustments made to a Group B primary party's retirement pension, disability pension, or periodic disability compensation multiplied by the amount of the adjustments; and

D = the number of adjustments made to the Group B death benefit of a qualified survivor who is the primary party's spouse under Section 6.08 of this article multiplied by the amount of the adjustments.

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D9

Topic: **2020 Proposed Budget**

Discussion: Attached is the budget proposal for Calendar Year 2020. The initial reading of the budget was October 10, 2019 and the second reading of the budget was November 19, 2019.

The budget has been prepared in total for both the Combined Pension Plan and the Supplemental Plan. Total expenses are then allocated to the Supplemental Plan based upon the Group Trust allocation reported by JPMorgan.

Significant changes from the prior year budget and/or projected 2019 actual expenses are explained in the comments accompanying the proposed budget.

Proposed budget was sent to the City for comments and no comments were received. Additionally, the proposed budget was posted to www.dpfp.org for member review prior to this meeting.

Staff Recommendation: **Approve** the proposed 2020 budget.

DALLAS POLICE AND FIRE PENSION SYSTEM
PROPOSED BUDGET SUMMARY
FOR THE YEAR 2020
DECEMBER 12, 2019 BOARD MEETING

				Variances		Variances	
				2020 Prop. Bud. vs	2019 Budget	2020 Prop. Bud. vs	2019 Proj. Act.
Expense Type	**2019 Budget**	**2019 Projected Actual**	**2020 Proposed Budget**	**$**	**%**	**$**	**%**
Administrative Expenses	5,814,377	5,080,180	5,713,266	(101,111)	(1.7%)	633,086	12.5%
Investment Expenses	16,851,000	16,321,090	16,285,551	(565,449)	(3.4%)	(35,539)	(0.2%)
Professional Expenses	2,189,975	1,517,027	1,581,120	(608,855)	(27.8%)	64,093	4.2%
Total	$ 24,855,352	$ 22,918,297	$ 23,579,937	$ (1,275,415)	(5.1%)	$ 661,640	2.9%

Dallas Police & Fire Pension System
Proposed Operating Budget
Calendar Year 2020

	Description	2019 Budget	2019 Projected Actual*	2020 Proposed Budget	$ Change 2020 Prop. Bud. vs. 2019 Bud.	% Change 2020 Prop. Bud. vs. 2019 Bud.	$ Change 2020 Prop. Bud. vs. 2019 Proj. Actual	% Change 2020 Prop. Bud. vs. 2019 Proj. Actual
Administrative Expenses								
1	Salaries and benefits	3,831,889	3,407,653	3,653,766	(178,123)	(4.6%)	246,113	7.2%
2	Employment Expense	52,275	1,734	15,000	(37,275)	(71.3%)	13,266	765.1%
3	Memberships and dues	19,182	20,663	19,706	524	2.7%	(957)	(4.6%)
4	Staff meetings	1,000	123	1,000	-	0.0%	877	713.0%
5	Employee service recognition	5,000	2,436	5,000	-	0.0%	2,564	105.3%
6	Member educational programs	2,500	1,500	2,750	250	10.0%	1,250	83.3%
7	Board meetings	7,600	4,872	6,420	(1,180)	(15.5%)	1,548	31.8%
8	Conference registration/materials - Board	14,900	2,565	11,650	(3,250)	(21.8%)	9,085	354.2%
9	Travel - Board	32,620	3,993	21,500	(11,120)	(34.1%)	17,507	438.4%
10	Conference/training registration/materials - Staff	37,500	5,207	34,800	(2,700)	(7.2%)	29,593	568.3%
11	Travel - Staff	37,500	15,689	44,500	7,000	18.7%	28,811	183.6%
12	Liability insurance	604,553	515,940	640,571	36,018	6.0%	124,631	24.2%
13	Communications (phone/internet)	55,600	68,243	56,300	700	1.3%	(11,943)	(17.5%)
14	Information technology projects	70,000	82,397	140,000	70,000	100.0%	57,603	69.9%
15	IT subscriptions/services/licenses	147,840	125,623	143,500	(4,340)	(2.9%)	17,877	14.2%
16	IT software/hardware	17,000	14,978	19,500	2,500	14.7%	4,522	30.2%
17	Building expenses	365,339	400,688	405,467	40,128	11.0%	4,779	1.2%
18	Repairs and maintenance	108,249	92,360	97,414	(10,835)	(10.0%)	5,054	5.5%
19	Office supplies	33,100	23,768	29,350	(3,750)	(11.3%)	5,582	23.5%
20	Leased equipment	23,900	22,914	24,000	100	0.4%	1,086	4.7%
21	Postage	27,000	25,628	28,200	1,200	4.4%	2,572	10.0%
22	Printing	5,110	1,761	14,000	8,890	174.0%	12,239	695.0%
23	Subscriptions	2,140	698	2,125	(15)	(0.7%)	1,427	204.4%
24	Records storage	1,320	1,392	1,400	80	6.1%	8	0.6%
25	Administrative contingency reserve	12,000	519	12,000	-	0.0%	11,481	2212.1%
26	Depreciation Expense	248,260	233,603	240,947	(7,313)	(2.9%)	7,344	3.1%
27	Bank fees	3,000	3,233	3,400	400	13.3%	167	5.2%
Investment Expenses								
28	Investment management fees	14,490,000	14,729,000	14,178,000	(312,000)	(2.2%)	(551,000)	(3.7%)
29	Investment consultant and reporting	430,000	327,605	365,000	(65,000)	(15.1%)	37,395	11.4%
30	Bank custodian services	237,000	221,343	222,000	(15,000)	(6.3%)	657	0.3%
31	Other portfolio operating expenses (legal, valuation, tax)	1,694,000	1,043,142	1,520,551	(173,449)	(10.2%)	477,409	45.8%
32	Investment due diligence	48,000	-	39,000	(9,000)	(18.8%)	39,000	100.0%
Professional Services Expenses								
33	Actuarial services	120,000	182,924	240,000	120,000	100.0%	57,076	31.2%
34	Accounting services	59,000	59,000	60,770	1,770	3.0%	1,770	3.0%
35	Independent audit	180,000	165,000	165,000	(15,000)	(8.3%)	-	0.0%
36	Legal fees	1,300,000	619,295	550,000	(750,000)	(57.7%)	(69,295)	(11.2%)

Dallas Police & Fire Pension System
Proposed Operating Budget
Calendar Year 2020

	Description	2019 Budget	2019 Projected Actual*	2020 Proposed Budget	$ Change 2020 Prop. Bud. vs. 2019 Bud.	% Change 2020 Prop. Bud. vs. 2019 Bud.	$ Change 2020 Prop. Bud. vs. 2019 Proj. Actual	% Change 2020 Prop. Bud. vs. 2019 Proj. Actual
37	Legislative consultants	159,000	157,210	126,000	(33,000)	(20.8%)	(31,210)	(19.9%)
38	Public relations	-	-	-	-	100.0%	-	100.0%
39	Pension administration software & WMS	273,000	264,977	283,000	10,000	3.7%	18,023	6.8%
40	Business continuity	15,500	17,909	26,600	11,100	71.6%	8,691	48.5%
41	Network security review	15,000	17,018	10,000	(5,000)	(33.3%)	(7,018)	(41.2%)
42	Network security monitoring	-	-	75,000	75,000	100.0%	75,000	100.0%
43	Disability medical evaluations	29,000	2,500	9,500	(19,500)	(67.2%)	7,000	280.0%
44	Elections	15,000	16,452	15,000	-	0.0%	(1,452)	(8.8%)
45	Miscellaneous professional services	24,475	14,742	20,250	(4,225)	(17.3%)	5,508	37.4%
	Total Budget	24,855,352	22,918,297	23,579,937	(1,275,415)	(5.1%)	661,640	2.9%
	Less: Investment management fees	14,490,000	14,729,000	14,178,000	(312,000)	(2.2%)	(551,000)	(3.7%)
	Adjusted Budget Total	10,365,352	8,189,297	9,401,937	(963,415)	(9.3%)	1,212,640	14.8%

SUPPLEMENTAL BUDGET

	Total Budget (from above)	24,855,352	22,918,297	23,579,937	(1,275,415)	(5.1%)	661,640	2.9%
	Less: Allocation to Supplemental Plan Budget*	193,872	201,681	207,503	13,631	7.0%	5,822	2.9%
	Total Combined Pension Plan Budget	**24,661,480**	**22,716,616**	**23,372,434**	**(1,289,046)**	**(5.2%)**	**655,818**	**2.9%**

** Projected based on preliminary 8/31/19 YTD annualized*
*** Allocation to Supplemental is based on JPM allocation between accounts as of 8/31/19 of .0088%*

0.88% per JPM Unitization report as of 8/31/19

Significant Budget Changes - 2020
Budget Changes (>5% and $10K)
SORTED BY THE $ CHANGE FROM 2019 BUDGET TO 2020 PROPOSED BUDGET

	Item	2019 Budget	2019 Projected Actual**	2020 Proposed Budget	$ Change 2020 Prop. Bud. vs. 2019 Bud.	% Change 2020 Prop. Bud. vs. 2019 Bud.	$ Change 2020 Prop. Bud. vs. 2019 Proj. Act.	% Change 2020 Prop. Bud. vs. 2019 Proj. Act.	Explanation
	INCREASES:								
1	Actuarial services	120,000	182,924	240,000	120,000	100.0%	57,076	31.2%	Increase primarily related to the 5 year experience study to be completed in 2020 ($70k) along with supplemental and specialized work.
2	Network security monitoring	-	-	75,000	75,000	100.0%	75,000	100.0%	New service to detect, analyze and respond to security events 24x7x365 using advanced security events filtration, de-duplication and correlation technologies. Cost will decrease to $50k beginning in the second year.
3	Information technology projects	70,000	82,397	140,000	70,000	100.0%	57,603	69.9%	Four projects planned for the year including firewall and phone system replacement and domain upgrade. All projects under the $50k capitalization level.
4	Building expenses	365,339	400,688	405,467	40,128	11.0%	4,779	1.2%	Increased property taxes for the 3rd and 4th floor expected in 2020. HVAC and leasing expenses not budgeted in 2019, approx. $30k.
5	Liability insurance	604,553	515,940	640,571	36,018	6.0%	124,631	24.2%	Initial renewal inquiries point to an increase in premiums on all policies. The 2019 actual projection vs. 2020 proposed budget variance is related to a one time change in the premium year resulting in only 11 months of expense in 2019. Additionally, 2019 premiums were lower than initially quoted renewals.
6	Business continuity	15,500	17,909	26,600	11,100	71.6%	8,691	48.5%	Includes new item of server replication replacing VMware subscription service - $9,600.
	REDUCTIONS:								
7	Legal fees	1,300,000	619,295	550,000	(750,000)	(57.7%)	(69,295)	(11.2%)	Significant decrease in budget from 2019. Continued expenses from the Degan and Actuary cases along with new potential case filings in 2020.
8	Other portfolio operating expenses (legal, valuation, tax)	1,694,000	1,043,142	1,520,551	(173,449)	(10.2%)	477,409	45.8%	Some tail end expenses forecast in 2019 were not incurred. 2020 expense forecast increased over actual as more tail end services are expected during the year.
9	Investment consultant and reporting	430,000	327,605	365,000	(65,000)	(15.1%)	37,395	11.4%	HB322 legislature requires an independent investment review in 2020. The initial quote for this review in $30k.
10	Employment Expense	52,275	1,734	15,000	(37,275)	(71.3%)	13,266	765.1%	Expenses reduced in 2019 because only one position was filled. Only one position forecast for 2020.
11	Legislative consultants	159,000	157,210	126,000	(33,000)	(20.8%)	(31,210)	(19.9%)	Legislature not planned to be in session 2020. Cost is lower when legislature is not in session.
12	Disability medical evaluations	29,000	2,500	9,500	(19,500)	(67.2%)	7,000	280.0%	2019 forecast was for 7 new disabilities, 2 special needs children and 3 recalls. One new disability evaluation so far for 2019. Three disability and one child evaluation forecast for 2020.
13	Bank custodian services	237,000	221,343	222,000	(15,000)	(6.3%)	657	0.3%	Fewer investment accounts than projected for JPM to manage in 2019 resulted in reduced fees. No significant change for 2020.
14	Independent audit	180,000	165,000	165,000	(15,000)	(8.3%)	-	0.0%	Reduced 2020 forecast as cirrent budget has been sufficient to cover the audit, and reviews for appraisals and tail end funds.
15	Travel - Board	32,620	3,993	21,500	(11,120)	(34.1%)	17,507	438.4%	Less board travel than expected in 2019. Expected travel in 2020 is projected to be less than in prior years.
16	Repairs and maintenance	108,249	92,360	97,414	(10,835)	(10.0%)	5,054	5.5%	Less equipment (Phone, AV, printers, etc.) repairs than forecast in 2019. Slight Increase in 2020 forecast over 2019 projected expenses as more building repairs are expected.

*** Projected based on 8/31/19 Prelim YTD annualized*

Significant Budget Changes - 2020
Budget Changes (>5% and $10K)
SORTED BY THE $ CHANGE FROM 2019 PROJECTED ACTUAL TO 2020 PROPOSED BUDGET

	Item	2019 Budget	2019 Projected Actual**	2020 Proposed Budget	$ Change 2020 Prop. Bud. vs. 2019 Bud.	% Change 2020 Prop. Bud. vs. 2019 Bud.	$ Change 2020 Prop. Bud. vs. 2019 Proj. Act.	% Change 2020 Prop. Bud. vs. 2019 Proj. Act.	Explanation
	INCREASES:								
1	Other portfolio operating expenses (legal, valuation, tax)	1,694,000	1,043,142	1,520,551	(173,449)	(10.2%)	477,409	45.8%	Some tail end expenses forecast in 2019 were not incurred. 2020 expense forecast increased over actual as more tail end services are expected during the year.
2	Salaries and benefits	3,831,889	3,407,653	3,653,766	(178,123)	(4.6%)	246,113	7.2%	Four positions forecasted for 2019 were not filled. One position is being forecasted for 2020 along with the 2019 position addition for a full year.
3	Liability insurance	604,553	515,940	640,571	36,018	6.0%	124,631	24.2%	Initial renewal inquiries point to an increase in premiums on all policies. The 2019 actual projection vs. 2020 proposed budget variance is related to a one time change in the premium year resulting in only 11 months of expense in 2019. Additionally, 2019 premiums were lower than initially quoted renewals.
4	Network security monitoring	-	-	75,000	75,000	100.0%	75,000	100.0%	New service to detect, analyze and respond to security events 24x7x365 using advanced security events filtration, de-duplication and correlation technologies. Cost will decrease to $50k beginning in the second year.
5	Information technology projects	70,000	82,397	140,000	70,000	100.0%	57,603	69.9%	Four projects planned for the year including firewall and phone system replacement and domain upgrade. All projects under the $50k capitalization level.
6	Actuarial services	120,000	182,924	240,000	120,000	100.0%	57,076	31.2%	Increase primarily related to the 5 year experience study to be completed in 2020 ($70k) along with supplemental and specialized work.
7	Investment due diligence	48,000	-	39,000	(9,000)	(18.8%)	39,000	100.0%	Forecast for software Evestment and due diligence travel.
8	Investment consultant and reporting	430,000	327,605	365,000	(65,000)	(15.1%)	37,395	11.4%	SB322 legislature requires an independent investment review in 2020. The initial quote for this review in $30k.
9	Conference/training registration/materia	37,500	5,207	34,800	(2,700)	(7.2%)	29,593	568.3%	Returning to a more normal staff training schedule in 2020 along with some additional cross training planned.
10	Travel - Staff	37,500	15,689	44,500	7,000	18.7%	28,811	183.6%	Returning to a more normal staff training schedule in 2020 which will require some travel. Additionally, some planned cross training will require some travel.
11	Pension administration software & WM	273,000	264,977	283,000	10,000	3.7%	18,023	6.8%	Increased maintenance cost for Pension Gold and Web Member Services portal.
12	IT subscriptions/services/licenses	147,840	125,623	143,500	(4,340)	(2.9%)	17,877	14.2%	YOY budget down slightly. Network security monitoring initiative will require some additional software - $15K. Desktop outsourcing and other subscriptions less than forecast in 2019.
13	Travel - Board	32,620	3,993	21,500	(11,120)	(34.1%)	17,507	438.4%	Less board travel than expected in 2019. Expected travel in 2020 is projected to be less than in prior years.
14	Employment Expense	52,275	1,734	15,000	(37,275)	(71.3%)	13,266	765.1%	Expenses reduced in 2019 because only one position was filled. Only one position forecast for 2020.
15	Printing	5,110	1,761	14,000	8,890	174.0%	12,239	695.0%	Approximately 2,500 updated member handbooks are forecast for printing in 2020.
16	Administrative contingency reserve	12,000	519	12,000	-	0.0%	11,481	2212.1%	Contingency reserve.
	REDUCTIONS:								
17	Legal fees	1,300,000	619,295	550,000	(750,000)	(57.7%)	(69,295)	(11.2%)	Significant decrease in budget from 2019. Continued expenses from the Degan and Actuary cases along with new potential case filings in 2020.
18	Legislative consultants	159,000	157,210	126,000	(33,000)	(20.8%)	(31,210)	(19.9%)	Legislature not planned to be in session 2020. Cost is lower when legislature is not in session.
19	Communications (phone/internet)	55,600	68,243	56,300	700	1.3%	(11,943)	(17.5%)	LD contract expired in 2019 which resulted in increased costs. New contract signed and 2020 costs are expected to be lower.

*** Projected based on 8/31/19 Prelim YTD annualized*

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D10

Topic: **Funding Policy**

Discussion: Senate Bill 2224 was adopted by the Texas Legislature in 2019 and requires that the Board adopt a funding policy that details the Board's plan for achieving a funded ratio for DPFP that is equal to or greater than 100 percent.

The draft policy was presented at the November Board meeting. The draft policy presented in November has been reformatted to conform with other DPFP policies, but the content has not changed.

By law, the Funding Policy must be adopted prior to January 1, 2020.

Staff Recommendation: **Adopt** the Funding Policy for the Combined Pension Plan.

FUNDING POLICY
COMBINED PENSION PLAN

Adopted December 12, 2019

DALLAS POLICE & FIRE PENSION SYSTEM

FUNDING POLICY
COMBINED PENSION PLAN

Adopted December 12, 2019

DRAFT

A. Introduction

This funding policy outlines a formal long-term strategy for financing the pension obligations accruing under the Dallas Police and Fire Pension System Combined Plan with the goal of achieving an actuarial funded ratio that is equal to or greater than 100%, as required by Texas Government Code §802.2011.

This policy is subject to the authority granted to the Board of Trustees under Article 6243a-1 of the Texas Revised Civil Statutes (the "Statute"). It was contemplated when HB 3158 was passed, and the Statutes reflect that in 2024 an analysis will be conducted to assess the adequacy of the funding of Plan and, if necessary, changes may be made at that time. Therefore, this policy creates a framework for proactively managing risks by outlining how the Board will approach future changes to benefit and contributions levels under different conditions in advance of the 2024 analysis. In the event this policy conflicts with any statutory language, the statute shall prevail.

B. Funding Priorities

The primary funding priorities are to:

1. Ensure the security of accrued benefits by making certain contributions and assets are sufficient to pay benefits when due.
2. Limit the volatility of contribution rates for both the members of Dallas Police and Fire Pension System ("DPFP") and the City of Dallas, consistent with other funding objectives.
3. Ensure that each generation of members and taxpayers incurs the cost of benefits for the employees who provide services to them, rather than deferring those costs to future members and taxpayers;
4. Provide a reasonable margin for adverse experience to help offset risks.
5. Continue progress of systematic reduction of the Unfunded Actuarial Accrued Liability.

C. Funding Objectives

The system's funding objective is to achieve a funded ratio of 100% or more by 2045.

D. Actuarial Methods

The Board uses the following actuarial methods for purposes of actuarial valuations and the determination of the benchmark Actuarial Determined Contribution (ADC):

1. **Cost Method**
   The individual entry age normal actuarial cost method.

2. **Asset Smoothing**
   A five-year asset smoothing period where 20% of any gain or loss is recognized in each subsequent year.

3. **Amortization Policy**
   The amortization payment will be calculated as a level percent of payroll using a 30-year amortization of unfunded actuarially accrued liability.

E. Actuarial Assumptions Guidelines

A comprehensive experience study will be completed at least once every 5 years with possible review of individual assumptions more frequently, based on advice from the system's actuary. All assumptions will be determined based on actuarial standards of practice taking into account both actual experience and reasonable future expectations.

F. Actuarially Determined Contribution Benchmark

This policy has outlined a benchmark ADC for establishing a path towards achieving the goal of 100% funding. The following will trigger the Board to act to adjust or recommend adjustments to benefit and/or contribution levels.

The Board will notify the City of Dallas upon receipt of two actuarial valuations showing the actual contribution is varies from the ADC by more than 2%. In such a case, if the actual contributions are under the ADC by more than 2%, with a two-thirds vote of the Board, the Board will recommend an increase in City contribution rates. If the actual contributions are 2% over the ADC, with a two-thirds vote of the Board, and if the reduction does not extend the funding period, the Board may recommend a decrease in the City's contribution rate. If the actual rate is within 2% of the ADC, no change is required to be recommended.

G. Consideration of Plan Modifications

1. Guidelines for Future Reductions in Contributions

With a two-thirds vote of the Board and agreement of the City, the City contributions may be lowered only if the reduction does not increase the period to amortize the unfunded liability (6243a-1, 4.02(b)(3)). The Statute does not provide authority for the Board to lower member contribution rates. Once there is no longer an unfunded liability, the contribution rates of both the City and DPFP members are adjusted based on the Statute.

2. Guidelines for Future Benefit Enhancements

The Statute specifically controls the criteria for granting a cost of living adjustment, the reduction of the retirement age and reducing the amortization period of the DROP annuities. For all other benefit enhancements not specifically mentioned in the Statute, the Statute allows the Board to enhance benefits only if after taking the enhancement into consideration the funding period does not exceed 25 years.

H. Risk-Sharing Mechanisms

The Board has determined that the key risk facing the system is when actual experience diverges from actuarial assumptions, resulting in actuarial losses. The normal cost rate for future members is less than the current member contribution rates, so the Board does not believe it is appropriate to either increase member contribution rates or decrease benefits to decrease the unfunded liability through 2024. If necessary, the City's contribution rate would need to be increased through 2024. During 2024, the Statute requires that an independent actuary perform an analysis to determine if DPFP meets State Pension Review Board pension funding guidelines and, if not, recommend changes to benefits or to member or city contribution rates. Not later than November 1, 2024, the DPFP Board is required adopt a plan that complies with funding and amortization period requirements under Section 802 of the Government Code and takes into consideration the independent actuary's recommendations.

I. Review of Funding Policy

This policy may be amended from time-to-time to reflect changes in other Board policies, emerging best practices for public defined benefit pension plans, prevailing opinions of future Board members, and suggested changes by system stakeholders.

J. Effective Date

APPROVED on December 12, 2019 by the Board of Trustees of the Dallas Police and Fire Pension System.

____
William F. Quinn
Chairman

ATTEST:

____
Kelly Gottschalk
Secretary

DRAFT

DALLAS POLICE & FIRE PENSION SYSTEM

FUNDING POLICY
SUPPLEMENTAL PENSION PLAN

Adopted December 12, 2019

DALLAS POLICE & FIRE PENSION SYSTEM

FUNDING POLICY
SUPPLEMENTAL PENSION PLAN

Adopted December 12, 2019

DRAFT

A. Introduction

This funding policy outlines a formal long-term strategy for financing the pension obligations accruing under the Dallas Police and Fire Pension System Combined Plan with the goal of achieving an actuarial funded ratio that is equal to or greater than 100%, as required by Texas Government Code §802.2011.

This policy is limited by the authority granted to the Board of trustees under Article 6243a-1 of the Texas Civil Statutes and City Ordinance number 23861. Therefore, this document creates a framework for proactively managing risks by outlining how the Board will approach future changes to benefit and contributions levels under different conditions. In the event this policy conflicts with any statutory language, the statute shall prevail.

B. Funding Priorities

The primary funding priorities are to:

1. Ensure the security of accrued benefits by making certain contributions and assets are sufficient to pay benefits when due.
2. Ensure that each generation of members and taxpayers incurs the cost of benefits for the employees who provide services to them, rather than deferring those costs to future members and taxpayers;
3. Provide a reasonable margin for adverse experience to help offset risks.
4. Continue progress of systematic reduction of the Unfunded Actuarial Accrued Liability.

C. Funding Objectives

The system's funding objective is to achieve a funded ratio of 100% or more by 2030.

D. Actuarial Methods

The Board uses the following actuarial methods for purposes of actuarial valuations and the determination of the benchmark Actuarial Determined Contribution (ADC):

1. **Cost Method**
The individual entry age normal actuarial cost method.

D. Actuarial Methods (continued)

2. Asset Smoothing
Market value of assets with no asset smoothing.

3. Amortization Policy
The amortization payment will be calculated as a level percent of payroll using a rolling 10-year amortization of unfunded actuarially accrued liability.

E. Actuarial Assumptions Guidelines

A comprehensive experience study will be completed at least once every 5 years with possible review of individual assumptions more frequently, based on advice from the system's actuary. All assumptions will be determined based on actuarial standards of practice taking into account both actual experience and reasonable future expectations.

F. Actuarially Determined Contribution

The City contributes the ADC annually.

G. Consideration of Plan Modifications

1. Guidelines for Future Reductions in Contributions

With a two-thirds vote of the Board and agreement of the City, the City contributions may be lowered only if the reduction does not increase the period to amortize the unfunded liability (6243a-1, 4.02(b)(3)). The Statute does not provide authority for the Board to lower member contribution rates. Once there is no longer an unfunded liability, the contribution rates of both the City and DPFP members are adjusted based on the Statute.

2. Guidelines for Future Benefit Enhancements

The Statute specifically controls the criteria for granting a cost of living adjustment, the reduction of the retirement age and reducing the amortization period of the DROP annuities. For all other benefit enhancements not specifically mentioned in the Statute, the Statute allows the Board to enhance benefits only if after taking the enhancement into consideration the funding period does not exceed 25 years.

H. Risk-Sharing Mechanisms

The Board has determined that the key risk facing the system is when actual experience diverges from actuarial assumptions, resulting in actuarial losses. The normal cost rate for future members is less than the current member contribution rates, so the Board does not believe it is appropriate to either increase member contribution rates or decrease benefits to decrease the unfunded liability through 2024. If necessary, the City's contribution rate would need to be increased through 2024. During 2024, the Statute requires that an independent actuary perform an analysis to determine if DPFP meets State Pension Review Board pension funding guidelines and, if not, recommend changes to benefits or to member or city contribution rates. Not later than November 1, 2024, the DPFP Board is required adopt a plan that complies with funding and amortization period requirements under Section 802 of the Government Code and takes into consideration the independent actuary's recommendations.

I. Review of Funding Policy

This policy may be amended from time-to-time to reflect changes in other Board policies, emerging best practices for public defined benefit pension plans, prevailing opinions of future Board members, and suggested changes by system stakeholders.

J. Effective Date

APPROVED on December 12, 2019 by the Board of Trustees of the Dallas Police and Fire Pension System.

____
William F. Quinn
Chairman

ATTEST:

____
Kelly Gottschalk
Secretary

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D11

Topic: **Report on Professional Services Committee**

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

The Professional Service Committee had a phone meeting with Chuck Campbell of Jackson Walker LLP in December.

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

DISCUSSION SHEET

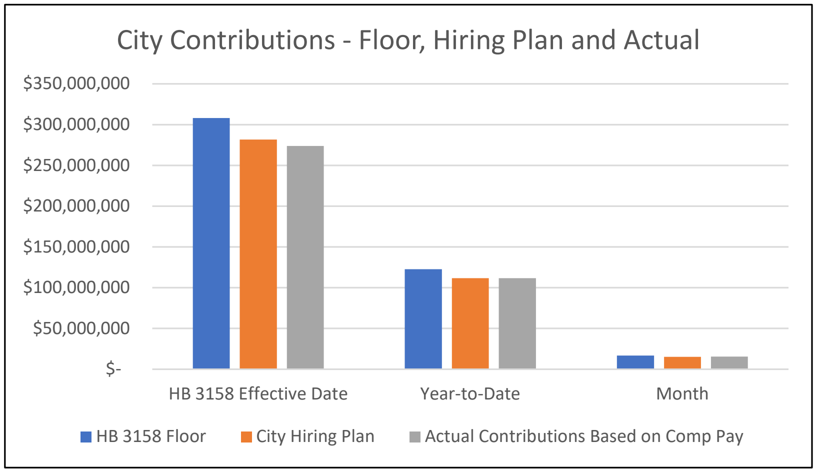
ITEM #D12

Topic: **Monthly Contribution Report**

Discussion: Staff will review the Monthly Contribution Report.

Regular Board Meeting – Thursday, December 12, 2019

Contribution Tracking Summary - December 2019 (October 2019 Data)



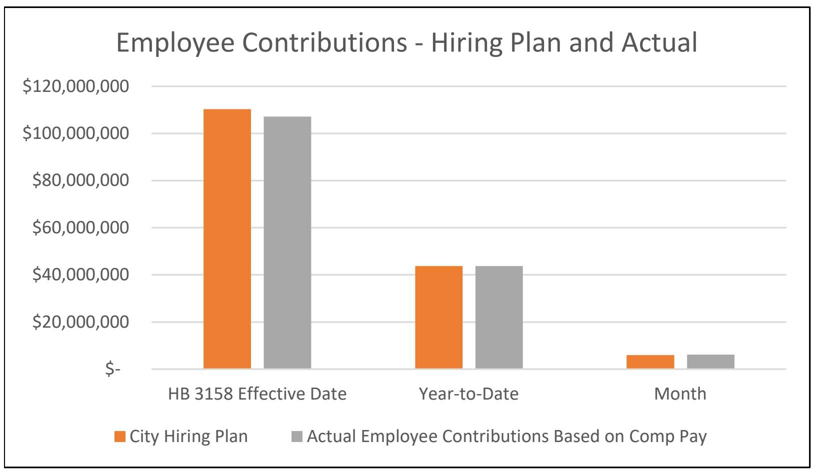
Actual Comp Pay was 97% of the Hiring Plan estimate since the effective date of HB 3158.

In the most recent month Actual Comp Pay was 102% of the Hiring Plan estimate and 93% of the floor amount.

The Hiring Plan Comp Pay estimate increased by 5.22% in 2019.

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

The combined actual hiring was exactly the same number as the Hiring Plan for the pay period ending November 12, 2019. Fire was over the estimate by 65 fire fighters and Police was short 65 officers.



Since the effective date of HB 3158 actual employee contributions have been $3.2 million less than the Hiring Plan estimate. Potential earnings loss due to the contribution shortfall is $391k at the Assumed Rate of Return.

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

There is no Floor on employee contributions.

Contribution Summary Data

City Contributions

Oct-19	**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	3	$ 16,713,000	$ 15,246,346	$ 15,603,128	$ 1,109,872	93%	102%
Year-to-Date		$ 122,562,000	$ 111,806,538	$ 111,829,251	$ 10,732,749	91%	100%
HB 3158 Effective Date		$ 308,063,000	$ 281,811,923	$ 273,710,464	$ 34,352,536	89%	97%

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

Employee Contributions

Oct-19	**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	3	$ 5,965,962	$ 6,118,187	$ 152,225	$ 5,656,251	103%	108%
Year-to-Date		$ 43,750,385	$ 43,761,437	$ 11,052	$ 41,479,174	100%	106%
HB 3158 Effective Date		$ 110,274,231	$ 107,115,497	$ (3,158,734)	$ 105,577,970	97%	101%

Potential Earnings Loss from the Shortfall based on Assumed Rate of Return $ (390,610)

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 and 12-31-18 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			5,038		
2020	$ 396,000,000			5,063		
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 - 2019	**Annual Divided by 26 Pay Periods**	**Actual**	**Difference**	**2019 Cumulative Difference**	**Number of Employees - EOM**	**Difference**
January	$ 29,461,538	$ 29,084,185	$ (377,354)	$ (377,354)	4963	(75)
February	$ 29,461,538	$ 29,067,129	$ (394,410)	$ (771,763)	4974	(64)
March	$ 29,461,538	$ 29,092,504	$ (369,035)	$ (1,140,798)	4962	(76)
April	$ 29,461,538	$ 28,974,912	$ (486,626)	$ (1,627,424)	4955	(83)
May	$ 44,192,308	$ 43,987,516	$ (204,791)	$ (1,832,216)	4955	(83)
June	$ 29,461,538	$ 29,322,734	$ (138,804)	$ (1,971,020)	4938	(100)
July	$ 29,461,538	$ 29,651,997	$ 190,458	$ (1,780,561)	5027	(11)
August	$ 29,461,538	$ 29,823,067	$ 361,529	$ (1,419,033)	5016	(22)
September	$ 29,461,538	$ 29,912,255	$ 450,717	$ (968,316)	5042	4
October	$ 44,192,308	$ 45,226,457	$ 1,034,149	$ 65,833	5038	-
November	$ 29,461,538	$ -		$ 65,833		
December	$ 29,461,538	$ -		$ 65,833		

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D13

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
Regular Board Meeting – December 12, 2019

ATTENDING APPROVED

1. **Conference:** **NCPERS 2020 Legislative Conference**
   Dates: January 26–28, 2020
   Location: Washington, DC
   Est. Cost: TBD

2. **Conference:** **TEXPERS Basic Trustee Training**
   Dates: May 2, 2020
   Location: Galveston, TX
   Est. Cost: TBD

3. **Conference:** **TEXPERS Advanced Trustee Training**
   Dates: May 2, 2020
   Location: Galveston, TX
   Est. Cost: TBD

4. **Conference:** **TEXPERS 31st Annual Conference**
   Dates: May 3-6, 2020
   Location: Galveston, TX
   Est. Cost: TBD

ATTENDING APPROVED

5.	**Conference:**	**NCPERS Trustee Education Seminar (TEDS)**
	Dates:	May 9 – 10, 2020
	Location:	Las Vegas, NV
	Est. Cost:	TBD
6.	**Conference:**	**NCPERS Annual Conference**
	Dates:	May 10 – 13, 2020
	Location:	Las Vegas, TX
	Est. Cost:	TBD
7.	**Conference:**	**TEXPERS Summer Education Forum**
	Dates:	August 16-18, 2020
	Location:	San Antonio, TX
	Est. Cost:	TBD

DISCUSSION SHEET

ITEM #D14

Topic: **Pension Obligation Bonds**

Discussion:

Staff provided a presentation to the Board on Pension Obligation Bonds (POB) in April 2019. Part of the presentation included an impact analysis on the Plan funding level and the years to full funding under four scenarios: two sizes of POB issuances and for each size, reducing City contributions and not reducing the City contributions for the annual debt service.

In responding to questions posed in an email from Mr. French, the City's CFO Ms. Reich, referred to the structure of the POBs issued previously by the City for the Dallas Employees Retirement Fund (ERF) where contributions were reduced by the amount of the debt service. The impact analysis slides from the April 2019 presentation are being provided to the Board so the Board has the context of potential funding implications.

A full discussion and updated POB presentation is planned for 2020.

From: rob.french
Sent: Monday, December 2, 2019 9:20 AM
To: Kelly Gottschalk
Subject: FW: Dallas Police and Fire Pension Fund-> Trustee Question

Kelly,

I hope you had a wonderful Thanksgiving! Do you have the distro list for the board? I'd like to forward this out to everyone for their situational awareness.

Thank you,

Rob French

From: Reich, Elizabeth
Sent: Monday, December 2, 2019 9:10 AM
To: FRENCH, ROB /0E1132 /GA074
Cc: Kelly Gottschalk; Kowalski, Sheri P; Ireland, Jack
Subject: Re: Dallas Police and Fire Pension Fund-> Trustee Question

Rob,

Thank you for your follow up email and for your service as a Trustee for the Dallas Police and Fire Pension. I appreciate all that you and your fellow Trustees are doing to appropriately oversee and govern the Pension, including rebalancing the portfolio and selling the illiquid and underperforming assets.

I have considered your question very carefully. As you know, the City is complying with the statute as we carefully negotiated in HB 3158. We are fully adhering to our funding obligations, as we have done throughout the history of DPFP. As you also know, the law requires that in 2024, we obtain an independent review of the pension and determine next steps at that time. Until then, the City is not in a position to provide funding above what is required in the statute.

That being said, you asked about financial capacity for Pension Obligation Bonds (POB) and my response is that, yes, we have the capacity. Let me explain how. Although I would not support POBs because they are inadvisable and against the municipal finance community's best practice guidance, if the DPFP Board decided to pursue POBs and the City Council agreed, we could potentially structure an agreement similar to the one we have with the ERF. We would pay the debt service on the POBs using the money that we are required by law to pay into the pension. With the ERF, each year the employer contribution percent is adjusted by the amount of our debt payment on the POB. In total, the City contribution would match that required by the statute. For purposes of this email, I am assuming that such an arrangement would be possible under the current statute, since we are not revisiting the statute prior to the independent review in 2024. This approach would not affect the City's long-range capital financial plan.

If this is something the Board would like to pursue, we can work together to understand the legal requirements for such an arrangement so that I can explain it to the City Council and obtain their feedback prior to moving forward.

Thank you again for your service,
Elizabeth

From: rob.french
Sent: Wednesday, November 20, 2019 11:13 AM
To: Reich, Elizabeth
Cc: kellyG
Subject: Dallas Police and Fire Pension Fund-> Trustee Question

Good Morning Ms. Reich,

It has been two months since we last spoke about the questions below. Has your team been able to put together a thoughtful response? Your team's input would be extremely helpful in shaping the board's discussions moving forward.

Thank you for your time and attention to this matter.

Respectfully,

Rob French

From: Reich, Elizabeth
Sent: Wednesday, September 18, 2019 12:03 PM
To: Kelly Gottschalk
Cc: Robert French
Subject: RE: Question for Ms Reich

Thank you, Kelly and Rob. I will need some time to put together a thoughtful response. We certainly do not have that capacity for several years, and with billions of dollars in unfunded/deferred needs on our streets, facilities, and infrastructure list, there is more than enough need for any capacity we have.

I will work with my team to review the capacity and timing and get back with you.

Elizabeth

From: Kelly Gottschalk
Sent: Wednesday, September 18, 2019 11:33 AM
To: Reich, Elizabeth
Cc: Robert French
Subject: FW: Question for Ms Reich

Hello Elizabeth,

Rob French, our newest Board member, asked that I forward the following questions to you. Rob is copied on this email so you can respond to him directly, however, I would appreciate being copied on your response since I am interested in the answers to his questions.

Thank you,

Kelly

From: Rob French
Sent: Wednesday, September 18, 2019 11:23 AM
To: Kelly Gottschalk
Subject: Question for Ms Reich

Good Morning Kelly,

Please forward this question to Ms. Reich on the board's behalf. If you could CC'd me as well that would be great.

Thank you Ms. Reich for coming to speak to the DPFP System's Board last week. We very much appreciate your straight forward answers and truthful candor. I wanted to follow-up to your offer to ask additional questions via email. My question is:

1) Hypothetically: Does the City of Dallas have the financial capacity to issue a 250-500 million dollar Pension Obligation Bond if the DPFP Fund had a dire need for the funding? Not asking if it is a priority, but whether or not Dallas could issue this general obligation bond and service the debt.

2) If the City does have that borrowing and debt servicing capacity; you mentioned very briefly that there were other obligations/priorities for the City of Dallas. What are the top 5 financial needs or wants that the Mayor and City Counsel have conveyed to you to prioritize? Out of the 5, which one or two could potentially be deferred to a later date in case a Pension Obligation Bond was needed sooner?

Thank you again for your time and I very much look forward to your answers,

Rob French

Potential Impact of a POB for DPFP

(based on 1-1-2018 valuation – assumes all assumptions realized)

- Assumptions:
  - Estimated debt service
    - Based on current rates, City of Dallas AA- S&P bond rating, 30-year term, TIC 4.54%.
    - Debt service increases at 2.75% per year to match projected payroll increases
    - Debt issued in 2020, in one issuance (for modeling purposes to assess the overall potential impact)
- <u>If City contributions are reduced to pay debt service:</u>
  - $1 billion
    - Debt service is 28%-31% of contributions, $46 million in 2020
    - Improves the fully funded date from 2063 to 2055: 8-year improvement, 38 years-to-fund
    - Funding level after proceeds are received is 66%, drops to a low of 63% and begins to increase in 2031
  - $2 billion
    - Debt service is 57%-63% of contributions, $92 million in 2020
    - Improves the fully funded date from 2063 to 2045: 18-year improvement, 29 years-to-fund
    - Funding level after the proceeds are received is 87%, drops to a low funding level of 85% and begins to increase in 2023

Potential Impact of a POB for DPFP

(based on 1-1-2018 valuation – assumes all assumptions are realized)

- If City contributions are *not* reduced to pay debt service:
  - $1 billion
    - Debt service is 28%-31% of contributions, $46 million in 2020
    - Improves the fully funded date from 2063 to 2039: 25-year improvement, 21 years-to-fund
    - Funding level after proceeds are received is 66% and continues to rise
  - $2 billion
    - Debt service is 57%-63% of contributions, $92 million in 2020
    - Improves the fully funded date from 2063 to 2027: 36-year improvement, 10 years-to-fund
    - Funding level after the proceeds are received is 87% and continues to rise

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #D15

Topic: **Performance Review of Executive Director**

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

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

DISCUSSION SHEET

ITEM #E1

Topic: **Public Comment**

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

Regular Board Meeting – Thursday, December 12, 2019

DALLAS POLICE & FIRE PENSION SYSTEM

DISCUSSION SHEET

ITEM #E2

Topic: **Executive Director's report**

a. Associations' newsletters
- NCPERS PERSist (Fall 2019)

b. Open Records

c. Seeking Trustee Input for Executive Performance Reviews

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

PERSist

The Voice for Public Pensions

Fall 2019 | Volume 32 | Number 4

Message from the President

Daniel Fortuna
NCPERS President

NCPERS has concluded another successful Public Safety Conference! This year's conference took place October 27-30 in New Orleans, Louisiana, at the JW Marriott New Orleans. This program, attended by 375 public safety officials, trustees, and administrators, provided participants with relevant information and tools to help them deal with the unique needs and aspects of public safety plans.

William Craig Fugate, the former Administrator of the Federal Emergency Management Agency (FEMA), opened the conference with a discussion on effective leadership in emergency management and crisis response. Fugate discussed responses to disasters under President Obama's administration, such as Hurricane Sandy and the 2017 tornados in Oklahoma.

The morning continued with discussions around current trends in asset allocation with Mike Welker and Steve Gordon from AndCo Consulting, followed by Julian Regan and Maureen O'Brien from Segal Marco Advisors, discussing capital market developments for public safety plans. NCPERS advisor Jennifer Mink, with Investment Performance Services, LLC, continued the asset allocation theme with strategies for public safety plans.

Brad Kelly, Peter Landers with Global Governance Advisors, joined Peter Marsack of Tegrit for a presentation on pension oversight and administration in the digital age. You can view the presentation on Facebook Live here. The first day of the conference concluded with presentations from Jeff Sheran of Allianz Global Investors discussing the challenges of active verse passive management, and out of the box solutions for unfunded plans by David Eager from the Kentucky Retirement System.

The agenda for the second day was equally informative for public safety plans. The program began with a presentation around adventures in the uncertainty of public plans by Robert Klausner of Klausner, Kaufman, Jensen & Levinson. You can view Klausner's presentation on Facebook Live here. Anthony Roda from Williams & Jensen discussed federal legislative and regulatory issues, followed by Emily Lawrence from Northern Trust Asset Management, discussing the importance of investment diversity.

The morning continued with discussions of technology oversight considerations with Warren Gordon from Sagitec, and the sustainability of DROP plans with Brad Heinrichs from Foster & Foster Consulting Actuaries, Inc. The conference continued with Ferralyn Sneed and Ann Seals from Los Angeles City Employees' Retirement System discussing what to do with sworn members in your civilian plan. The day concluded with a presentation by Dr. Michael Kahn of NCPERS on his latest research, *Peaceful Coexistence: The Facts About Pensions & Education Funding*.

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7 Real Estate; Prospering Late Cycle While Preparing for Longer Term Success

NCPERS Asset Manager

Four Trends Supporting Allocations to China A-Shares

By Anthony Wong, CFA and Shannon Zheng, CFA

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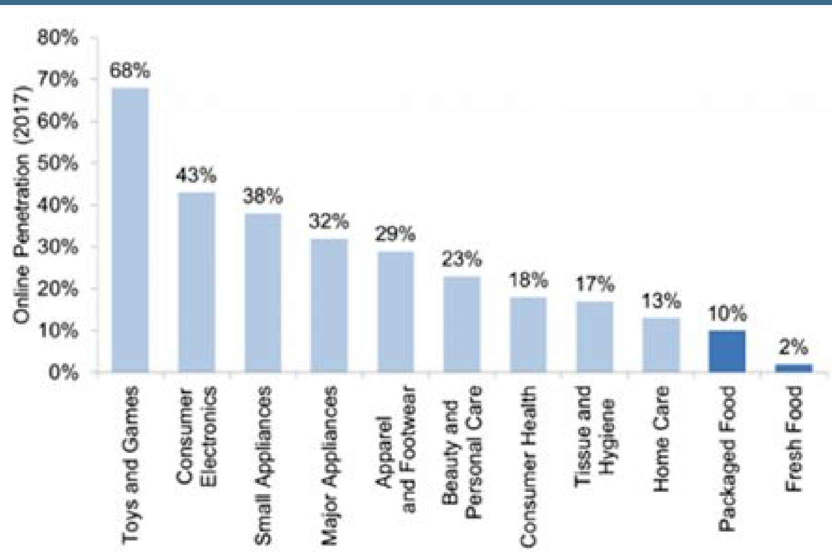
Trade tensions between Washington and Beijing will likely have an uneven impact on China's economy, something that public pension plans should weigh when calibrating equity allocations to the country.

Specifically, we believe that well-managed companies with revenues driven primarily by domestic Chinese consumption—including the consumer, healthcare and industrials sectors—will be best insulated from the negative effects on growth caused by the ongoing trade war.

Overall, the majority of these companies are China A-shares, listed in Shanghai and Shenzhen. These firms have strong structural growth drivers which should help them continue to prosper in the coming years: China A shares derive nearly 90 percent of their revenues domestically and have broad exposure to faster-growing areas of the economy, compared to Chinese companies listed in Hong Kong which are more concentrated in mature, 'old economy' sectors.

Exhibit 1: Online shopping penetration is especially low in food and consumer goods



As of December 2017

Source: UBS

China A-shares are also attractive because these companies should particularly benefit from four consumer behavior trends being driven by Millennials—spending on leisure, shifts in retailing, evolving attitudes to healthcare and consumers ditching foreign products for domestic ones. As disposable income rises for the growing Chinese middle class, Millennials are spending more on lifestyle, entertainment and travel. For example, in 2017 there were five billion tourist trips within China, triple the number from a decade earlier—a trend that favors the domestic hospitality and travel industries.

Another key trend is how online integration is changing retailing. Brick-and-mortar stores are rapidly adding online capabilities, creating growth opportunities. For example, only 2% of fresh food is bought online, making the sector especially ripe for growth. As **Exhibit 1** shows, online shopping penetration is especially low in food and consumer goods.

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Four Tips to Create a Board of Directors

By Linaeya Horn-Muller

Photo Illustration © 2019 Shutterstock.com

Idea. Check. Funding. Check. Business Plan. Check. Board of Directors? The beginning of any journey, especially in business, starts with an idea. Once that idea has been cultivated and a plan is in place, then comes funding, the board of directors, employees, office space, etc. It's a misconception to leave the creation of the board of directors as one of the last to-do items. Whether you're a big or small organization it helps to be proactive when it comes to forming the group of individuals who help to manage the activities of your business (i.e. your board). This board can be elected or appointed, and they are tasked with maximizing overall organizational value, while simultaneously protecting the interests of any key stakeholders.

When it comes to creating your board, you must keep in mind that not all boards (and their individual board members' roles) are created equal. Such a sentiment is illustrated in the varying roles for the differing types of organizations. For-profit organizations have different goals than nonprofit organizations. For-profit organizations are typically more concerned about preserving the interests of any stakeholder, whereas nonprofits historically focus on raising awareness, while simultaneously raising funds.

Organizations might leave the board creation to the last minute because they believe that they are too small to need a board, or it's not as important as other to-do items. While that might be deemed a pretty logical outlook, it's not necessarily the legal outlook. If you are a corporation, you're required to establish your board of directors right away. That said, your board doesn't need to comprise of 10 to 15 executives or the most qualified leaders in your space, it can be a board of 1 to 3, depending on your state regulations. Being regulated at the state level also means that there is no standard set of rules that must be followed when creating your board of directors.

Even though there is no standard set of rules for creating your board, there are four basic tips that you should follow when architecting your board of directors.

- Documentation
- Bylaw Creation
- Identify Key Stakeholders (Shareholders) and Schedule Meetings
- Follow Board Meeting Best Practices

Documentation

Your blueprint for success starts with a solid foundation. For your organization, the foundation is documentation and the filing of any articles of incorporation in your state. In order to become a corporation, you must file these articles and use them as the charter for your organization. This documentation identifies your corporation's name, your incorporators, whether you're for-profit or nonprofit and what your corporation's purpose is. It's important to mention that hiring a lawyer, during this stage, that specializes in setting up boards of directors can only help ensure that your foundation will be successful.

Bylaw Creation

Every good blueprint needs walls to offer up support through the thick of it. A governing body is no different. For a board, the walls are your bylaws. Each rule, role, and responsibility of the board of directors needs to be agreed upon, formerly written down and upheld. The foundation might be the starting point, but your blueprint for success is nothing if the walls around you crumble.

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Digitizing Our Very Core

By Roman Regelman

Today's most successful and innovative companies are the most open to new ways of doing business. Closed information technology systems, for instance, guarded by the institutions that built or owned them, have given way to open platforms that reap the benefits from collaborating with third parties.

Photo illustration © 2019 Shutterstock.com

Many companies are going through business transformation. What's the best way to go about it? Here's our approach that we believe will best serve our clients. Our "Digitizing This Very Bank" strategy challenges all of the bank's stakeholders to think about how we can work outward from our core and transform the enterprise to a nimble, digitally-enabled organization.

I've seen banks that tout what I call the Silicon Valley model. They invest heavily in innovation hubs filled with beanbag chairs and red felt billiard tables. Drones are flying all over the place. These things create a lot of buzz, but as exciting and hip as they might be, they don't fundamentally change the core of the bank.

Then there's the Parallel Bank model. Executives look around and see an institution that must transform itself before it gets disrupted out of existence by digital competitors. They create a brand new and separate digital bank from the ground up. For a while, it runs parallel to the original bank, but usually it fizzles out because, as with the Silicon Valley model, it doesn't fundamentally change the core.

We, however, are choosing to blaze a new trail. We are bringing together people from every corner of BNY Mellon's cross-functional talent pool and challenging them to instill new ways of thinking into everything they do. It means focusing on clients so that their experience is simpler, smarter, and safer. It means collaborating with smart fintechs when we identify a specific reason to do so. It means reimagining everything we do.

Digital Transformations are much less about technology than they are about a company's culture. We're discovering new ways of working and behaving differently, as well as challenging "untouchable" processes, decision-making and corporate governance.

That's not to say our program of digitization isn't technologically radical and innovative, because it is. We're going to see new businesses and capabilities emerge –that we could have never dreamed of even a few years ago. Part of our continuing success is that no initiative is set in stone. We are adjusting and correcting our portfolio of initiatives every day. Change is hard. Yet it is imperative

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__Roman Regelman__ is Senior Executive Vice President and Head of Digital for BNY Mellon. He is a member of the company's Executive Committee. Mr. Regelman is responsible for setting the strategic direction for the firm's digital future to achieve significant improvements in the company's business performance and customer and employee experience. He drives investments in our client and internal digital capabilities, including data management, analytics, artificial intelligence, machine learning and robotics. He leads the global digital team across the company, attracting and developing top digital talent. Prior to joining BNY Mellon, Mr. Regelman took on senior leadership roles that spanned Chief Operating Officer, Chief Digital Officer, Head of Transformation and Head of Customer Journeys. Mr. Regelman earned a Bachelor of Science in Mathematics from St. Petersburg State Technical University, St. Petersburg, Russia and a Master of Business Administration from Olin Graduate Business School at Babson College, Wellesley, MA.

NCPERS **Legal**

Public Pension Plans and the Basis of Employer Participation

By Tyler Crist & Robert Gauss

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What exactly is a public pension plan and what is the basis of employer participation? These are fundamental questions that you may not encounter or consider on a routine basis. But the answers, which can vary from state to state, have significant legal consequences. This point was recently emphasized in the Supreme Court of Kentucky's opinion in *Kentucky Employees Retirement System v. Seven Counties Services, Inc.*, 580 S.W.3d 530 (Ky. 2019), which answered a question of Kentucky law certified to it by the United States Court of Appeals for the Sixth Circuit.[1]

In this instance, it was the chapter 11 bankruptcy of Seven Counties Services, Inc., a Community-Based Mental Health Center in Kentucky, that ultimately brought these questions to the forefront. The consequence of the answer was a legal determination of whether, under the United States Bankruptcy Code, Seven Counties could "reject" its participation in and obligations to the Kentucky Employees Retirement System (KERS), estimated to be $90 million.[2]

It began in April 2013, when Seven Counties filed its chapter 11 petition for the avowed purpose of ending its participation in KERS, at a time when that was not permitted by the governing statutes. The legal theory upon which the bankruptcy court ultimately allowed Seven Counties to do so required a finding that the nature of Seven Counties' participation in KERS was contractual, rather than statutory. This allowed the bankruptcy court to invoke the federal power to reject contracts, which is found in section 365 of the Bankruptcy Code. On appeal to the Sixth Circuit,[3] KERS asked that this question of Commonwealth law be certified to the Supreme Court of Kentucky. The Sixth Circuit did so, certifying the following question:

> Whether Seven Counties Services, Inc.'s participation as a department in and its contributions to the Kentucky Employees Retirement System are based on a contractual or a statutory obligation.[4]

After careful consideration, the Supreme Court of Kentucky held that participation in and contributions to KERS are not contractual, but are instead "based on a statutory obligation."[5]

The Supreme Court of Kentucky addressed two fundamental concepts: (1) what exactly is a public retirement system; and (2) what is the basis of employer participation in the plan under a plain reading of the statutes by which the system was established? The Supreme Court of Kentucky held that "public retirement systems are actually trusts created by statute."[6] This is a concept that could have broader application to public pension funds established by statute. Particular to Kentucky and similarly structured retirement plans, however, was the conclusion that a plain language analysis, as well as the unmistakability doctrine, precluded any finding that the basis of participation in KERS was contractual.[7] This is not necessarily true in all states, as the Supreme Court of Kentucky observed. In contrast to KERS, the controlling statutes of California and Pennsylvania expressly authorize contracts with certain employers, particularly municipalities.[8]

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1 *Kentucky Employees Retirement System v. Seven Counties Services, Inc.*, 746 Fed. Appx. 528, 2018 WL 4078825 (6th Cir. Aug. 24, 2008) (Order of Certification to the Supreme Court of Kentucky).

2 Title 11 of the United States Code (11 U.S.C. §§ 101 1532).

3 The initial, intermediary appeal of the bankruptcy court's opinion was to the district court, also in Louisville, Kentucky, to which KERS first requested the question of state law be certified to the Supreme Court of Kentucky.

4 *Kentucky Employees Retirement System*, 746 Fed. Appx. at 529.

5 *Kentucky Employees Retirement System*, 580 S.W.3d at 532.

6 *Id.* at 544 (citing Restatement (Third) of Trusts, §§ 4, Comment(g) and 10 (stating "Public retirement systems or pension funds are invariably created by statute with no other trust instrument delineating the powers and duties of the boards of trustees that administer them....").

7 *Id.* at 539 544.

8 *Id.* at 541.

Best Practices for Data Security

By Peter Chenoweth

Photo Illustration © 2019 Shutterstock.com

For many governmental entities, it's an unfortunate fact that most of the money spent on IT security occurs after a data breach, network hack, or other preventable event. For software with a database that contains your employee or retiree Personally Identifiable Information (PII) data security is paramount. Implementing a comprehensive data security plan can be a significant undertaking, but there are few relatively inexpensive and effective strategies local government offices can take to shore up their first line of defense.

Develop clear staff policies regarding security procedures, both in terms of system access and in behavioral expectations. For system access, follow "least-access" principles; only give users rights to the data they need. For behavioral expectations, make sure your users understand the role they play in your organization's security. Several high-profile cases involving "cryptolocker" or "ramsonware" attacks have recently been in the news. These attacks involve malicious programs which encrypt documents and data within your network rendering the items unreadable. The most common way these malicious programs are introduced into an organization is via email, where an unsuspecting user clicks a link that appeared to be from a legitimate colleague. A common exercise to help identify this risk involves your IT staff sending "test" emails to everyone within the agency to find out if any users will click an unknown link. If a person does open a link, notifications are logged to the IT team who can then follow up and offer corrective guidance.

Always ensure your hardware and software is updated regularly. Whether your data is hosted in the cloud or on premises, make sure there are processes in place for maintaining and applying updates on a regular basis. Do not use deprecated commodity operating or database systems. For example, SQL Server 2008R2 has recently become deprecated. Is your organization still using it? If so, strongly consider upgrading! Unpatched or unsupported systems combined with unencrypted communications are at high risk for data breaches, especially when exposed to the internet. Ensure that any vendor you work with is taking advantage of industry-standard security features such as TLS for encryption of network traffic or TDE for database encryption.

Once you have established security procedures for your organization, it is often beneficial to have a third party review these procedures. As a software vendor, we hire a different firm every 1-2 years to conduct extensive testing on our software and database. While that offers a level of security and ease of mind for our customers, we always encourage them to perform their own testing within their environment. A vendor that objects to having a security audit or intrusion testing performed is an immediate red flag that there may be issues with the software. Unless there is specific contract language on the topic, there is no obligation to contact a vendor about security testing your agency intends to perform.

And finally, great policies and an effective implementation will minimize risk; however, you need to be sure to incorporate security training into your onboarding process. In addition to the onboarding, retraining should occur regularly to ensure your staff's awareness of the security policies are maintained.

Even with all the policies and training, there is always a possibility that some unknown vulnerability will expose your data. Data breaches are unexpected and stressful, so it is important to develop a response plan before such an event occurs. This provides enough time for planning and coordination among the stakeholders of your organization who would play a role in such an event: management, IT, public relations, legal, and so forth. ◆

__Peter Chenoweth__ is a Microsoft Certified Solutions Expert for Data Platform, Database Administrator, and Information Security Officer for LRS Retirement Solutions. He helps provide data solutions and support for all project teams throughout the LRS Retirement Solution business unite to help ensure reliable, efficient, and secure data experiences for all PensionGold® customers.

Prospering Late Cycle While Preparing for Longer Term Success

By Chris Macke

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Record equity market valuations followed by bouts of volatility, plummeting fixed income yields, slowing growth, and uncertain trade policies. Welcome to investing in 2019!

Growth in GDP slowed dramatically in 2Q 19 to 2%, and with business investment and employment growth slowing, business sentiment on edge due to trade policies, and shaky consumer confidence, one might be tempted to put money under the mattress.

Commercial real estate, however, can provide attractive opportunities in the late cycle with greater income than seen in fixed income investments, combined with market appreciation potential. With the economy slowing and more limited upside appreciation across most asset classes, real estate can provide a unique and valuable combination of higher income levels and appreciation potential.

What sectors/market are best positioned to perform?

- Industrial continues to be the performance winner with the most favorable fundamentals due to low costs of replacing tenants should the need arise.
- Multi-family is strengthening as low housing affordability and plateauing supply drive demand. While rents may fluctuate, occupancy is relatively stable.
- Office fundamentals are stable today but vulnerable to slowdowns in employment growth. With higher tenant improvement costs, office should be underweighted with focus on newer assets having strong credit tenants with longer-term leases.
- Retail shows substantial variation in performance across assets: well-placed necessity-based retailers keyed to their trade area demographic should outperform regional malls. Although repricing of retail assets may create select contrarian opportunities, the impact of ecommerce places retail squarely in the underweight category.

In markets, technology continues to disrupt industries, and this creates economic winners and losers. Invest where technology is creating not constraining jobs, as markets expected to thrive over the long-term from disrupting technologies should outperform markets anchored in jobs most exposed to disruption. Tech markets may be more volatile near-term requiring heighted discipline, so targeting

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CONTINUED ON PAGE 11

National Conference on Public Employee Retirement Systems

ADVOCACY RESEARCH EDUCATION

MESSAGE FROM PRESIDENT CONTINUED FROM PAGE 1

The final day of the conference began with a panel on forced arbitration clauses and their harmful repercussions with Jeremy Lieberman from Pomerantz and Tony Gelderman from Bernstein Litowitz Berger & Grossmann LLP. David Kausch from Gabriel, Roeder, Smith & Co. discussed how measuring pension risk is not just for the actuaries, and Joe Ramos from Lazard Asset Management discussed negative rates. The morning continued with a discussion on the impact of the economy and technology on real estate investing with Todd Fowler from American Realty Advisors and risk factors in manager selection with Erin Doyle Orekhov from Voya Investment Management.

The last afternoon of the conference concluded with a robust agenda. Dara Friedman, with BentallGreenOak explained what core plus real estate, and Ian Edelist from Club Vita discussed what drives differences in life expectancy. The conference concluded with a presentation by Tyler Bond from the National Institute on Retirement Security (NIRA) on their research on public safety workers' views on retirement.

The full presentations from the conference can be viewed at www.NCPERS.org/psc. The 2020 Public Safety Conference will be held at a to be determined location on October 25 -28, 2020. ◆

CORPORATE GOVERNANCE CONTINUED FROM PAGE 3

Some examples of bylaws are:

- Frequency of meetings
- How to elect and replace board-chair
- How to elect and replace board members
- How to determine director compensation (if you choose to pay your directors)

Identify Key Stakeholders (Shareholders) and Schedule Meetings

Once the foundation is set and the walls are built it is time to lay the roof shingles. For an organization, the roof shingles are all key stakeholders (and the board they create) who hold interests and/or assets in your organization. Once identified, these stakeholders should meet and it's common that the first meeting topic is around your board, specifically the time and place where your board of directors are elected. When properly placed, the shingles create the roof that is tasked with keeping the rain and anything else that is unwelcome out, like the stakeholders who elect the board of directors who protect the company and those invested in it.

Follow Board Meeting Best Practices

After your board is established, the foundation is solidified, the walls and the roof are in place - the real work begins. Maintaining the board is just as difficult as maintaining your home. There needs to be set procedures in place in order to succeed at maintaining your board. Best practices include establishing a schedule for your board meetings and then implementing the best techniques in order to prepare for and facilitate the meetings is one example of following board meeting best practices in order to guarantee your success.

As aforementioned, board roles differ and so do boards of directors. It's extremely important to implement a blueprint for success that aligns directly with your organization's purpose and goals.

Closing Thoughts

So, there you have it folks. Your four keys tips on how to create a board of directors. Feel free to browse through the rest of our blog (how about checking out How to Chair a Board Meeting) for more. ◆

__Linaeya Horn-Muller__ is the Director of Sales and Marketing at Global Governance Advisors. She plans and implements sales, marketing and product development programs, targeted towards existing and new markets. Linaeya's work incorporates department management, digital marketing, content creation, and business strategy and development.

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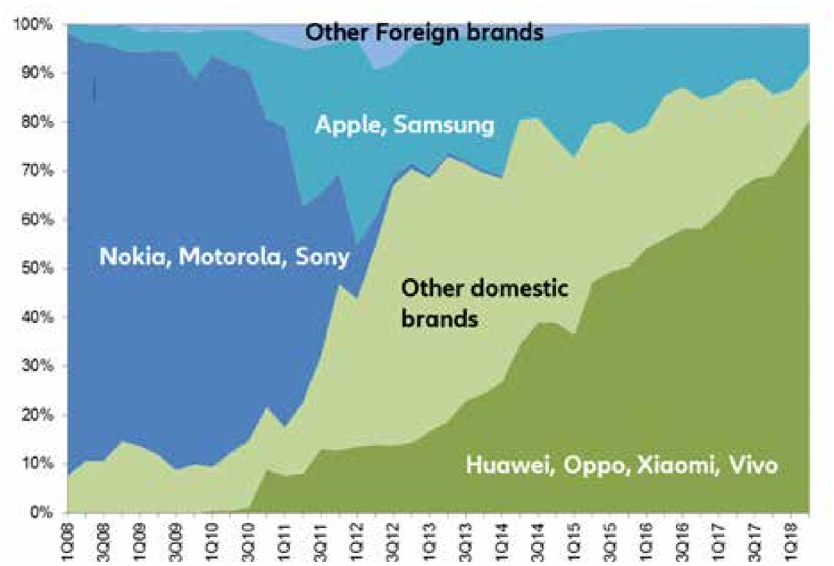
Linaeya holds a Bachelor of Science degree in Marketing, a Bachelor of Science Degree in Sport Management, and a Master of Science degree in Sport Management from the University of Florida.

ASSET MANAGER CONTINUED FROM PAGE 2

Another trend favoring local Chinese firms is changing healthcare attitudes. The average Chinese person only spends $426 annually on healthcare, compared to $9,536 for the average US person, according to World Bank data. Demographic and cultural changes should narrow that gap. By 2050, 35% of China's population will be seniors, increasing healthcare demand. Also, Millennials are more comfortable with modern medicine, eschewing traditional herbs and generic pharmaceuticals. These circumstances favor domestic firms, ranging from drug developers and manufacturers to hospitals and clinics.

Finally, domestic manufacturers are taking market share from foreign firms because they are increasingly matching, or even beating, foreign brands on both quality and price. For example, in 2008, three foreign brands accounted for 90% of smartphone sales in China. Now, eight out of the top 10 brands are Chinese (**see Exhibit 2**). This trend is playing out in industries as varied as heavy machinery to laser equipment. For example, Chinese brands had 42% of passenger car sales in 2017, up 50% over the past dozen years.

Exhibit 2: Smartphones made by Chinese makers are squeezing out foreign brand names



As of June 30, 2018

Source: Allianz Global Investors, Morgan Stanley, IDC

Securities named in Exhibit 2 were listed since they were the top sellers of smartphones in China. Some or all the securities identified

and described may represent securities purchased in client accounts. The reader should not assume that an investment in the securities identified was or will be profitable. Securities or companies identified do not represent all of the securities purchased, sold, or recommended for advisory clients. Actual holdings will vary for each client.

Further underpinning the outlook are economic policies, such as "Made in China 2025", which promotes domestic, high-tech manufacturing capabilities. Beijing's heavy investment in innovation is helping, too: China invested $279 billion in 2017 on research and development, an amount second only to the US.

While China's pace of economic growth is slowing, we believe institutional investors should diversify their holdings and harness the nation's domestic consumer-driven growth by allocating to China A-shares. ◆

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CUSTODIAN BANK CONTINUED FROM PAGE 4

that we make the most of the changing global markets. Last year marked a key milestone in history in that over half the population of this planet, some 3.8 billion people, were now using the Internet. The digital age is here.

Every single thing we're doing at BNY Mellon as we digitize this very bank is either about improving what we do or helping our clients achieve new goals. We have the scale and scope to make our digital strategy a success. ◆

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LEGAL CONTINUED FROM PAGE 5

The fundamental nature and structure of a public pension plan, along with the language of the governing statutes, can have far-reaching consequences. ◆

This publication is intended for general informational purposes only and does not and is not intended to constitute legal advice. The reader should consult with legal counsel to determine how laws or decisions discussed herein apply to the reader's specific circumstance.

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REAL ESTATE CONTINUED FROM PAGE 7

assets with longer-term leases to stronger tenants can moderate the impact of that volatility.

Population growth is shifting from the Northeast/Midwest to the Southwest/Southeast, which will be the longer-term population winners. However, the latter may have looser regulations and more land availability creating supply pressures over the long-term that can lead to lower rent growth.

At this point in the cycle, longer-term leases, especially those with contractual increases, can yield better income predictability. However, leases only have value if the tenants can fulfill their obligations. Tenant credit is critical -- start-ups, newer companies in expansion mode, private equity owned companies with significant debt, smaller companies with more limited access to financing, and tenants in industries facing growth and margin headwinds may face challenges.

In the battle for tenants, higher quality buildings can "buy" occupancy and attract tenants from competing buildings through rent concessions. In addition, the pricing spread between higher and lower quality assets is currently compressed.

In sum, real estate today can deliver yield advantages as well as stable growing income streams and market appreciation potential, by focusing on high quality well-leased assets with the possibility of increasing cash flows. ◆

2020 Conferences

January

Legislative Conference
January 26 - 28
Washington, DC

May

Trustee Educational Seminar (TEDS)
May 9 – 10
Las Vegas, NV

Program for Advanced Trustee Studies (PATS)
May 9 – 10
Las Vegas, NV

NCPERS Accredited Fiduciary Program (All modules)
May 9 – 10
Las Vegas, NV

Annual Conference & Exhibition (ACE)
May 10 – 13
Las Vegas, NV

July

Chief Officers Summit (COS)
July 22 - 24
Chicago, IL

August

Public Pension Funding Forum
August 23 - 25
Chicago, IL

October

NCPERS Accredited Fiduciary Program (All modules)
October 24 - 25
Location TBD

Public Safety Conference
October 25 - 28
Location TBD

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