



AGENDA

Meeting of the Board of Trustees

Thursday, May 25, 2023 – 8:30 a.m.

**TMRS Office
2717 Perseverance Drive, Suite 300
Austin, Texas**

Zoom Link for Public:

<https://tmrs.zoom.us/j/83359465051?pwd=RjQ1a2ZxUkIiMTg4eitnaGR3OUdpUT09>

The Board may discuss any item on the Agenda at any time during the meeting.

Call to Order

Invocation

Pledge of Allegiance

Non-Agenda Public Comment: TMRS' Investment in Instar's Fund II

Consent Agenda

1. **Consider and Act on Consent Agenda.** *Bob Scott*
 - a. Approve Minutes from the March 23, 2023 Board of Trustees meeting

Executive Director Reports

2. **Executive Director's Report.** *David Wescoe*

Board Organization

3. **Discuss, Consider and Act on Advisory Committee on Benefit Design.** *Bob Scott*

Audit Committee Report

4. **Report on Audit Committee Meeting and Consider and Act on Appointment of an Internal Auditor.** *David Landis and Mike Apperley*

Plan Design & Funding

5. **Consider and Act on 2022 Actuarial Valuation and Approval of 2024 Retirement Contribution Rates and Supplemental Death Benefit Contribution Rates.** *Leslee Hardy, and Joe Newton and Janie Shaw, GRS*
6. **Consider and Act on Renewal of Actuarial Consulting Services Agreement.** *David Wescoe and Leslee Hardy.*

Legislative Agenda

7. **Receive Update on Legislative Items Affecting TMRS.** *Dan Wattles*

Investment Reports

8. **Chief Investment Officer's Report.** *David Hunter*
 - a. CIO Report
 - b. Trust Fund Report: First Quarter 2023
 - c. Receive 2023 Annual Completed Investments Report
9. **General Consultant Report.** *Sam Austin, NEPC*
10. **Discuss Asset Liability Study and Asset Allocation Results.** *Sam Austin, NEPC*
11. **Board Education: Real Estate Asset Class.** *David Hunter and Monica Huffer*

Executive Session

12. **Executive Session.** *Bob Scott*

In accordance with Section 551.074, Texas Government Code, the Board of Trustees may meet in executive session to deliberate personnel matters, including the appointment, interview, employment, evaluation, compensation, performance, reassignment, duties, discipline, selection or dismissal of one or more public officers or employees, including without limitation, the Executive Director, Chief Legal Officer, and one or more candidates for Internal Auditor (as a public employee position), and thereafter may consider appropriate action in open session.

Future Board Agenda Items

13. Call for Future Agenda Items. *Bob Scott*

Adjournment

The Board may meet in Executive Session on any item listed above as authorized by the Texas Open Meetings Act or by the Texas Municipal Retirement System Act.

In accordance with Texas Government Code Section 855.007, the Board may conduct the open and/or closed portions of the meeting by telephone conference call and/or by videoconference. The location of the meeting at which at least one Trustee of the Board will be physically present is the Texas Municipal Retirement System office, 2717 Perseverance Drive, Suite 300, Austin, TX, which will be open and audible to the public during the open portions of the meeting.



May 16, 2023

To: Board of Trustees

From: Christine M. Sweeney, Chief Legal Officer *CS*

Re: Agenda Item 1: Consider and Act on Consent Agenda

The Consent Agenda includes Minutes from the March 23, 2023 Board meeting. Staff recommends that the Board adopt the Consent Agenda as presented.

Attachment

Minutes from the March 23, 2023 Board meeting



**MINUTES OF THE
TEXAS MUNICIPAL RETIREMENT SYSTEM
Meeting of the Board of Trustees**

March 23, 2023 – 9:00 a.m.

The Board of Trustees of the Texas Municipal Retirement System (TMRS) convened for a meeting at 9:00 a.m. at the AT&T Conference Center, located at 1900 University Avenue, Austin, Texas, in Grand Salon D&E with the following Trustees present: Chair Bob Scott, Vice Chair Anali Alanis, Jesús Garza, Johnny Huizar, David Landis, and Bill Philibert.

Staff present included: David Wescoe, Christine Sweeney, Debbie Muñoz, David Hunter, Mike Apperley, Jac Greene, Leslee Hardy, Dan Wattles, Tom Masthay, Nick O’Keefe, Frank Atkins, Tim Sweeney, Michele Fullon, Madison Jechow. Consultants present were Sam Austin and Robert A. Klausner.

Mr. Scott called the meeting to order at 9:00 a.m.

Consent Agenda

1. Consider and Act on Consent Agenda.

Mr. Landis moved that the Board adopt the Consent Agenda, including the minutes from the December 8, 2022, and February 16, 2023, meetings. Ms. Alanis seconded the motion, which passed 6-0.

Board Organization

2. Discuss, Consider and Act on Board Committees.

Mr. Garza asked Mr. Wescoe for his recommendations for Board committees. Mr. Wescoe said that committees to review audits and budgets are good for any Board to have. Mr. Garza asked if the Audit Committee should have a representative who is not a Trustee. A majority of Trustees expressed support for retaining the Audit Committee in its current form. The Advisory Committee on Benefit Design has seen many changes since it was first created. He noted that several bills proposing changes have been filed by Committee affiliates without consideration by the Advisory Committee.

Mr. Garza said the Advisory Committee had discussions before the Board decided not to pursue any legislation this year. He said Advisory Committee discussions also considered TMRS

customer service and provided value, and he asked how a broader scope for the Advisory Committee could be developed with review of its membership, possibly to enhance member and retiree representation. Mr. Landis said that the Advisory Committee is a valuable ally with its ear to the ground on matters that go beyond benefit design. Ms. Alanis said the Advisory Committee offers expertise for continuous improvement by TMRS. Mr. Scott said he was involved with the Advisory Committee since 2000, and while the Advisory Committee is not efficient because of its size, it provides opinions from other sectors. As long as some cities do not offer cost of living adjustments to retirees, he said, discussions about benefit design will continue. If the Advisory Committee is continued, he said, it makes sense to include customer service in its charter.

Scott Leeton addressed the Board and said he serves on the Advisory Committee as a representative of the Combined Law Enforcement Associations of Texas. The Advisory Committee allows for good discussions among many stakeholders, and he asked the Board to retain the Advisory Committee the way it is.

After Board discussion, Mr. Wescoe summarized that the Audit and Budget and Compensation Committees would remain as is, but staff will provide some models to broaden the Advisory Committee charter for the Board to consider at a future meeting.

3. Consider and Act on 2023 Board Committee Appointments.

Mr. Garza recommended that the Board make the following 2023 Board Committee appointments:

Advisory Committee on Benefit Design:	Chair – Ms. Alanis Vice Chair – Mr. Scott
Audit Committee:	Chair – Mr. Landis Vice Chair – Mr. Garza
Budget and Compensation Committee:	Chair – Mr. Huizar Vice Chair – Mr. Philibert

After discussion, Mr. Garza moved and Ms. Alanis seconded the motion, which passed 6-0.

Executive Director's Reports

4. Executive Director's Report.

TMRS was congratulated for its 75th anniversary at the Texas Capitol, where Representative Rafael Anchía sponsored House Concurrent Resolution 66, which was passed by the Texas Legislature and signed by the Governor. Mr. Wescoe said Senior Staff Action Plans were completed for each year since 2020, and he presented the 2023 Senior Staff Action Plan. He reviewed talent additions and promotions in the Finance, Investments, and Information Services departments. He reported on the release of retiree and member annual statements and additional communications. Mr. Wescoe said that rule changes proposed today for Board consideration include eliminating a longstanding rule that prevented members from naming more than three beneficiaries.

5. Receive Senior Staff Quarterly Reports.

Mr. Wescoe presented the Senior Staff Quarterly Reports to the Board.

6. Report on 2022 Senior Staff Action Plan Results and Present 2023 Senior Staff Action Plan.

Mr. Wescoe said the Board's Strategic Plan sets priorities for Senior Staff Action Plans. In 2022, major accomplishments under the Action Plan were completion of the City Portal, retaining NEPC as the Board's general investment consultant, redesigning the TMRS website, enhancing City and Member training, and selling the old TMRS office building for top dollar.

Mr. Wescoe reviewed the 10 items on the 2023 Senior Staff Action Plan. There were no questions from the Board.

7. Receive Update on TMRS 75th Anniversary Activities.

Mr. Wattles described activities celebrating TMRS' 75th anniversary. Governor Abbott issued a Certificate of Recognition in January, which will be displayed near the Board Room along with the House Concurrent Resolution 66. TMRS sent letters marking the anniversary to all Texas House and Texas Senate members and all members of Congress from Texas. TMRS Communications staff designed a logo recognizing the anniversary and a website with photos of TMRS milestones, including the Board's ribbon-cutting for the new TMRS offices. TMRS will host a celebration at its offices prior to the June Board meeting.

Plan Design and Funding

8. Consider and Act on Ratification of Ordinances Adopting Updated Service Credit and/or Annuity Increases Effective January 1, 2023 (Received after the December 2022 Board Meeting).

Ms. Muñoz presented the Updated Service Credit and Annuity Increase ordinances received by TMRS after the December 8, 2022 Board meeting but before the end of 2022.

Mr. Landis moved to ratify the approval of Updated Service Credit and/or Annuity Increase ordinances received by TMRS after the December 8, 2022 Board meeting but before the January 1, 2023, effective date. Mr. Philibert seconded the motion, which passed 6-0.

9. Consider and Act on 2022 Interest Credit Allocation to the Benefit Accumulation Fund and Interest Reserve Account.

Ms. Hardy asked the Board to act on interest allocations to four TMRS trust funds. Staff and actuarial firm GRS recommend that TMRS maintain the Interest Reserve Account balance at \$310

million and that, based on the net estimated investment loss for 2022, an interest credit of approximately -7.42% be allocated to cities' BAF accounts.

Mr. Garza asked how the \$310 million reserve was originally determined and whether it should increase as TMRS assets increase. Ms. Hardy said that when the reserve was first set at \$290 million it was approximately 1% of the Trust Fund. The target reserve is reviewed annually by investment, finance and actuarial staff based on the total value of estimated private investments. This year, staff determined that \$310 million was sufficient to allow for variance in estimates of private investment returns, which may not be known until the end of April.

Mr. Scott said that an allocation to cities of -7.42% is not ideal, but action before May is necessary to allow TMRS' actuaries to complete their work before proposing contribution rates in May. Mr. Scott asked if it was safe to say that higher contribution rates are projected? Ms. Hardy said yes.

Ms. Alanis moved that the Board allocate, effective as of December 31, 2022:

- (i) a credit of 5% interest to each of the Supplemental Disability Benefits Fund and the Supplemental Death Benefits Fund;
- (ii) a credit of approximately -7.42% interest to the Benefit Accumulation Fund, as well as maintain the initial Interest Reserve Account balance at \$310 million;

and that the Board approve any differences in the final versus estimated fourth quarter private investment fund valuation adjustments, as well as any adjustments that may be necessary to finalize net investment income for the year, to be reflected in the final Interest Reserve Account balance as of December 31, 2022 and considered in the 2023 BAF interest credit determination. Mr. Philibert seconded the motion, which passed 6-0.

Legislative

10. Receive Legislative Update and Consider and Act on Legislative Items Affecting TMRS.

Mr. Wattles said the House Pensions, Investments and Financial Services (PIFS) Committee continues to have oversight over TMRS and other retirement systems. Mr. Wescoe and Mr. Wattles called on the Committee Chair, Vice Chair and Committee members and their staffs. In the Senate, the Senate State Affairs Committee has oversight over TMRS and is chaired by Senator Bryan Hughes. As of the March 10 bill filing deadline, over 8,200 bills had been filed. TMRS tracks a number of these, but there are four that directly impact TMRS. Legal aspects of these four bills affecting TMRS will be discussed in Executive Session.

Mr. Philibert asked if House Bill 3441, which would allow a city to increase employee contributions to 8% of employee compensation, would also increase city contributions. Mr. Scott said that, while that is a question for TMRS' actuaries, it should result in the city's cost going up as well.

Legal

11. Consider and Act on Proposed TMRS Rules Amendments – Chapter 127.

Ms. Sweeney proposed that the Board repeal current Chapter 127 of TMRS' rules and adopt a new replacement Chapter 127. Chapter 127 contains miscellaneous rules relating to the Texas Public Information Act, applicable provisions of the Internal Revenue Code (IRC), and certain internal procedures. Legal, Member and City Services and Benefits Administration collaborated on the proposed new Chapter 127 rules. Ms. Sweeney then discussed the proposed Chapter 127 rule amendments.

Mr. Philibert moved to authorize the Executive Director and his designee(s) (i) to submit the proposed repeal and replacement amendments to Chapter 127 to the Governor's Office for review; (ii) to make any non-substantive changes recommended by the Governor's staff or *Texas Register* staff; and (iii) to file the proposed amendments to Chapter 127 with the Secretary of State for publication in the *Texas Register*. Mr. Landis seconded the motion, which passed 5-0 with Mr. Garza absent.

Investment Reports

12. Chief Investment Officer Reports.

Mr. Hunter said that the Investment department is focused on driving excess returns by increasing commitments to top performing managers. The Trust Fund Report for the fourth quarter of 2022 shows that TMRS generated excess returns in the 1-, 3- and 5-year periods. For 2022, markets fell 12.3%, but TMRS investments fell by 5.9%, so TMRS outperformed the benchmark by 6.4%. For the first time, Trust Fund returns ranked in the first quartile of public pension plans with more than \$1 Billion in assets for three consecutive quarters, looking back one year from each.

Mr. Scott asked, after markets lost 12.3% last year, how TMRS is positioning itself as market conditions improve. Mr. Hunter said asset allocation is the number one driver of returns, and asset allocation changes made by the Board in June 2021 have TMRS better positioned for a rising market.

Mr. Hunter said that Investments, with support from Legal, closed \$4.5 billion in investments in 2022, while also trimming commitments to non-performing managers. The pacing of private market is on track, and TMRS already is at its target allocations to Private Equity and Real Estate.

13. Receive Fourth Quarter 2022 Investment Compliance Report.

Ms. Fullon said in the fourth quarter State Street completed more than 2,000 automated tests that confirmed that TMRS investment managers were in compliance with TMRS' investment guidelines. Investment Compliance's testing also confirmed that TMRS was in compliance with all testable parameters within the TMRS Investment Policy Statement and Investment Guidelines.

14. General Investment Consultant Quarterly Report.

Mr. Austin reviewed NEPC's report for the fourth quarter of 2022. Returns for the year were -5.86% and exceeded the Asset Allocation Benchmark by 6.39%. Compared to other pension plans managing more than \$10 Billion in assets, TMRS was in the first quartile for the 1-year period. TMRS' goal is to exceed its Actual Allocation Benchmark over a rolling 5-year period, and at quarter's end TMRS did so by 1.60% net of fees. TMRS trailed the Board's Assumed Long-Term Rate of Return of 6.75% with a five-year return at quarter's end of 4.32%.

15. Review and Discuss Importance of Asset Allocation.

Mr. Austin reviewed the asset liability model and asset allocation study timeline for 2023. In May, NEPC will present initial allocation study results with several allocation options. In June, the Board will consider which allocation option it wants to choose.

Mr. Austin presented NEPC's update to its capital market assumptions as of year-end 2022.

Mr. Scott asked whether NEPC develops its assumptions in-house or whether it surveys other firms' projections. Mr. Austin said that NEPC and its licensed actuaries do both. Forecasts are done for 70 asset classes. Mr. Scott asked how aggressive NEPC's outlook is, and Mr. Austin said NEPC falls within the mid-range of forecasts. Mr. Austin said that TMRS' current allocation averages out at a 7.1% return over the 10-year period. This return projects to be a little better than the average for other public funds and much better than the return of a classic 70% equities/30% bonds portfolio. The chance of a negative 1-year return is 30% and the chance of a negative 10-year return is 5%. The probability of a 10-year return under 6.75% is 46.6%, which is better than other public fund averages.

Mr. Scott said these expectations show that TMRS is being a conservative steward because there is less than a 50% chance that TMRS will not meet its 6.75% assumed rate of return. Mr. Austin agreed and said NEPC's expectations do not assume any alpha returns that investment managers may generate despite recent excess returns, as reported by Mr. Hunter.

Board Education

16. Board Education: A Trustee's Fiduciary Responsibilities.

Mr. Klausner reviewed fiduciary responsibilities with the Board.

17. Board Education: Global Equities Asset Class.

Mr. Sweeney reviewed the Global Equities asset class. Global Equities offer the highest expected returns, achieving 8.1% annual return on average over the last 10 years. At year end, TMRS Global Equities were valued at \$11.7 billion and constituted its largest asset class with a 35% target allocation. The actual allocation at year end was 33.1%, within the Board approved range. In this class, 87% of the portfolio is passively managed, which contributes to low fees. Active management of 13% of the class allows for excess return opportunities. Mr. Sweeney said that changes implemented by Investments staff in 2022 moved the Global Equities portfolio from being

underweight in U.S. Large Cap stocks to bring it in line with U.S. benchmarks. All current active managers in this class generated net investment returns that exceeded their benchmarks for the 5-year period ending December 31, 2022.

Mr. Atkins discussed updates by TMRS to its proxy voting policy. TMRS retained Institutional Shareholder Services (ISS) to assist TMRS with implementing TMRS' proxy voting responsibilities. The proxy voting policy now states: "Investment staff will vote proxies to maximize long-term investment returns consistent with the Board's fiduciary duty and the laws of the State of Texas. Proxies will not be voted to establish or endorse any social policy. A proxy advisory firm will assist investment staff in maintaining TMRS' custom proxy voting policy and monitoring compliance with it."

Mr. Philibert said he appreciates this strong policy.

Mr. Atkins reviewed TMRS' actions in the Global Equities class during 2022. Portfolio structure was improved with increased alignment with benchmarks. The class was re-weighted to retain active managers that generated alpha and to fund up the U.S. Large Cap passive account. Low fees, high liquidity and transparency were maintained. Goals for 2023 include improving returns through increasing active management up to 20% of the portfolio in a risk-aware and benchmark-aware manner while maintaining low fees and liquidity.

18. Executive Session.

The Board went into Executive Session at 11:38 a.m. The meeting reconvened in Open Meeting at 12:37 p.m. No action was taken during the Executive Session. All members of the Board who were present before the Executive Session were present.

Future Board Agenda Items

19. Call for Future Agenda Items.


There being no further business, Ms. Alanis moved at 12:38 p.m. that the meeting adjourn. Mr. Huizar seconded the motion, which passed 6-0.

David B. Wescoe
Executive Director

Bob Scott
Chair, Board of Trustees



May 16, 2023

To: Board of Trustees
From: David Wescoe, Executive Director 
Re: Agenda Item 2: Executive Director's Report

Legislative Update. *Trustee David Landis Confirmed by the Texas Senate.* Governor Abbott's reappointment of David Landis to the Board was confirmed by the Senate on March 29.

House Bill 2464. Both the House and Senate passed HB 2464 (the three-year elimination of the COLA catch-up provision). The bill now goes to Governor Abbott for his approval.

House Bill 3441. The House Pension, Investments and Financial Services (PIFS) Committee held a hearing on HB 3441 (to add an 8% contribution rate option to the TMRS Act). To date, no further action has been taken.

Senate Bill 1446. After the Senate passed the bill, the House PIFS Committee held a hearing on it, and several substitutes have been offered. We have provided suggested improvements to the Committee.

Audit Committee Meeting. On May 1, the Audit Committee met via Zoom and voted unanimously to recommend that the Board hire Mike Apperley's proposed Director of Internal Audit candidate. As David Landis commented, the search process was a great one, and we found a great candidate.

TMRS Leadership Academy. In March, TMRS' inaugural 15-member 2023 Leadership Academy group had a Launch Day Reception to kick-off the program.

Webinars. The Education Team's regularly scheduled webinars continue to be a big hit, and the survey results are great. All rate the presenters as Excellent or Very Good, and participants' comments include, "great information, good job of working through hypothetical situations," "I like that these are made available regularly," "very detailed and clear information was presented," and "clearly defined and explained all TMRS functions." The Education Team is very talented.

TPCA Outreach. TMRS staff attended the Texas Police Chiefs' Association Annual Conference in Fort Worth. Almost 500 police chiefs and law enforcement professionals attended the conference, and the TMRS booth was busy answering Member questions about their TMRS benefits. Staff hosted a reception that 150 Members attended. TPCA President Chief Jimmy Perdue says he often tells younger officers that, "the four most important letters in the alphabet are T-M-R-S."

City Staff Focus Group. Debbie Muñoz and Anthony Mills have established a participating city staff focus group to provide the Service teams with feedback on TMRS' policies, processes, procedures, training, and communication. Five experienced city HR, benefits, and administrative professionals who have frequent interaction with TMRS have agreed to join the group: Esmerelda Arellano (Garland), Andrea Cockrill (Plano), Manny Espino (San Antonio), Cesar Garza (Laredo), and Susan Krystofiak (Beaumont). We appreciate their participation and look forward to their feedback.

Another Great Addition to the Investment Team. Dave Hunter has added another great professional to his investment team. Darren Schlissel will join us in June and help manage the fixed income portfolio. Darren's credentials and experience are outstanding: He is a Phi Beta Kappa graduate of Cornell University and has 16 years of investment experience, most recently managing a \$35 billion global fixed income portfolio at PayPal in Austin. He is also a Chartered Financial Analyst (CFA).

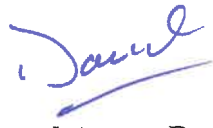
The Investment staff is now at full strength (21 FTEs, a 22% reduction from July 2020), and its performance has been stellar.

75th Anniversary Activities. Staff continues to organize 75th Anniversary activities, including an article that will be published in the June edition of TML's *Town & City* magazine, an all-staff commemorative photo, website announcements highlighting TMRS' first eight cities, an anniversary video, and planning for the June 21 reception.



May 16, 2023

To: Board of Trustees

From: David Wescoe, Executive Director 

Re: Agenda Item 3 - Discuss, Consider and Act on Board Advisory Committee

At its March meeting, the Board discussed the scope and effectiveness of the Advisory Committee on Benefit Design. Trustees noted that the current Advisory Committee has offered input on matters beyond benefit design (e.g., “considers TMRS customer service,” “has its ear to the ground on matters that go beyond benefit design,” “offers expertise for TMRS’ continuous improvement,” and “provides opinions from all sectors”). One Trustee noted that the Advisory Committee was not efficient because of its size. The consensus was that an advisory committee adds value to the Board and that the current Advisory Committee charter is too narrow.

After the Board’s discussion, I said staff would provide some suggestions to broaden the Committee’s scope.

As Christine Sweeney summarized in her March Board memorandum, since the Advisory Committee’s creation in 1994, the Committee has had several iterations and compositions. From 1994 until 2016, it was named the Advisory Committee on Retirement Matters and its purpose was to allow stakeholders (members and retirees), city officials and policy makers (elected officials) to share their input and perspective on issues being reviewed by the Board.

In 2016, the Committee was renamed the “Advisory Committee on Benefit Design” and its scope was limited to providing input, but not recommendations, only on “benefit design issues and other matters determined by the Board.”

In 2018, the Committee’s size was reduced from 21 to the current 12 members. The Committee’s focus did not change.

Given the Committee’s history and the Board’s March discussion, staff suggests the following framework for the Board’s discussion. The goal is to broaden the Committee’s scope, reduce its size, and give voice to key TMRS stakeholders. This is a proposed framework; as the current Advisory Committee’s history confirms, there are many ways for the Board to receive stakeholder feedback.

1. Rename the Committee as the “TMRS Stakeholder Advisory Committee.”
2. Broaden the Committee’s charter to provide feedback to the Board on any issues that the Board asks the Committee to discuss.
3. Leave the Committee’s current size and membership, or consider reducing the Committee’s size from 12 to 9 to include:
 - a. Two TMRS Trustees who will serve as the Chair and Vice Chair of the Committee
 - b. The Executive Director of the Texas Municipal League (TML)
 - c. A Board member from the Texas City Management Association (TCMA)
 - d. A Board member from the Government Finance Officers Association of Texas (GFOAT)
 - e. A Board member from the Texas Municipal Human Resources Association (TMHRA)
 - f. A Board member from one of the statewide police organizations (CLEAT and TMPA), rotating every two years
 - g. A Board member from the Texas State Association of Fire Fighters (TSAFF)
 - h. One TMRS retiree selected by the Board

Reducing the Committee’s size responds to a Trustee’s comment about the Committee being too large. Reducing the Committee’s membership from its current 12 to 9 would eliminate the active member position (we have six active member Trustees and other active member Committee members), the elected official position (elected officials don’t always know TMRS well and seldom can speak for other elected officials), and one police organization representative (rotating the two statewide police organization representatives recognizes the fact that police officers as a class should comprise one Committee position like other member groups).

As is the case today, all Committee members must be TMRS Members.

Staff looks forward to your discussion and direction.



May 16, 2023

To: Board of Trustees

From: Michael Apperley, Chief Financial Officer *Michael Apperley*

Re: Item 4 – Report on Audit Committee Meeting and Consider and Act on Appointment of an Internal Auditor

Committee members David Landis and Jesus Garza held a virtual Committee meeting on May 1 via Zoom.

Appointment of Internal Auditor. I provided a description of the selection process. TMRS received 52 applications for the position and interviewed to top 14 or 27% of these candidates. From the initial interviews, four or 29% were interviewed by members of the executive team. The top candidate was recommended to the Committee to interview.

The Audit Committee interviewed the top candidate and voted unanimously to recommend the applicant be appointed Director of Internal Audit at the salary recommended by staff.



May 16, 2023

To: Board of Trustees

From: Leslee S. Hardy, Director of Plan Design & Funding

A handwritten signature in blue ink that reads 'Leslee S. Hardy'. The signature is written in a cursive, flowing style.

Re: Agenda Item 5: Consider and Act on 2022 Actuarial Valuation and Approval of 2024 Retirement Contribution Rates and Supplemental Death Benefit Contribution Rates

The TMRS Act provides that TMRS' consulting actuary prepare an actuarial valuation of the System's and its participating cities' assets and liabilities as of December 31. The valuation includes a computation of each city's normal cost contribution rate, prior service contribution rate, and Supplemental Death Benefit Fund rate, if applicable. The actuary also prepares a reconciliation of the required contribution rates from the prior valuation to enable participating cities to recognize individual factors which impacted their rate. The Board is required to certify the actuarial valuation results and contribution rates for participating cities.

RECOMMENDATION:

Staff recommends that the Board accept GRS' December 31, 2022 valuation results and certify the 2024 contribution rates for participating cities.

ATTACHMENTS:

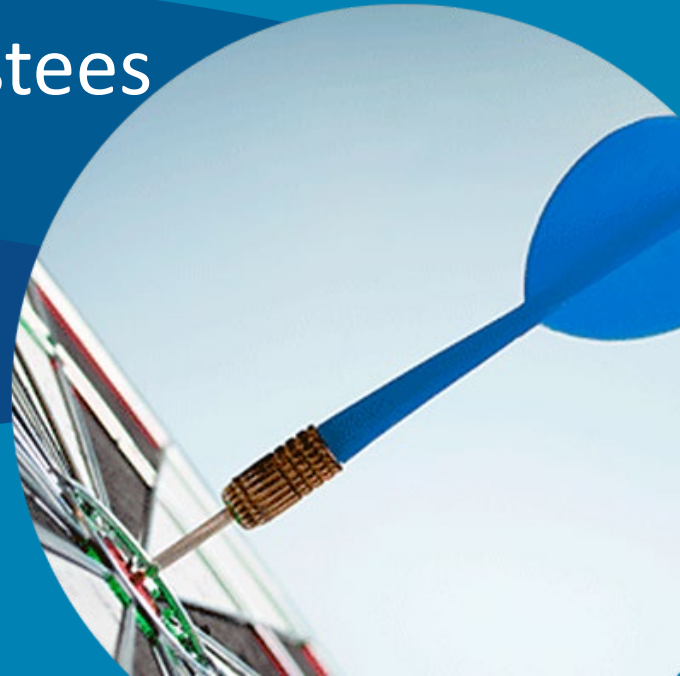
- 1 GRS Presentation
- 2 Actuarial Valuation Report as of December 31, 2022



Texas Municipal Retirement System Actuarial Valuation Report as of December 31, 2022 Report to the TMRS Board of Trustees

May 25, 2023

Janie Shaw
Joe Newton



Actuarial Valuation as of December 31, 2022

- Annual snapshot of the System's funding status
- Determines the City Contribution Rates for 2024
- Provides information for the financial statements for TMRS and participating cities

Valuation Results and Definitions

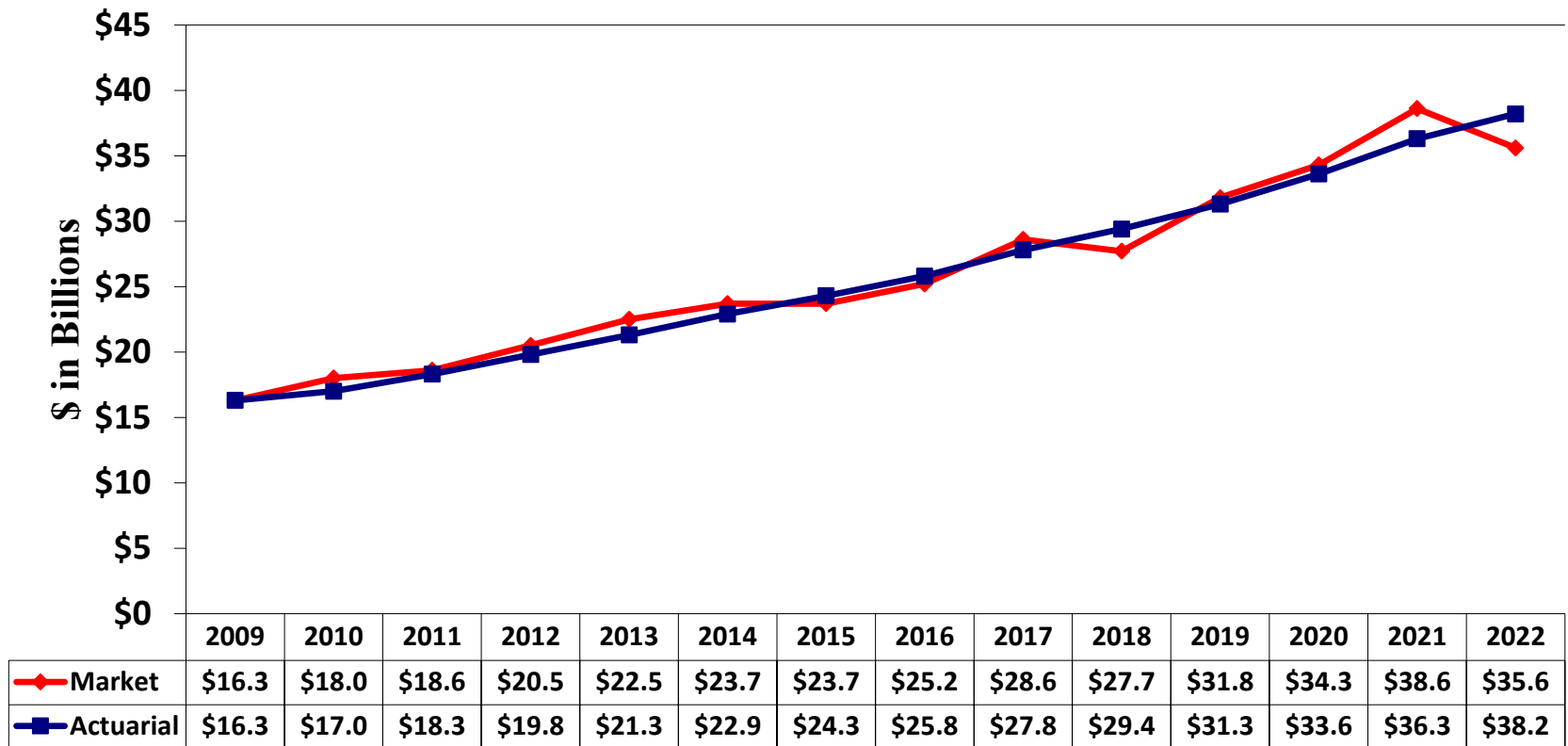
TMRS System-wide

- Actuarial Accrued Liability (AAL): \$42.6b
 - Represents value of benefits accrued in the past
- Actuarial Value of Assets: -38.2b
 - Smoothed Value of Assets on the Valuation Date
- Unfunded Actuarial Accrued Liability (UAAL): \$4.4b
 - Difference between AAL and Actuarial Value of Assets
- Funded Ratio: 89.7%
 - Assets as a % of the AAL

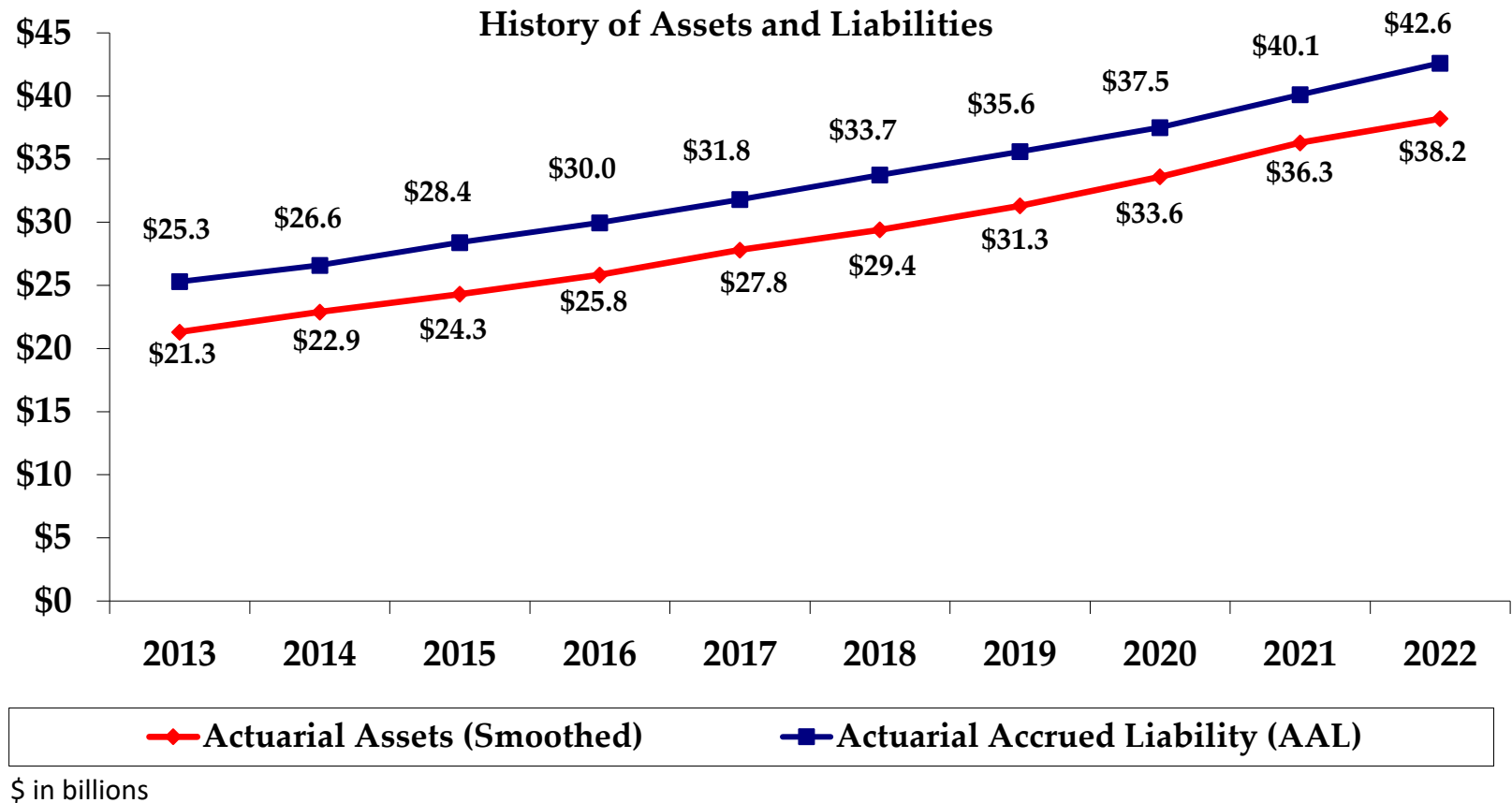
Determination of Employer Contribution Requirements (Average for TMRS as a whole)

- Normal Cost Rate: 8.92%
 - Contribution Rate needed to fund for new benefits being earned
 - For example, for a member with 10 years of service, this is the cost to earn the 11th year
 - Needed even if UAAL has been eliminated (100% funded ratio)
- Prior Service Rate: 4.92%
 - Contribution Rate needed to pay off the UAAL
 - Once a City reaches 100% funded ratio, no longer necessary
 - Will be a credit if assets are more than liabilities
- Total Employer Contribution Rate: 13.84%
 - Sum of the two rates above

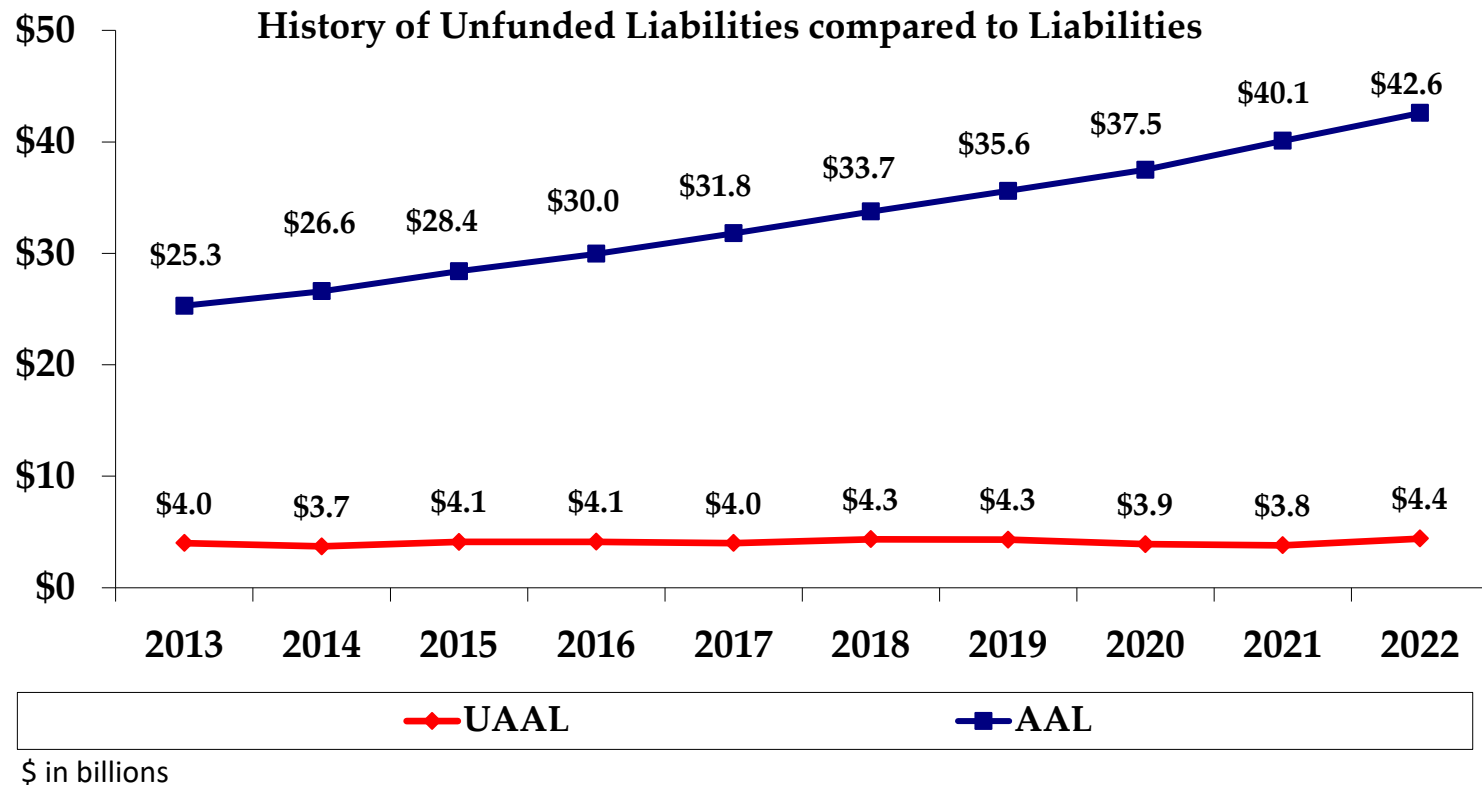
All valuation results use a smoothed (actuarial) value of assets to dampen year to year fluctuations



Assets and Liabilities continue to grow, the difference between the two is the UAAL



The UAAL has remained mostly flat for the last decade and has become much smaller in relation to the liability it represents (AAL)



For 2022, the UAAL increased due to the investment performance and liability experience, which was partially offset by additional contributions

Trends in the Annual Changes in the UAAL

\$ in millions	Year					Average
	2022	2021	2020	2019	2018	
Interest	\$256	\$265	\$288	\$293	\$270	\$ 274
Amortization payments	(339)	(337)	(352)	(340)	(304)	(334)
Payments towards Principal	(83)	(72)	(64)	(47)	(34)	(60)
Asset experience	290	(272)	(81)	(56)	189	14
Liability experience	402	259	(16)	(3)	(49)	119
Net Experience (Gains) and Losses	692	(13)	(97)	(59)	140	133
Assumption/Methods changes	-	-	-	85	-	17
Benefit modifications/New Cities	125	64	57	(35)	281	98
Contributions different than actuarially calculate	(145)	(105)	(241)	(20)	(40)	(110)
Net Discretionary Changes	(20)	(41)	(184)	30	241	5
Total Change in UAAL	589	(126)	(345)	(76)	347	78

Demographic and economic outcomes continue to have outlier experience:

Note salaries, turnover, retiree mortality, and inflation

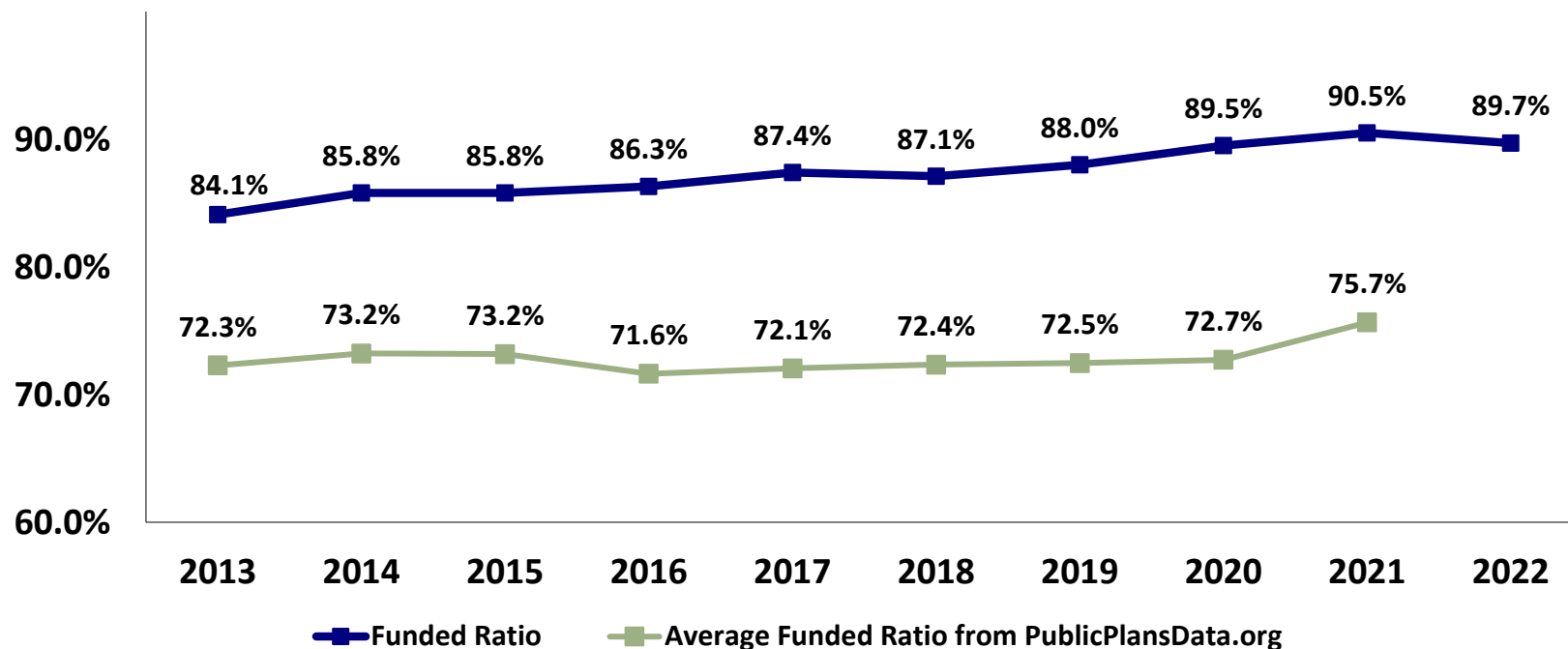
Detail of Liability Experience

\$ in millions

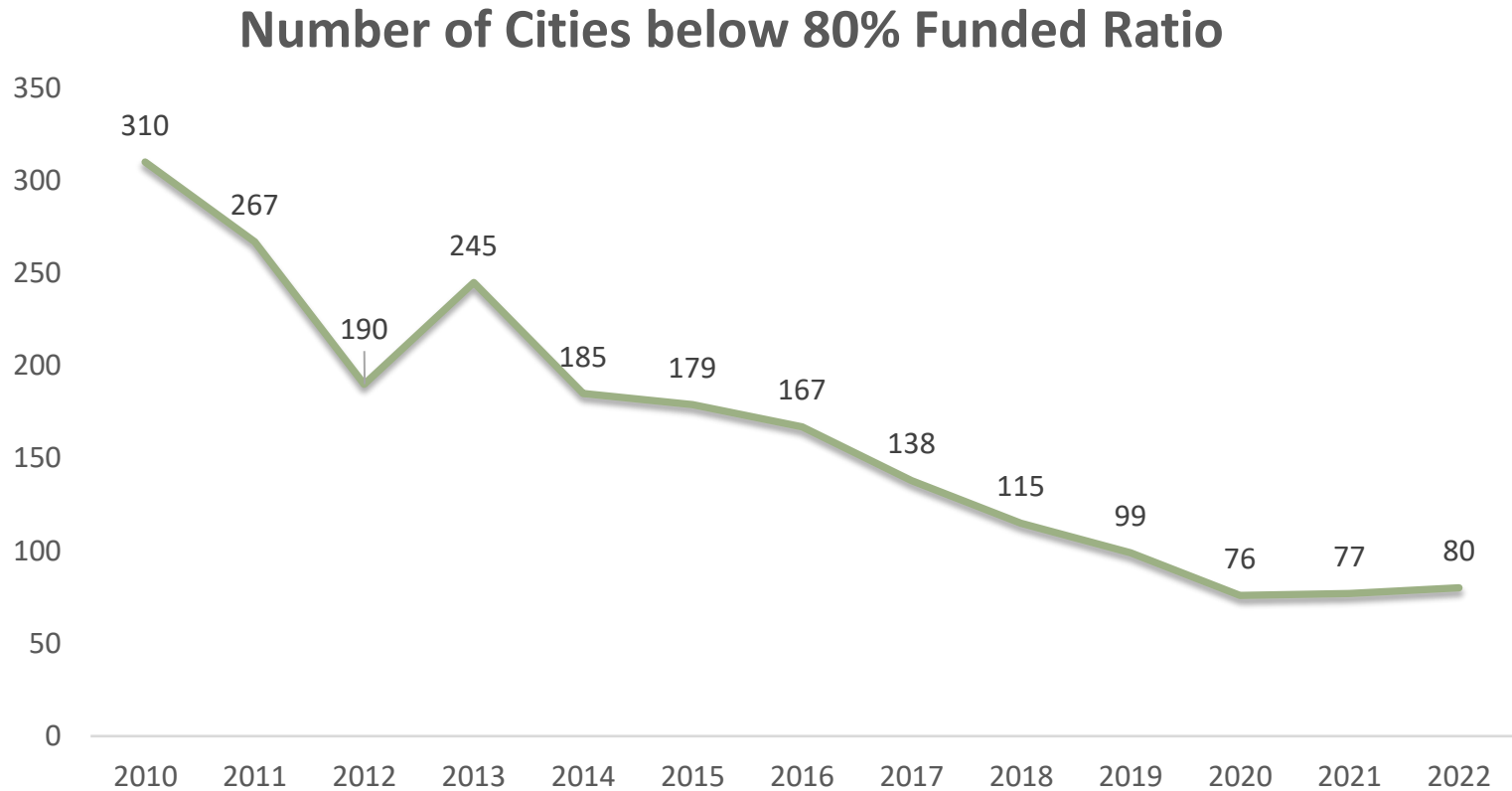
	Actuarial (Gain)/Loss	Expected	Actual
Experience from Active Members			
Salary Increases	\$ 140	5.1%	8.9%
Retirement Behavior	14	4,232	3,457
Turnover	(96)	10,824	15,555
Active Mortality	4	78	85
Disabliy Incidence	-	42	34
	\$ 62		
Experience from Retired Members			
CPI on COLA	366	2.5%	6.5%
Retiree Mortality	(26)	1,310	1,621
	340		
Total Change in UAAL	\$ 402		

The System-wide funded ratio decreased slightly from 2021, but has improved since 2013

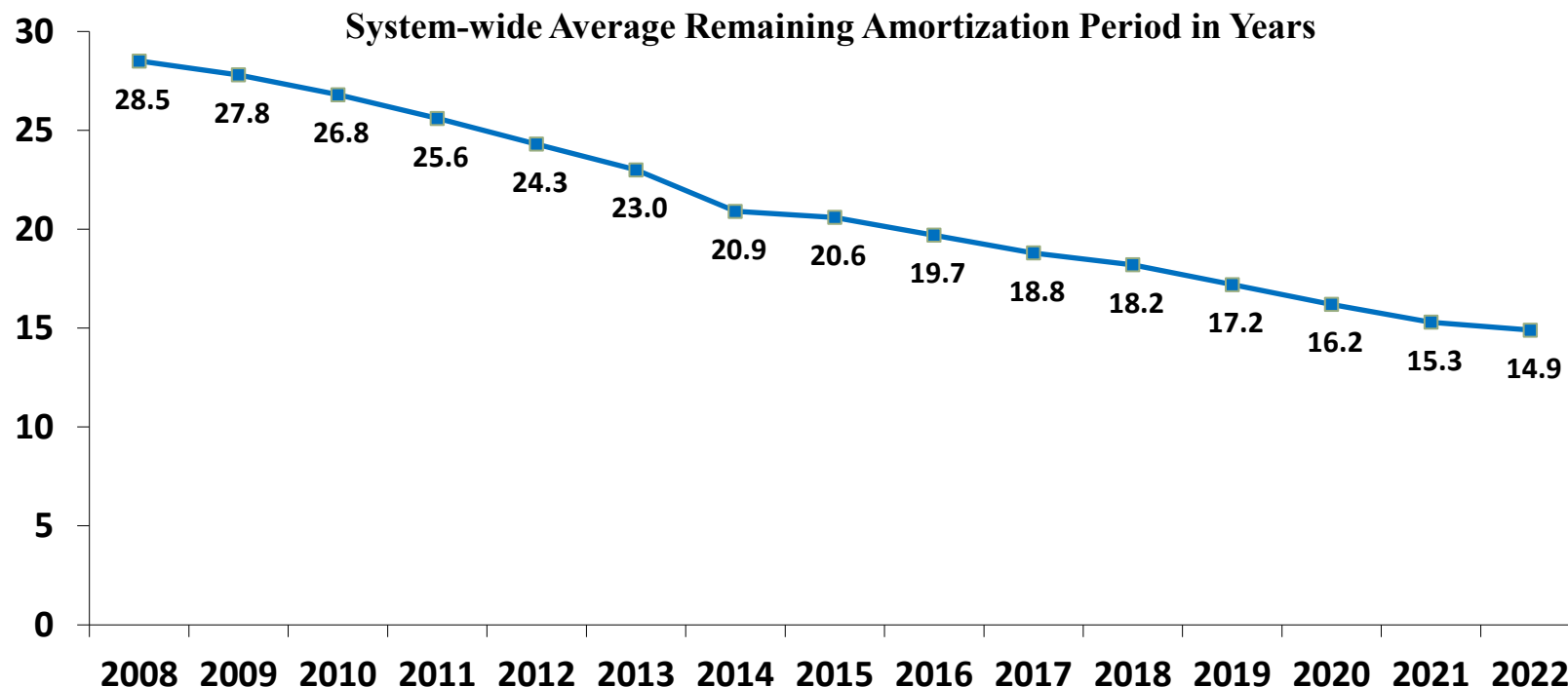
Historical System-wide Funded Ratio for TMRS
Peer Result Provided For Comparison



The number of cities below 80% funded ratio decreased significantly from 2010 to 2020. Now most cities below 80% joined TMRS in the last decade.

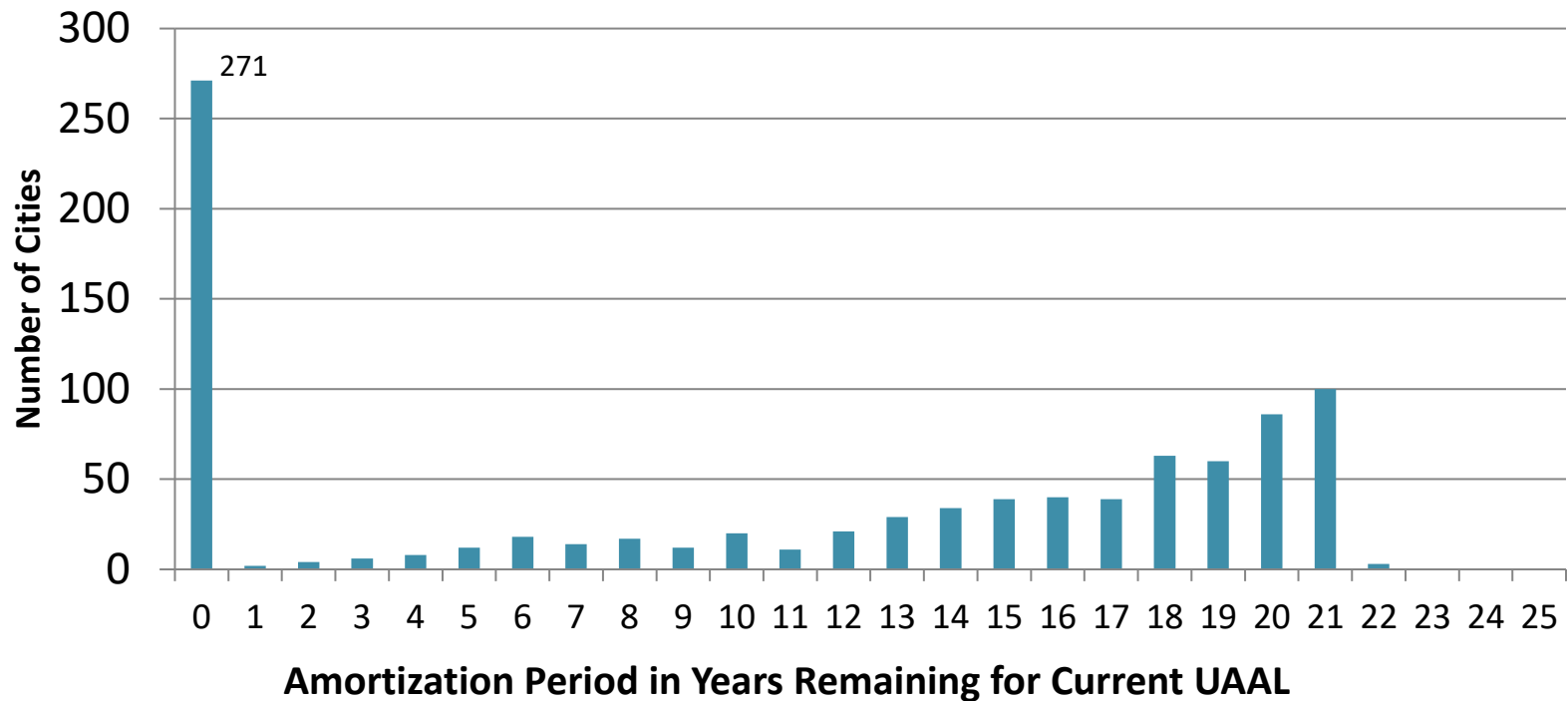


TMRS' funding policy utilizes closed amortization periods that forces any UAAL to be fully financed over a fixed number of years



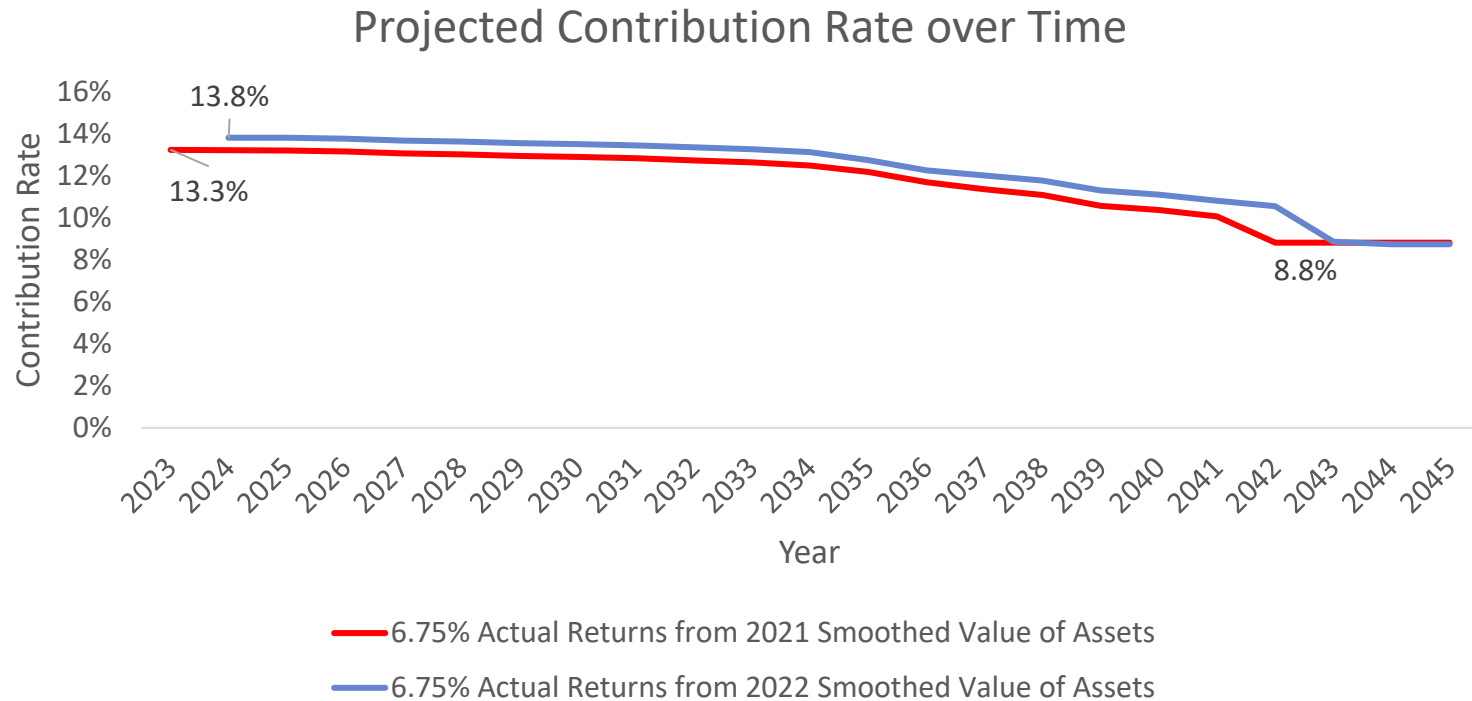
Every city has its own UAAL amortization payment schedule and all are moving towards \$0

Distribution of Single Equivalent Amortization Periods



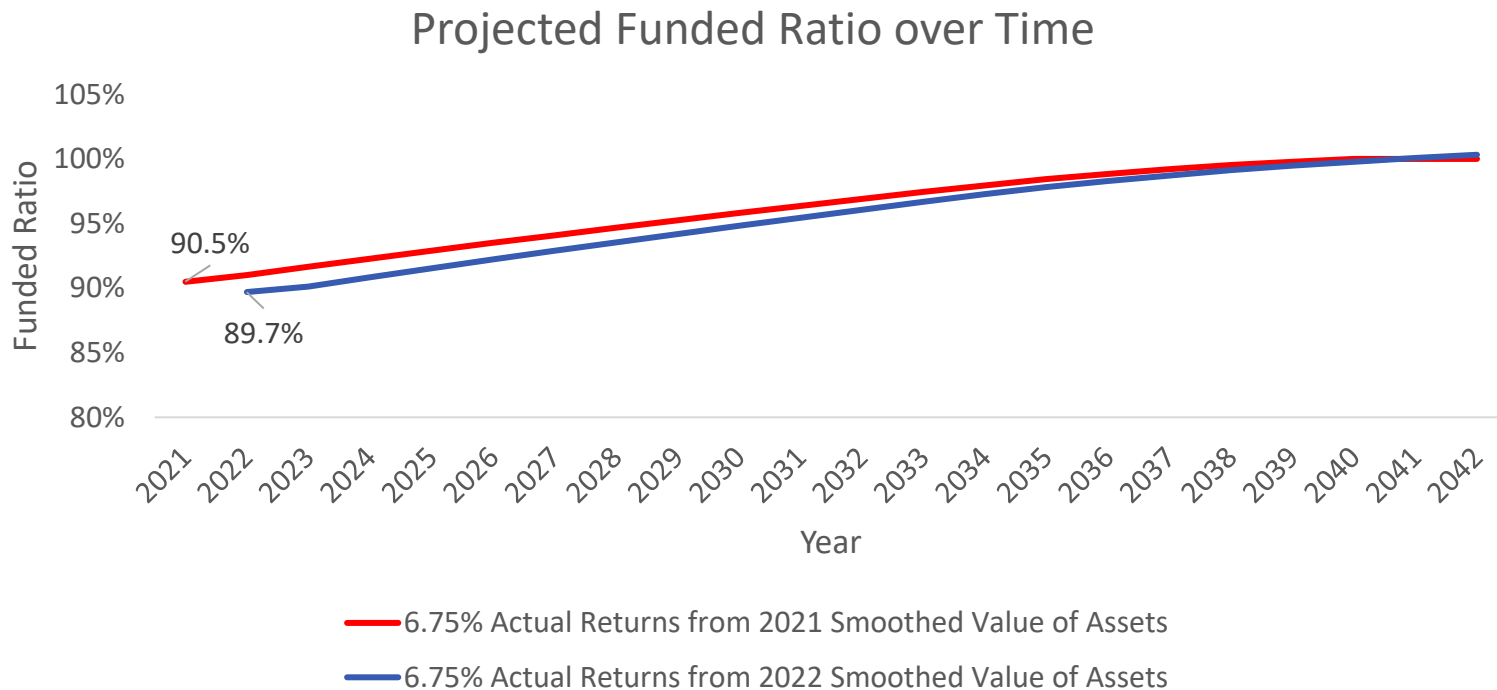
“0” reflects overfunded cities

The new amortization layer for 2022's loss increases contributions for the next 20 years in comparison to last year's projection



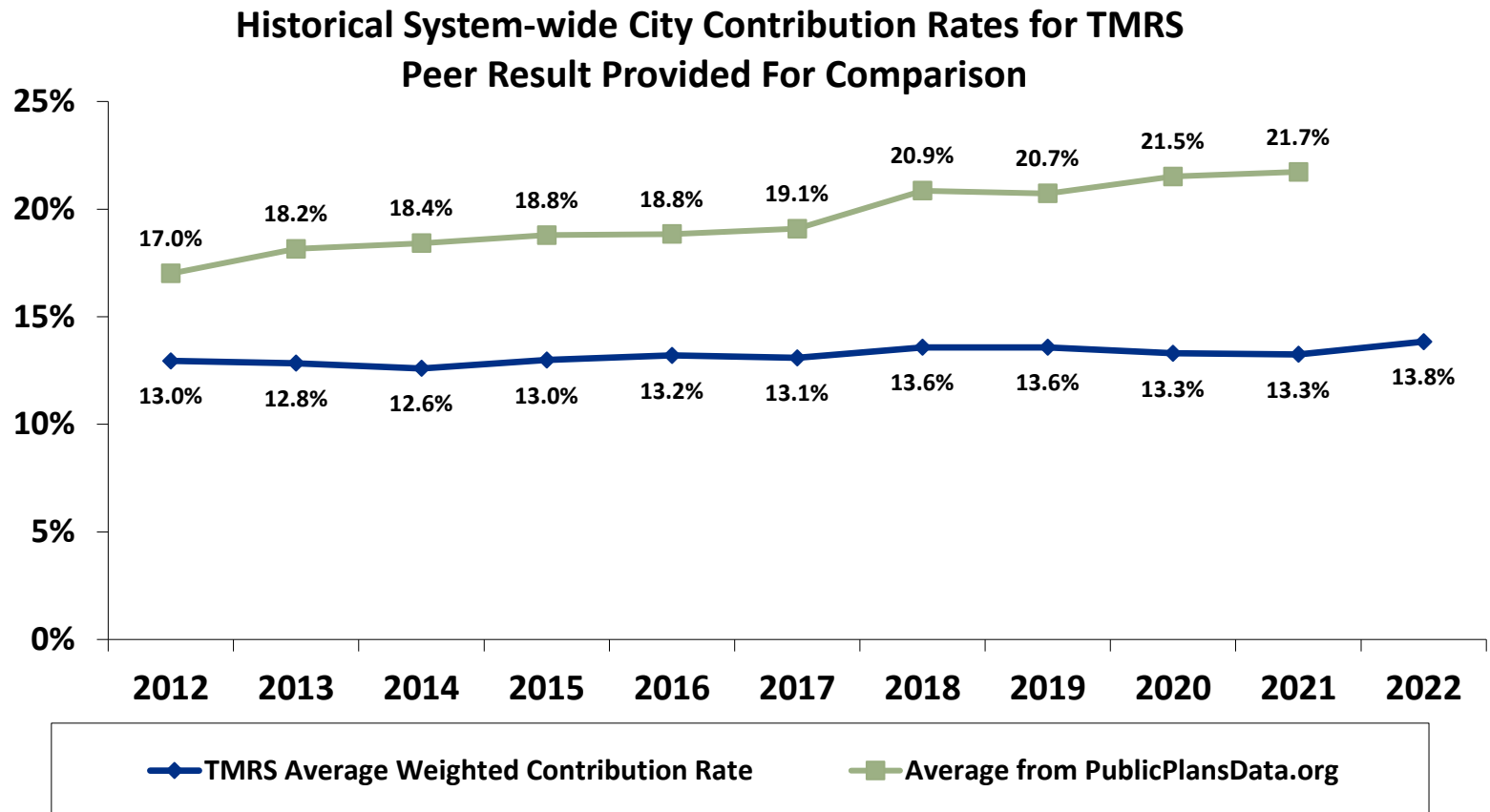
The data is for TMRS System-wide
Both projections based on current assumptions and benefits

This new amortization layer and the corresponding increases in the contributions will keep pushing the funded ratio towards 100% over the next 20 years



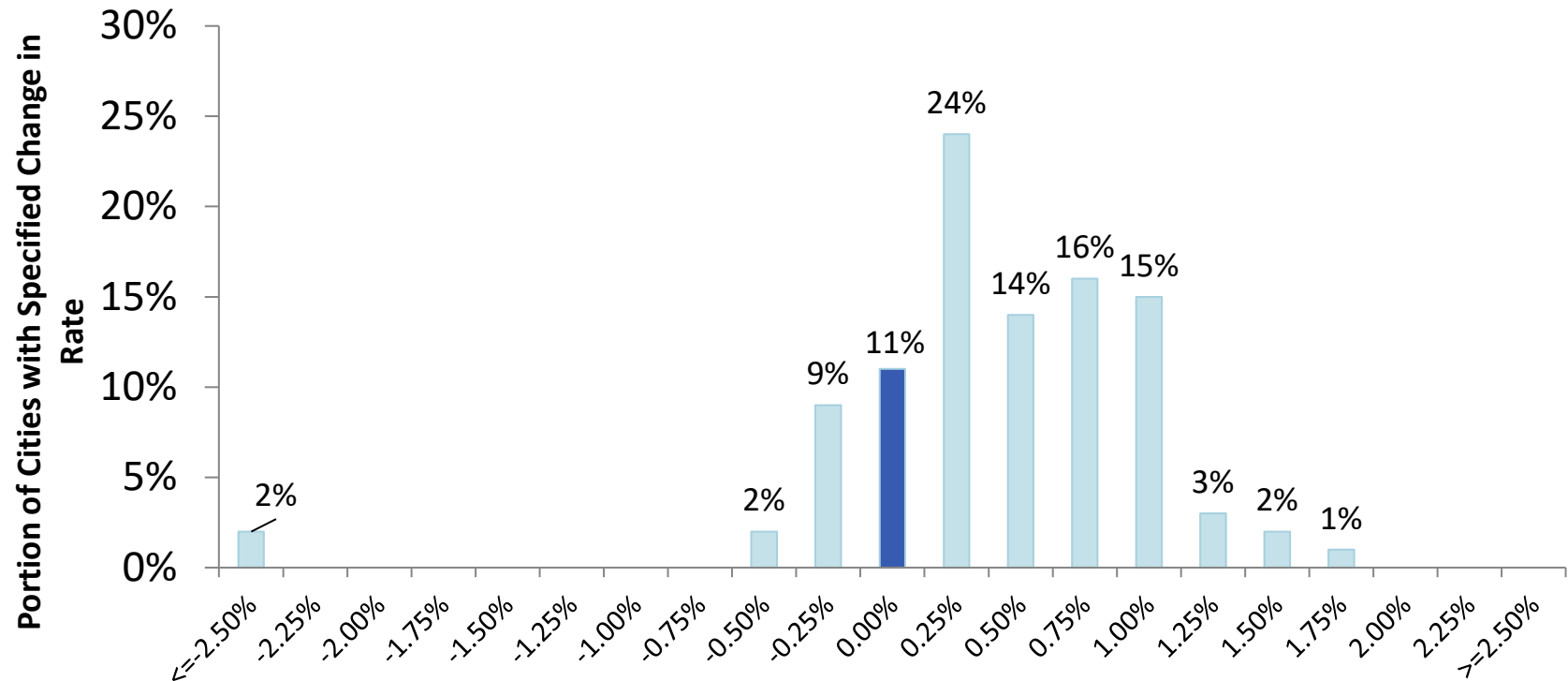
The data is TMRS System-wide
Both projections based on current assumptions and benefits

System-wide, the average city contribution rate increased from the 2021 to 2022 valuation



The increase in contribution rates will impact most cities

Distribution of Changes in Full Retirement Contribution Rate



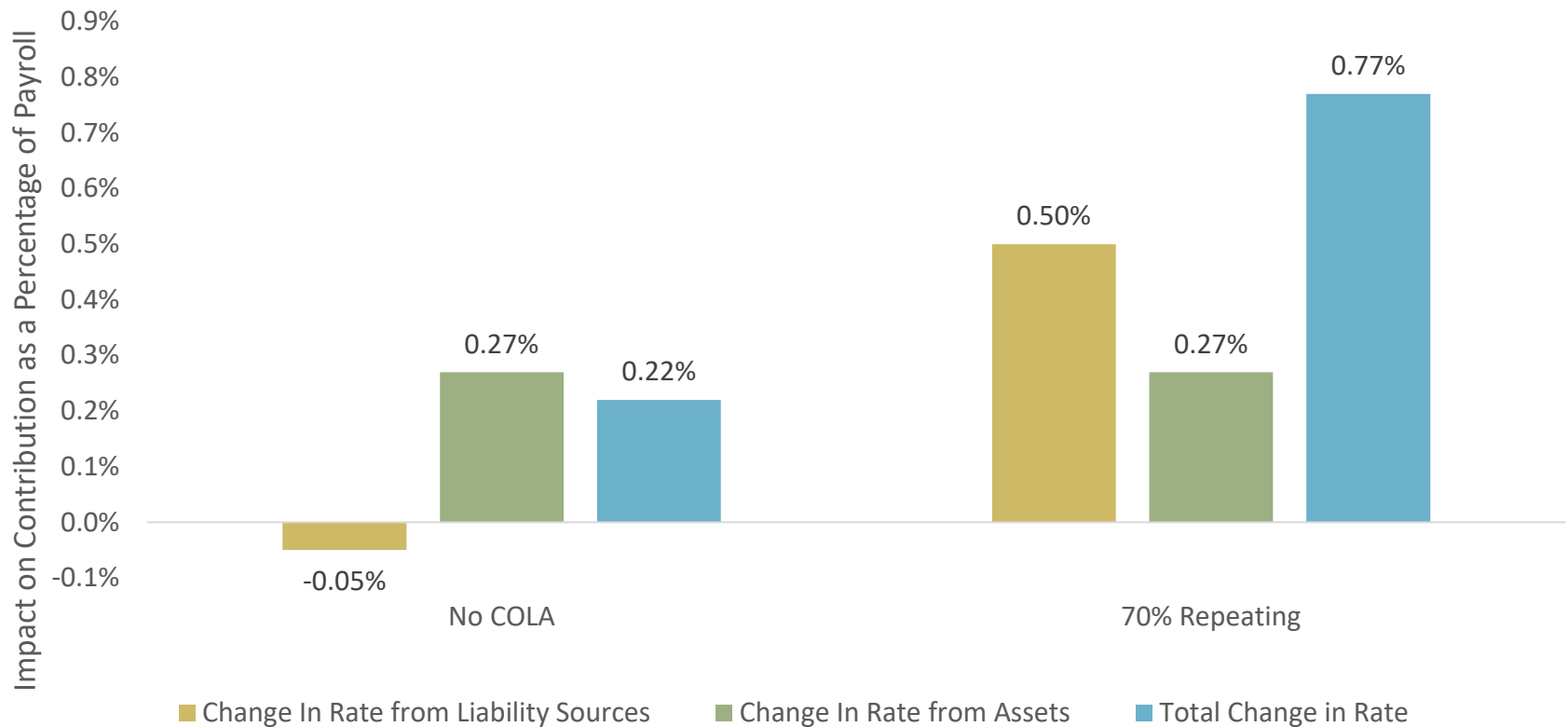
Does not include impact from changes to benefits

Rounded to nearest 0.25% change in rate

Data weighted by payroll

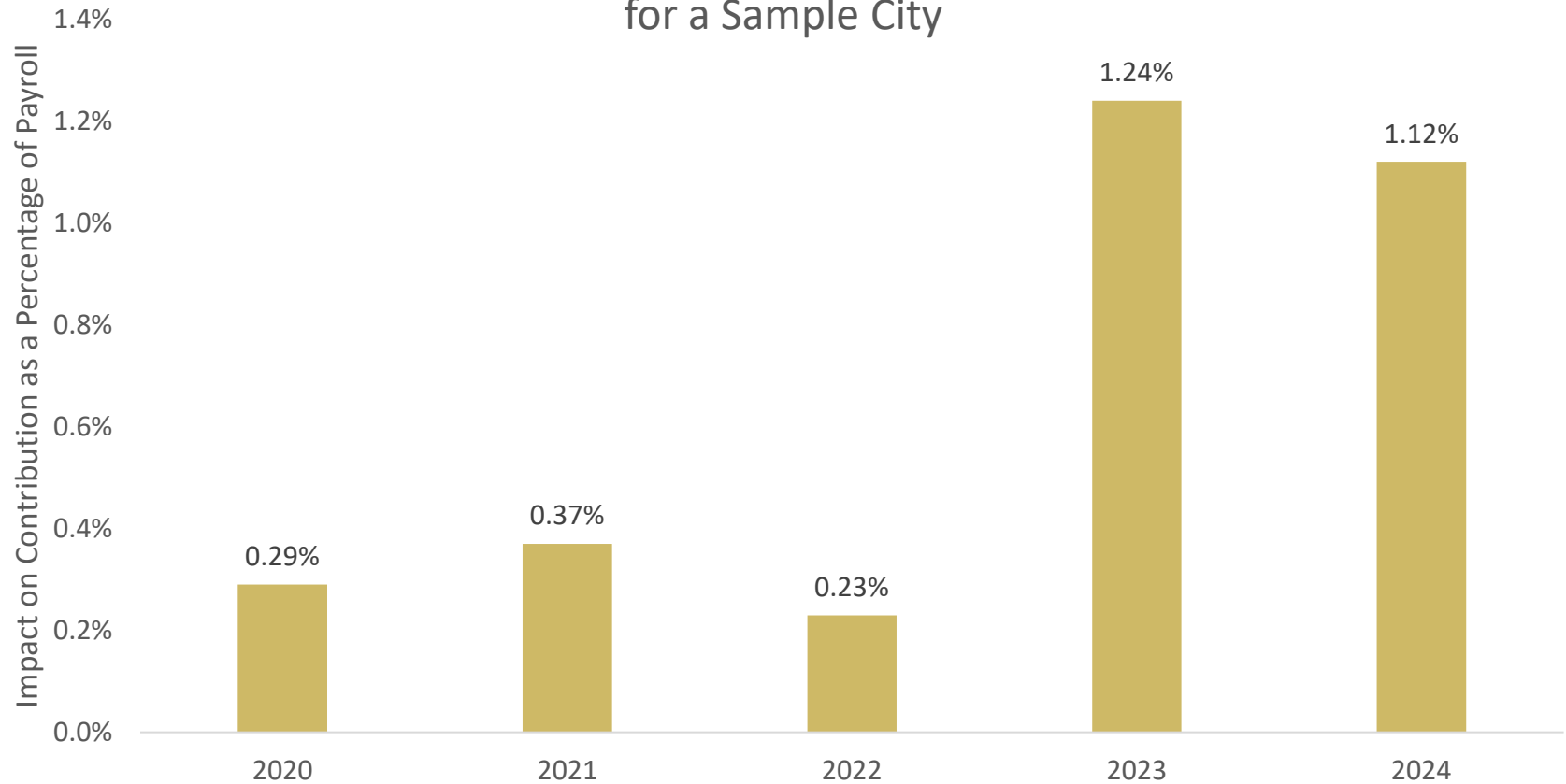
The amount of change in contribution rate depends heavily on whether the city had a repeating COLA provision

Change in Contribution Rate: No COLA compared to 70% Repeating COLA Provision



The cost to provide the next COLA for a city that has been providing annual 70% ad-hoc COLAs will continue to increase for 2024

Cost to Provide Next Ad hoc COLA for each of the Last Four Years for a Sample City



In Summary

- System-wide actuarial health is strong
- Funded ratios decreased slightly due to investment and liability experience, but there is no change to the expectation for a slowly increasing funded ratio
- Contribution rates automatically increased in accordance with the funding policy



May 16, 2023

To: Board of Trustees

From: Leslee S. Hardy, Director of Plan Design & Funding

A handwritten signature in blue ink that reads 'Leslee S. Hardy'. The signature is written in a cursive, flowing style.

Re: Agenda Item 6: Consider and Act on Renewal of Actuarial Consulting Agreement

The Board retained GRS as TMRS' consulting actuary in 2008. In 2018, TMRS issued a Request for Proposal for Actuarial Services and the Board retained GRS for a five-year period ending December 31, 2023. The current contract permits a five-year extension. Given the exceptional actuarial services provided by GRS, staff recommends that the Board extend GRS' contract for an additional five years and authorize the Executive Director to negotiate and execute the contract extension.



May 16, 2023

To: Board of Trustees

From: Dan Wattles, Director of Governmental Relations

Dan Wattles

Re: Agenda Item 7: Receive Update on Legislative Items Affecting TMRS

The 88th Legislative Session ends on May 29. May 24 is the last day for either the Senate or the House to pass bills. So far, of the 8,500 bills filed, 356 (3.9%) have passed.

Trustee Appointment. On March 29, the Texas Senate unanimously confirmed Trustee Landis' reappointment to a term expiring February 1, 2027.

Legislation Directly Affecting TMRS. The following is the status of bills directly affecting TMRS.

- House Concurrent Resolution 66 (Anchia) recognizing TMRS' 75th Anniversary was passed by the Legislature on March 16 and signed by the Governor on March 27.
- House Bill 2464 (Price) that proposes a new repeating COLA option for all TMRS participating cities, has passed the Legislature, but still requires approval by Governor Abbott. The bill allows cities to adopt a COLA that is (1) repeating, (2) 30%, 50% or 70% of the change in the CPI, and (3) without the current retroactive "catch up" feature. If approved by the Governor, the bill is effective September 1. Cities adopting a COLA under the bill's provisions must do so before January 1, 2026.
- Senate Bill 1446 (Hughes) would require certain staff, investment managers, proxy advisors, and the governing body of a public retirement system to discharge their duties solely in the financial interest of the system's participants and beneficiaries and only take financial factors into consideration when investing, and not other factors such as social, political or ideological interests has passed the Senate and is awaiting deliberation by the full House.
- Senate Bill 2530 (Hughes) would clarify the definitions in the comptroller's list of financial companies that boycott energy companies and establishes additional reporting and contracting requirements for the Statewide pension systems. This bill has passed the Senate and is waiting on committee action in the House.



May 16, 2023

To: Board of Trustees

From: David Hunter, Chief Investment Officer

A handwritten signature in blue ink, appearing to read 'D. Hunter', is written over the 'From:' line.

Re: Agenda Item 8(a): Chief Investment Officer Report

Trust Fund Performance. The Trust Fund's preliminary net return for the 1-year ended March 31, 2023 was -0.91%, exceeding the Actual Allocation Benchmark (AAB) by 6.30%. Real Estate, Hedge Funds, Private Equity and Other Public & Private Markets (OPPM) generated positive net returns of 13.20%, 4.24%, 1.92%, and 1.91%, respectively. Global Public Equity, Core and Non-Core Fixed Income net returns were -7.74%, -4.82%, and -0.10%, respectively, for the same period. Preliminary net returns for the five-years ended March 31, 2023, was 5.58%, exceeding its AAB by 1.39%. Private Equity, Other Public & Private Markets, Fixed Income and Real Estate were the primary drivers of excess return. Actual asset allocation levels were within approved ranges.

Trust Fund preliminary net returns ranked in the first quartile for 1-year and fourth quartile for the 5-years ended March 31, 2023, respectively, among other public defined benefit plans with more than \$10 billion in assets. This is the first time the Trust Fund has ranked in the top-quartile among these plans for the one-year period in three consecutive quarters. Calendar year 2022 returns will be available upon completion of the fiscal year end audit in June.

NEPC Asset Liability and Asset Allocation Studies. As required by the Investment Policy Statement, an Asset Liability Modeling Study (ALS) and Asset Allocation Study (AAS) is completed every four years to comprehensively review the Trust Fund strategic target allocation based on actuarial projections of Plan liabilities. NEPC will review the preliminary ALS and AAS results in advance of making a final asset allocation mix recommendation to the Board at the June Board meeting.

Investment Strategy Update. Investment staff is focused on streamlining our manager roster by expanding commitments with our top performing managers, while reducing commitments with below median firms or strategies that are no longer aligned with our strategic target allocation.

Staff Investment Committee (SIC). The SIC met on April 11 and 20, 2023. Two new investments approximating \$2 billion were approved with two existing firms in public Core Fixed Income and Private Equity. The Proxy Voting Governance Committee (Committee) affirmed our Proxy Voting Policy that “Investment staff will vote proxies to maximize long-term investment returns consistent with the Board’s fiduciary duty and the laws of the State of Texas. Proxies will not be voted to establish or endorse social policy.” The Committee also adopted ISS Global Board-Aligned U.S. Proxy Voting Guidelines effective as of May 9, 2023.

Q1 2023 Trust Fund Report

Dave Hunter, CIO

Board of Trustees Meeting

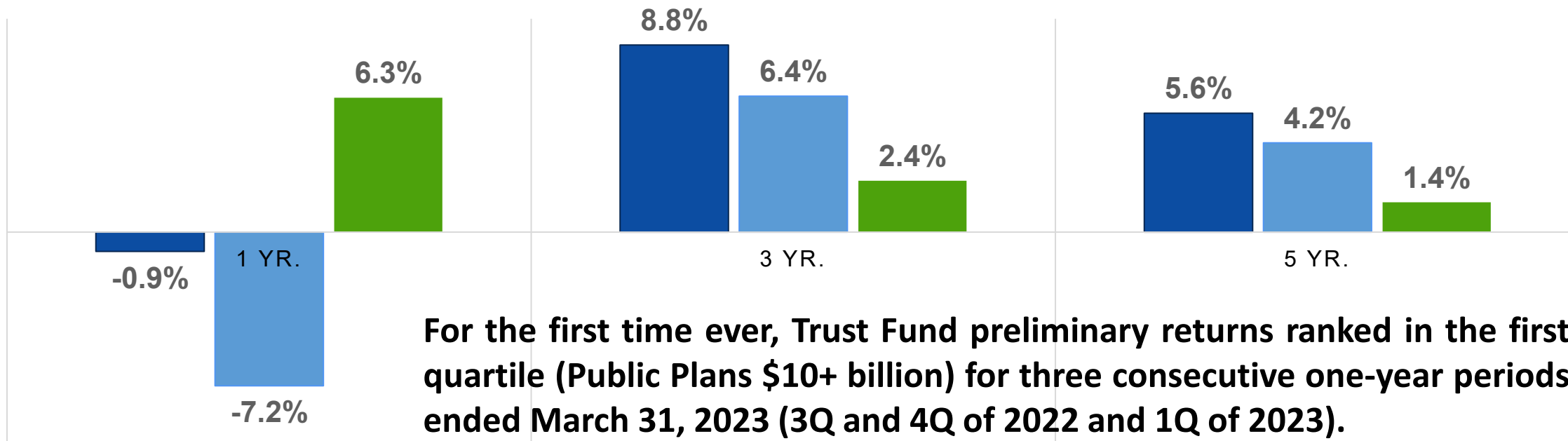
May 25, 2023

Trust Fund Net Returns Exceed Benchmarks

Net Returns exceed Asset Allocation Benchmarks by 1.4% over the last 5 years.
Private Equity, Real Estate, Other Public & Private Markets and NCFI drove excess returns.

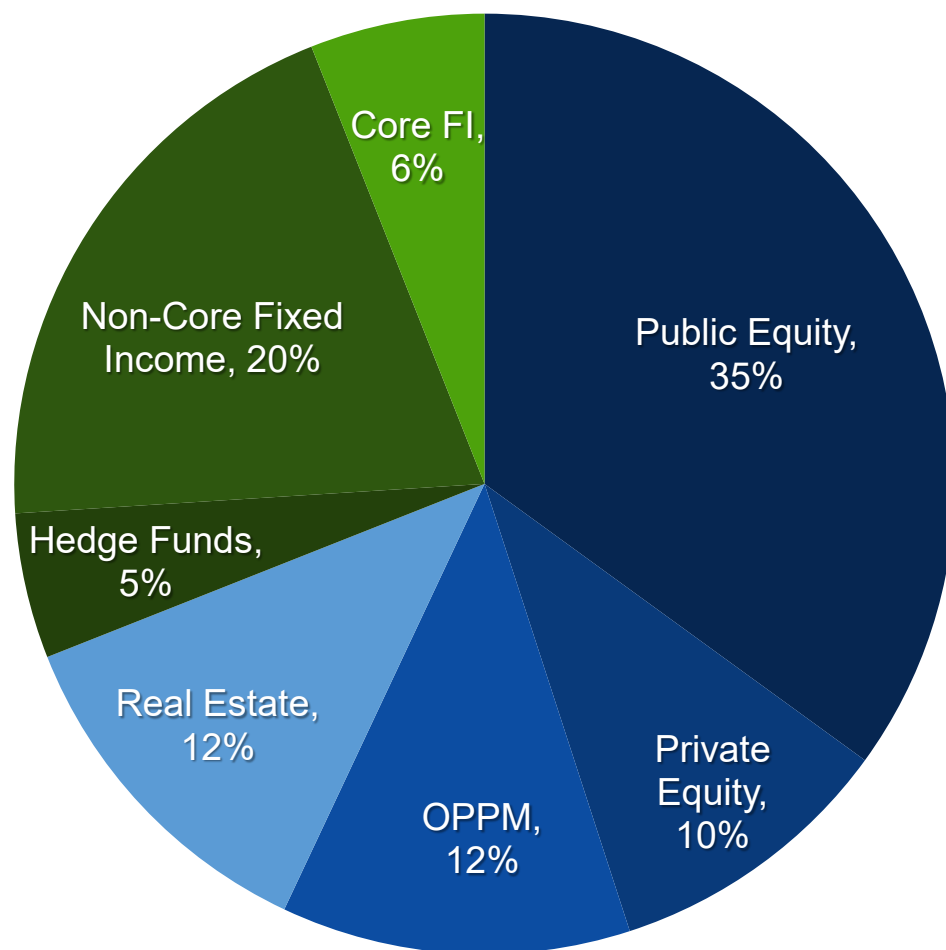
Net Performance as of March 31, 2023

■ Trust Fund ■ Benchmark ■ Excess Return



For the first time ever, Trust Fund preliminary returns ranked in the first quartile (Public Plans \$10+ billion) for three consecutive one-year periods ended March 31, 2023 (3Q and 4Q of 2022 and 1Q of 2023).

Trust Fund Asset Allocations Align with Targets

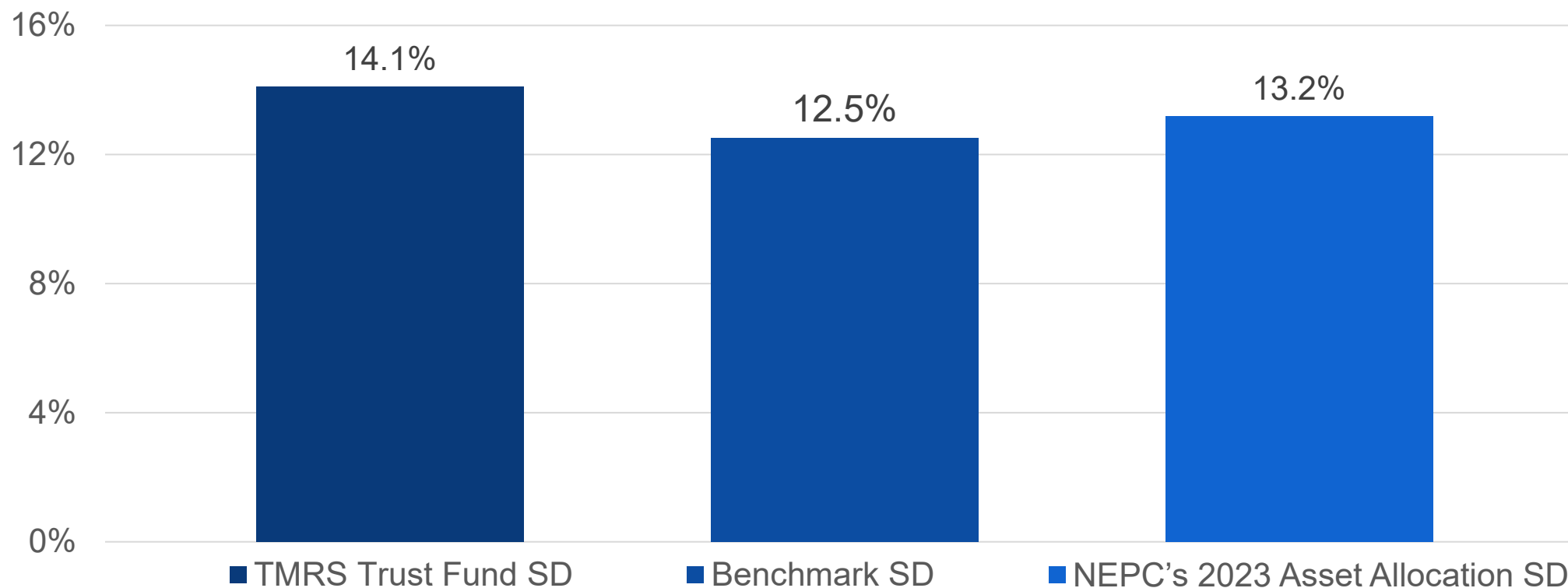


	Strategic Target	Actual as of Mar. 31, 2023	Policy Range
■ Public Equity	35%	34.1%	25 - 45%
■ Private Equity	10%	10.2%	5 – 15%
■ OPPM	12%	12.2%	7 – 17%
■ Real Estate	12%	13.7%	7 – 17%
■ Hedge Funds	5%	6.1%	0 – 10%
■ NCFI	20%	19.0%	15 - 25%
■ Core FI	6%	4.6%	1 – 11%
■ Cash	0%	0.3%	0 – 3%

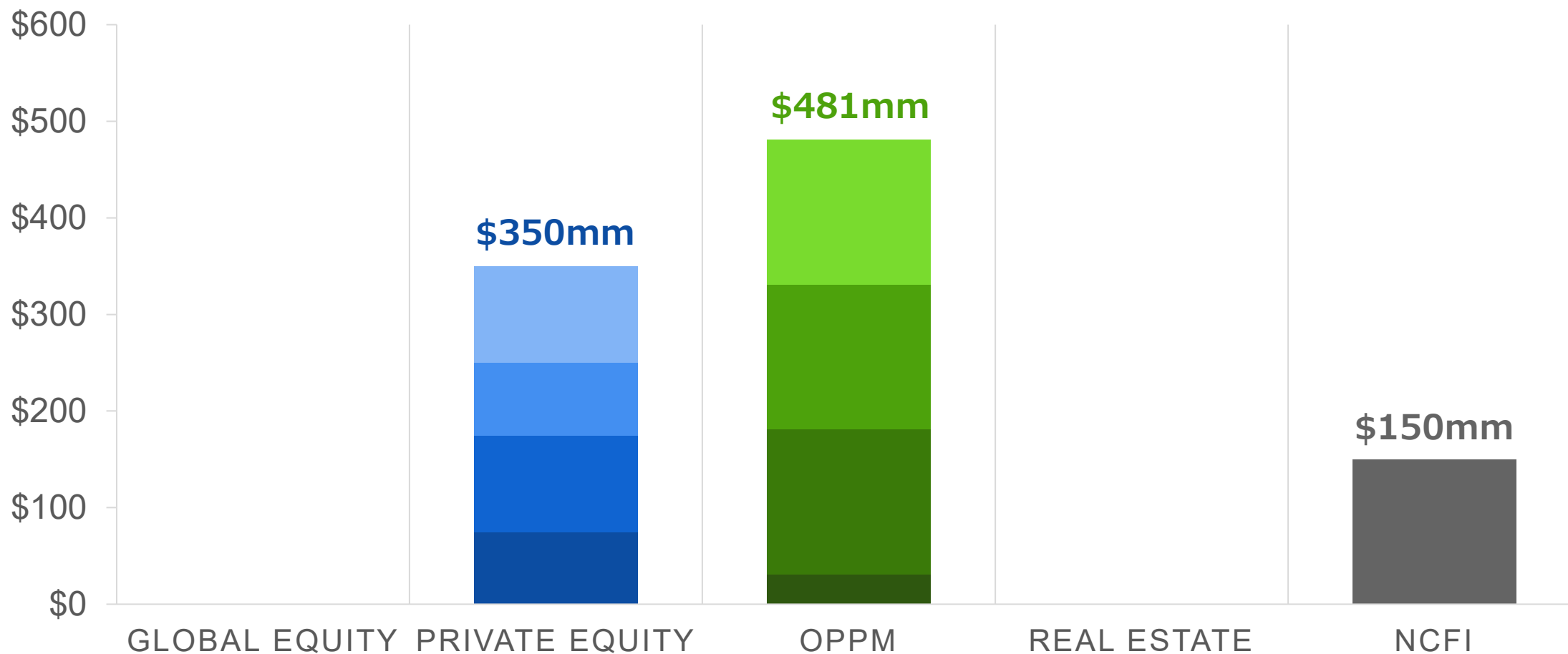
Trust Fund Risk as of March 31, 2023

2023 Trust Fund Risk aligns with Board-approved Benchmarks and 2023 Asset Allocation Study.

Strategic Target Allocation Risk is 13.2% using NEPC's Capital Market Assumptions at 3/31/2023

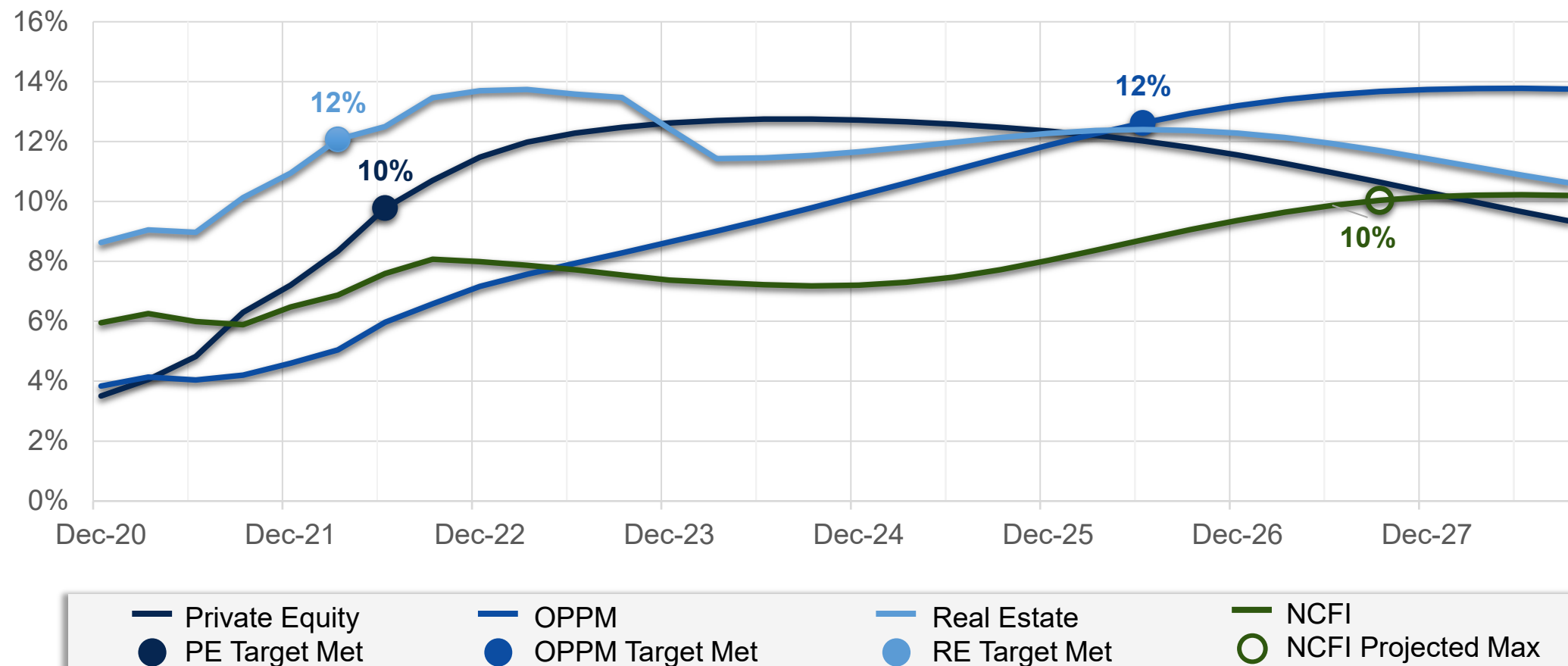


Q1 2023 Completed Investments Total \$981 Million



Private Markets Pacing Plan is on Track

Projected Allocation as of March 31, 2023



2023 Completed Investments Report

As of 3/31/2023

ASSET CLASS / STRATEGY	COMPLETED DATE	PUBLIC MARKETS - MANAGER NAME	NEW / EXISTING MANAGER	AMOUNT COMMITTED	PUBLIC / PRIVATE MARKET
Global Equity					
N/A					
Core Fixed Income					
N/A					
Non-Core Fixed Income					
Opportunistic Credit	March 16	Arrow Credit Opportunities II USD Feeder SCSp	New	\$150,000,000	Private
Real Estate					
N/A					
Other Public and Private Markets					
Infrastructure	March 17	MTP Zilker AV1 LLC	Existing	\$31,000,000	Private
Infrastructure	March 16	Excelsior Renewable Energy Feeder Fund II-B LP	New	\$150,000,000	Private
Energy	March 1	Pearl Energy Investments III, LP	New	\$150,000,000	Private
Other	January 4	Bain Capital Insurance Fund, L.P.	Existing	\$150,000,000	Private
Hedge Funds					
N/A					
Private Equity					
Buyout	March 31	Public Pension Capital, LLC	Existing	\$75,000,000	Private
Buyout	March 14	Parthenon Investors VII, LP	Existing	\$100,000,000	Private
Buyout	January 27	Gemspring Capital Fund III, LP	New	\$75,000,000	Private
Buyout	January 12	Arcline Capital Partners III LP	Existing	\$100,000,000	Private
TOTAL:				<u>\$981,000,000</u>	



May 16, 2023

To: Board of Trustees

From: David J. Hunter, Chief Investment Officer

Re: Agenda Item 9: General Consultant Report

A handwritten signature in blue ink, appearing to read "D. J. Hunter", is positioned to the right of the "From:" line.

Sam Austin will discuss NEPC's Quarterly Investment Performance Report.

Attachment - NEPC 1Q 2023 Executive Summary



1Q 2023 QUARTERLY PERFORMANCE REPORT EXECUTIVE SUMMARY

MAY 25, 2023

Samuel Austin, Partner



TOTAL FUND PERFORMANCE SUMMARY

COMPARED TO ASSET ALLOCATION BENCHMARK & STRATEGIC TARGET ALLOCATION

	Market Value (\$)	1 Yr (%)	5 Yrs (%)	10 Yrs (%)
Total Fund	36,513,805,796	-0.91	5.58	6.05
Actual Allocation Benchmark		-7.21	4.18	5.20
Over/Under		6.30	1.40	0.85
Strategic Target Allocation Index		-6.86	5.16	6.08
Over/Under		5.95	0.42	-0.03

- **For the one-year period ended March 31, 2023, the Trust fund returned -0.91%, exceeding the Asset Allocation Benchmark by 6.30%.**
 - Non-Core Fixed Income, Other Public and Private Markets, Real Estate, Hedge Funds, and Private Equity exceeded the Benchmark, while Global Equity and Core Fixed Income trailed.
- **For the five-year ended March 31, 2023, the Trust Fund returned 5.58%, exceeding the Asset Allocation Benchmark by 1.40%.**
 - Fixed Income, Other Public and Private Markets, Real Estate, and Private Equity exceeded the benchmark, while Global Equity and Hedge Funds trailed.



Performance returns are net of fees.

TOTAL FUND PERFORMANCE SUMMARY

COMPARED TO OTHER PUBLIC PENSION PLANS GREATER THAN \$10 BILLION IN ASSETS

	1 Yr (%)	Quartile Rank	5 Yrs (%)	Quartile Rank	10 Yrs (%)	Quartile Rank
Total Fund	-0.91	1st	5.58	4th	6.05	4th
Actual Allocation Benchmark	-7.21	4 th	4.18	4 th	5.20	4 th
Strategic Target Allocation Index	-6.86	4 th	5.16	4 th	6.08	4 th
<i>InvMetrics Public DB > \$10 Billion Median</i>	<i>-3.58</i>		<i>6.71</i>		<i>7.42</i>	

- **For the one-year ended March 31, 2023, the Trust Fund returned -0.91% and ranked in the first quartile among other Public Defined Benefit plans greater than \$10 billion in assets. This is the first time that the Trust Fund has ranked in the top quartile for the one-year period in three consecutive quarters.**
- **For the five-years ended March 31, 2023, the Trust Fund returned 5.58% and ranked in the fourth quartile among other Public Defined Benefit plans greater than \$10 billion in assets.**



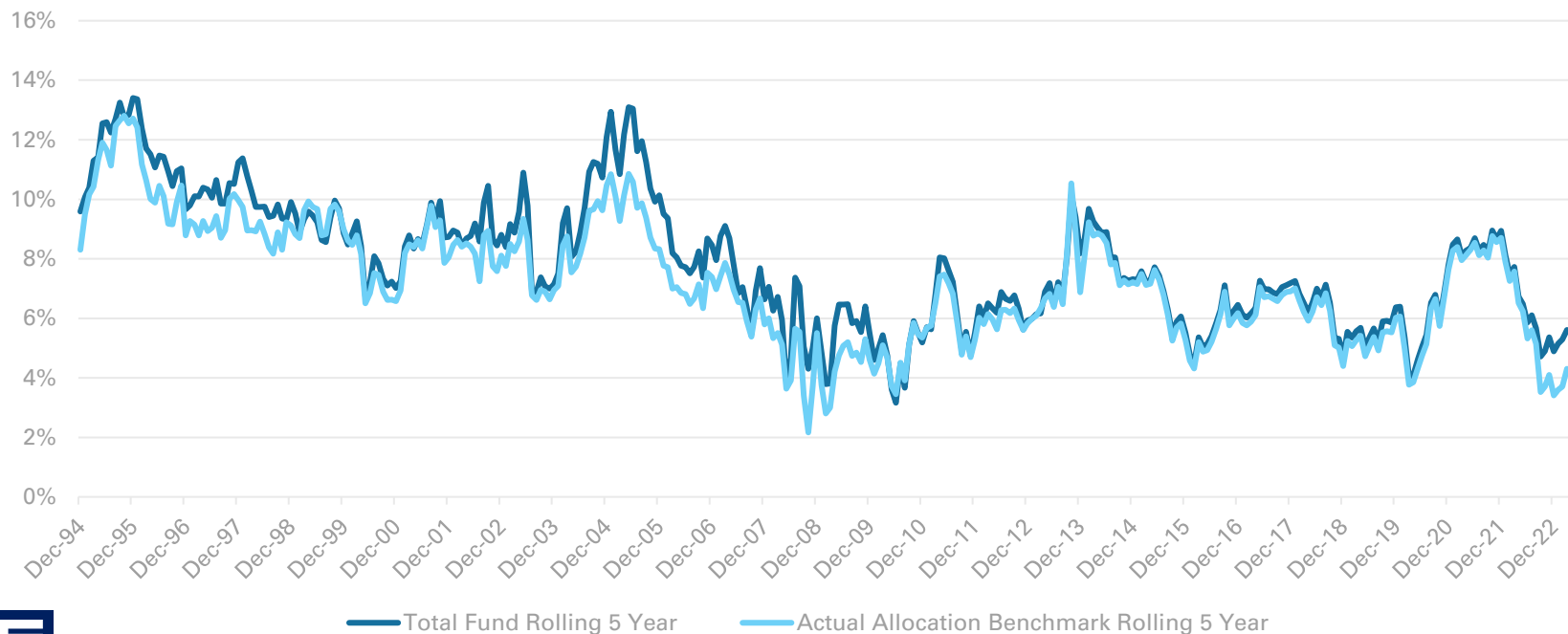
Performance returns are net of fees.

TOTAL FUND PERFORMANCE

VERSUS ACTUAL ALLOCATION BENCHMARK

- **The Trust Fund performance expectation is to exceed the Actual Allocation Benchmark over rolling five-year periods.**
- **In the five-year period ended March 31, 2023, TMRS outperformed the Actual Allocation Benchmark by 1.40%, net of fees.**

Rolling 5 Year Total Fund Performance vs. Actual Allocation Benchmark

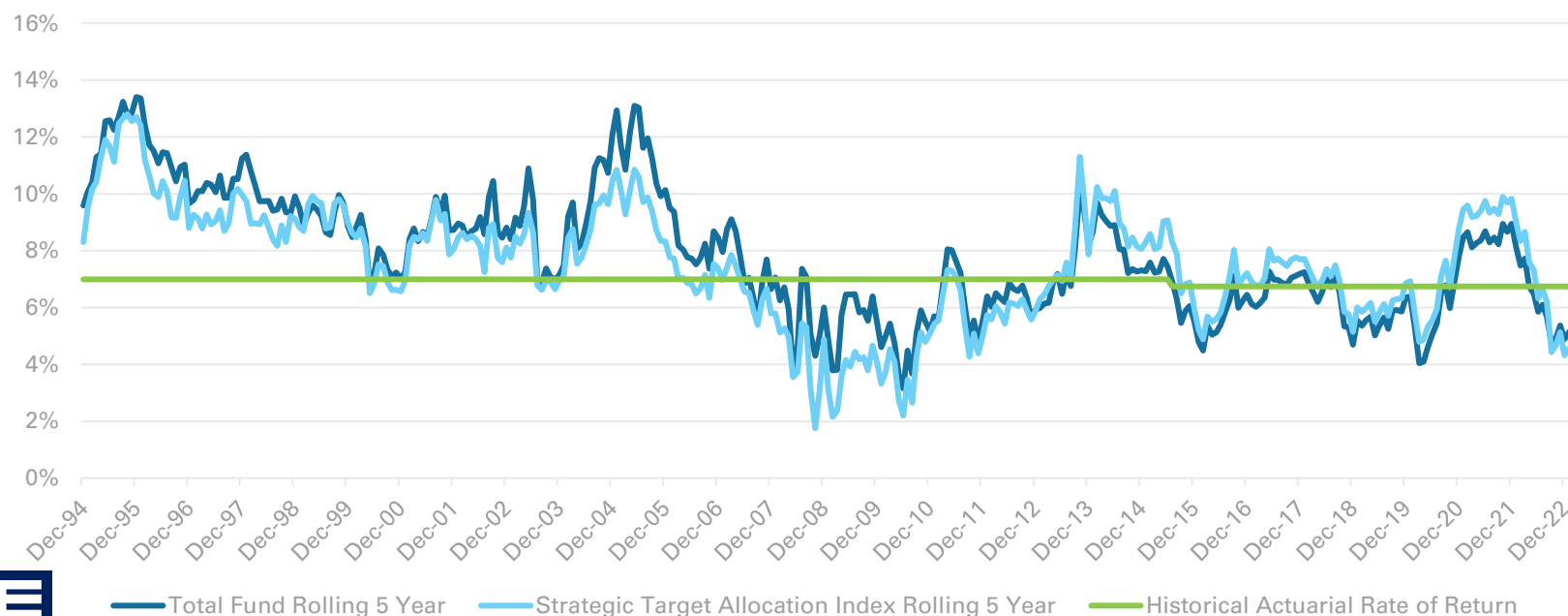


TOTAL FUND PERFORMANCE

VERSUS STRATEGIC TARGET ALLOCATION INDEX AND ASSUMED RATE OF RETURN

- For the five-year period ended March 31, 2023, the Trust Fund's return of 5.58% trailed the Board's Assumed Long-Term Rate of Return of 6.75%.
- The five-year return for the Strategic Target Allocation Index was 5.16% as of March 31, 2023.

Rolling 5 Year Total Fund Performance vs. Strategic Target Allocation Index vs. Historical Actuarial Rate of Return



TOTAL FUND PERFORMANCE SUMMARY

RISK, RETURN AND RISK-ADJUSTED RETURNS

1 Year Ending March 31, 2023						
	Risk	Quartile Rank	Return	Quartile Rank	Risk-Adjusted Return	Quartile Rank
Total Fund	8.35	4th	-0.91	1st	-0.38	1st
Actual Allocation Benchmark	11.12	3 rd	-7.21	4 th	-0.85	4 th
Strategic Target Allocation Index	11.72	3 rd	-6.86	4 th	-0.77	4 th
<i>InvMetrics Public DB > \$10 Billion Median</i>	<i>11.83</i>		<i>-3.58</i>		<i>-0.46</i>	

- **TMRS' Trust Fund ranks in the fourth quartile among other Public Defined Benefit Plans with more than \$10 billion in assets for the one-year period ending March 31, 2023, as measured by standard deviation.**
- **The risk-adjusted return ranked in the first quartile which indicates that the Trust Fund generated more return given its risk profile among the peer universe.**

Note: Risk-Adjusted Return is measured by the Sharpe Ratio.

Risk is measured by the Standard Deviation.

The Standard Deviation interquartile range, here, is defined as the lowest Standard Deviation measuring in the lowest quartile.

Performance returns are reported net of fees.



TOTAL FUND PERFORMANCE SUMMARY

RISK, RETURN AND RISK-ADJUSTED RETURNS

5 Years Ending March 31, 2023						
	Risk	Quartile Rank	Return	Quartile Rank	Risk-Adjusted Return	Quartile Rank
Total Fund	6.86	4th	5.58	4th	0.62	2nd
Actual Allocation Benchmark	7.63	4 th	4.18	4 th	0.39	4 th
Strategic Target Allocation Index	7.68	4 th	5.16	4 th	0.51	4 th
<i>InvMetrics Public DB > \$10 Billion Median</i>	<i>9.52</i>		<i>6.71</i>		<i>0.60</i>	

- **The Trust Fund's risk profile, as measured by standard deviation, ranks in the fourth quartile among other Public Defined Benefit plans with greater than \$10 billion in assets for the five-year period ending March 31, 2023.**
- **The risk-adjusted return ranked in the second quartile.**

Note: Risk-Adjusted Return is measured by the Sharpe Ratio.

Risk is measured by the Standard Deviation.

The Standard Deviation interquartile range, here, is defined as the lowest Standard Deviation measuring in the lowest quartile.

Performance returns are reported net of fees.



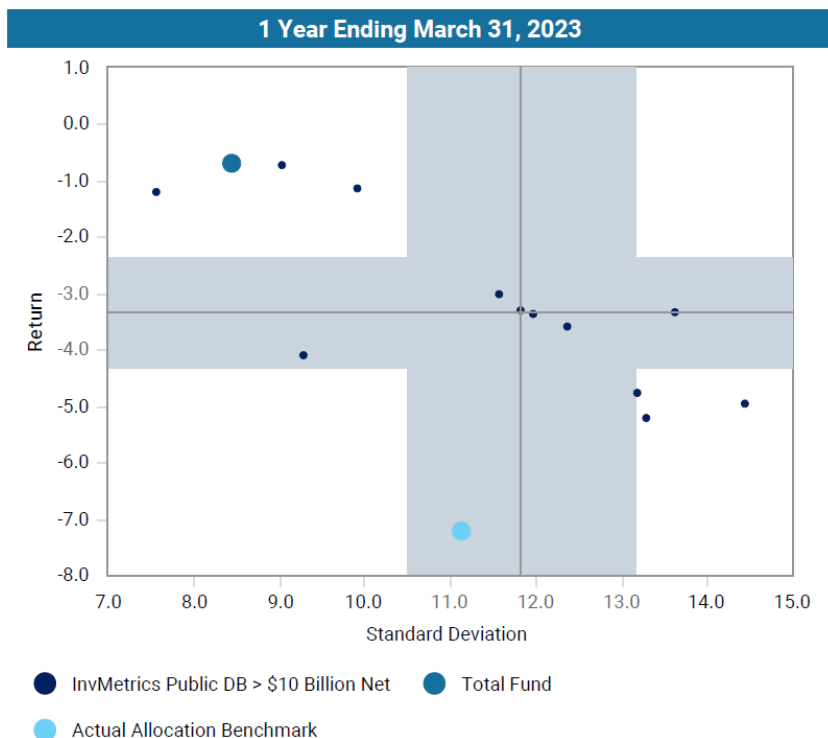
ASSET ALLOCATION COMPLIANCE

ACTUAL ASSET ALLOCATION VS. INVESTMENT POLICY ALLOCATION

	Current (\$)	Current (%)	Policy (%)	Differences* (%)	Policy Range (%)	Within Range
Core Fixed Income	1,667,449,835	4.6	6.0	-1.4	1.0 - 11.0	Yes
Non-Core Fixed Income	6,924,318,123	19.0	20.0	-1.0	15.0 - 25.0	Yes
Global Equity	12,436,982,387	34.1	35.0	-0.9	25.0 - 45.0	Yes
Real Estate	4,987,584,387	13.7	12.0	1.7	7.0 - 17.0	Yes
Other Public and Private Markets	4,447,328,559	12.2	12.0	0.2	7.0 - 17.0	Yes
Hedge Funds	2,214,191,456	6.1	5.0	1.1	0.0 - 10.0	Yes
Private Equity	3,715,894,786	10.2	10.0	0.2	5.0 - 15.0	Yes
Cash Composite	120,056,263	0.3	0.0	0.3	0.0 - 3.0	Yes
Total Fund	36,513,805,796	100.0	100.0	0.0		

- **Actual asset class allocations are in compliance with Investment Policy ranges as of March 31, 2023.**

TOTAL FUND RISK VS. RETURN: ONE YEAR



The Trust Fund generated the second highest net investment return using the second least amount of risk in its peer universe for the 1-year period ended March 31, 2023.

1 Year Ending March 31, 2023				
	Risk	Quartile Rank	Return	Quartile Rank
Total Fund	8.35	4th	-0.91	1st
Actual Allocation Benchmark	11.12	3 rd	-7.21	4 th
<i>InvMetrics Public DB > \$10 Billion Median</i>	<i>11.83</i>		<i>-6.86</i>	

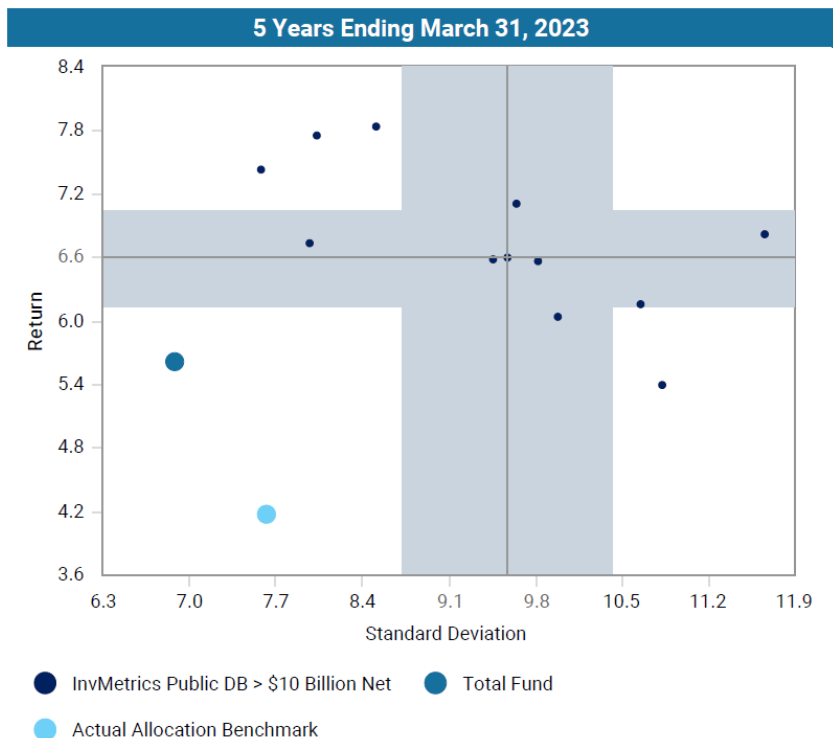
Risk is measured by the Standard Deviation.

The Standard Deviation interquartile range, here, is defined as the lowest Standard Deviation measuring in the lowest quartile.

Performance returns are reported net of fees.

InvMetrics Public DB>\$10B Median includes 17 observations.

TOTAL FUND RISK VS. RETURN: FIVE YEARS



The Trust Fund underperformed in its peer universe due to having the least amount of risk as measured by standard deviation.

5 Years Ending March 31, 2023				
	Risk	Quartile Rank	Return	Quartile Rank
Total Fund	6.86	4th	5.58	4th
Actual Allocation Benchmark	7.63	4th	4.18	4th
<i>InvMetrics Public DB > \$10 Billion Median</i>	<i>9.52</i>		<i>6.71</i>	

Risk is measured by the Standard Deviation.

The Standard Deviation interquartile range, here, is defined as the lowest Standard Deviation measuring in the lowest quartile.

Performance returns are reported net of fees.

InvMetrics Public DB>\$10B Median includes 16 observations.

PERFORMANCE DETAIL

	Allocation		Performance (%)							
	Market Value (\$)	% of Portfolio	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund	36,513,805,796	100.0	3.44	-0.91	8.77	5.58	6.74	6.05	8.13	Jan-89
Actual Allocation Benchmark			<u>4.22</u>	<u>-7.21</u>	<u>6.37</u>	<u>4.18</u>	<u>5.54</u>	<u>5.20</u>	<u>7.44</u>	
Over/Under			-0.78	6.30	2.40	1.40	1.20	0.85	0.69	
Strategic Target Allocation Index			<u>4.51</u>	<u>-6.86</u>	<u>7.28</u>	<u>5.16</u>	<u>6.61</u>	<u>6.08</u>	<u>7.71</u>	
Over/Under			-1.07	5.95	1.49	0.42	0.13	-0.03	0.42	
Global Equity	12,436,982,387	34.1	6.96	-7.73	14.59	5.81	8.60	8.01	5.61	Jan-08
Total Equity Index			<u>6.95</u>	<u>-7.68</u>	<u>15.64</u>	<u>6.66</u>	<u>9.16</u>	<u>8.36</u>	<u>5.80</u>	
Over/Under			0.01	-0.05	-1.05	-0.85	-0.56	-0.35	-0.19	
Core Fixed Income	1,667,449,835	4.6	2.86	-4.82	-2.35	1.18	1.16	1.54	6.60	Jan-89
Fixed Income Benchmark			<u>2.96</u>	<u>-4.78</u>	<u>-2.77</u>	<u>0.90</u>	<u>0.88</u>	<u>1.36</u>	<u>6.10</u>	
Over/Under			-0.10	-0.04	0.42	0.28	0.28	0.18	0.50	
Non-Core Fixed Income	6,924,318,123	19.0	2.28	-0.10	3.88	3.77	4.81		4.04	Oct-14
Total Non-Core Fixed Income Weighted Index			<u>1.79</u>	<u>-8.39</u>	<u>-0.77</u>	<u>1.32</u>	<u>2.70</u>		<u>2.16</u>	
Over/Under			0.49	8.29	4.65	2.45	2.11		1.88	
Other Public and Private Markets	4,447,328,559	12.2	5.65	1.91	8.36	5.15	4.93	3.37	4.11	Feb-11
Total Real Return Index			<u>8.88</u>	<u>-14.26</u>	<u>2.67</u>	<u>1.71</u>	<u>2.64</u>	<u>1.80</u>	<u>2.78</u>	
Over/Under			-3.23	16.17	5.69	3.44	2.29	1.57	1.33	
Real Estate	4,987,584,387	13.7	-1.40	13.20	10.70	9.81	10.06	11.03	10.58	Nov-11
Real Estate Benchmark			<u>-5.17</u>	<u>6.55</u>	<u>9.35</u>	<u>8.34</u>	<u>8.29</u>	<u>9.92</u>	<u>10.25</u>	
Over/Under			3.77	6.65	1.35	1.47	1.77	1.11	0.33	
Hedge Funds	2,214,191,456	6.1	2.23	4.24	4.33	4.17	5.52		4.38	Aug-14
Hedge Funds Benchmark			<u>1.44</u>	<u>2.41</u>	<u>6.23</u>	<u>4.35</u>	<u>4.68</u>		<u>3.54</u>	
Over/Under			0.79	1.83	-1.90	-0.18	0.84		0.84	
Private Equity	3,715,894,786	10.2	-0.57	1.92	21.42	20.16	15.38		16.44	Dec-15
Private Equity Index			<u>9.84</u>	<u>-18.40</u>	<u>8.44</u>	<u>12.28</u>	<u>9.92</u>		<u>11.18</u>	
Over/Under			-10.41	20.32	12.98	7.88	5.46		5.26	
Cash Composite	120,056,263	0.3	1.47	3.17	1.10	1.47	1.21	1.00	0.76	Jun-08
FTSE 1 Month US T-Bill index			<u>1.09</u>	<u>2.57</u>	<u>0.89</u>	<u>1.35</u>	<u>1.15</u>	<u>0.81</u>	<u>0.61</u>	
Over/Under			0.38	0.60	0.21	0.12	0.06	0.19	0.15	

Texas Municipal Retirement System

PERFORMANCE DETAIL

March 31, 2023

Composite Benchmark Comments

The Actual Allocation Benchmark is calculated monthly using beginning of month asset class weights applied to each corresponding benchmark return and currently consists of the following:

- Total Equity Benchmark
- Fixed Income Benchmark
- Non-Core Fixed Income Benchmark
- OPPM Benchmark
- Real Estate Benchmark
- Hedge Funds Benchmark
- Private Equity Benchmark
- FTSE 30 Day T-Bill Index

The Strategic Target Allocation Index represents asset allocation targets adopted historically and currently consists of the following:

- 35.0% Total Equity Benchmark
- 6.0% Fixed Income Benchmark
- 20.0% Non-Core Fixed Income Benchmark
- 12.0% OPPM Benchmark
- 12.0% Real Estate Benchmark
- 5.0% Hedge Funds Benchmark
- 10.0% Private Equity Benchmark

Asset Class Composite Benchmarks:

The Total Equity Benchmark is calculated monthly and consists of 50% Russell 3000 Index and 50% MSCI EAFE Index (USD) (Net) through 07/31/2010; a blend of the Russell 3000 Index, MSCI ACW Ex US IM Index (USD) (Net) and MSCI EAFE Index (USD) (Net) at beginning of month investment weights through 11/30/2012; and a blend of the Russell 3000 Index and MSCI ACW Ex US IM Index (USD) (Net) at beginning of the month weights through 12/31/2018; and MSCI ACW IM Index (USD) (Net) thereafter.

The Fixed Income Benchmark is calculated monthly and consists of the Bloomberg US Gov't Crdt Lng Trm Bond Index through 06/30/2009; Bloomberg US Agg Bond Index thereafter.

The Non-Core Fixed Income Benchmark is calculated monthly using beginning of the month sub-asset class weights within the Non-Core Fixed Income Composite applied to each sub-asset class primary benchmark return through 6/30/2021, and the Bloomberg US Agg Bond Index + 1.5% on an unlagged, month lagged, or quarter lagged basis in proportion of the managers in the composite on an unlagged, month lagged, or quarter lagged basis.

The OPPM Benchmark is calculated monthly using beginning of the month sub-asset class weights within the OPPM Composite applied to each sub-asset class primary benchmark return through 6/30/2021, and the MSCI ACW IM Index (USD) (Net) on an unlagged, month lagged, or quarter lagged basis in proportion of the managers in the composite on an unlagged, month lagged, or quarter lagged basis.

The Real Estate Benchmark is the NCREIF ODCE Index (Gross), one quarter lag through 06/30/2021, and NCREIF ODCE Index (Net), one quarter lag thereafter.

The Hedge Funds Benchmark is calculated monthly and consists of the HFRI FOF: Dv'd Index (1 Mo Lag) through 6/30/2021, and HFRI Asset Weighted Composite Index (1 Mo Lag) thereafter.

The Private Equity Benchmark is set equal to the Composite return through 6/30/2021, and MSCI ACW IM Index (USD) (Net), one quarter lag thereafter.



May 16, 2023

To: Board of Trustees

From: David J. Hunter, Chief Investment Officer 

Re: Agenda Item 10: Discuss Asset Liability Study and Asset Allocation Results

As required by the Investment Policy Statement, an Asset Liability Modeling Study (ALS) is conducted every four years. Additionally, an Asset Allocation Study (AAS) to comprehensively review the asset allocation is completed every four years. The Board will determine its asset allocation after review of the AAS.

NEPC will review the ALS and AAS results at the May Board meeting.

Attachment - NEPC Asset Liability Study and Asset Allocation Presentation



Celebrating 75 Years

PRELIMINARY ASSET LIABILITY STUDY AND ASSET ALLOCATION RESULTS

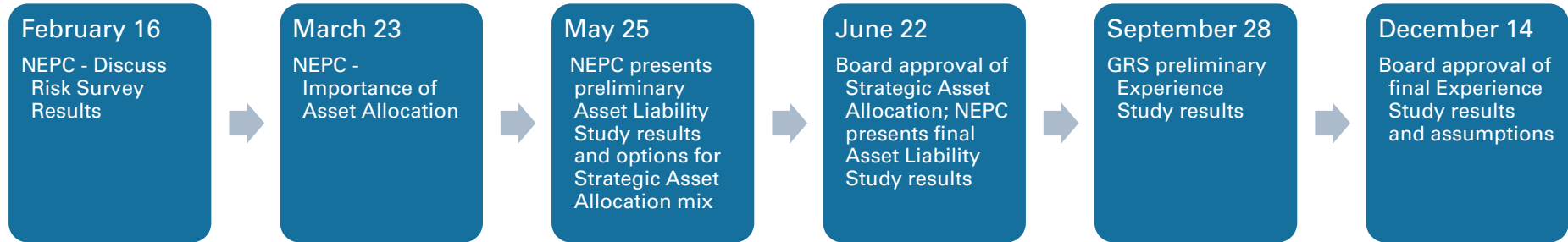
MAY 25, 2023

Sam Austin, Partner



PROPRIETARY & CONFIDENTIAL

ASSET LIABILITY MODEL & ASSET ALLOCATION STUDY TIMELINE



- **February – NEPC discusses Risk Survey Results with Trustees**
- **March - NEPC Board presentation on “Importance of Asset Allocation”**
- **May – NEPC presents preliminary Asset Liability Study & Asset Allocation results - GRS presents valuation results**
- **June – NEPC presents final Asset Allocation mix recommendation and Asset Liability Study to Board**
- **September – GRS presents preliminary Experience Study results to Board**
- **December – GRS presents final Experience Study results and assumption recommendations to Board**

PURPOSE OF ASSET-LIABILITY STUDY

- **Review the current/projected financial status of the Plan over long-term horizon**
- **Determine appropriateness of current asset allocation considering:**
 - Expected progress of liabilities and cash flows/liquidity needs
 - Path of funded status
- **Test sensitivity of Plan assets and liabilities to a range of outcomes**
 - Market performance across range of economic environments
 - Contribution volatility
 - Range of liquidity environments
- **Consider appropriate asset mixes and expected return on assets**
 - Assess return target against tradeoff of volatility/range of outcomes
 - Analyze inclusion/exclusion of various asset classes/strategies

FIRST PRINCIPLES

- The long-term expected return on assets drives the selection of an appropriate interest rate for discounting public pension liabilities
- Expected Return on Assets is based on assumptions – actual experience will likely depart from those assumptions
- Long-term nature of pension obligations positions well-funded pension plans to take advantage of long-term investment opportunities
- Pension trustees should regularly review fundamental characteristics of the pension plan (e.g. risk tolerance and viability of long-term investment return).
- Risk is multi-dimensional and should be considered from different perspectives – risk is not just volatility (e.g. volatility, potential for drawdowns, Illiquidity, exposure to economic factors, etc).

EXECUTIVE SUMMARY

TEXAS MUNICIPAL RETIREMENT SYSTEM

- **TMRS remains in a well-funded position and is projected to maintain current funding levels over the next 10 years given the Current Policy allocation**
 - December 31, 2022 projected funded status
 - Actuarial Basis: 89.7% and Market Basis: 83.6% (GRS)
- **Relative to the public pension plan universe, TMRS has lower overall plan risk and better funded position**
 - 6.75% investment return assumption vs. 7.00% public fund median
 - Improved financial stability due to less reliance on returns and reduced potential of future contribution increases
 - 1.5 ratio of actives to retirees vs. 1.3 public fund median
 - Higher ratio means lower cost of amortizing unfunded liability as a percentage of payroll
- **Given the current capital market outlook, no significant funded status gains are expected over the next 10 years though full funded status is still on the horizon over a 20 year horizon**
 - Current Policy allocation is expected to achieve the investment return assumption over the next 10 years
 - Over a longer horizon the Current Policy allocation is expected to surpass the investment return assumption which would allow the plan to make meaningful funded status gains
- **Market environment has shifted significantly**
 - Challenging investment environment in 2022 and into 2023
 - From low rates/low growth/low expected returns...
 - To higher inflation, challenging market conditions, tightening monetary policy

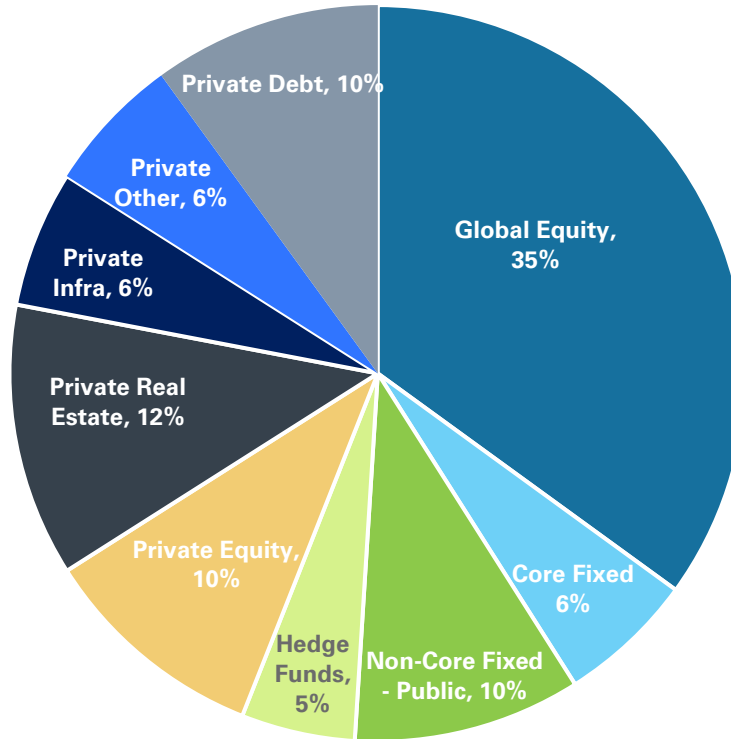
PLAN CHARACTERISTICS

TEXAS MUNICIPAL RETIREMENT SYSTEM

- **TMRS operates as an agent multiple-employer DB pension plan**
 - Assets are pooled for investment purposes, but liabilities are kept separate
- **Plan is in good condition in terms of demographics with ratio of actives to retirees of 1.5**
 - Public fund median for fiscal year 2021 was 1.3 according to NASRA
- **Plan is in good funded position with a projected funded ratio > 89% as of 12/31/2022**
- **Current Policy allocation is expected to achieve the investment return assumption set by the Board**
 - 6.75% investment return assumption
 - 10-yr expected return of 7.0%
 - 30-yr expected return of 7.8%

CURRENT ASSET ALLOCATION

TEXAS MUNICIPAL RETIREMENT SYSTEM



10-Year Expected Return	7.0%
30-Year Expected Return	7.8%
Asset Volatility	13.3%

ASSET ALLOCATION OPTIONS

TEXAS MUNICIPAL RETIREMENT SYSTEM

	Current Policy	Option 1: 2% More PE	Option 2: 3% More PE & 3% More PD	Option 3: 5% More PE & 5% More PD	Option 4: 6% More PE & 5% More PD
Global Equity	35%	35%	35%	33%	35%
Core Fixed Income	6%	6%	6%	6%	6%
Non-Core Fixed Income	10%	10%	6%	6%	9%
Hedge Funds	5%	5%	5%	5%	4%
Total Public Assets	56%	56%	52%	50%	54%
Private Equity	10%	12%	13%	15%	16%
Real Estate	12%	12%	12%	10%	9%
Infrastructure	6%	6%	6%	6%	6%
Other Private	6%	4%	4%	4%	0%
Private Debt	10%	10%	13%	15%	15%
Total Private Assets	44%	44%	48%	50%	46%

Expected Return 10 years	7.0%	7.1%	7.1%	7.3%	7.3%
Expected Return 30 years	7.8%	7.9%	8.0%	8.1%	8.1%
Standard Deviation	13.3%	13.6%	13.8%	13.9%	14.2%
Sharpe Ratio 10 years	0.24	0.24	0.24	0.25	0.24
Sharpe Ratio 30 years	0.33	0.33	0.34	0.34	0.34

Probability of 1-Year Return Under 0%	30.0%	30.2%	30.3%	30.1%	30.4%
Probability of 10-Year Return Under 0%	4.9%	5.0%	5.2%	5.0%	5.2%
Probability of 10-Year Return Under 6.75%	47.8%	47.1%	46.6%	45.4%	45.3%
Probability of 30-Year Return Under 6.75%	46.2%	44.9%	44.1%	42.0%	41.8%

ASSET ALLOCATION OPTIONS – EXPECTED RETURNS, RISK & PROBABILITY OF OUTCOMES

TEXAS MUNICIPAL RETIREMENT SYSTEM

	Current Policy	Option 1: 2% More PE	Option 2: 3% More PE & 3% More PD	Option 3: 5% More PE & 5% More PD	Option 4: 6% More PE & 5% More PD
<i>Expected Return 10 years</i>	7.0%	7.1%	7.1%	7.3%	7.3%
<i>Expected Return 30 years</i>	7.8%	7.9%	8.0%	8.1%	8.1%
<i>Standard Deviation</i>	13.3%	13.6%	13.8%	13.9%	14.2%
<i>Sharpe Ratio 10 years</i>	0.24	0.24	0.24	0.25	0.24
<i>Sharpe Ratio 30 years</i>	0.33	0.33	0.34	0.34	0.34

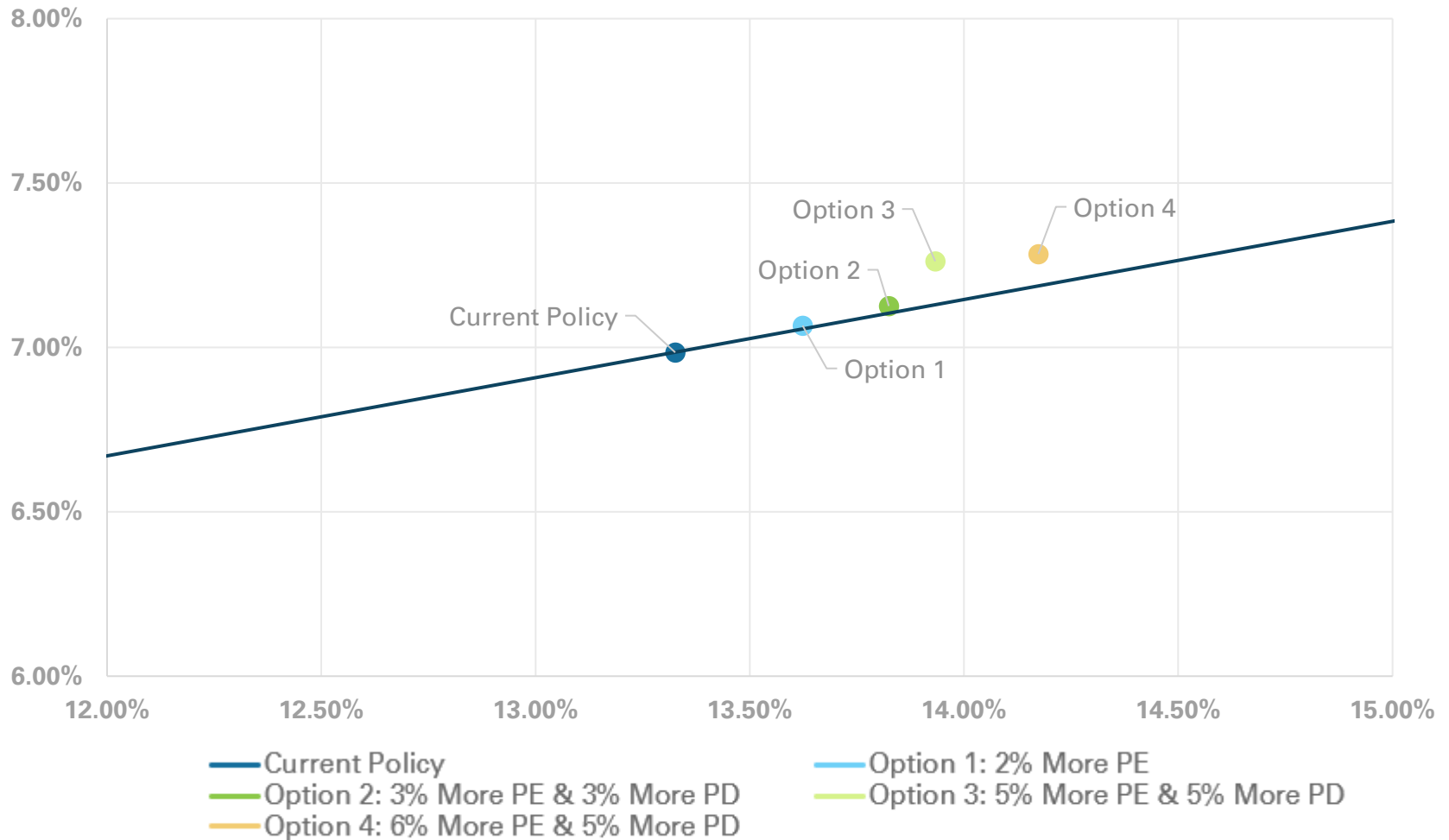
<i>Probability of 1-Year Return Under 0%</i>	30.0%	30.2%	30.3%	30.1%	30.4%
<i>Probability of 10-Year Return Under 0%</i>	4.9%	5.0%	5.2%	5.0%	5.2%
<i>Probability of 10-Year Return Under 6.75%</i>	47.8%	47.1%	46.6%	45.4%	45.3%
<i>Probability of 30-Year Return Under 6.75%</i>	46.2%	44.9%	44.1%	42.0%	41.8%

— Current Policy
— Option 2: 3% More PE & 3% More PD
— Option 4: 6% More PE & 5% More PD

— Option 1: 2% More PE
— Option 3: 5% More PE & 5% More PD

EFFICIENT FRONTIER

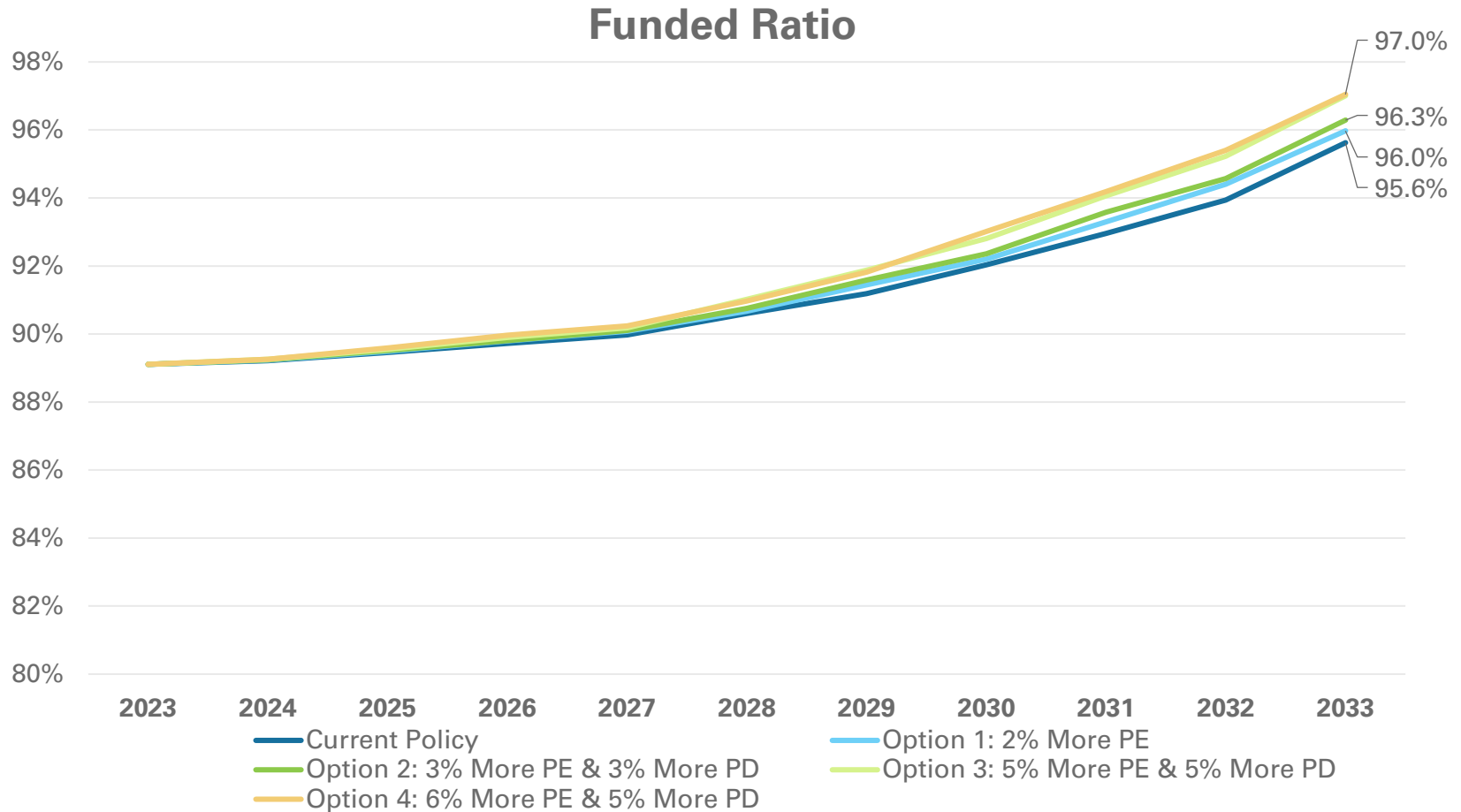
TEXAS MUNICIPAL RETIREMENT SYSTEM



Notes: Line represents the risk/return tradeoff of the Current Policy

10-YEAR MEDIAN FUNDED RATIO PROJECTION

TEXAS MUNICIPAL RETIREMENT SYSTEM



Notes: As of December 31; reflects simulated returns based on mean variance assumptions consistent with NEPC's 10-year capital market assumptions as of 3/31/2023 for each mix

NEPC DISCLOSURES

Past performance is no guarantee of future results.

NEPC, LLC is an investment consulting firm. We provide asset-liability studies for certain clients but we do not provide actuarial services. Any projections of funded ratio or contributions contained in this report should not be used for budgeting purposes. We recommend contacting the plan's actuary to obtain budgeting estimates.

The goal of this report is to provide a basis for substantiating asset allocation recommendations. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.

Information on market indices was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

The projection of liabilities in this report uses standard actuarial projection methods and does not rely on actual participant data. Asset and liability information was received from the plan's actuary, and other projection assumptions are stated in the report.

All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.

This report is provided as a management aid for the client's internal use only. This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.





May 16, 2023

To: Board of Trustees

From: David J. Hunter, Chief Investment Officer

A handwritten signature in blue ink, appearing to read "D. Hunter", is positioned to the right of the "From:" line.

Re: Agenda Item 11: Board Education: Real Estate Asset Class

In accordance with the Investment Policy Statement, comprehensive asset class reviews are conducted annually. At the May Board meeting, Portfolio Manager Monica Huffer will present the Real Estate asset class review.

The presentation material is available in the Diligent Resource Center in the tab titled "May 25, 2023, Board Meeting."

Annual Review: Real Estate

Board of Trustees Meeting

TJ Moen, Monica Huffer, Yvonne Huang and Joel Palmer

May 25, 2023

Real Estate Portfolio Expectations

The purpose of the Real Estate asset class is to **enhance the total return and diversification** of TMRS' portfolio. As the TMRS Real Estate portfolio is implemented primarily as a private markets portfolio, the asset class is expected to be **illiquid and long-term** in nature.

Within the institutional market, real estate is expected to provide the following additional portfolio benefits:

- Relatively low correlation to public equities
- Ability to provide a hedge against inflation
- Significant income return component

What Real Estate does TMRS invest in?

TMRS' is underweight the lower performing sectors including Office and Retail



Multifamily

Housing Affordability
Domestic Migration

- High Rise
- Low Rise
- Garden

RE INDEX
RETURNS

3-YR	5-YR	10-YR
8.1%	7.5%	8.8%

TMRS | INDEX
EXPOSURE

36.5% | 29%



Industrial

On- and Near-Shoring
eCommerce

- Warehouse
- Sortation
- Last Mile

3-YR	5-YR	10-YR
22%	18.9%	16%

29.5% | 31%



Office

Return to Office
STEM Sector Growth

- CBD
- Suburban

3-YR	5-YR	10-YR
1.4%	3.5%	6.3%

13.8% | 22%



Retail

Consumer Spending
Population Growth

- Mall
- Grocery Anchored
- Power Center

3-YR	5-YR	10-YR
-0.3%	0.6%	5.7%

5.4% | 10%



Other

Gov't R&D Funding
Domestic Migration

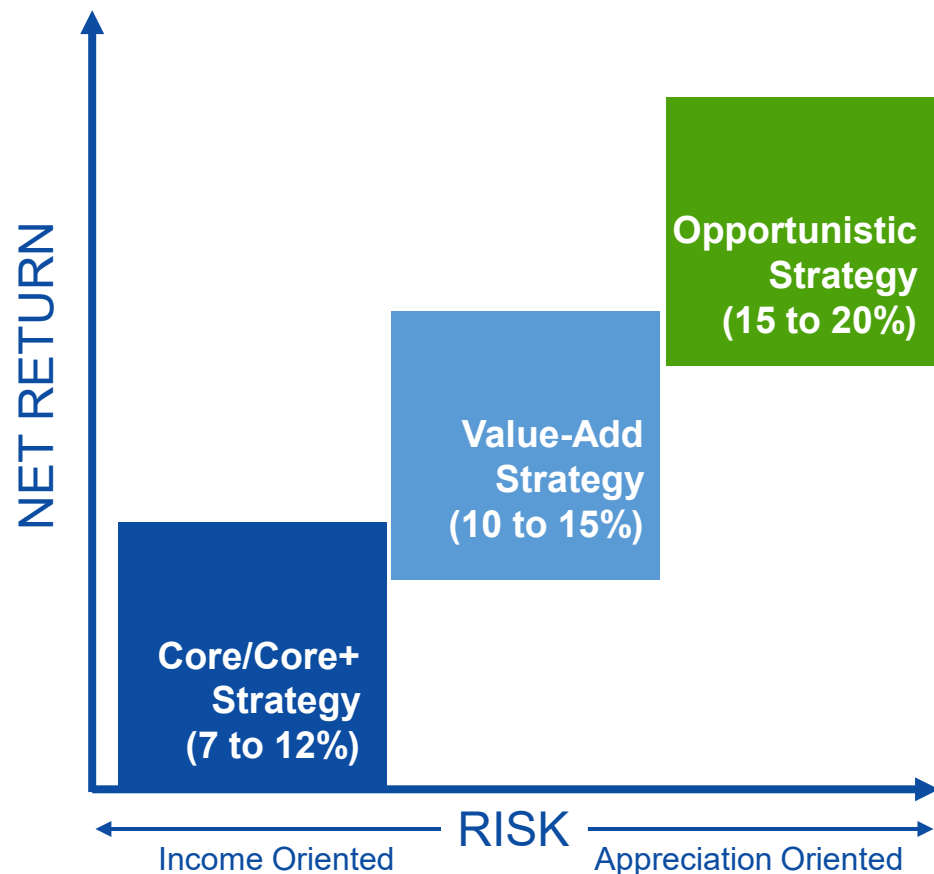
- Self Storage
- Life Science
- Medical Office

Not reported.

14.8% | 8%

Real Estate Investment Strategies

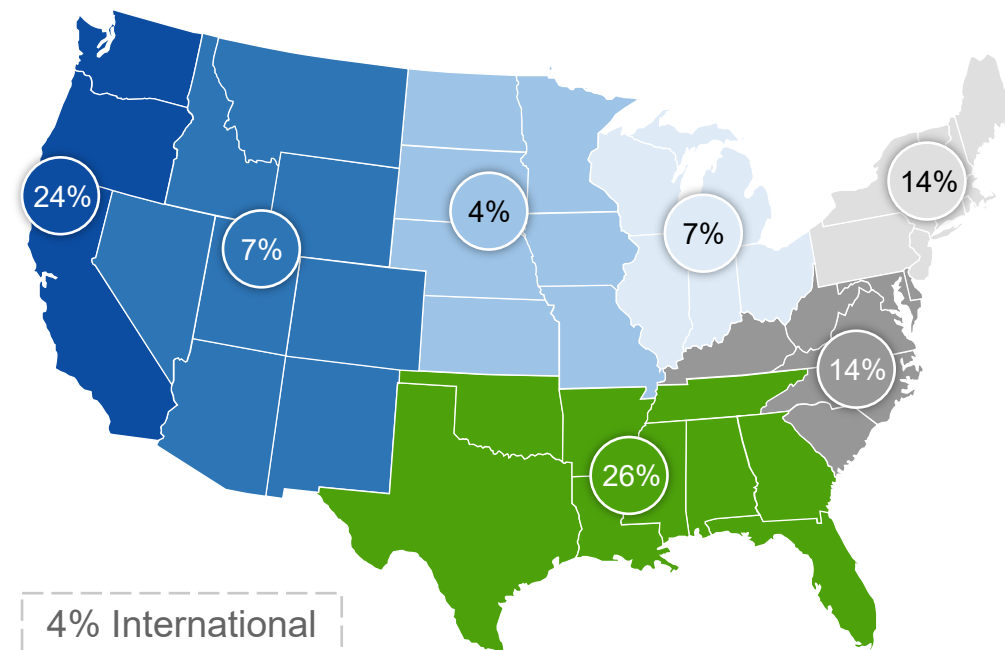
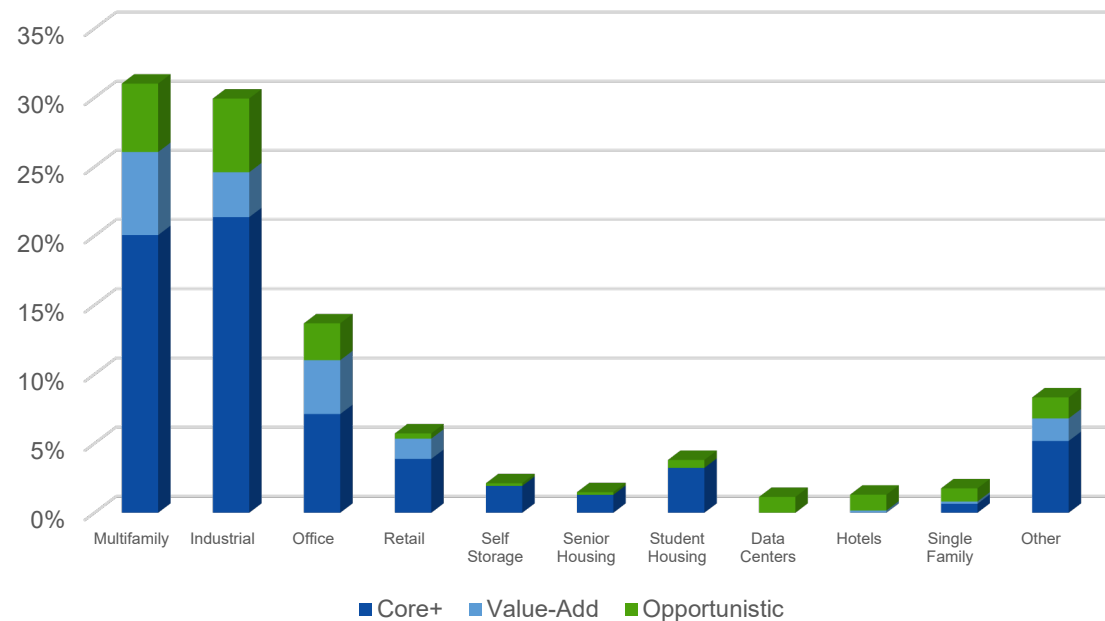
As of December 31, 2022



	CORE(+)	VALUE ADD	OPPORTUNISTIC
Source of Return	40-60% from Income	20 to 40% from Income	0 to 20% from Income
Location	Urban	Suburban	Exurban
Invested Capital	0-10% of Purchase Price	10-20% Purchase Price	>20% Purchase Price
Hold Period	7 to 10 years	5 to 7 years	3 to 5 years
Debt on Property	20-50%	50-65%	>60%
Real Estate Portfolio %	65%	18%	17%

Real Estate Portfolio

As of December 31, 2022



\$6.7bn
COMMITMENTS

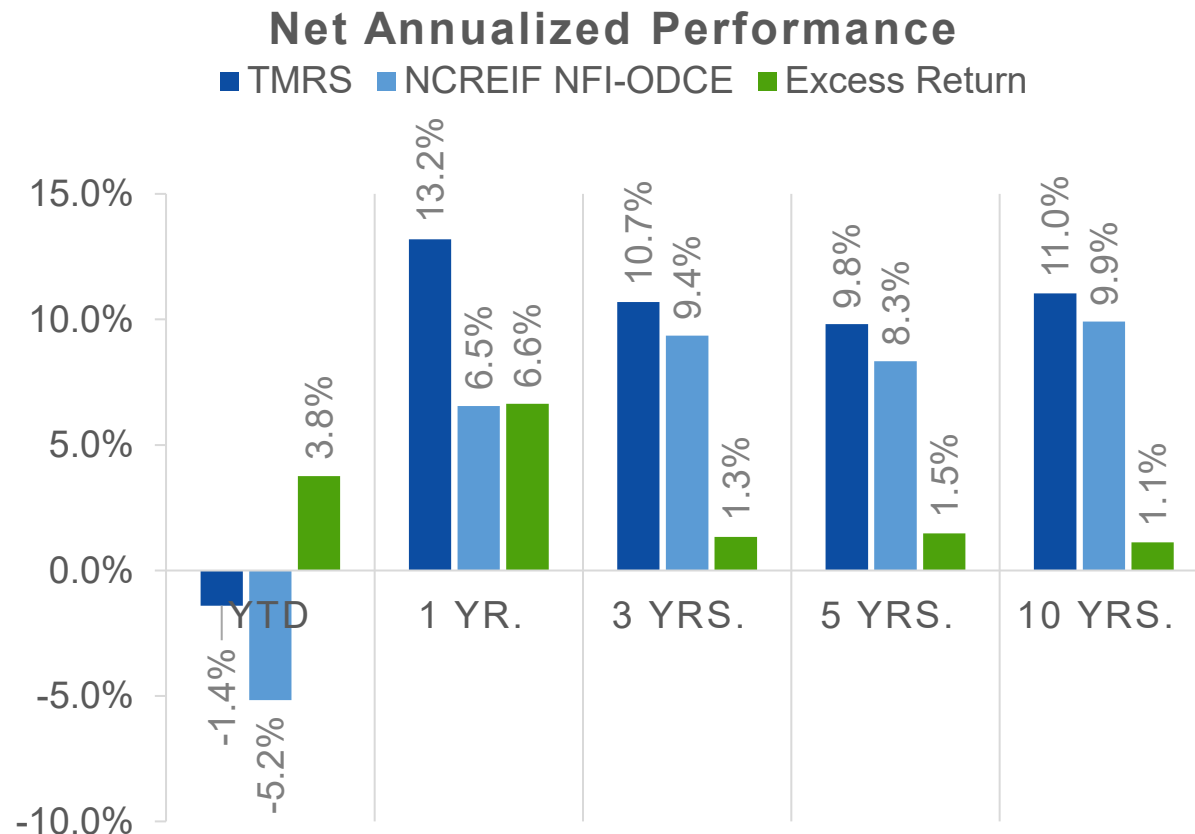
\$4.8bn
NET ASSET VALUE

71%
FUNDED

29
MANAGERS

Real Estate Performance vs Benchmark

As of March 31, 2023



Private real estate investments have consistently outperformed the private real estate index. Over a 5-year period, this represents:

\$467 Million

Excess value from TMRS active management

9.6%

Excess value from TMRS active management

IPS Compliance

As of December 31, 2023

The Real Estate Portfolio is in compliance with all IPS provisions.

- ☑ Geography - The Portfolio must be at least 80% invested in U.S. markets. 96% domestic.
- ☑ Leverage - Leverage must be below 65% loan-to-value at the portfolio-level. 40% LTV
- ☑ Strategy - Strategy Concentrations must be managed to the following ranges:
 - Core: 40% to 100%. 65% Core.
 - Non-Core: 0% to 60%. 35% Non-Core.
- ☑ Property Types - Property type concentration must be managed to the following ranges:
 - Residential: 0% to 50%. 37%
 - Industrial: 0% to 50%. 30%
 - Office: 0% to 50%. 14%
 - Retail: 0% to 25%. 5%
 - Other: 0% to 25%. 15%

Accomplishments & Planning

2022 Goals

Goals presented at June 2022 Board meeting



Commit \$750mm of capital.
Moderately decreased deployment as the core portfolio investments become fully allocated.



Rebalance of core real estate portfolio.
The Core Real Estate portfolio has reached a mature state, allowing for reassessment of entire portfolio.



Continue push for fee efficient private assets.
Strategic relationships and co-investment expansion will help reduce fee load on portfolio.

2023 Goals



Commit \$500mm +/- \$250mm of capital.
Moderately decreased deployment as the core portfolio becomes fully allocated.



Consolidate to highest conviction managers
The Real Estate portfolio has reached maturity, allowing for a complete portfolio reassessment.



Continue push for fee efficient private assets.
Strategic relationships and co-investment expansion will help reduce fee load on portfolio.