



AGENDA

Meeting of the Board of Trustees

Thursday, June 23, 2022 – 9:00 a.m.

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

Zoom Link for Public:

<https://tmrs.zoom.us/j/81794486249?pwd=c1AvOEVDU21pUIZUb2tYcXZNdU5GUT09>

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

Call to Order

Invocation

Pledge of Allegiance

Consent Agenda

1. **Consider and Act on Consent Agenda.** *Jesús Garza*
 - a. Approve Minutes from the May 26, 2022 Board of Trustees meeting
 - b. Quarterly Confirmation of Member Retirements
 - c. Quarterly Confirmation of Supplemental Death Benefit Payments and Extended Supplemental Death Benefits Coverage
 - d. Receive Quarterly Financial Statements as of March 31, 2022
 - i. Statements of Fiduciary Net Position
 - ii. Statements of Changes in Fiduciary Net Positions
 - iii. Expense Fund Balance Sheet
 - iv. Expense Fund Schedule of Operating and Capital Expenditures

Executive Director Reports

2. [Executive Director's Report.](#) *David Wescoe*
3. [Receive Senior Staff Quarterly Reports.](#) Chief Administrative Officer (*Sandra Vice*), Chief Legal Officer (*Christine Sweeney*), Chief Service Officer (*Michelle Kranes*), Director of Communications (*Michelle Mellon-Werch*), and Director of Governmental Relations (*Dan Wattles*)
4. **Consider and Act on Matters Concerning the Sale of the TMRS 1200 North Interstate 35 Building.** *David Wescoe and Eddie Schultz*

Legal Report

5. [Consider and Act on Matters Regarding City of Grand Prairie Pension Obligation Bonds.](#) *Christine Sweeney*

Finance Reports

6. [Receive 2021 Financial Statement and the Schedule of Changes in Fiduciary Net Position by Participating City Audit Results.](#) *Rhonda Covarrubias and Brittany Smith, CLA*
7. [Receive System and Organization Controls \(SOC\) Audit Results.](#) *Rhonda Covarrubias and Brittany Smith, CLA*
8. [Receive Required Auditor Communications to the Board of Trustees.](#) *Rhonda Covarrubias and Brittany Smith, CLA*
9. [Receive and Approve Distribution of 2021 Annual Comprehensive Financial Report.](#) *David Wescoe and Rhonda Covarrubias*

Investment Reports

10. [Chief Investment Officer's Report.](#) *David Hunter*
 - a. CIO Report
 - b. [Trust Fund Report: First Quarter 2022](#)
 - c. Receive 2022 Annual Completed Investments Report
11. [Report on IPS Committee Meetings.](#) *Anali Alanis, Bob Scott and David Hunter*
12. [Receive First Quarter Investment Compliance Report.](#) *Michele Fullon*
13. [Consider and Act on Real Estate Manager Recommendation.](#) *Eddie Schultz*
14. [Consider and Act on Non-Core Fixed Income Manager Recommendation.](#) *Jacob Bowland*

15. [General Investment Consultant Report.](#) *Marcia Beard and Spencer Hunter, RVK*

Board Education

16. [Board Education: Private Markets – Real Estate and Other Public and Private Markets.](#) *Eddie Schultz*

Strategic Planning

17. [Discuss Strategic Plan Update and Future Planning Process.](#) *Jesús Garza and David Wescoe*

Executive Session

18. **Executive Session.** *Jesús Garza*

- a. In accordance with Section 855.007, Texas Government Code, the Board of Trustees may meet in executive session to (i) receive information from or question the employees, consultants, or legal counsel of the System or a third party relating to an investment or a potential investment; (ii) meet with the System's internal or external auditors to discuss any one or more of the matters set forth in Section 855.007(h); and /or (iii) consider and discuss evaluations or duties of Trustees or Board consultants, and self-evaluations of the Board as a whole, and thereafter may consider appropriate action in open session; and
- b. 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 Internal Auditor , and thereafter may consider appropriate action in open session; and
- c. In accordance with Section 551.072, Texas Government Code, the Board of Trustees may meet in executive session to deliberate the purchase, exchange, lease, or value of real property if deliberation in an open meeting would have a detrimental effect on the position of the governmental body in negotiations with a third person.

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.

Future Board Agenda Items

19. Call for Future Agenda Items. *Jesús Garza*

Adjournment

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.

Members of the public may provide public comment on agenda items presented to the Board. If you attend the meeting in person, you must complete a public comment form and give it to the Board Secretary. If you attend the meeting via Zoom, you must submit an email to KJackson@tmrs.com identifying the name of the speaker and agenda item no later than 5:00 pm Central Time on Wednesday, June 22, 2022. Any public comment on an Agenda item will be limited to 3 minutes.



June 14, 2022

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 May 26, 2022 Board meeting, quarterly reports on service retirements, disability retirements, death benefits, and financial statements as of March 31, 2022. The Consent Agenda is adopted as one item.

RECOMMENDATION

Staff recommends that the Board adopt the Consent Agenda as presented.

ATTACHMENTS

- 1 - Minutes from the May 26, 2022 Board meeting
- 2 - Retirement and Supplemental Death Benefit Reports
(summary report attached; detailed report in Diligent Resource Center due to confidential information)
- 3 - Financial Statements (in Diligent Board Books)



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

May 26, 2022 – 9:00 a.m.

The Board of Trustees of the Texas Municipal Retirement System (TMRS) held a meeting beginning at 9:00 a.m. at the TMRS office, located at 2717 Perseverance, Suite 300 in Austin, Texas, with the following Trustees present: Vice Chair Bob Scott, Anali Alanis, Johnny Huizar, David Landis, and Bill Philibert. Chair Jesús Garza attended by Zoom.

Staff and consultants present included: David Wescoe (Executive Director), Michelle Kranes (Chief Service Officer), Christine Sweeney (Chief Legal Officer), Michelle Mellon-Werch (Director of Communications), Leslee Hardy (Director of Actuarial Services,) David Hunter (Chief Investment Officer), Joe Newton (GRS), Janie Shaw (GRS), Marcia Beard (RVK), Spencer Hunter (RVK), and Robert Klausner (Klausner, Kaufman, Jensen & Levinson).

Mr. Scott presided and called the meeting to order at 9:00 a.m., with Mr. Garza attending by Zoom.

Consent Agenda

1. Consider and Act on Consent Agenda.

Ms. Sweeney presented the Minutes from the March 24, 2022, meeting with revisions requested by Mr. Scott. Ms. Alanis moved that the Board adopt Consent Agenda, with the March Minutes as revised. Mr. Philibert seconded the motion, which passed 6-0.

Executive Director Reports

2. Executive Director's Report.

Mr. Wescoe reported that Gov. Greg Abbott reappointed Mr. Landis as Trustee for another term. TMRS participated at the Texas Municipal League Region 12 meeting and spoke with almost 300 city officials and staff. Mr. Wescoe discussed changes in Member Services with respect to Benefits Administration, a department now led by Ms. Focht-Williams. With that new department, Ms. Muñoz and Mr. Mills are now focused on outbound Member Services activities. Member Services also added eight new staff members, and TMRS reconfigured existing office space to create a new TMRS training center for Member Services and other departments.

3. Consider and Act on Matters Concerning the Sale of the TMRS 1200 North Interstate 35 Building.

Mr. Scott said no action was needed on Agenda Item 3 and tabled the item.

Mr. Scott next said he was going to take an item out of order and called for Agenda Item 6.

Actuarial Services Report

6. Consider and Act on 2021 Actuarial Valuation and Approval of 2023 Retirement Contribution Rates and Supplemental Death Benefit Contribution Rates.

Ms. Shaw said that for the December 31, 2021 Actuarial Valuation, which determines city rates for 2023, good news regarding investment performance was offset by inflation. The Unfunded Actuarial Accrued Liability (UAAL) is \$3.8 billion and trending down while the funding ratio is trending up, now at 90.5%. Mr. Newton said not many of TMRS' peer plans have a funding ratio above 90%.

Ms. Shaw said that TMRS assets are growing and keeping pace with liabilities, which are shrinking in proportion to TMRS assets. The amortization period for TMRS' liabilities was reduced by one year again. Ms. Shaw said that each city in TMRS has its own liabilities and payment schedule, but all are moving toward 0% liabilities. TMRS' funding policy reduced the number of cities (77) below 80% funded.

Mr. Newton said that asset experience showed a \$272 million gain but the liability experience, largely due to Cost of Living Adjustments (COLAs), added \$259 million of liabilities. Data on benefit modifications from recent years showed net benefit improvements, so cities appear to be satisfied with contribution levels overall. Liabilities were reduced by higher than normal employee resignations and retiree deaths in 2021.

Mr. Newton said that whether contribution rates for TMRS cities go up or down for 2023 depends primarily on whether the city has a repeating COLA. Cities without a COLA will see a rate decrease of 46 basis points on average, while those with a COLA will see an average increase of 15 basis points. TMRS' funding policy has TMRS well positioned, because TMRS is projected to be 93% funded, and city contribution rates are projected to average 13.5%, even if investment returns are 1% below the assumed return of 6.75% over the next 20 years.

Mr. Landis moved that the Board accept GRS' December 31, 2021 valuation results and certify the 2023 contribution rates for participating cities. Mr. Huizar seconded the motion, which passed 6-0.

Mr. Scott called for Agenda Item 4.

Advisory Committee on Benefit Design

4. Report on Advisory Committee's April 21, 2022, Meeting.

Ms. Kranes said the Advisory Committee on Benefit Design met on April 21, 2022 and discussed three potential benefit design changes. First, the Committee revisited previous discussion of adding a 90% COLA option. The Committee discussed the proposed benefit's impact but also had questions regarding the timing of the proposal in a year of record inflation. It is not known how many cities would adopt this option as the cities are just now seeing the impact of inflation on rates. Ms. Kranes said the Committee also looked at two proposals to delink benefits. One proposal would delink Updated Service Credits (USC) from COLAs and the next would delink member and retiree Supplemental Death Benefits (SDBs). The Committee discussed that cities would benefit from flexibility added by delinking the benefits but also discussed whether cities are asking for these changes or might drop benefits, such as USC, because of delinking. Since the Committee meeting, she said, staff learned that the Texas Municipal Police Association does not support these delinking proposals, and the Combined Law Enforcement Associations of Texas also leans against the delinking proposals.

Mr. Garza said that after a lot of discussion on these topics this year, one consistent comment has been that it only makes sense to take proposed changes to the legislature if there are a cluster of items. Since there is some opposition to several of the proposals, Mr. Garza recommended that the Board hold off taking legislation in this next session. Mr. Landis said he agreed with Mr. Garza's comments.

David Riggs of the Texas State Association of Fire Fighters addressed the Board on this item. Mr. Riggs said that TSAFF supports the proposal to delink USC from COLAs, which is one of the few areas where a city cannot pick one benefit without another.

Legislative Agenda

5. Discuss Potential Legislation Topics.

Ms. Sweeney said that at the March Board meeting she provided a summary of possible legislative topics for 2023, which was included again in this meeting's Board materials.

The Board did not ask staff to prepare any draft bill language.

Ms. Alanis said delinking benefits might help a small city that currently does not provide any benefits add some benefits, and it gives cities the choice. Ms. Alanis said that she agreed with not pursuing legislation for a single topic, but she wants TMRS to offer options to cities.

Investment Reports

7. Chief Investment Officer's Report.

David Hunter reported that for the quarter ending March 31, 2022, the TMRS trust fund declined 1.73% and trailed its benchmarks by 28 basis points. Performance for the one-year and five-year periods were 7.84% and 7.73%, respectively, and the Trust Fund beat its benchmarks in both. Mr. Hunter said the one-year performance was attributed to Private Equity and Real Estate performing well. The largest TMRS asset class, Public Equity, trailed its benchmark by 70 basis points because it is underweight to U.S. large cap equities, and this underweight position will be addressed at the next Staff Investment Committee (SIC) meeting. All returns were positive except Core Fixed Income due to rising interest rates, and Mr. Hunter said the Board made a great decision to allocate more capital to Non-Core Fixed Income given the current rate environment.

Mr. Scott asked about TMRS' performance in Hedge Funds. Mr. Hunter said that reduction in the target allocation from 10% to 5% had an impact on TMRS trailing the Hedge Funds' benchmark by 2.85%. It takes time for reallocation in private market asset classes, Mr. Hunter said, and TMRS is successfully transitioning investments away from lower performing managers. Also, he said, the asset class changed to a more concentrated asset-class weighted benchmark. Against the prior more diversified and less volatile benchmark, TMRS would be ahead.

Mr. Hunter said the SIC approved six investments totaling \$510 million and reaffirmed its list of five transition managers. Investments is working toward Global Investments Performance Standards (GIPS®) Certification for the 2021 numbers reported in the Annual Consolidated Financial Report, and TMRS' custodian State Street knows of only two other peer plans, none in Texas, that receive this certification. The Board's IPS Committee held its first meeting to review the Investment Policy Statement, and Mr. Hunter thanked Mr. Scott and Ms. Alanis for their work with the Committee. Mr. Hunter reported on promotions within Investments as part of department reorganization.

8. RVK Quarterly Report.

Spencer Hunter said that for the first quarter, large cap U.S. stocks were down 5%, small cap stocks were down 7.5%, non-U.S. stocks were down 6 to 10%, and Fixed Income was down 6%. Measured against the IPS benchmarks, the TMRS total fund outperformed over last five years, and it outperformed the benchmarks during 97% of the time in last 10 years. TMRS exceeded its target return of 6.75% during the last five years.

Mr. Scott called for Agenda Item 10.

Audit Committee Report

10. Report on Audit Committee Meeting and Consider and Act on Appointment of an Internal Auditor.

Ms. Focht-Williams said the Audit Committee met on May 13, 2022. At the Committee meeting, Ms. Vice presented the confidential audit report on Investments due diligence. Testing confirmed that Investments performed its due diligence activities in compliance with documented procedures without exception, she said. The Report was provided to the Board through Diligent. The Audit Committee also interviewed the finalist for Director of Internal Audit and voted unanimously to recommend that candidate to the Board.

Legal Report

11. Review, Consider and Act on the Board's Fiduciary Counsel.

Ms. Sweeney introduced Mr. Klausner, who reviewed his fiduciary counsel experience. He described his role as the Board's fiduciary counsel and partner to the Chief Legal Officer. He said that his litigation experience allows him to recognize and analyze risk and his experience across the country allows him to provide well-founded but independent advice. In his 23rd year of working with TMRS, he said, he also provides institutional knowledge.

Mr. Scott called for Agenda Item 9.

9. Consider and Act on Selection of a General Investment Consultant.

David Hunter reviewed the general investment consultant RFP process. In March, the six largest firms that represent larger U.S. public pension plans responded. After reviewing the responses, staff held video interviews with four firms, hosted in person interviews with the top three firms and recommended three finalists for the Board's consideration.

Mr. Hunter introduced Aon, represented by Steve Voss, Mike McCormick and Phil Kivarkis.

Mr. Hunter next introduced NEPC, represented by Samuel M. Austin, III, Michael Manning and Timothy R. Bruce.

Mr. Hunter next introduced RVK, represented by Marcia Beard, Spencer Hunter and Ian Bray.

Each firm made a presentation and answered Trustee questions.

Executive Session.

10. Executive Session.

The Board went into Executive Session at 12:11 p.m. The meeting reconvened in Open Meeting at 2:07 p.m. No action was taken during the Executive Session. All members of the Board who were present before the Executive Session were present.

After reconvening in Open Meeting, Mr. Scott called back Agenda Item 9. Mr. Scott moved that the Board approve retaining NEPC as its general investment consultant for a five-year term and authorize the Executive Director to negotiate and execute all necessary agreements and documents. Ms. Alanis seconded the motion, which passed 6-0.

Mr. Scott called back Agenda Item 10. Mr. Philibert moved that the Board approve hiring the Director of Internal Audit candidate and salary recommended by staff. Mr. Huizar seconded the motion, which passed 6-0.

Mr. Scott called back Agenda Item 11. Ms. Alanis moved that the Board renew Robert Klausner's contract for a three-year term and authorize the Executive Director to negotiate and execute the necessary agreements. Mr. Philibert seconded the motion, which passed 6-0.

Future Board Agenda Items

11. Call for Future Agenda Items.

There were no future agenda items. Mr. Scott adjourned the meeting at 2:11 p.m.

David B. Wescoe
Executive Director

Bob Scott
Vice Chair, Board of Trustees



June 14, 2022

To: Board of Trustees

From: Andi Focht-Williams, Director of Benefit Administration *Andi Focht-Williams*

Re: Agenda Item 1 - Consent Agenda – Retirements and Supplemental Death Benefit Payments

The attached Retirement Report and Supplemental Death Benefits Payments Report reflect processing activity by the Benefit Administration department in accordance with the TMRS Act and reviewed and approved by Michelle D. Kranes, Chief Service Officer.

**Texas Municipal Retirement System
Supplemental Death Benefits Report**

**Summary of Supplemental Death Benefit Payments and Applications for Supplemental
Death Benefits Extended Coverage from March 1, 2022 to May 31, 2022**

Supplemental Death Benefit Payments	
By Beneficiaries of Active Members	45 payments totaling \$2,290,392.77
By Beneficiaries of Retired Members	245 payments totaling \$1,776,250.00
Applications for Supplemental Death Benefits Extended Coverage	
None	

Texas Municipal Retirement System

Board Retirement Report

Summary of Individual Member Retirements Processed from 02-2022 to 04-2022

Total Number of Retirements by Option	Service	Disability	Total
Retiree Life Only	377	7	384
Retiree Life -- 100% to Survivor	376	8	384
Retiree Life -- 75% to Survivor	85	0	85
Retiree Life -- 50% to Survivor	164	1	165
Retiree Life -- 5 Years Guaranteed	15	0	15
Retiree Life -- 10 Years Guaranteed	23	0	23
Retiree Life -- 15 Years Guaranteed	72	0	72
Cashout of Reserves	23	0	23
Total Number -- All Options	1,135	16	1,151

Total Monthly Benefits (Nearest Dollar)	\$2,504,868	\$11,845	\$2,516,713
Average Monthly Benefit (Nearest Dollar)	\$2,207	\$740	\$2,187
Average Age at Retirement	59	51	59
Average Years of Service at Retirement	21	13	21

Partial Lump Sum Distributions	
No. of Retirements Taking a PLSD	768
Total Amount Paid	\$57,700,316
% of PLSD Funds Rolled Over	67%
% of PLSD Funds Not Rolled Over	33%

TEXAS MUNICIPAL RETIREMENT SYSTEM
STATEMENTS OF FIDUCIARY NET POSITION
As of March 31, 2022 and 2021

	<u>2022</u>	<u>2021</u>
ASSETS		
Cash	\$ 49,219,637	\$ 59,678,334
Receivables:		
Contributions	116,317,912	104,338,831
Interest and dividends	25,149,205	40,204,348
Investment trades	280,451,845	508,516,252
Total receivables	421,918,962	653,059,431
Investments, at fair value:		
Short term investments	500,047,720	1,657,579,238
Derivative contracts	2,764,049	1,044,114
Fixed income securities	3,269,618,015	5,444,991,480
Inflation-linked bonds	-	532,996,752
Global public equities	13,083,899,757	11,902,253,133
REITs	57,475,167	337,535,850
Non-core fixed income funds	5,982,770,961	4,853,320,381
Other public & private markets funds	3,946,102,174	2,354,966,721
Hedge funds	2,830,743,780	3,311,984,739
Private equity funds	3,088,596,809	1,542,665,627
Real estate funds	4,470,584,977	3,126,267,435
Total investments	37,232,603,409	35,065,605,470
Total assets	37,703,742,008	35,778,343,235
LIABILITIES		
Investment trades payable	555,044,302	1,128,838,043
Accrued investment management fees	6,212,589	7,819,199
Accounts payable and other accrued liabilities	38,887,300	41,815,322
Total liabilities	600,144,191	1,178,472,564
FIDUCIARY NET POSITION		
Restricted for pensions	37,099,175,120	34,589,911,311
Held in trust for other benefits	4,422,697	9,959,360
Total fiduciary net position	<u>\$37,103,597,817</u>	<u>\$34,599,870,671</u>

TEXAS MUNICIPAL RETIREMENT SYSTEM
STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION
For the Three Months Ended March 31, 2022 and 2021

	<u>2022</u>	<u>2021</u>
ADDITIONS		
Contributions:		
Pension plan - cities	\$ 246,927,979	\$ 233,081,490
Pension plan - member	120,746,397	112,979,946
Supplemental death benefits plan - cities	2,559,266	2,467,240
Total contributions	<u>370,233,642</u>	<u>348,528,676</u>
Net investment income:		
Net appreciation/(depreciation) in fair value of investments	(1,431,578,511)	324,727,326
Interest and dividends	107,525,867	128,033,040
Total investment income/(loss)	<u>(1,324,052,644)</u>	<u>452,760,366</u>
Less: investment manager fees/transaction costs	(5,648,538)	(7,414,776)
Net investment income/(loss)	<u>(1,329,701,182)</u>	<u>445,345,590</u>
Other miscellaneous	10,871	3,218
Total additions	<u>(959,456,669)</u>	<u>793,877,484</u>
DEDUCTIONS		
Benefit payments:		
Service retirement	374,299,783	350,410,793
Disability retirement	4,315,174	4,314,365
Supplemental death benefits	3,952,052	5,099,257
Partial lump sum distributions	86,405,416	67,479,679
Total benefit payments	<u>468,972,425</u>	<u>427,304,094</u>
Member account refunds	18,829,110	15,004,763
Budget transfer and other	33,091,775	34,495,092
Total deductions	<u>520,893,310</u>	<u>476,803,949</u>
Change in net position	(1,480,349,979)	317,073,535
FIDUCIARY NET POSITION		
Restricted for pensions:		
Beginning of year	38,578,132,313	34,270,205,759
End of year	<u>\$37,099,175,120</u>	<u>\$34,589,911,311</u>
Held in trust for other benefits:		
Beginning of year	5,815,483	12,591,377
End of year	<u>\$ 4,422,697</u>	<u>\$ 9,959,360</u>

TEXAS MUNICIPAL RETIREMENT SYSTEM
EXPENSE FUND
Balance Sheet
As of March 31, 2022

ASSETS

Cash	\$ 500
Accounts receivable and other assets	5,708,218
Due from trust fund	39,223,640
Land	254,388
Building and improvements, net	8,070,954
Furniture and equipment, net	<u>1,259,772</u>
 Total assets	 <u><u>\$ 54,517,472</u></u>

LIABILITIES

Accounts payable & accrued expenses	\$ 9,867,817
Accrued leave liability	<u>4,499,670</u>
 Total liabilities	 14,367,487

RESERVES AND FUND BALANCES

Reserve for administrative expenses	14,872,201
Net receipts over disbursements:	
Revenue	33,101,192
Expenses	<u>(7,823,408)</u>
 Total reserves and fund balances	 <u><u>40,149,985</u></u>
 Total liabilities, reserves and fund balances	 <u><u>\$ 54,517,472</u></u>

TEXAS MUNICIPAL RETIREMENT SYSTEM
EXPENSE FUND
Schedule of 2022 Operating Expenses
For the Three Months Ending March 31, 2022

	Budget	Actual	Amount (\$) Over / (Under)	Percent (%)
Personnel services:				
Staff Salaries and Payroll Taxes	\$16,689,769	3,481,887	\$ (13,207,882)	(79.1)
Employee Benefits	4,074,752	833,755	(3,240,997)	(79.5)
Contract Labor / Temporary Staffing	100,000	43,137	(56,863)	(56.9)
Total Personnel Services	20,864,521	4,358,779	(16,505,742)	(79.1)
Professional services:				
Actuarial	689,300	151,425	(537,875)	(78.0)
Audit	185,125	4,600	(180,525)	(97.5)
Banking & Custodial	1,553,000	389,563	(1,163,437)	(74.9)
Information Services Consultants	313,100	143,211	(169,889)	(54.3)
Investment Consultants	1,520,347	352,427	(1,167,920)	(76.8)
Legal	1,166,500	153,991	(1,012,509)	(86.8)
Other Services	375,200	177,547	(197,653)	(52.7)
Total Professional Services	5,802,572	1,372,764	(4,429,808)	(76.3)
Facilities	2,878,905	719,051	(2,159,854)	(75.0)
Information Technology:				
Hardware/Software & Support	1,090,475	145,126	(945,349)	(86.7)
Cloud Hosted Services	2,403,853	708,274	(1,695,579)	(70.5)
Total Information Technology	3,494,328	853,400	(2,640,928)	(75.6)
Other Administrative:				
Travel	541,465	13,440	(528,025)	(97.5)
Dues	52,296	20,247	(32,049)	(61.3)
Subscriptions/publications	113,632	23,851	(89,781)	(79.0)
Training	342,885	27,974	(314,911)	(91.8)
Printing	243,260	86,882	(156,378)	(64.3)
Postage	320,375	172,522	(147,853)	(46.1)
City/Member seminars/workshops	197,100	8,551	(188,549)	(95.7)
Business Insurance	167,560	38,807	(128,753)	(76.8)
Equipment and Supplies	280,850	86,145	(194,705)	(69.3)
Offsite / Record Storage	35,000	8,558	(26,442)	(75.5)
Miscellaneous	90,088	12,490	(77,598)	(86.1)
Board of Trustees / Advisory Committee	130,500	19,947	(110,553)	(84.7)
Total Other Administrative	2,515,011	519,414	(1,995,597)	(79.3)
Total Operating Expenses	\$ 35,555,337	7,823,408	(27,731,929)	(78.0)



June 14, 2022

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

A handwritten signature in blue ink, appearing to read "David", is written over the "From:" line of the header.

It seems like just yesterday that I presented my May Board Report to you. And it just about was; I'm writing this Report just three weeks after our last meeting. But even in that short time, staff has accomplished a lot.

Mike Apperley Is In The House. Mike Apperley started yesterday as Director of Internal Audit. Prior to joining TMRS, Mike worked as a State of Texas auditor and accountant for 25 years, 16 in an executive capacity. At the Texas State Auditor's Office, Mike managed financial, performance, and federal compliance audits. He has hired and trained new auditors, managed client relationships, and overseen quality control and accounting functions. Most recently, Mike was Assistant Director of Fiscal Management at the Texas Comptroller of Public Accounts. Mike is a certified public accountant and has a B.A. in Business Administration from Texas State University. Mike is off to a great start, and it is already clear that he will be a positive addition to the Senior Staff.

The Member Service Center Is Still On A Roll. Last month, I reported that the MSC was on a roll, and their great performance continues. Last week, the median call wait time was five seconds, and the mean call wait time was 15 seconds. These are the best call center performance numbers I have ever seen. Hats off (and horseshoes) to Member Service Center Manager April Hernandez, Supervisors Naqqash Sharif and Barrett Smith, and their teams for their spectacular effort and outstanding Member service.

Main Street Is On The Street. Staff published TMRS' participating city newsletter, *Main Street*, a key component of our improved city communications program.

Senior Staff Presentations. Michelle Mellon-Werch spoke at the Texas Association of Municipal Information Officers' annual conference, Michelle Kranes updated the Texas City Management Association's Board on TMRS initiatives at TCMA's annual conference, and I delivered the keynote presentation at the Global Investors Annual Meeting.

The City Contribution Team Makes History. The City Contribution team is performing at a high level: all April monthly reports were completed, and there were no outstanding city contributions reports. TMRS has never started a month that didn't include at least one outstanding report from a previous month. As Chief Service Officer Michelle Kranes told the team, "You just made TMRS history! The whole team should be very, very proud. I can confidently say TMRS' service to cities has never been better. This is Nyquist! Thank you!"

Global Investment Performance Standards (GIPS) Certification. An independent GIPS audit firm has confirmed that TMRS' 2021 investment results can claim compliance with GIPS performance standards. The investment team worked very hard to achieve this certification, which makes TMRS the only public pension plan in Texas (and one of the few in the country) that can claim compliance with GIPS performance standards.

City Contribution Rate Letters. TMRS published participating city 2023 contribution rate letters, the biggest actuarial project of the year, on our website and notified all city contacts that the letters were posted.

IH-35 Building Sale. The sale of the 1200 N. I-35 building is moving forward. The prospective buyer's feasibility period has expired, and the next step is closing, which could take place within 30 days.

Investment Department Staffing. This week, the investment team extended offers to two talented professionals, and both accepted. Since his arrival, Dave Hunter is creating a collaborative and team-oriented department culture, Tom Masthay and Eddie Schultz have assumed larger leadership roles, and we have hired impressive talent. With your selection of NEPC as General Investment Consultant and a new IPS on the way, TMRS' investment organization is in great shape.



June 14, 2022

To: Board of Trustees

From: Sandra Vice, Chief Administrative Officer *Sandra Vice*

Re: Agenda Item 3: Second Quarter Administrative Teams Report

1. Finance. The Consent Agenda includes unaudited financial information as of March 31, 2022. Finance also has worked on the following:

- Annual Comprehensive Financial Report (ACFR) and the Popular Annual Financial Report (PAFR). The ACFR for the year ended December 31, 2020 received the Certificate of Achievement for Excellence in Financial Reporting for the 34th consecutive year. The PAFR received the 2020 Award for Outstanding Achievement for the 16th consecutive year. The ACFR award will be included in the 2021 ACFR, and the PAFR award will be included in the 2021 PAFR.

TMRS continued to make clarifications to the ACFR for the year ended December 31, 2021, with focus on the financial statement footnotes to improve understanding. Candace Nolte and Caroline Love were instrumental in completing this project timely.

- 2021 Financial Statement Audit. CLA conducted onsite fieldwork May 9-13, during which they reported that data analytics procedures on contributions and benefit payments, which test for anomalies and potential fraud, had identified no issues. TMRS received an unmodified/clean opinion, which is included in the 2021 ACFR.
- System and Organization Controls (SOC) Audit. CLA completed Phase II test work in May. CLA issued an unmodified/clean opinion and found no exceptions for the 10 control objectives tested. Due to its confidential nature, the report is available in the City Portal.
- Investment Accounting. We had 226 investment accounts as of March 31, 2022, up from 221 at the end of 2021. During the first quarter, we received distributions totaling \$486.4 million, funded capital calls totaling \$815.5 million, and received liquidations totaling \$831.0 million.

2. Human Resources. HR activities this period included:

- Personnel. HR has overseen recruiting, interviewing, hiring, and onboarding of 18 new employees year-to-date. HR Staffing Metrics are included in the Board Dashboard located in Diligent's Resource Center.
- HR/Facilities. We continue to oversee completion of the office punch-list items and are working with Communications to add signage for the building and the Board Room, including a dedication plaque and nameplates.

3. Information Services. IS activities this period included:

- Replacement Servers and Storage. The Network Operations team evaluated replacement options for servers and storage that have fulfilled their useful life of five years based on TMRS' equipment lifecycle. Replacement systems have been ordered and will be implemented in July 2022. The estimated cost of \$633,000 is 54% less than the approved 2022 budget thanks to Brian Farrar's aggressive negotiation.
- Annual Permissions Review. Gordon James enhanced the annual review of permissions TMRS employees have to various systems. This year, there was increased emphasis on employee access to third-party systems containing confidential or sensitive financial information. The new review process was completed on schedule and results were provided to CLA as part of the SOC audit.
- Annual Security Awareness Training. Because our employees are our first line of defense against malicious cyber actors that target TMRS systems and our third-party vendors, TMRS requires TMRS staff to complete security awareness training annually. All employees completed the training by the deadline.
- Microsoft and Windows 10 Upgrades. NextGen and the content management system that houses Member correspondence were updated to remove dependencies on Internet Explorer, which Microsoft is retiring on June 15. All TRMS computers were upgraded to the latest version of Windows 10, ensuring our systems remain secure and eligible for support.
- Reduced Costs for Mobile Devices. The number of TMRS issued mobile devices with monthly data plans was reduced by 70% since April 2022, resulting in savings of \$1,300 per month. The reduction occurred after we refined the criteria for issuing employees with a TMRS cell phone and/or tablet with data plan.

4. Internal Audit.

Audit Committee Meeting. We held a virtual Audit Committee meeting on May 13 to present the results of the *Confidential Audit of Investment Due Diligence*; Internal Audit's testing confirmed compliance with the process with no exceptions. The Audit Committee also interviewed the top candidate for Director of Internal Audit and voted unanimously to recommend the candidate to the Board.

New Director of Internal Audit. At its May meeting, the Board unanimously voted to appoint Mike Apperley as Director of Internal Audit. Mike began working at TMRS yesterday.

5. Records. From April 1 to June 6, Records processed 13,532 faxes; scanned 58,498 pages; and indexed, verified and loaded 19,837 records to our electronic content management system.

The Records Team also assisted Members Services as follows:

- Temporarily assigned a Records Specialist to assist during staffing shortages; Benefit Administration subsequently offered this Records Specialist a permanent position.
- Folded and stuffed letters for large mail outs required when a vendor was temporarily unable to process the mailings.

6. Orientation for new staff. Finance, HR, IS and Records all participated in the orientation for 10 new Member Services department staff.



June 14, 2022

To: Board of Trustees

From: Christine M. Sweeney, Chief Legal Officer CS

Re: Agenda Item 3: Second Quarter Legal Report

Investment Compliance. Board meeting materials include the quarterly Investment Compliance Report, which Michele Fullon will present in June.

TMRS Legal Work on Investment Matters, Public Information Requests, and Other Matters.

- **Investment Matters.** Below is a summary of the investment allocations that have closed, and the other investment related agreements that have been completed, during the time period noted below.
 - From March 12, 2022 to June 10, 2022
 - 7 investment allocation transactions submitted for signature (not including any additional allocations made through rebalancing)
 - 29 other investment related items submitted for signature
- **Contracts for TMRS' Office and Sale of TMRS Building.** Nick O'Keefe has been handling the contracting process for TMRS' offices at The Grove and the sale of the TMRS IH-35 building. Since March, he has negotiated and submitted five additional agreements for signature.
- **General Contracting and Benefits Matters.** Since March, Legal has handled and submitted the following items for signature or approval. Many non-investment matters handled by Legal staff do not require a signature or approval by the Executive Director and those are not included in the numbers below:
 - From March 12, 2022 to June 10, 2022
 - 19 contracts (non-investment related) submitted for signature
 - 4 other benefits administration and non-investment related items submitted for signature or approval

- **Public Information Requests.** Since March 12, Legal staff have received 15 information requests under the Texas Public Information Act.

QDRO Matters. At its March meeting, the Board adopted the proposed repeal and replacement of the TMRS Rules regarding qualified domestic relations orders (QDROs), to be effective July 1, 2022. Legal staff submitted the final adoption to the Texas Register and it was published in the June 3, 2022 issue of the Texas Register. Additionally, Madison Jechow, Assistant General Counsel, is working with others to re-write TMRS' single, lengthy "Divorce and Retirement" publication (23 pages) to reflect the rule changes, as well as clarifying and simplifying all the information regarding TMRS' process for handling QDROs received from members and retirees. The result will be two new separate, shorter and improved publications: one designed for people who divorce before they retire from TMRS and the other for those who divorce after they retire. Another improvement designed to help our members and retirees!

TMRS Administrative Cases. None pending.

Legal Report Appendix.

Please see the Legal Report Appendix in the Diligent Resource Center for confidential legal updates and background information.



June 14, 2022

To: Board of Trustees

From: Michelle D. Kranes, Chief Service Officer *MDKranes*

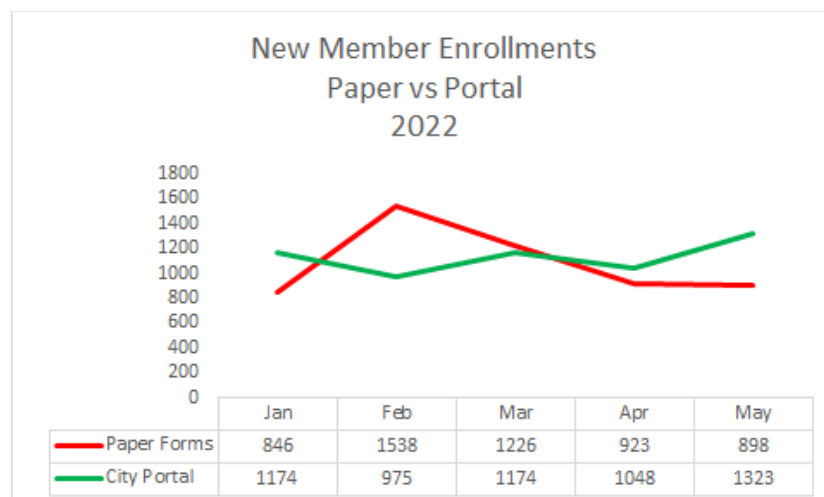
Re: Agenda Item 3: Second Quarter Services Report

This Report includes accomplishments of the Actuarial Services, Benefit Administration, City Contributions, and Member and City Services departments, as well as an update on the Pension Administration Modernization (PASMod) Project that involves multiple departments.

Pension Administration Modernization Update

Online Contribution Reporting and Payment. Development of City Portal online contribution functionality is ahead of schedule and on budget. The team has identified early November for deployment that will allow cities to submit and pay October contribution reports online!

Online Enrollment. Online contribution reporting will require cities to use the City Portal to enroll new employees in TMRS. To help cities prepare for the new functionality, the City Contributions team has begun reaching out to cities still using paper enrollment forms and has had great success. Corpus Christi, the largest paper enroller with an average of 550 paper forms per year, began enrolling new employees online in May.



Direct Deposit of One-time Payments. We have reached the final stages of preparation to be able to issue one-time payments such as refunds and supplemental death benefits via direct deposit. Direct deposit of these payments will begin later this summer.

Actuarial Services

2021 Actuarial Valuation. At the May meeting, the Board accepted the 2021 Actuarial Valuation Report and certified the contribution rates for participating cities for the year beginning January 1, 2023. While each participating city has its own funded ratio, TMRS' funded ratio as a whole as of December 31, 2021 was 90.5%, compared to 89.5% one year earlier.

2023 Rate Letters. Rate Letters containing detailed information on each participating city's 2023 contribution rate were uploaded to the TMRS website on June 8. An announcement was posted on the TMRS website and emailed to the city contacts.

2021 Valuation Census Data. The 2021 valuation census data which is used in preparing the GASB 68 and GASB 75 reporting packages has been uploaded to the City Portal. The census data is provided to assist participating cities with the audit of their city financial statements.

Grand Prairie General Obligation Pension Bonds (POBs). Leslee and Madison Jechow are working with the City of Grand Prairie which plans to issue POBs later this year to pay off their 2021 Unfunded Actuarial Accrued Liability of \$76,831,209. We expect the POB agreement between Grand Prairie and TMRS to be presented at the June 23 Board meeting.

Benefit Administration

Benefit Administration Department. The processing functions previously under Member Services were restructured under the new Benefit Administration department which has three teams. The Member Benefit team services requests from active and inactive members, the Retiree Benefit team processes retirements, and the Beneficiary Benefit team serves member and retiree beneficiaries.

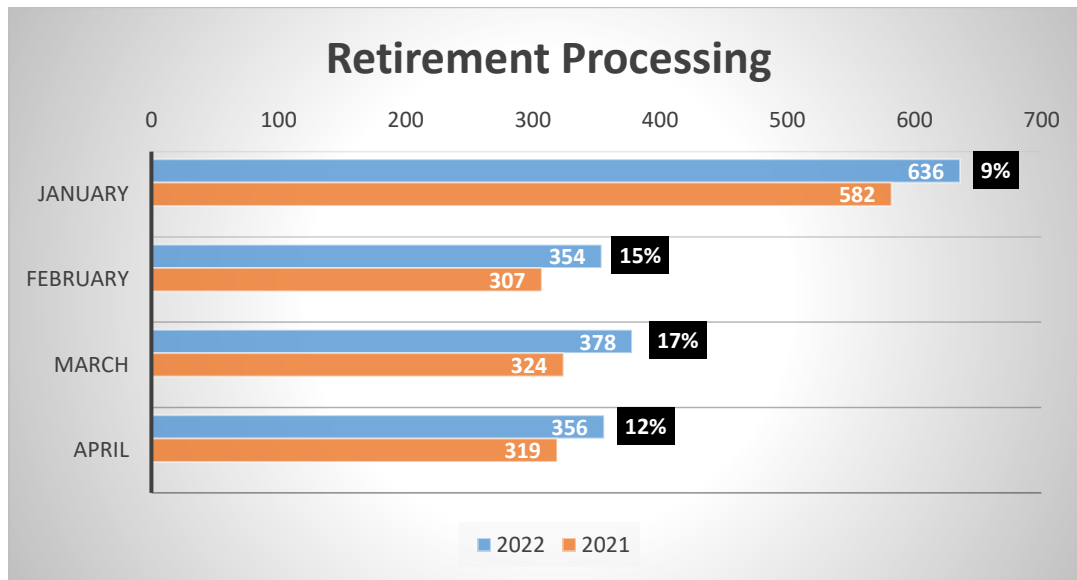
Personnel Updates. Andi Focht-Williams was promoted named TMRS' first Director of Benefit Administration in April and has already made an impact. TMRS welcomed Leanna Allen and Cassandra Grant to the Benefit Administration department in May. Leanna joined TMRS in 2019 as a member of the Records team. Cassandra is new to TMRS and has a background in processing benefits.

New Analyst Orientation. In early May, TMRS held its first ever classroom training class for new employees hired in the Benefit Administration Department and Member Service Center. The two-week training provided a holistic introduction to TMRS and detailed technical training to prepare the trainees for their particular roles. Current employees interested in gaining a better understanding of TMRS were invited to join. The training was well-rated by the attendees.

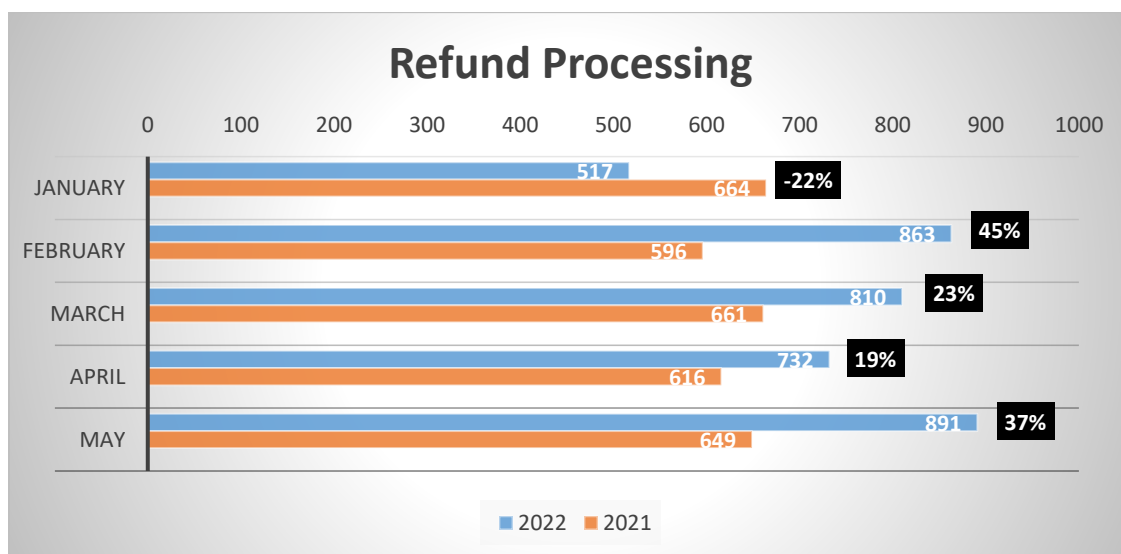
Essential Functions. Andi Focht-Williams and Debbie Munoz partnered to create the first ever listing of TMRS’ core business processes for Members. It is truly the “Mighty Fine” menu of TMRS.

Department Statistics

Retirements. In the first four months of 2022, TMRS processed 1,724 retirements, a 13% increase in volume over the same months in 2021. (May retirements are processed in June.)



Refunds. From January through May 2022, TMRS issued 3,813 refunds, a 20% increase over the same months in 2021.



City Contributions

City Contribution Reports. The City Contributions team under Jennifer Andrews' leadership set an ambitious goal to resolve all late contribution reports before the beginning of the next month — and within three months they achieved it!

For the first time ever, no April contribution reports were still outstanding by the following month. Jennifer's team's proactive approach helped TMRS make history. Previously, TMRS averaged between 30 and 40 late contribution reports each month, which rolled into the next month's workflow and caused unnecessary administrative work.

Member and City Services

Debbie Munoz was promoted to Director of Member and City Services in April and is doing an excellent job in her new, expanded role.

Member Service Center

- **Personnel changes:** Barrett Smith was promoted to Member Service Center Supervisor. Barrett has previous Supervisor experience and a solid foundation as a Call Center Analyst. Naqqash Sharif filled the second Supervisor position. Sharif brings over 10 years of call center management experience to the team.

The Member Service Center hired 3 new analysts: Amanda Rivera comes to TMRS as an experienced call center analyst from the Comptroller's Office. Melanie Moreno also joined the team with experience as a 911 dispatcher from Hays County. Kyle Winkelmann joins our team with call center experience and as a benefit counselor with Teacher Retirement System.

- **Training:** New Member Service Center staff completed an extensive 4-week training program in May, and the Analysts will continue training through June with our Supervisors.
- **Statistics:** In 2022, the Member Service Center has received more than 45,000 calls with a median wait time of less than 30 seconds.

Member Education Center. Since January 1, the Member Education team has represented TMRS at 60 events (32 virtual; 28 in-person) and directly counseled more than 2,000 Members. The Member Education Representatives also contributed to the TMRS new analyst orientation.

City Services. Six new cities have already joined TMRS in 2022 (six total joined in 2021). City Services staff have helped 10 cities make plan changes.



June 14, 2022

To: Board of Trustees

From: Michelle Mellon-Werch, Director of Communications

A handwritten signature in blue ink, appearing to read "mmlw", is placed to the right of the "From:" line.

Re: Agenda Item 3: Communications Quarterly Report

Department Staffing. Donna Neal retired on April 30. Donna joined TMRS as a Design Specialist in the Communications Department in 2005. Donna was TMRS' layout and design guru for the website, newsletters, annual statements, annual financial report, flyers and other materials for more than 16 years. We will miss her dedication to TMRS, professionalism and style.

In May, Jack Austin and Angel Vidal joined the department. Most recently, Jack was an Adjunct Professor of English Literature at Austin Community College and as an Editor at a literary website. Jack will be working to ensure that we are communicating with our Members in a consistently clear and straightforward style. Angel has more than seven years of graphic design, multi-media, web design and general communications experience. He will be managing the website and intranet and ensuring consistency and clarity through design in all our publications. Both Jack and Angel have hit the ground running and are upgrading our communications processes and deliverables.

Annual Comprehensive Financial Report. Communications developed a cover for the ACFR, taking pictures of employees and creating a layout to highlight them. Caroline Love, Communications Manager, worked with Finance, Legal and the Executive team to ensure the best layout and design of the ACFR.

Annual City Training Conference. Planning and preparations are underway for the Annual City Training Conference that will be held virtually on September 13 and 14. City Services and Communications are preparing presentations and will be taping them in July. Save the date!

Conferences and Presentations. I presented "Everything You Need to Know About Your TMRS Benefit" at the Texas Association of Municipal Information Officers conference in Houston on June 9. In addition to the discussion of individual benefits, I covered the communications efforts that TMRS has undertaken in the past year, including the new TMRS mobile app, the City Portal and new Fact Sheets. I also asked the audience for their best city and employee photos to showcase in our building.

City Communications. Communications staff assisted with the preparation of a presentation by Michelle Kranes and Anthony Mills for TML Region 12 in May. We also assisted with sending *Main Street*, our quarterly newsletter emailed to all city contacts on June 6. Communications worked closely with Actuarial Services to post the 2022 city rate letters on the website. On June 8, we sent an email to all city contacts informing them that the rate letters were available at [For Cities / Actuarial & Accounting / Rate Letters](#).

Conference Receptions. TMRS has planned four receptions at stakeholder and TML-affiliated conferences. You are all invited and welcome to attend. By date, they are

- TMPA – July 30 at the Alamo
- CLEAT – September 9 in Houston
- TML – October 5 in San Antonio
- GFOAT – November 2 in San Antonio

TMRS Mobile App. More than 15,700 members and retirees have downloaded the mobile app since it went live in October 2021. These users have accessed MyTMRS more than 75,000 times.

Communications Support. Staff worked with Member and City Services to create Fact Sheets on multiple topics for cities to provide Members. These include “Apply for Retirement,” “Designate Your Beneficiary,” “Income Replacement in Retirement,” “Think Before You Refund,” “Retirement Benefit Options,” “Vesting with TMRS,” and “Your City Can Provide You With Long-Term Financial Security.” This last Fact Sheet is a template that has been customized for more than 25 cities. You can find them on the [Fact Sheets webpage](#) under For Cities / Information. Communications also updated the Direct Deposit and Military Service Credit forms on request of the Benefit Administration department. We are currently assisting Legal and Member Services with the development of a new publication on Divorce and TMRS Benefits that is necessary to communicate the new Board Rules on QDROs and creating the layout for the Fiduciary Net Position Schedule for Finance.

Website. So far in the second quarter, we have made dozens of changes to the website. These include alphabetizing menus, renaming headers, revising titles and content, posting board materials, and updating bios, forms, Fact Sheets and investment reports. Larger projects include revising the City Plan Provisions page and renaming it [Plan Design](#) for the City Services Department and posting 2022 City Rate Letters. We also created a webpage for each Fact Sheet topic under the appropriate column in the For Members menu.



June 14, 2022

To: Board of Trustees

From: Dan Wattles, Director Governmental Relations *Dan Wattles*

Re: Agenda Item 3: Second Quarter Governmental Relations Report

2022 Senior Staff Action Plan. Item No. 3 in the 2022 Senior Staff Action Plan, "Finalize and Prepare for TMRS' 2023 Legislative Agenda," is in progress.

87th Legislative Interim. The Speaker of the House of Representatives released House interim committee charges on March 10. The House Pensions, Investments and Financial Services Committee received one charge related to TMRS, but has not scheduled a hearing to take up that charge. That charge is:

"Review the impact of investments by public retirement systems of their endowment and other trust funds in businesses and funds owned or controlled by the Russian government or Russian nationals, and determine the need for investment restrictions. Consider the impact of any proposed investment restrictions on fund performance."

The Lt. Governor released Senate interim committee charges on April 4. The Senate Finance Committee and the Senate State Affairs Committee each received a charge affecting TMRS. The Senate Finance Charge is:

"Examine and report on options for state asset owners to divest their positions in companies that invest in the Russian Federation."

The Senate State Affairs charge is:

"Study the investment practices of financial services firms and how those practices affect the state's public pensions. Make recommendations to ensure the state's public pension funds are not being invested to further political or social causes."

The Senate Finance Committee held a hearing on May 4 and the Senate State Affairs Committee met on May 25 to take up these charges. TMRS was not invited to testify but monitored both hearings.

Legislative District Profile System. I coordinated an update to this System with the Information Services department. The System update occurs every 10 years, based on the federal decennial census and redrawn U.S. House of Representatives, Texas House of Representatives and Texas Senate Districts. The System provides profiles that are used to educate legislators about the impact TMRS has on their districts. (Sample attached.)

Advisory Committee on Benefit Design. I helped prepare for the April 21 Committee meeting and respond to Committee member inquiries. I also coordinated a meeting with Texas Municipal Police Association representatives.

Pension Review Board. TMRS is currently in compliance with all PRB reporting requirements.



Senator Joan Huffman (SD-17)

District Profile

As of May 31, 2022

Participating Cities: 36

Active Members: 2,787

Retirees and Beneficiaries: 1,565

Annual Benefit Payments in District: \$26,613,858

Estimated Annual Economic Impact in District: \$48,703,360

District Detail

Participating Cities	Participation Date	Active Members	Retirees and Beneficiaries
Sugar Land	May 1, 1972	794	332
Katy	January 1, 1974	261	80
Lake Jackson	January 1, 1949	231	166
Stafford	May 1, 1979	173	95
Bay City	April 1, 1969	165	130
Angleton	November 1, 1973	154	85
Freeport	November 1, 1977	146	97
El Campo	October 1, 1967	117	83
Clute	January 1, 1974	103	72
Wharton	January 1, 1971	96	52
Fulshear	November 1, 2010	65	3
Spring Valley Village	January 1, 1990	44	39
Palacios	March 1, 1977	43	28
Columbus	April 1, 1970	38	36
West Columbia	May 1, 1973	35	22
Edna	June 1, 1966	34	38
Surfside Beach	May 1, 1998	34	9
Weimar	June 1, 1948	30	31
Brazoria	January 1, 1984	28	25
Eagle Lake	September 1, 1980	25	19
Sweeny	February 1, 1971	25	17
Richwood	October 1, 1989	22	21
Oyster Creek	August 1, 1980	21	26
Arcola	March 1, 2016	20	2
Needville	June 1, 1981	20	13
Ganado	January 1, 1969	10	14
Quintana	November 1, 2005	10	0
Jones Creek	October 1, 1993	8	5
Hunters Creek Village	June 1, 1992	7	9
Piney Point Village	January 1, 1995	7	8

Participating Cities	Participation Date	Active Members	Retirees and Beneficiaries
Danbury	January 1, 2007	6	3
Liverpool	February 1, 2011	5	0
East Bernard	May 1, 2015	4	2
Hilshire Village	November 1, 2014	2	1
Simonton	October 1, 2018	2	0
Thompsons	January 1, 2004	2	2



June 14, 2022

To: Board of Trustees

From: Christine M. Sweeney, Chief Legal Officer

CS

Re: Agenda Item 5: Consider and Act on Matters Regarding City of Grand Prairie Pension Obligation Bonds

Chapter 107 of the Texas Local Government Code (Chapter 107) allows a city to issue pension obligation bonds for the purpose of funding all or any part of the unfunded accrued actuarial liabilities owing to a public pension fund.

Chapter 107, Section 107.003 requires that, before authorizing issuance and delivery of the Bonds, the governing body of the City must enter into a written agreement with the governing body of the public pension fund which written agreement "must state the amount of the unfunded liability and the date or dates on which the public pension fund will accept the net proceeds of the obligations to be issued in payment of all or a portion of the unfunded liability."

On June 7, 2022, the City Council (Council) of the City of Grand Prairie (City) adopted City Resolution No. 5272-2022, whereby the Council approved the proposed Agreement (defined below) between the City and TMRS and authorized the Mayor to execute the Agreement.

The City's bond counsel has advised TMRS staff that on June 21, 2022, the Council will consider an ordinance to authorize the City to issue one or more series of the City of Grand Prairie, Texas General Obligation Pension Bonds (Bonds) pursuant to Chapter 107.

The City proposes to issue \$76,831,209 in Bonds and from the proceeds thereof: (i) make a lump sum contribution to TMRS in the amount of \$67,299,654 on or before December 31, 2022, and (ii) have the remaining \$9,531,555 of Bond proceeds placed with an Escrow Agent to be used by the Escrow Agent to make payments to fund the "prior service portion" of the City's monthly required employer contributions to TMRS for the time period from October 2022 through December 2023.

Under TMRS Act §855.4065 and TMRS Rule §125.6, a city may make lump sum or periodic payments to TMRS in addition to, but not in replacement of, the city's monthly required employer contributions. However, under the Rule TMRS retains the right not to accept such a payment if, in the opinion of the Executive Director, acceptance of the payment would result in an unreasonable administrative or investment burden. TMRS staff have reviewed the City's proposed lump sum contribution and escrow payments, and the Executive Director and the senior investment team have determined that they would not cause an unreasonable investment burden nor would they

cause an administrative burden. All such additional payments are to be deposited to the City's account in the TMRS Benefit Accumulation Fund ("BAF") and cannot be returned to the City.

TMRS Legal and Actuarial Staff worked with the City's Chief Financial Officer and the City's Bond Counsel to provide the City with a clear explanation of the TMRS Act provisions and TMRS' operations that will allow the City to make a lump sum contribution in addition to, but not in replacement of, the City's monthly required employer contributions to TMRS.

The proposed Agreement Regarding City Pension Obligation Bonds between the TMRS Board and the City Council (the Agreement) is attached as Attachment 1. The form of the Agreement is derived from Chapter 107 and is substantially similar to an agreement that TMRS entered in 2021 with the City of Irving. The Office of the Attorney General also must give its approval of the Agreement, and the OAG gave its approval for the City of Irving's substantially similar agreement in 2021.

The proposed TMRS Certificate of Authority and Resolution is attached as Attachment 2.

Although TMRS will not be a party to the Escrow Agreement between the City and the Escrow Agent, a copy of the draft Escrow Agreement is included as Attachment 3 for your information.

RECOMMENDATION

Staff recommends that the Board approve the Agreement Regarding City Pension Obligation Bonds ("Agreement") and the Certificate of Authority and Resolution (the "Certificate"), in substantially the form presented; authorize the Board Chair to negotiate, execute, acknowledge and deliver the Agreement by and on behalf of the Board; and authorize the Executive Director to negotiate, execute, acknowledge and deliver the Certificate by and on behalf of the System; with such modifications or amendments to the Agreement or Certificate as are satisfactory to the Board Chair or Executive Director, respectively, such satisfactory terms and conditions to be conclusively evidenced by the execution thereof by the Board Chair and the Executive Director, respectively.

ATTACHMENTS - 3

- 1 - Agreement Regarding City Pension Obligation Bonds
- 2 - Certificate of Authority and Resolution
- 3 - Draft Escrow Agreement

AGREEMENT REGARDING CITY PENSION OBLIGATION BONDS

This AGREEMENT REGARDING CITY PENSION OBLIGATION BONDS (the "Agreement") is entered into by and between the Board of Trustees ("Board") of the Texas Municipal Retirement System, a Texas public retirement system ("TMRS"), and the City Council ("City Council") of the City of Grand Prairie, Texas ("City"), and will be effective for all purposes as of the date this Agreement is signed by the latter party to do so below (the "Effective Date").

WHEREAS, pursuant to a City Ordinance passed and approved on June 16, 1954, the City became a participating municipality in TMRS for the benefit of its employees effective as of September 1, 1954; and

WHEREAS, the City Council expects to adopt an ordinance authorizing the City to issue one or more series of City of Grand Prairie, Texas, General Obligation Pension Bonds (the "Bonds") pursuant to Chapter 107, Texas Local Government Code, as amended ("Chapter 107") for the purpose of funding all or any part of the unfunded actuarial accrued liabilities owing to TMRS; and

WHEREAS, Section 107.003 of Chapter 107 requires that, before authorizing issuance and delivery of the Bonds, the City Council must enter into a written agreement with the Board, which written agreement "must state the amount of the unfunded liability and the date or dates on which the public pension fund will accept the net proceeds of the obligations to be issued in payment of all or a portion of the unfunded liability";

NOW THEREFORE, the City Council and the Board enter into this Agreement pursuant to Section 107.003 of Chapter 107, as follows:

1. The Board certifies that:

- (a) TMRS is a statewide public retirement system qualified under section 401(a) of the Internal Revenue Code of 1986, as amended (the "IRC"), providing retirement, disability, and death benefits to active and retired employees of municipalities that participate in TMRS; and
- (b) TMRS is not:
 - (i) a program that provides only workers' compensation benefits;
 - (ii) a program administered by the federal government;
 - (iii) a plan described by IRC Section 401(d);
 - (iv) an individual retirement account consisting of an annuity contract described by IRC Section 403(b);
 - (v) an individual retirement account as defined by IRC Section 408(a);
 - (vi) an individual retirement annuity as defined by IRC Section 408(b);
 - (vii) an eligible deferred compensation plan as defined by IRC Section 457(b);
 - or
 - (viii) a program for which benefits are administered by a life insurance company or for which the only funding agency is a life insurance company.

2. The City Council and the Board acknowledge and agree that the City has a Unfunded Actuarial Accrued Liability owing to TMRS in the amount of \$76,831,209 as of the December 31, 2021, TMRS actuarial valuation (the “2021 UAAL”).
3. The City Council acknowledges and agrees that:
 - (a) the 2021 UAAL calculation was done by TMRS’ consulting actuaries, Gabriel, Roeder, Smith & Company (“GRS”) and was approved by the TMRS Board at its May 26, 2022, meeting;
 - (b) the full actuarial valuation report can be found on the TMRS website at: https://www.tmr.com/actuarial_reports.php;
 - (c) the City’s individual rate letter as provided by TMRS is attached hereto as **Exhibit A**;
 - (d) the City has requested to make a lump sum employer contribution to TMRS in the amount of \$67,299,654 to fund a portion of the 2021 UAAL from proceeds of the Bonds on the closing date of the Bonds, which shall be on or before October 15, 2022;
 - (e) the remaining portion of the 2021 UAAL equals \$9,531,555 and shall be referred to as the “Prior Service Portion” for purposes of this Agreement;
 - (f) the City desires to fund the Prior Service Portion from the proceeds of the Bonds and pay the Prior Service Portion through its required monthly employer contributions for the time period October 2022 through December 31, 2023 from monthly contributions to TMRS made pursuant to an escrow agreement (the “Escrow Agreement”) between the City and The Bank of New York Mellon Trust Company, N.A. as escrow agent (the “Escrow Agent”); provided, however, that the City shall remain responsible for paying to TMRS any portion of the Prior Service Portion of the required employer contribution rate that is not covered by the payments made pursuant to the Escrow Agreement;
 - (g) attached as **Exhibit B** is the City’s schedule of estimated monthly payments for the Prior Service Portion;
 - (h) the deposit of \$67,299,654 pursuant to Section 3(d) hereof and the total contributions of \$9,531,555 pursuant to Sections 3(e) and 3(f) hereof equals the 2021 UAAL; and
 - (i) the monthly payments made by the Escrow Agent to TMRS pursuant to the terms of the Escrow Agreement shall be in furtherance of payment of the Prior Service Portion, which Prior Service Portion will be calculated by the City as a percentage of payroll based on the Prior Service Portion of the City’s applicable required employer contribution rates for 2022 and 2023 calculated by GRS. The proceeds of the Bonds deposited pursuant to the Escrow Agreement shall be for the benefit of TMRS and used solely for the purpose of funding the Prior Service Portion;

provided, all amounts remaining in the Escrow Fund in December 2023 shall be deposited with TMRS in December 2023 even if such amounts are in excess of the actual amounts required to be deposited in December 2023 based on the Prior Service Portion calculated as a percentage of payroll of the City's required employer contribution rate for December 2023 calculated by GRS.

4. The Board acknowledges and agrees that:
 - (a) The Board agrees to accept the deposits set forth in Sections 3(d), 3(f) and 3(i) hereof when made;
 - (b) The Board has fiduciary responsibility for the assets of TMRS and has the duty to oversee the investment and expenditure of the assets of TMRS; and
 - (c) The Board agrees that such deposits, when made, shall be applied to the City's 2021 UAAL as determined in the annual actuarial valuation performed by TMRS' actuary.
5. The City Council and the Board acknowledge and agree that, under Section 855.4065 of the "TMRS Act" (Title 8, Subtitle G, Chapters 851-855 of the Texas Government Code) and "TMRS Rule" §125.6 (Title 34, Part 6, Chapter 125, Texas Administrative Code), the City may make a lump sum employer contribution, in the above amount requested by the City, to TMRS on or before December 31, 2022, to be deposited in the City's account in the TMRS Benefit Accumulation Fund ("BAF").
6. The City Council further acknowledges and agrees, for itself and on behalf of the City, that:
 - (a) TMRS Act §855.4065 and TMRS Rule §125.6 only authorize a lump sum employer contribution in addition to, not in substitution of, the monthly contributions the City is actuarially required to make to TMRS under the TMRS Act;
 - (b) in accordance with TMRS Rule §125.6, any such lump sum employer contribution deposited in the City's BAF account will be held in trust by TMRS and cannot be returned to the City;
 - (c) the City's required monthly employer contributions to TMRS, which include a portion attributable to the Prior Service Portion, must continue to be made during the remainder of calendar year 2022, as well as all of calendar year 2023, and in any future year or years that the TMRS actuaries determine an employer contribution is required under the terms of the TMRS Act;
 - (d) the City must still contribute its required monthly employer contributions to TMRS based on the full actuarially determined contribution rate of 17.23% and 17.73% for calendar years 2022 and 2023, respectively, and these rates reflect rates for both the TMRS retirement plan and the supplemental death benefit plan selected by the City under the TMRS Act;

- (e) because there is a one-year lag between the TMRS actuarial valuation date and when the City employer contribution rates become effective, any lump sum employer contribution made in calendar year 2022 would first impact the City's calendar year 2024 employer contribution rates and first be reflected in the City's prior service portion contribution rate for 2024 as determined in the December 31, 2022, TMRS actuarial valuation; and
 - (f) even if the City makes one or more lump sum employer contributions, the City will also be required to contribute the full actuarially determined employer contribution rate for future years beyond 2022.
- 7. In any lawsuit or legal dispute arising from the operation of this Agreement, the parties agree that the laws of the State of Texas shall govern, without regard to the principles of conflicts of laws. Subject to TMRS' sovereign immunity, to the extent it is necessary to resolve any dispute under this Agreement in a court, and if resolution by a court is consistent with the provisions hereof, courts of the State of Texas shall have jurisdiction over any and all disputes between the parties hereto, whether in law or equity, and exclusive venue in any such dispute shall be laid in Travis County, Texas.
 - 8. This Agreement may be amended only by a written instrument executed by the parties hereto. This Agreement may be executed in one or more counterparts, each of which will be deemed an original, but all of which together will constitute one and the same agreement.
 - 9. The City acknowledges and agrees that in the event the deposit of \$67,299,654 pursuant to 3(d) is made after December 31, 2022, and during calendar year 2023, there will be an additional one-year lag beyond that specified in subsection 6(e) so that any lump sum employer contribution made in calendar year 2023 would first impact the City's calendar year 2025 employer contribution rates and first be reflected in the City's prior service portion contribution rate for 2025 as determined in the December 31, 2023 TMRS actuarial valuation.

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IN WITNESS WHEREOF, the parties have executed this Agreement on the date(s) set forth opposite the signatures of their authorized representatives to be effective for all purposes on the date first written above.

CITY COUNCIL OF THE CITY OF
GRAND PRAIRIE, TEXAS

BOARD OF TRUSTEES OF THE TEXAS
MUNICIPAL RETIREMENT SYSTEM

BY: 

BY: _____

NAME: Ron Jensen

NAME: _____

TITLE: Mayor

TITLE: _____

DATE: June 9, 2022

DATE: _____

APPROVED AS TO FORM



CITY ATTORNEY

EXHIBIT A

CITY OF GRAND PRAIRIE RATE LETTER



June 8, 2022

City # 00540

City of Grand Prairie
P.O. Box 534045
Grand Prairie, TX 75053-4045

Attention: Finance Director

Subject: 2023 City Contribution Rate

Your city's 2023 monthly contribution rates are shown below. These rates were determined by the December 31, 2021 actuarial valuation.

Normal Cost	11.17 %
Prior Service	<u>6.25</u>
Full Retirement	17.42 %
Supplemental Death Benefit	<u>0.31</u>
Combined Contribution	17.73 %

Detailed information on your city's TMRS plan is contained in the attached report. The Full Retirement Rate shown above represents the Actuarially Determined Employer Contribution (ADEC) for 2023.

If your city provides Supplemental Death Benefit (SDB) coverage, changes have been made in the calculation of your SDB Rate for 2023. Please see the *Supplemental Death Benefit Rate Increase* section for more information.

If you have questions about your city's contribution rate or would like to evaluate potential changes to your TMRS plan, please contact me at 512-225-3760 or lhardy@tmrs.com.

Sincerely,

A handwritten signature in cursive script that reads "Leslee S. Hardy".

Leslee S. Hardy, ASA, EA, FCA, MAAA
Director of Actuarial Services

Table of Contents

Supplemental Death Benefit Rate Increase	A summary of the changes in calculating the 2023 Supplemental Death Benefit Rate, if applicable, for your city.
Rate Stabilization Techniques	A summary of the techniques currently available to assist cities in stabilizing their contribution rates.
Executive Summary	A comparison of the highlights of the December 31, 2021 and December 31, 2020 actuarial valuations for your city. Included are membership counts, asset information, actuarial information, and contribution rate requirements.
Summary of Benefit Provisions	A summary of plan provisions in effect as of April 1, 2022.
Calculation of Contribution Requirements	Details the calculation of the Full Retirement Rate (ADEC) and the Supplemental Death Benefit Rate, if applicable, for your city.
UAAL/OAAL Amortization Bases and Payments	Information on the Unfunded Actuarial Accrued Liability (UAAL)/Overfunded Actuarial Accrued Liability (OAAL) amortization bases and payments for your city.
Reconciliation of Full Retirement Rate from Prior Actuarial Valuation Report	A detailed reconciliation of changes in your city's Full Retirement Rate (ADEC) since the prior valuation.
Historical and Projected Accumulation of the BAF Balance	This schedule provides your city with historical cash flows, interest credits and the year-end balance of its Benefit Accumulation Fund (BAF), as well as projected values for calendar years 2022 and 2023.
Risks Associated with Measuring the Actuarial Accrued Liability and Actuarially Determined Employer Contribution	An explanation of risk measurements associated with your city's TMRS plan.

Supplemental Death Benefit Rate Increase

The Supplemental Death Benefit (SDB) program is voluntary and operates like a group-term life insurance plan for cities that provide SDB coverage. Supplemental death benefits are not advance-funded but are financed on a pay-as-you-go basis. The SDB Rate for each city is equal to the expected benefit payments during the upcoming year (one-year term cost) expressed as a percentage of payroll and is calculated separately for active Members and retirees.

Due to the higher mortality rates associated with the global pandemic, SDB claims rose significantly in 2021. Consequently, the TMRS Board adopted changes to the methodology used for calculating 2023 SDB Rates. Specifically, 2023 SDB Rates were calculated by (i) removing the assumption that grants a small credit to active rates and (ii) adding a margin for adverse experience of 100% for active coverage and 10% for retiree coverage.

It is important to note that the increase in your SDB Rate only applies to 2023. Future SDB Rates will be determined based on the most recent mortality experience available at the time.

Rate Stabilization Techniques

Contribution rate stabilization for cities is a strategic goal of the TMRS Board of Trustees. Since 2007, the Board has approved many actuarial changes to minimize short-term volatility in contribution rates while maximizing long-term System sustainability. Under the current funding policy in which rates are actuarially determined each year, contribution rate stabilization is fully optimized at the System level; therefore, any further rate stabilization must be achieved at the city level.

Cities with an Unfunded Liability - For cities with an Unfunded Actuarial Accrued Liability (UAAL), the most effective way for a city to stabilize its TMRS contribution rate is to determine an affordable rate that exceeds the required rate and continue to pay that same rate even when the calculated rate decreases in subsequent valuations. These additional contributions at a predetermined fixed rate accomplish the following:

- Provide a stable annual contribution rate for budgeting purposes;
- Directly reduce the UAAL dollar for dollar;
- Pay off the UAAL quicker;
- Produce cost savings over the long run; and
- Provide a cushion for future adverse plan experience.

Cities with a Surplus - For cities with an Overfunded Actuarial Accrued Liability (surplus), the contribution rate is determined by decreasing the Normal Cost Rate (the cost of the current year accruals for active Members) by a Prior Service Rate calculated to keep the funded ratio at approximately the same level. The result is a required contribution rate less than the Normal Cost. It is important to note that adverse plan experience could still result in the funded ratio dropping below 100%. TMRS encourages cities in a surplus position to consider paying the full Normal Cost Rate (or as much as possible toward the full Normal Cost Rate) until the funded ratio is at least 110%. Doing so will dampen contribution rate volatility and increase the likelihood of maintaining a funded ratio greater than 100%.

How to make Additional Contributions - No formal action needs to be taken by a city to contribute at a higher level than the required monthly minimum. Additional monthly contributions may be made during the normal payroll reporting process by simply providing the increased rate. Because additional contributions are entirely voluntary, a city may revert to paying the minimum required rate at any time during the year if financial circumstances change.

If your city would like to explore the impact of any of these rate stabilization techniques on your TMRS plan, please contact Actuarial Services at ActuarialServices@tmrs.com.

Executive Summary

Valuation as of	12/31/2021	12/31/2020
Membership as of the Valuation Date		
• Number of		
- Active Members	1,380	1,372
- Retirees and beneficiaries	899	864
- Inactive Members	<u>742</u>	<u>688</u>
- Total	3,021	2,924
• Prior year's payroll provided by TMRS	\$ 106,086,747	\$ 100,628,856
• Valuation Payroll	108,095,706	105,012,854
Benefit Accumulation Fund (BAF) Assets		
• Market BAF Balance	\$ 652,959,859	\$ 585,399,127
• BAF crediting rate	12.26 %	7.45 %
• Interest credited on beginning BAF balance	\$ 71,746,873	\$ 40,961,988
• Employer contributions ^	18,187,645	16,934,666
• Member contributions	7,432,874	7,047,274
• Benefit and refund payments ^	29,806,659	29,272,675
Actuarial Value of Assets (AVA)		
• Market BAF Balance	\$ 652,959,859	\$ 585,399,127
• Actuarial Value of Assets (AVA)	613,108,580	573,757,717
• AVA as a Percentage of BAF	93.9 %	98.0 %
• Return on AVA	7.59	7.04
Actuarial Information		
• Actuarial Accrued Liability (AAL)	\$ 689,939,789	\$ 647,637,265
• Actuarial Value of Assets (AVA)	613,108,580	573,757,717
• Unfunded Actuarial Accrued Liability (UAAL)	76,831,209	73,879,548
• UAAL as % of pay	72.4 %	73.4 %
• Funded Ratio (AVA/AAL)	88.9	88.6
• Employer Normal Cost Rate	11.17	11.07
• Prior Service Rate	6.25	5.96
Contribution Rates	2023	2022
• Member	7.00 %	7.00 %
• Full Retirement (ADEC)	17.42	17.03
• Supplemental Death Benefit	0.31	0.20
Combined Employer Contribution Estimates	2023	2022
• Projected payroll	\$ 111,068,338	\$ 107,900,707
• Combined Contribution Rate	17.73 %	17.23 %
• Estimated employer contribution	\$ 19,692,416	\$ 18,591,292

Note: Results from prior year reflect the plan provisions shown on the next page.

^ Excludes contributions to/benefit payments from the IRC §415(m) Full Benefit Arrangement fund.

Summary of Benefit Provisions

Plan provisions are adopted by your city's governing body from the options available in the TMRS Act. Your city's plan provisions in effect as of April 1, 2022 were as follows:

Member Contribution Rate	7%
Matching Ratio (City to Member)	2 : 1
Years Required for Vesting	5
Retirement Eligibility (Age/Service)	60/5, 0/20
Updated Service Credit	100% Repeating Transfers
Retiree Cost of Living Adjustment	70% of CPI Repeating
Supplemental Death Benefit to Active Members	Yes
Supplemental Death Benefit to Retirees	Yes

If you have any questions about your city's benefit provisions or would like to discuss plan changes, please contact the City Services Department at cityservices@tmrs.com or call Anthony Mills at 512-225-3764.

Calculation of Contribution Requirements

From Valuation Report as of			
	<u>December 31, 2021</u>		<u>December 31, 2020</u>
1. Prior year's payroll reported to TMRS	\$ 106,086,747	\$	100,628,856
2. Valuation Payroll	108,095,706		105,012,854
3. Employer Normal Cost Rate	11.17 %		11.07 %
4. Actuarial Accrued Liability			
a. Active Members	\$ 307,454,021	\$	300,742,923
b. Inactive Members	40,991,047		38,876,093
c. Annuityants	<u>341,494,721</u>		<u>308,018,249</u>
d. Total Actuarial Accrued Liability	\$ 689,939,789	\$	647,637,265
5. Actuarial Value of Assets	<u>613,108,580</u>		<u>573,757,717</u>
6. Unfunded Actuarial Accrued Liability (4d - 5)	\$ 76,831,209	\$	73,879,548
7. Funded Ratio (5 / 4d)	88.9 %		88.6 %
8. Equivalent single amortization period*	15.2 Years		16.0 Years
9. Assumed payroll growth rate	2.75 %		2.75 %
<hr/>			
Contribution Rates:	2023		2022
<hr/>			
10. Full Retirement			
a. Normal Cost	11.17 %		11.07 %
b. Prior Service	<u>6.25</u>		<u>5.96</u>
c. Full Retirement	17.42 %		17.03 %
11. Supplemental Death Benefit	0.31		0.20
12. Combined Contribution (10c+11)	17.73 %		17.23 %

* New losses are laddered over a 20-year period.

UAAL/OAAL Amortization Bases and Payments

Year Established	Description	Years Remaining	Remaining Base	Payment
2013	2013 Valuation (Fresh Start)	14	\$ 68,113,135	\$ 6,366,249
2014	2014 Experience	14	(5,489,665)	(513,096)
2015	2015 Experience	24	1,610,245	103,862
2015	2015 Actuarial Changes	24	573,094	36,965
2016	2016 Experience	20	2,263,219	164,018
2017	2017 Experience	14	(179,007)	(16,731)
2017	2017 Benefit Change	21	4,774,343	335,051
2018	2018 Experience	22	1,521,687	103,631
2019	2019 Experience	23	1,495,290	99,016
2019	2019 Actuarial Changes	23	1,145,932	75,882
2020	2020 Experience	14	(3,432,485)	(320,820)
2021	2021 Experience	20	<u>4,435,421</u>	<u>321,439</u>
	Total		76,831,209	6,755,466

TMRS amortizes the UAAL/OAAL through the process of laddering each base created during the valuation process. The city's UAAL/OAAL equals the total of the remaining amortization bases. The city's Prior Service Rate equals the total amortization payments divided by the Valuation Payroll (Item 2 of the prior page).

Reconciliation of Full Retirement Rate from Prior Actuarial Valuation Report

Actuarial valuations are based on long-term assumptions, and results in a specific year can, and almost certainly will, differ as actual plan experience deviates from the assumptions. The following table provides a detailed breakdown of changes in your city's Full Retirement Rate (ADEC) from 2022 to 2023. A brief description of such changes follows the table.

Change in Full Retirement Rate	
Full Retirement Rate from 12/31/2020 Valuation (2022 Rate)	17.03 %
Benefit Changes	0.00 %
Return on Actuarial Value of Assets	(0.32)
Contributions/Fully Amortized Prior Bases	(0.02)
Payroll Growth	(0.01)
Normal Cost	0.10
Liability Growth	0.64
Total Change	0.39 %
Full Retirement Rate from 12/31/2021 Valuation (2023 Rate)	17.42 %

Benefit Changes - Shows the increase or decrease in the contribution rate associated with any plan changes.

Return on Actuarial Value of Assets (AVA) - Shows the change in the contribution rate associated with the return on the AVA being different than the assumed 6.75%. For the year ending December 31, 2021, the return on an AVA basis was 7.59%. The impact may show as 0.00% due to rounding.

Contributions/Fully Amortized Prior Bases - Shows the total increase or decrease in the contribution rate associated with contributions different than the Full Retirement Rate, the contribution lag (see below), and the impact of the amortization bases which become fully amortized as of this valuation since payments for those bases are no longer part of the Prior Service Rate calculation. Contributions different from the Full Retirement Rate may include phase-in contributions, contributions in excess of the Full Retirement Rate, and/or lump sum contributions. The effect of the contribution lag refers to the time delay between the actuarial valuation date and the date the contribution rate becomes effective (i.e., the Actuarial Valuation as of December 31, 2021 sets the rate effective for 2023). This impact is expected to become immaterial once a city is contributing the Full Retirement Rate and the Full Retirement Rate stabilizes.

Payroll Growth - Shows the increase or decrease in the contribution rate associated with higher or lower than expected growth in the city's overall payroll. The amortization payments were calculated assuming payroll grows at 2.75% per year. Overall payroll growth greater (less) than 2.75% will typically cause a decrease (increase) in the Prior Service Rate.

Normal Cost - Shows the increase or decrease in the contribution rate associated with changes in the average Normal Cost Rate for the city's active Members. The Normal Cost Rate for a Member is the contribution rate which, if applied to a Member's compensation throughout their period of anticipated covered service with the city, would be sufficient to meet all benefits payable on their behalf. The salary-weighted average of the individual rates is the city's total Normal Cost Rate. The employer Normal Cost Rate is the pay-weighted average of the individual Normal Cost Rates less the Member Contribution Rate and will generally increase (decrease) as the average entry age of the group increases (decreases).

Liability Growth - Shows the increase or decrease in the contribution rate associated with larger or lower than expected growth in the city's overall plan liabilities. The most significant sources for variance will be turnover and individual salary increases differing from the assumptions.

Historical and Projected Accumulation of the BAF Balance

Year Ending December 31 (1)	Payroll for the Year (2)	Effective Retirement Contribution Rate ^a (3)	Employer Contributions for the Year ^c (4)	Member Contributions for the Year (5)	Benefit Payments ^c (6)	External Cash Flow for the Year (7)	Interest Credit (8)	BAF Balance ^b (9)
		(4) / (2)				(4) + (5) + (6)		
2019	\$ 98,611,365	16.87%	\$ 16,636,447	\$ 6,905,686	\$ (28,405,220)	\$ (4,863,087)	\$ 74,096,493	\$ 549,727,874
2020	100,628,856	16.83%	16,934,666	7,047,274	(29,272,675)	(5,290,735)	40,961,988	585,399,127
2021	106,086,747	17.14%	18,187,645	7,432,874	(29,806,659)	(4,186,140)	71,746,873	652,959,859
2022	108,095,706	17.03%	18,408,699	7,566,699	(33,182,026)	(7,206,628)	44,074,791	689,828,022
2023	111,068,338	17.42%	19,348,104	7,774,784	(34,605,892)	(7,483,004)	46,563,391	728,908,409

a. Effective retirement contribution rate is the employer contribution received divided by the payroll paid.

b. BAF Balance may not sum due to rounding.

c. Excludes contributions to/benefit payments from the IRC §415(m) Full Benefit Arrangement fund.

Risks Associated with Measuring the Actuarial Accrued Liability and Actuarially Determined Employer Contribution

Risk measures help with illustrating the potential volatility in the Actuarial Accrued Liability and the Actuarially Determined Employer Contribution that results from the differences between actual plan experience and the actuarial assumptions. Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of Members in payment status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

Ratio of Market Value of Assets to Payroll	6.2
Ratio of Actuarial Accrued Liability to Payroll	6.5
Ratio of Active Members to Retirees and Beneficiaries	1.5
Net Cash Flow as a Percentage of Market Value of Assets	(0.6) %
Duration of Liabilities	18.1
Change in Contribution Rate with 10% Decline in Assets (Smoothed)	0.41 %
Change in Contribution Rate with 10% Decline in Assets (Unsmoothed)	4.11 %

Ratio of Market Value of Assets to Payroll - The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the Market Value of Assets is 4 times the payroll, a return on assets 5% different than assumed would equal 20% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in city contributions as a percentage of payroll.

Ratio of Actuarial Accrued Liability to Payroll - The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the Actuarial Accrued Liability is 5 times the payroll, a change in liability 2% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also city contributions) as a percentage of payroll.

The relationship between the Actuarial Accrued Liability and payroll is a useful indicator of the potential longer term asset-related volatility once the current UAAL is fully amortized. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

Ratio of Active Members to Retirees and Beneficiaries - A young plan with many active Members and few retirees will have a high ratio of active Members to retirees. A mature open plan may have close to the same number of active Members to retirees resulting in a ratio near 1. A very mature or closed plan may have significantly more retirees than active Members resulting in a ratio below 1.

Net Cash Flow as a Percentage of Market Value of Assets - A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a very mature plan or a need for additional contributions.

Duration of Liabilities - The duration of the Present Value of Future Benefits (PVFB) may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the PVFB would increase approximately 10% if the assumed rate of return were lowered 1%.

Change in Contribution Rate with 10% Decline in Assets (Smoothed) - This shows the rate impact in one year if the Actuarial Value of Assets (AVA) was 10% lower than in the current actuarial valuation with the asset loss smoothed over a 10-year period as is done in the system-wide calculation of the AVA.

Change in Contribution Rate with 10% Decline in Assets (Unsmoothed): This shows the rate impact if the AVA was 10% lower than in the current actuarial valuation with the full asset loss recognized in the current valuation.

EXHIBIT B
SCHEDULE OF ESTIMATED MONTHLY PAYMENTS

EXHIBIT B**City's Schedule of Estimated Monthly Payments***

2022 Amount Per Pay Period	5.96 % of Payroll
2023 Amount Per Pay Period	6.25 % of Payroll

Month	Date	Payroll Periods	Amount Per Pay Period	UAAL Amounts
Oct-22	15-Oct-22	2	\$ 284,916	\$ 569,833
Nov-22	15-Nov-22	2	\$ 284,916	\$ 569,833
Dec-22	15-Dec-22	2	\$ 284,916	\$ 569,833
Jan-23	15-Jan-23	2	\$ 298,780	\$ 597,560
Feb-23	15-Feb-23	2	\$ 298,780	\$ 597,560
Mar-23	15-Mar-23	3	\$ 298,780	\$ 896,339
Apr-23	15-Apr-23	2	\$ 298,780	\$ 597,560
May-23	15-May-23	2	\$ 298,780	\$ 597,560
Jun-23	15-Jun-23	2	\$ 298,780	\$ 597,560
Jul-23	15-Jul-23	2	\$ 298,780	\$ 597,560
Aug-23	15-Aug-23	2	\$ 298,780	\$ 597,560
Sep-23	15-Sep-23	3	\$ 298,780	\$ 896,339
Oct-23	15-Oct-23	2	\$ 307,743	\$ 615,486
Nov-23	15-Nov-23	2	\$ 307,743	\$ 615,486
Dec-23	15-Dec-23	2	\$ 307,743	\$ 615,486
				\$ 9,531,555 Prior Service Portion

* Actual monthly payment will vary depending on payroll.

CERTIFICATE OF AUTHORITY AND RESOLUTION

The undersigned officer(s) of the Texas Municipal Retirement System (“TMRS”) hereby certifies as follows with respect to that certain Agreement Regarding City Pension Obligation Bonds (“Agreement”), between the Board of Trustees of TMRS (the “Board”) and the City Council of the City of Grand Prairie (the “Council”), pertaining to the issuance by the City of Grand Prairie of one or more series of its City of Grand Prairie, Texas, General Obligation Pension Bonds, Taxable Series 2022 (the “Bonds”):

1. At its Board meeting on June 23, 2022, the Board, by the affirmative vote of ____ of its six Trustees, authorized the Chairman of the Board, Jesús A. Garza, to execute and deliver the Agreement, and authorized the Executive Director to execute and deliver this Certificate of Authority and Resolution, based on the following recommendation:

“Staff recommends that the Board approve the Agreement Regarding City Pension Obligation Bonds (“Agreement”) and the Certificate of Authority and Resolution (the “Certificate”), in substantially the form presented; authorize the Board Chair to negotiate, execute, acknowledge and deliver the Agreement by and on behalf of the Board; and authorize the Executive Director to negotiate, execute, acknowledge and deliver the Certificate by and on behalf of the System; with such modifications or amendments to the Agreement or Certificate as are satisfactory to the Board Chair or Executive Director, respectively, such satisfactory terms and conditions to be conclusively evidenced by the execution thereof by the Board Chair and the Executive Director, respectively.”

2. The following persons are the duly qualified and acting members of the Board:

Jesús A. Garza	Chairman
Robert B. Scott	Vice Chairman
Anali Alanis	Trustee
Juan Diego Huizar	Trustee
David Landis	Trustee
Bill Philibert	Trustee

3. The Agreement was executed on behalf of TMRS by the person named below and said person was at the time of executing the Agreement, and is now, the duly qualified and acting incumbent of such office and the signature appearing after such person’s name is a true and correct specimen of such person’s genuine signature.

NAME

TITLE

SPECIMEN SIGNATURE

Jesús A. Garza

Board Chairman

TEXAS MUNICIPAL RETIREMENT SYSTEM

By: _____

Name: David B. Wescoe

Title: Executive Director

Date: June _____, 2022

ESCROW AGREEMENT

Between

CITY OF GRAND PRAIRIE, TEXAS

and

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.

Pertaining to

City of Grand Prairie, Texas
General Obligation Pension Bonds,
Taxable Series 2022

Dated as of _____, 2022

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ESCROW AGREEMENT

THIS ESCROW AGREEMENT, dated as of [____], 2022 (herein, together with any amendments or supplements hereto, called the “Agreement”), entered into by and between the CITY OF GRAND PRAIRIE, TEXAS (the “Issuer”), and THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., a New York banking corporation organized under the laws of the State of New York, as escrow agent (herein, together with any successor in such capacity, called the “Escrow Agent”).

WITNESSETH:

WHEREAS, the Issuer has determined to issue its General Obligation Pension Bonds, Taxable Series 2022 (the “Bonds”) in order to fund its Unfunded Accrued Actuarial Liability owing to Texas Municipal Retirement System (“TMRS”) in the amount of \$76,831,209 as of the December 31, 2021 TMRS actuarial valuation (the “2021 UAAL”) pursuant to Chapter 107, Local Government Code, as amended, and an ordinance approved by the Issuer on [June 21], 2022 (the “Bond Ordinance”) and the pricing certificate (the “Pricing Certificate”) authorized therein (the Bond Ordinance and Pricing Certificate together, the “Ordinance”); and

WHEREAS, the City will make a lump sum employer contribution to TMRS in the amount of \$[_____] to fund a portion of the 2021 UAAL from proceeds of the Bonds; and

WHEREAS, the remaining portion of the 2021 UAAL in the amount of \$[_____] is referred to as the “Prior Service Portion”; and

WHEREAS, the Ordinance authorizes the Issuer enter into an escrow agreement with a trust company or commercial bank that does not act as a depository of the Issuer with respect to the safekeeping, investment, administration and disposition of any such deposit, upon such terms and conditions as the Issuer and such trust company or commercial bank may agree, provided that such deposits, if invested, may be invested only in securities (the “Authorized Securities”) authorized under Chapter 1207, Texas Government Code, as amended (“Chapter 1207”) and this Agreement and which may be in book entry form, and which shall mature and/or bear interest payable at such times and in such amounts as will be sufficient to provide for the scheduled payments to TMRS as set forth herein; and

WHEREAS, the Issuer desires that, concurrently with the delivery of the Bonds to the purchasers thereof, a portion of the proceeds of the Bonds (the “Bond Proceeds”) in an amount equal to the Prior Service Portion shall be deposited to the credit of the Escrow Fund created pursuant to the terms of this Agreement and to establish a beginning cash balance (if needed) in such Escrow Fund; and

WHEREAS, the Authorized Securities shall mature and the interest thereon shall be payable at such times and in such amounts as will provide moneys which, together with the cash and cash balances from time to time on deposit in the Escrow Fund, will be sufficient to make the payments to TMRS to fund the Prior Service Portion as set forth in this Agreement; and

WHEREAS, to facilitate the receipt and transfer of Bond Proceeds, the Issuer desires to establish the Escrow Fund at the designated office of the Escrow Agent; and

WHEREAS, the Escrow Agent is a party to this Agreement and hereby acknowledges its acceptance of the terms and provisions hereof;

NOW, THEREFORE, in consideration of the mutual undertakings, promises and agreements herein contained, the sufficiency of which hereby is acknowledged, and to secure the full and timely payment of the amounts due to be paid to TMRS as provided herein, the Issuer and the Escrow Agent mutually undertake, promise, and agree for themselves and their respective representatives and successors, as follows:

ARTICLE I

DEFINITIONS AND INTERPRETATIONS

Section 1.01. Definitions. Unless the context clearly indicates otherwise, the following terms shall have the meanings assigned to them below when they are used in this Agreement:

“Authorized Securities” means (1) direct noncallable obligations of the United States, including obligations that are unconditionally guaranteed by the United States; (2) noncallable obligations of an agency or instrumentality of the United States, including obligations that are unconditionally guaranteed or insured by the agency or instrumentality and that, on the date of hereof, are rated as to investment quality by a nationally recognized investment rating firm not less than “AAA” or its equivalent; and (3) noncallable obligations of a state or an agency or a county, municipality, or other political subdivision of a state that have been refunded and that, on the date of hereof, are rated as to investment quality by a nationally recognized investment rating firm not less than “AAA” or its equivalent.

“Beginning Cash Balance” means the funds described in Exhibit A.

“Escrow Fund” means the fund created in Section 3.01 of this Agreement to be administered by the Escrow Agent pursuant to the provisions of this Agreement.

Section 1.02. Other Definitions. The terms “Agreement,” “Issuer,” “Escrow Agent,” “TMRS,” “Bonds,” “2021 UAAL” and “Prior Service Portion” when they are used in this Agreement, shall have the meanings assigned to them in the preamble to this Agreement.

Section 1.03. Interpretations. The titles and headings of the articles and sections of this Agreement have been inserted for convenience and reference only and are not to be considered a part hereof and shall not in any way modify or restrict the terms hereof. This Agreement and all of the terms and provisions hereof shall be liberally construed to effectuate the purposes set forth herein and to achieve the intended purpose of providing for the payment of the Prior Service Portion of the Issuer’s 2021 UAAL in accordance with applicable law.

ARTICLE II

DEPOSIT OF FUNDS AND AUTHORIZED SECURITIES

Section 2.01. Deposits in the Escrow Fund. Concurrently with the sale and delivery of the Bonds the Issuer shall deposit, or cause to be deposited, with the Escrow Agent, for deposit in

the Escrow Fund, the Beginning Cash Balance, if any, and the Bond Proceeds described in Exhibit A, if any, and incorporated by reference as a part of this Agreement for all purposes. The Escrow Agent shall, upon the receipt thereof, acknowledge such receipt to the Issuer in writing.

Section 2.02. Initial Authorized Securities. Upon receipt of the Bond Proceeds at closing of the Bonds, such proceeds shall be invested in Authorized Securities as directed in writing by the Issuer.

ARTICLE III

CREATION AND OPERATION OF ESCROW FUND

Section 3.01. Escrow Fund. The Escrow Agent hereby creates on its books an irrevocable escrow account to be administered in accordance with the terms hereof and to be known as the “CITY OF GRAND PRAIRIE, TEXAS POB 2022 ESCROW FUND” (the “Escrow Fund”) for the purpose of making payments to TMRS as set forth in Section 3.06 herein in order to pay the Prior Service Portion of the Issuer’s 2021 UAAL. The Escrow Agent hereby agrees that upon receipt thereof it will deposit to the credit of the Escrow Fund the Beginning Cash Balance and the Bond Proceeds set forth in Exhibit A hereto. Such deposit, all proceeds therefrom, and all cash balances from time to time on deposit therein (a) shall be the property of the Escrow Fund, (b) shall be applied only in strict conformity with the terms and conditions of this Agreement, and (c) are hereby irrevocably pledged to TMRS. Payment of such amounts shall be made by timely transfers of such amounts at such times as are provided for in Section 3.06 hereof. When the final transfers have been made as set forth herein in Sections 3.06, 3.07 and 3.08, as applicable, the Escrow Agent shall thereupon be discharged from any further duties hereunder.

Section 3.02. Payment of Principal and Interest. The Escrow Agent is hereby irrevocably instructed to transfer, from the cash balances from time to time on deposit in the Escrow Fund, the amounts required to make the payments to TMRS as set forth in Section 3.06.

Section 3.03. Sufficiency of Escrow Fund. The Issuer represents that the deposit of the Bond Proceeds will assure that the cash balance on deposit from time to time in the Escrow Fund will be at all times sufficient to provide for the payments to TMRS as set forth in Section 3.06. Notice of any such insufficiency shall be given promptly as hereinafter provided, but the Escrow Agent shall not in any manner be responsible for any insufficiency of funds in the Escrow Fund or the Issuer’s failure to make additional deposits thereto.

Section 3.04. Trust Funds. The Escrow Agent shall hold at all times the Escrow Fund, the Bond Proceeds and all other assets of the Escrow Fund wholly segregated on its books and records from all other funds and securities on deposit with the Escrow Agent; it shall never allow the Bond Proceeds or any other assets of the Escrow Fund to be commingled with any other funds or securities of the Escrow Agent; and it shall hold and dispose of the assets of the Escrow Fund only as set forth herein. The Bond Proceeds and other assets of the Escrow Fund shall always be maintained by the Escrow Agent as funds held in trust for the benefit of TMRS, and a special account thereof shall at all times be maintained on the books and records of the Escrow Agent. TMRS shall be entitled to a preferred claim and first lien upon the Bond Proceeds and all other assets of the Escrow Fund. The amounts received by the Escrow Agent under this Agreement shall

not be considered as a banking deposit by the Issuer, and the Escrow Agent shall have no right or title with respect thereto except as a trustee and Escrow Agent under the terms of this Agreement. The amounts received by the Escrow Agent under this Agreement shall not be subject to warrants, drafts or checks drawn by the Issuer or, except to the extent expressly herein provided, by a place of payment for TMRS.

Section 3.05. Security for Cash Balances. Cash balances from time to time on deposit in the Escrow Fund shall, to the extent not insured by the Federal Deposit Insurance Corporation or its successor, be continuously secured by a pledge of direct noncallable obligations of, or noncallable obligations unconditionally guaranteed by, the United States of America, having a market value at least equal to such cash balances.

Section 3.06. Payments to TMRS. On or before the first (1) day of each month beginning in [] 2022 and continuing through December 2023, the Issuer shall provide payment instructions to the Escrow Agent and certify in writing to the Escrow Agent the Issuer's calculation of the Issuer's Prior Service Portion of the Issuer's monthly required contribution to TMRS, based on its payroll for the immediately preceding month, to be paid from the Escrow Fund. The certification shall state the amount to be paid to TMRS for payment toward the Prior Service Portion (on or before the next succeeding fifteenth (15) calendar day of that same month). Such monthly payments shall be made to TMRS until the Escrow Fund is depleted. The payment instructions from the Issuer shall also include the specific TMRS account information necessary for the Escrow Agent to deposit the monthly contributions to TMRS.

For example. The following example is solely for illustration purposes under Section 3.06. The actual amounts will be provided by the Issuer in accordance with Section 3.06. If the Issuer certifies to the Escrow Agent on October 1, 2022, that the amount due to TMRS on October 15, 2022, for the Issuer's prior service portion is \$1,500,000 as calculated by the Issuer, then the Escrow Agent shall pay \$1,500,000 to TMRS on or before October 15, 2022, from funds on deposit in the Escrow Fund to be paid toward the Prior Service Portion.

Section 3.07. Shortfalls in Escrow Fund. No less than five (5) business day before the first (1) day of each month, the Escrow Agent shall notify the Issuer of the amount on deposit in the Escrow Fund and available for transfer to TMRS pursuant to Section 3.06 above. If the Issuer's written calculation of the amount due to TMRS in the next succeeding month is more than the amount available in the Escrow Fund for payment, then (i) the Escrow Agent shall deposit the funds on deposit in the Escrow Fund to TMRS on or before the next succeeding fifteenth (15) calendar day of the month and (ii) the Issuer shall be required to make a deposit to TMRS no later than the next succeeding fifteenth (15) calendar day of the month, in an amount that would, together with the amount transferred or to be transferred by the Escrow Agent pursuant to (i), be sufficient to make the next payment to TMRS identified in the Issuer's calculation.

For example. The following example is solely for illustration purposes under Section 3.07. The actual amounts will be provided by the Issuer in accordance with Section 3.07. On September 26th, the Escrow Agent notifies the Issuer that there is cash available in the Escrow Fund of \$1,000,000 for payment to TMRS. On October 1, the Issuer certifies to the Escrow Agent that the amount to be paid to TMRS for that month is \$1,500,000, as calculated by the Issuer. On or before the fifteenth calendar day of October (i) the Issuer

deposits \$500,000 with TMRS from available revenues, and (ii) the Escrow Agent transfers \$1,000,000 to TMRS from funds on deposit in the Escrow Fund.

Section 3.08. Payment of All Remaining Funds In December 2023. If, after determining the amount to be paid from the Escrow Fund on December 15, 2023, pursuant to Section 3.06 above, there are excess funds to be remaining in the Escrow Fund, the Escrow Agent is directed to deposit all such remaining funds with TMRS on December 15, 2023, to be applied by TMRS toward the Prior Service Portion or, if the Prior Service Portion has been paid in full, toward the Issuer's account in the TMRS Benefit Accumulation Fund.

Section 3.09. Termination Escrow Fund. Once all funds on deposit in the Escrow Fund have been expended as set forth in Sections 3.06, 3.07 and 3.08 above, as applicable, the Agreement shall terminate, except for those terms stated to survive the termination of this Agreement.

ARTICLE IV

SUBSTITUTION OF AUTHORIZED SECURITIES

Section 4.01. In General. Except as provided in Section 4.02 and 4.03 hereof, the Escrow Agent shall not have any power or duty to purchase Authorized Securities or make substitutions for the Authorized Securities, if any, or to sell, transfer, or otherwise dispose of such Authorized Securities.

Section 4.02. Purchase of Authorized Securities at Bond Closing. Concurrently with the sale and delivery of the Bonds, the Issuer, at its option, may substitute Authorized Securities for the deposit of Bond Proceeds.

Section 4.03. Purchase of Authorized Securities Following Bond Closing. (a) At the written request of the Issuer, and upon compliance with the conditions hereinafter stated, the Escrow Agent shall purchase the Authorized Securities identified by the Issuer in such written request. Any such transaction may be effected by the Escrow Agent only if the Escrow Agent shall have received a certification from the Issuer (i) that the Authorized Securities to be purchased are in compliance with Chapter 1207 and the Issuer's investment policy and (ii) that such transaction complies with the Constitution and laws of the State of Texas.

Section 4.04. Substitution of Authorized Securities. (a) At the written request of the Issuer, and upon compliance with the conditions hereinafter stated, the Escrow Agent shall sell, transfer, otherwise dispose of or request the redemption of all or any portion of the Authorized Securities, if any, and apply the proceeds therefrom to purchase other Authorized Securities. Any such transaction may be effected by the Escrow Agent only if the Escrow Agent shall have received a certification from the Issuer (i) that the Authorized Securities to be purchased are in compliance with Chapter 2256 and the Issuer's investment policy and (ii) that such transaction complies with the Constitution and laws of the State of Texas.

(b) The foregoing provisions of substitution notwithstanding, the Escrow Agent shall be under no obligation to effect the substitution of the Authorized Securities in the manner contemplated by Subsection 4.04(a) if the Issuer fails to deliver or cause to be delivered to the

Escrow Agent no later than three Business Days prior to the proposed date such substitution is to be effected a written certificate setting forth in reasonable detail the maturity dates and maturity amounts of the Authorized Securities to be substituted and the proposed date such substitution is to occur.

Section 4.05. Allocation of Certain Authorized Securities. The maturing principal of and interest on the Authorized Securities may be applied to the payments to TMRS as set forth in Section 3.06 herein and no allocation or segregation of the receipts of principal or interest from such Authorized Securities is required.

ARTICLE V

APPLICATION OF CASH BALANCES

Section 5.01. In General. Except as provided in Section 2.01 with respect to the investment of the initial cash deposit with the Escrow Agent and in Sections 5.02 and 5.03 hereof, neither the Issuer nor the Escrow Agent shall reinvest any moneys deposited to or held as part of the Escrow Fund.

Section 5.02. Reinvestment in Authorized Securities. Cash balances in the Escrow Fund shall be reinvested as directed by the Issuer in written direction to the Escrow Agent. Absent such instructions, the Escrow Fund shall not be interest-bearing.

Section 5.03. Reinvestment of Cash Balances. At the written request of the Issuer, and upon compliance with the conditions hereinafter stated, the Escrow Agent shall permit or cause the reinvestment of cash balances in the Escrow Fund, pending the use thereof for payment to TMRS, in Authorized Securities which obligations must mature on or before the respective dates needed for payments to TMRS. Any such modification must include a certification from the Issuer (i) that the Authorized Securities to be purchased are in compliance with Chapter 1207 and the Issuer's investment policy and (ii) that such transaction complies with the Constitution and laws of the State of Texas.

ARTICLE VI

RECORDS AND REPORTS

Section 6.01. Records. The Escrow Agent will keep books of record and account in which complete and correct entries shall be made of all transactions relating to the receipts, disbursements, allocations and application of the money and Authorized Securities deposited to the Escrow Fund and all proceeds thereof, and such books shall be available for inspection at reasonable hours and under reasonable conditions by the Issuer and TMRS.

Section 6.02. Reports. While this Agreement remains in effect, the Escrow Agent shall, at least annually, prepare and send to the Issuer a written report summarizing all transactions relating to the Escrow Fund during the preceding year, including, without limitation, credits to the Escrow Fund as a result of interest payments on or maturities of the Authorized Securities and transfers from the Escrow Fund for payments to TMRS, together with a detailed statement of all

Authorized Securities and the cash balance on deposit in the Escrow Fund as of the end of such period.

ARTICLE VII

CONCERNING THE ESCROW AGENT

Section 7.01. Representations. The Escrow Agent hereby represents that it has all necessary power and authority to enter into this Agreement and undertake the obligations and responsibilities imposed upon it herein, and that it will carry out all of its obligations hereunder.

Section 7.02. Limitation on Liability. The liability of the Escrow Agent to transfer funds for payments to TMRS as set forth herein shall be limited to the proceeds of the Authorized Securities and the cash balances from time to time on deposit in the Escrow Fund. Notwithstanding any provision contained herein to the contrary, the Escrow Agent shall not have any liability whatsoever for the insufficiency of funds from time to time in the Escrow Fund or any failure of the obligors of the Authorized Securities to make timely payment thereon, except for the obligation to notify the Issuer promptly of any such occurrence.

The recitals herein and in the proceedings authorizing the Bonds shall be taken as the statements of the Issuer and shall not be considered as made by, or imposing any obligation or liability upon, the Escrow Agent. The Escrow Agent is not a party to the proceedings authorizing the Bonds and is not responsible for nor bound by any of the provisions thereof. In its capacity as Escrow Agent, it is agreed that the Escrow Agent need look only to the terms and provisions of this Agreement.

The Escrow Agent makes no representations as to the value, conditions or sufficiency of the Escrow Fund, or any part thereof, or as to the title of the Issuer thereto, or as to the security afforded thereby or hereby, and the Escrow Agent shall not incur any liability or responsibility in respect to any of such matters.

It is the intention of the parties hereto that the Escrow Agent shall never be required to use or advance its own funds or otherwise incur personal financial liability in the performance of any of its duties or the exercise of any of its rights and powers hereunder.

The Escrow Agent shall not be liable for any action taken or neglected to be taken by it in good faith in any exercise of reasonable care and believed by it to be within the discretion or power conferred upon it by this Agreement, nor shall the Escrow Agent be responsible for the consequences of any error of judgment; and the Escrow Agent shall not be answerable for any loss unless the same shall have been through its negligence or willful misconduct.

Unless it is specifically otherwise provided herein, the Escrow Agent has no duty to determine or inquire into the happening or occurrence of any event or contingency or the performance or failure of performance of the Issuer with respect to arrangements or contracts with others, with the Escrow Agent's sole duty hereunder being to safeguard the Escrow Fund, to dispose of and deliver the same in accordance with this Agreement. If, however, the Escrow Agent is called upon by the terms of this Agreement to determine the occurrence of any event or contingency, the Escrow Agent shall be obligated, in making such determination, only to exercise

reasonable care and diligence, and in event of error in making such determination, the Escrow Agent shall be liable only for its own willful misconduct or its negligence. In determining the occurrence of any such event or contingency, the Escrow Agent may request from the Issuer or any other person such reasonable additional evidence as the Escrow Agent in its discretion may deem necessary to determine any fact relating to the occurrence of such event or contingency, and in this connection may make inquiries of, and consult with, among others, the Issuer at any time.

The Escrow Agent may consult with counsel reasonably acceptable to the Issuer, and the written advice of such counsel or any opinion of counsel shall be full and complete authorization and protection with respect to any action taken, suffered or omitted by it hereunder in good faith and in reliance thereon.

The Escrow Agent may exercise any of the powers hereunder and perform any duties hereunder either directly or by or through agents or attorneys of the Escrow Agent. The Escrow Agent shall not be liable for the acts or omissions of its nominees, correspondents, designees, subagents or subcustodians selected by it in good faith.

The Escrow Agent may conclusively rely and shall be protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties.

The Escrow Agent shall not incur any liability for not performing any act or fulfilling any duty, obligation or responsibility hereunder by reason of any occurrence beyond the control of the Escrow Agent (including, but not limited to, any act or provision of any present or future law or regulation or governmental authority, any act of God or war or terrorism, or the unavailability of the Federal Reserve Bank wire or telex or other wire or communication facility).

Section 7.03. Compensation. Concurrently with the sale and delivery of the Bonds, the Issuer shall pay to the Escrow Agent the sum of \$[] the sufficiency of which is hereby acknowledged by the Escrow Agent to pay its fee for performing the services of Escrow Agent hereunder and for all expenses incurred or to be incurred by it as Escrow Agent in the administration of this Agreement (including, but not limited to, fees and expenses of counsel to the Escrow Agent). In the event that the Escrow Agent is requested to perform any extraordinary services hereunder, the Issuer hereby agrees to pay reasonable fees to the Escrow Agent for such extraordinary services and to reimburse the Escrow Agent for all expenses incurred by the Escrow Agent in performing such extraordinary services, and the Escrow Agent hereby agrees to look only to the Issuer for the payment of such fees and reimbursement of such expenses; provided, however, notwithstanding anything herein to the contrary, the aggregate value of this Agreement shall be less than the dollar limitation set forth in Section 2271.002(a)(2) and Section 2274.002(a)(2) of the Texas Government Code, as amended. The Escrow Agent hereby agrees that in no event shall it ever assert any claim or lien against the Escrow Fund for any fees for its services, whether regular or extraordinary, as Escrow Agent, or in any other capacity, or for reimbursement for any of its expenses.

Section 7.04. Successor Escrow Agents. (a) If at any time the Escrow Agent or its legal successor or successors should become unable, through operation of law or otherwise, to act as

Escrow Agent hereunder, or if its property and affairs shall be taken under the control of any state or federal court or administrative body because of insolvency or bankruptcy or for any other reason, a vacancy shall forthwith exist in the office of Escrow Agent hereunder. In such event the Issuer, by appropriate action, promptly shall appoint an Escrow Agent to fill such vacancy. If, in a proper case, no appointment of a successor Escrow Agent shall be made pursuant to the foregoing provisions of this section within three months after a vacancy shall have occurred, the Issuer or TMRS may apply to any court of competent jurisdiction to appoint a successor Escrow Agent. Such court may thereupon, after such notice, if any, as it may deem proper, prescribe and appoint a successor Escrow Agent.

(b) The Escrow Agent may at any time resign and be discharged from the trust hereby created by giving not less than 60 days' written notice to the Issuer; provided, however, no such resignation shall take effect unless: (i) a successor Escrow Agent shall have been appointed by the Issuer or by TMRS as herein provided; (ii) such successor Escrow Agent shall have accepted such appointment; (iii) the successor Escrow Agent shall have agreed to accept the fees currently in effect for this Agreement; and (iv) the Escrow Agent shall have paid over to the successor Escrow Agent a proportional part of the Escrow Agent's fee hereunder. Such resignation shall take effect immediately upon compliance with the foregoing requirements. If within 60 days following the resignation of the Escrow Agent, no successor Escrow Agent shall have been appointed, the Escrow Agent may apply to any court of competent jurisdiction to appoint a successor Escrow Agent.

(c) Any successor Escrow Agent shall be: (i) a corporation organized and doing business under the laws of the United States or the State of Texas; (ii) authorized under such laws to exercise corporate trust powers; (iii) have its principal office and place of business in the State of Texas; (iv) have a combined capital and surplus of at least \$5,000,000; (v) subject to the supervision or examination by Federal or State authority and (vi) qualified to serve as Escrow Agent under the provisions of Chapter 1207.

(d) Any successor Escrow Agent shall execute, acknowledge and deliver to the Issuer and the Escrow Agent an instrument accepting such appointment hereunder, and the Escrow Agent shall execute and deliver an instrument transferring to such successor Escrow Agent, subject to the terms of this Agreement, all the rights, powers and trusts of the Escrow Agent hereunder. Upon the request of any such successor Escrow Agent, the Issuer shall execute any and all instruments in writing for more fully and certainly vesting in and confirming to such successor Escrow Agent all such rights, powers and duties. The Escrow Agent shall pay over to its successor Escrow Agent a proportional part of the Escrow Agent's fee hereunder.

ARTICLE VIII

MISCELLANEOUS

Section 8.01. Notice. Any notice, authorization, request, or demand required or permitted to be given hereunder, shall be in writing and shall be deemed to have been duly given when mailed by registered or certified mail, postage prepaid, addressed as follows:

To the Escrow Agent: The Bank of New York Mellon Trust Company,
N.A.
240 Greenwich Street
New York, New York 10286
Attention. Corporate Trust Administration
Attention: _____, _____
Email. _____@_____.com
Phone: +1 ____ - ____ - ____

To the Issuer: City of Grand Prairie
317 College Street
Grand Prairie, Texas 75050
Attention: Chief Financial Officer

To the Rating Agencies: Moody's Investors Service, Inc.
2200 Ross Avenue
Suite 4650 West
Dallas, Texas 75201
Attention: Public Finance Department

Standard & Poor's Rating Group
25 Broadway
New York, New York 10004

Fitch Investors Service, L.P.
4514 Cole Avenue, Suite 600
Dallas, Texas 75205

The United States Post Office registered or certified mail receipt showing delivery of the aforesaid shall be conclusive evidence of the date and fact of delivery. Either party hereto may change the address to which notices are to be delivered by giving to the other party not less than ten (10) days prior notice thereof.

Section 8.02. Iran, Sudan and Foreign Terrorist Organizations. The Escrow Agent represents that neither it nor any of its parent company, wholly- or majority-owned subsidiaries, and other affiliates is a company identified on a list prepared and maintained by the Texas Comptroller of Public Accounts under Section 2252.153 or Section 2270.0201, Texas Government Code, and posted on any of the following pages of such officer's internet website:

<https://comptroller.texas.gov/purchasing/docs/sudan-list.pdf>,
<https://comptroller.texas.gov/purchasing/docs/iran-list.pdf>, or
<https://comptroller.texas.gov/purchasing/docs/fto-list.pdf>.

The foregoing representation is made solely to comply with Section 2252.152, Texas Government Code, and to the extent such Section does not contravene applicable Federal law neither the Escrow Agent nor any wholly- or majority-owned subsidiaries, and other affiliates, if any, that the United States government has affirmatively declared to be excluded from its federal

sanctions regime relating to Sudan or Iran or any federal sanctions regime relating to a foreign terrorist organization. The Escrow Agent understands “affiliate” to mean any entity that controls, is controlled by, or is under common control with the Escrow Agent within the meaning of SEC Rule 405, 17. C.F.R. § 230.405 and exists to make a profit.

Section 8.03. Form 1295 Exemption. The Escrow Agent represents that it is a wholly owned subsidiary of a publicly traded business entity, and therefore this Agreement is exempt from Section 2252.908, Texas Government Code, as amended.

Section 8.04. Patriot Act Compliance, Etc. In order to comply with laws, rules, regulations and executive orders in effect from time to time applicable to banking institutions, including those relating to the funding of terrorist activities and money laundering and the Customer Identification Program (“CIP”) requirements under the USA PATRIOT Act and its implementing regulations, pursuant to which the Escrow Agent must obtain, verify and record information that allows the Escrow Agent to identify customers (“Applicable Law”), the Escrow Agent is required to obtain, verify and record certain information relating to individuals and entities which maintain a business relationship with the Escrow Agent. Accordingly, the Issuer agrees to provide to the Escrow Agent upon its request from time to time such identifying information and documentation as may be available for such party in order to enable the Escrow Agent to comply with Applicable Law, including, but not limited to, information as to name, physical address, tax identification number and other information that will help the Escrow Agent to identify and verify the Issuer such as organizational documents, certificates of good standing, licenses to do business or other pertinent identifying information. The Issuer understands and agrees that the Escrow Agent cannot open the Escrow Fund unless and until the Escrow Agent verifies the identity of the Issuer in accordance with its CIP.

Section 8.05. Termination of Responsibilities. Upon the taking of all the actions as described herein by the Escrow Agent, the Escrow Agent shall have no further obligations or responsibilities hereunder to the Issuer, TMRS or to any other person or persons in connection with this Agreement.

Section 8.06. Binding Agreement. This Agreement shall be binding upon the Issuer and the Escrow Agent and their respective successors and legal representatives, and shall inure solely to the benefit of TMRS, the Issuer, the Escrow Agent and their respective successors and legal representatives.

Section 8.07. Severability. In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein.

Section 8.08. Texas Law Governs. This Agreement shall be governed by and interpreted in accordance with the laws of the State of Texas.

Section 8.09. Time of the Essence. Time shall be of the essence in the performance of obligations from time to time imposed upon the Escrow Agent by this Agreement.

Section 8.10. Effective Date of Agreement. This Agreement shall be effective upon receipt by the Escrow Agent of the funds and the Authorized Securities described in Exhibit A, together with the specific sums stated in Section 7.03 for Escrow Agent fees, expenses, and services.

Section 8.11. Modification of Agreement. This Agreement shall be binding upon the Issuer and the Escrow Agent and their respective successors and legal representatives and shall inure solely to the benefit of TMRS, the Issuer, the Escrow Agent and their respective successors and legal representatives. Furthermore, no alteration, amendment or modification of any provision of this Agreement (i) shall alter the financial arrangements made for the payment of Bond proceeds to TMRS hereunder or (ii) shall be effective unless such alteration, amendment or modification is in writing and signed by the parties hereto.

Section 8.12. Indemnification. To the extent permitted by law, the Issuer agrees to indemnify the Escrow Agent, its officers, directors, employees and agents for, and hold them harmless against, any loss, liability, or expense incurred without negligence or willful misconduct on their part arising out of or in connection with its acceptance or administration of the Escrow Agent's duties under this Agreement, including the cost and expense (including its counsel fees) of defending itself against any claim or liability in connection with the exercise or performance of any of its powers or duties under this Agreement, regardless of the whether such claim is brought by the Issuer, TMRS or any third party. The rights of the Escrow Agent under this Section 8.12 shall survive termination of this Agreement or the resignation or replacement of the Escrow Agent.

Section 8.13. Information Sharing. The Bank of New York Mellon Corporation is a global financial organization that operates in and provides services and products to clients through its affiliates and subsidiaries located in multiple jurisdictions (the "BNY Mellon Group"). The BNY Mellon Group may (i) centralize in one or more affiliates and subsidiaries certain activities (the "Centralized Functions"), including audit, accounting, administration, risk management, legal, compliance, sales, product communication, relationship management, and the compilation and analysis of information and data regarding the Issuer (which, for purposes of this provision, includes the name and business contact information for the Issuer employees and representatives) and the accounts established pursuant to this Agreement ("Interested Parties Information") and (ii) use third party service providers to store, maintain and process the Interested Parties Information ("Outsourced Functions"). Notwithstanding anything to the contrary contained elsewhere in this Agreement and solely in connection with the Centralized Functions and/or Outsourced Functions, the Issuer consents to the disclosure of, and authorizes BNY Mellon to disclose, the Interested Parties Information to (i) other members of the BNY Mellon Group (and their respective officers, directors and employees) and to (ii) third-party service providers (but solely in connection with Outsourced Functions) who are required to maintain the confidentiality of the Interested Parties Information. In addition, the BNY Mellon Group may aggregate the Interested Parties Information with other data collected and/or calculated by the BNY Mellon Group, and the BNY Mellon Group will own all such aggregated data, provided that the BNY Mellon Group shall not distribute the aggregated data in a format that identifies the Interested Parties Information with the Issuer specifically. The Issuer represents that ~~the~~ it is authorized to consent to the foregoing and that the disclosure of the Interested Parties Information in connection with the Centralized Functions and/or Outsourced Functions does not violate any relevant data protection legislation. The Issuer also consents to the disclosure of the Interested Parties Information to governmental and regulatory

authorities in jurisdictions where the BNY Mellon Group operates and otherwise as required by law.

Section 8.14. Successors and Assigns of Escrow Agent. Notwithstanding anything herein to the contrary, any corporation or other company into which the Escrow Agent may be merged or converted or with which it may be consolidated, or any corporation or other company resulting from any merger, conversion or consolidation to which the Escrow Agent shall be a party, or any corporation or other company succeeding to the business of the Escrow Agent shall be the successor of the Escrow Agent hereunder without the execution or filing of any paper with any party hereto or any further act on the part of any of the parties hereto, except where an instrument of transfer or assignment is required by law to effect such succession, anything herein to the contrary notwithstanding.

[Execution Page Follows]

IN WITNESS WHEREOF, this Agreement has been executed in multiple counterparts, each one of which shall constitute one and the same original Agreement, as of the date and year appearing on the first page of this Agreement.

CITY OF GRAND PRAIRIE, TEXAS

By: _____
Authorized Officer

THE BANK OF NEW YORK MELLON
TRUST COMPANY, N.A.,
as Escrow Agent

By: _____
[]

EXHIBIT A

**DESCRIPTION OF BEGINNING CASH BALANCES AND AUTHORIZED
SECURITIES**

I. Cash

\$[_____]

II. Authorized Securities

[N/A]



June 14, 2022

TO: Board of Trustees

FROM: Rhonda H. Covarrubias, Director of Finance *Rhonda H. Covarrubias*

RE: Agenda Item 6: Receive 2021 Financial Statement and the Schedule of Changes in Fiduciary Net Position by Participating City Audit Results

CliftonLarsonAllen LLP (CLA) completed two TMRS financial audits.

CLA issued an unmodified or clean opinion on the financial statements for the year ended December 31, 2021, and this opinion will be included in the 2021 Annual Comprehensive Financial Report (ACFR).

CLA also issued an unqualified or clean opinion on TMRS' Schedule of Changes in Fiduciary Net Position by Participating City (Schedule). This audit provides assurance to participating cities on the pension amounts cities recognize in their financial statements. The Schedule also provides data to GRS for the city pension disclosure packages.

CLA's Brittany Smith, Engagement Manager, will present the audit results via Zoom.

ATTACHMENTS:

- 1 - CLA Presentation on 2021 Financial Statement and System and Organization Controls (SOC) Audit Results for Agenda Items 6, 7 and 8
- 2 - Independent Auditor's Report on the Financial Statements
- 3 - Independent Auditor's Report on the Schedule of Changes in Fiduciary Net Position by Participating City
- 4 - TMRS' Schedule of Changes in Fiduciary Net Position by Participating City for the Year Ended December 31, 2021



We'll get you there.

Texas Municipal Retirement System

2021 Financial Statement and System and
Organization Controls (SOC) Audit Results

June 23, 2022

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Agenda



2021 Audit Results



Required Communications



2021 Audit Results – Financial Statements

- Independent Auditors' Report – Unmodified “clean” opinion that the financial statements are presented fairly, in all material respects, in conformity with U.S. Generally Accepted Accounting Principles (GAAP).
- Limited procedures were performed, and no opinion rendered, on management's discussion and analysis, required supplementary information, and the Introductory, Investment, Actuarial, and Statistical sections.
- Limited procedures were performed, and an unmodified “in relation to” opinion was rendered on the other supplemental schedules.



2021 Audit Results – Schedule of Changes in Fiduciary Net Position (by Participating City)

- Independent Auditors’ Report - Unmodified “clean” opinion that the fiduciary net position and the changes in fiduciary net position in the Schedule of Changes in Fiduciary Net Position (by Participating City) are presented fairly, in all material respects, in conformity with U.S. Generally Accepted Accounting Principles (GAAP).
- Unmodified “in relation to” opinion was issued on the individual employer information presented in the Schedule.



2021 Audit Results – System Organization and Controls (SOC) Report

- Independent Auditor's Report – Unmodified “clean” opinion that the controls implemented by TMRS were fairly presented, adequately designed, and operating effectively to meet the stated control objectives for the period May 1, 2021 through April 30, 2022.
- No exceptions noted for the 10 control objectives tested.

Required Governing Body Communications

- Auditor's responsibility under U.S. Generally Accepted Auditing Standards
- Significant accounting policies
 - No new accounting standards implemented
- No audit adjustments or passed audit adjustments
- Management judgments and accounting estimates
 - Valuation of alternative investments
- Management was very cooperative and professional during the audit process



Required Governing Body Communications (continued)

- No significant unusual transactions
- Areas considered to be significant risks of material misstatement:
 - Management override
 - Valuation of alternative investments
 - Existence of alternative investments



Required Governing Body Communications (continued)

- No disagreements with management
- No difficulties encountered during the audit
- Management did not consult with other accountants on the application of GAAP or GAAS
- No major issues were discussed with management prior to retention
- Management representations were provided



Bill Early, CPA

Engagement Principal

bill.early@CLAconnect.com

410-453-5586

Brittany Smith, CPA, CIA

Engagement Manager

brittany.smith@CLAconnect.com

425-250-6023



[CLAconnect.com](https://www.CLAconnect.com)



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INDEPENDENT AUDITORS' REPORT

The Board of Trustees
Texas Municipal Retirement System
Austin, Texas

Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying financial statements of the Texas Municipal Retirement System (TMRS), which comprise the statement of fiduciary net position and the related statement of changes in fiduciary net position as of and for the year ended December 31, 2021, and the related notes to the financial statements, which collectively comprise the TMRS' basic financial statements, as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the TMRS as of December 31, 2021, and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the TMRS and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the TMRS' ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the TMRS' internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the TMRS' ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and money-weighted rate of return – pension trust fund, as listed in the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with GAAS, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the TMRS' basic financial statements. The combined schedule of changes in fiduciary net position, schedule of administrative expenses and investment expenses, and schedule of professional services (supplementary information) are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with GAAS. In our opinion, the supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the introductory, investment, actuarial and statistical sections but does not include the basic financial statements and our auditors' report thereon. Our opinion on the basic financial statements do not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

A handwritten signature in black ink that reads "CliftonLarsonAllen LLP". The signature is written in a cursive, flowing style.

CliftonLarsonAllen LLP

Baltimore, Maryland
June 9, 2022



INDEPENDENT AUDITORS' REPORT

The Board of Trustees
Texas Municipal Retirement System
Austin, Texas

Report on the Audit of the Schedule

Opinion

We have audited the fiduciary net position as of December 31, 2021, and the changes in fiduciary net position for the year then ended, included in the accompanying schedule of changes in fiduciary net position by participating city (Schedule) of the Texas Municipal Retirement System (TMRS) and the related notes.

In our opinion, the Schedule referred to above presents fairly, in all material respects, the fiduciary net position of the Texas Municipal Retirement System as of December 31, 2021, and the respective changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Schedule section of our report. We are required to be independent of the TMRS and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Schedule

Management is responsible for the preparation and fair presentation of the Schedule in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the Schedule that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibilities for the Audit of the Schedule

Our objectives are to obtain reasonable assurance about whether the Schedule as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the Schedule.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the Schedule, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the Schedule.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of TMRS' internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the Schedule.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about TMRS's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Supplementary Information

Our audit of the financial statements of TMRS was conducted for the purpose of forming an opinion on the financial statements as a whole. The individual employer information presented in each of the individual columns of the accompanying Schedule is presented for purposes of additional analysis and is not a required part of the financial statements. The individual employer information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. Each column of individual employer information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the individual employer information presented in each individual column of the accompanying Schedule is stated fairly, in all material respects, in relation to the financial statements of TMRS as a whole. We do not express an opinion on the fiduciary net position or changes in fiduciary net position of each individual employer.


Other Matters

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of TMRS as of and for the year ended December 31, 2021, and our report thereon, dated June 9, 2022, expressed an unmodified opinion on those financial statements.

Board of Trustees
Texas Municipal Retirement System

Restriction on Use

Our report is intended solely for the information and use of TMRS management, the Board of Trustees, TMRS' participating employers explicitly named in the Schedule, as of and for the year ended December 31, 2021, and their auditors and is not intended to be and should not be used by anyone other than these specified parties.

A handwritten signature in black ink that reads "CliftonLarsonAllen LLP". The signature is written in a cursive, flowing style.

CliftonLarsonAllen LLP

Baltimore, Maryland
June 9, 2022



June 14, 2022

TO: Board of Trustees

FROM: Rhonda H. Covarrubias, Director of Finance *Rhonda H. Covarrubias*

RE: Agenda Item 7: Receive System and Organization Controls (SOC) Audit Results

CliftonLarsonAllen LLP (CLA) completed the System and Organization Controls (SOC) audit for the period covering May 1, 2021 through April 30, 2022. CLA issued an unmodified or clean opinion and found no exceptions in the 10 control objective areas tested.

The SOC-1 Type 2 report provides assurance to participating cities on the suitability and operating effectiveness of controls of TMRS' pension management system. Due to the SOC's confidential nature, it is made available to cities via the City Portal.

CLA's Brittany Smith, Engagement Manager will present the audit results via Zoom.

ATTACHMENTS:

- 1 – Independent Service Auditors' Report on TMRS' Description of Its Pension Management System and the Suitability of Design and Operating Effectiveness of Controls Relevant to Financial Reporting (SOC1 Type 2)



June 14, 2022

TO: Board of Trustees

FROM: Rhonda H. Covarrubias, Director of Finance *Rhonda H. Covarrubias*

RE: Agenda Item 8: Receive Required Auditor Communications to the Board of Trustees

CliftonLarsonAllen LLP (CLA) has completed the annual audit of TMRS' financial statements. Auditing standards require auditors to communicate certain matters about the financial reporting process to the Board.

CLA's Brittany Smith, Engagement Manager will present the required auditor communications to the Board via Zoom.

ATTACHMENTS:

1 – CLA's Letter to the Board of Trustees for the year ended December 31, 2021



June 14, 2022

TO: Board of Trustees

FROM: Rhonda H. Covarrubias, Director of Finance *Rhonda H. Covarrubias*

RE: Agenda Item 9: Receive and Approve Distribution of 2021 Annual Comprehensive Financial Report

TMRS' Annual Comprehensive Financial Report for the Year Ended December 31, 2021 (ACFR) has been prepared in accordance with generally accepted accounting principles (GAAP), all applicable Governmental Accounting Standards Board (GASB) standards and the Government Finance Officers Association (GFOA) Certificate of Achievement program guidelines.

The ACFR includes all information that the TMRS Act and GFOA requires.

CliftonLarsonAllen LLP (CLA) has audited the ACFR's financial statements and issued an unqualified or clean opinion on them.

RECOMMENDATION:

Staff recommends the Board receive and approve distribution of the ACFR to TMRS participating cities and interested parties.

ATTACHMENTS:

- 1 - Presentation on TMRS Annual Comprehensive Financial Report for the Year Ended December 31, 2021
- 2 - TMRS Annual Comprehensive Financial Report for the Year Ended December 31, 2021



Annual Comprehensive Financial Report For the Year Ended December 31, 2021

David Wescoe, Executive Director

Rhonda H. Covarrubias, Director of Finance

June 23, 2022

Annual Comprehensive Financial Report

- New title: Annual Comprehensive Financial Report (ACFR)
- Multiple authors and reviewers for the five sections:
 - Introductory
 - Financial
 - Investment
 - Actuarial
 - Statistical
- 2020 was the 34th consecutive year that we received Government Finance Officers Association's (GFOA) Certificate of Achievement for Excellence in Financial Reporting Award

Introductory Section

- Executive Director's Letter of Transmittal
- Board of Trustees and Committees
- 2021 Highlights
 - 90.5% composite funded ratio
 - \$1.6 billion in retirement benefits paid
 - \$1.1 billion in city and \$492 million in active member contributions
 - 212,727 total Members
 - 901 participating cities

Financial Section

CliftonLarsonAllen LLP issued unqualified or clean opinion

Management's Discussion and Analysis

- Pension Trust Fund increased by \$4.3 billion or 12.6%
 - Net investment income increased by \$2.1 billion
 - Retirement benefit payments increased by \$101.3 million or 6.6% primarily due to number of retirees increasing from 64,121 in 2020 to 67,016 in 2021
- Supplemental Death Benefits Fund (SDBF) decreased by \$6.8 million or 54.0% as death benefits increased from \$11.1 million in 2020 to \$17.8 million in 2021

Financial Section, continued

- Basic Financial Statements
 - Statement of Fiduciary Net Position
 - Statement of Changes in Fiduciary Net Position

- Notes to Financial Statements
 - GASB requirements for footnotes unchanged from prior year
 - Subject matter experts helped clarify the footnotes

Investment Section

- Trust Fund investments totaled \$38.8 billion as of year-end, an all-time high
- 2021 net investment return was 12.86%, exceeding the 6.75% actuarial return assumption
- Other net investment returns also exceeded 6.75%:
 - 3-year, 11.43%
 - 5-year, 8.94%
 - 10-year, 7.69%

Other Sections

- Actuarial Section
 - GRS' certification letters for Pension Trust Fund and SDBF
 - Summarized actuarial assumptions from May 2022 Actuarial Valuation
 - Average annual benefit was \$19,561

- Statistical Section
 - 10-year Financial Trends
 - Pension Trust Fund increased from \$20.5 billion to \$38.6 billion
 - SDBF decreased from \$25.7 million to \$5.8 million

 - Demographic Information
 - 56% of retirees select a survivor lifetime option, 31% select life only and 13% select a guaranteed term option

Staff Recommendation

- Board approve the distribution of the Annual Comprehensive Financial Report for the Year Ended December 31, 2021



June 14, 2022

To: Board of Trustees

From: David J. Hunter, Chief Investment Officer

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

Re: Agenda Item 10 (a): CIO Report

Trust Fund Performance. Preliminary net investment returns for the Trust Fund were 7.84%, 7.73% and 6.94% for the 1-, 5- and 10-years ended March 31, 2022, respectively. These returns exceeded the RVK Actual Allocation Benchmark by 67 bps, 15 bps and 18 bps, respectively. For the five-years ended March 31, 2022, private equity and public equity generated the highest net returns of 23.5% and 10.8%, with private equity surpassing its benchmark by 286 bps while public equity trailed by 73 bps. Real estate and Other Public and Private Markets (OPPM) were the next highest returning sectors posting net returns of 9.3% and 5.7%, with real estate surpassing its benchmark by 75 bps while OPPM trailed by 29 bps. Non-core fixed income and hedge funds earned net returns of 5.17% and 5.20%, for the 5-years ended March 31, 2022, beating their benchmarks by 101 bps and 18 bps. Core fixed income earned 2.48%, net of fees, exceeding its benchmark by 34 bps.

March 31, 2022 returns are preliminary because private market returns (e.g., real estate and private equity) are lagged by one month for monthly-valued assets and one quarter for quarterly-valued assets.

Asset Allocation Update. Since the Board adopted a new target asset allocation effective July 1, 2021, staff has made significant progress reallocating Trust Fund assets towards the new allocations. As of March 31, 2021, actual allocations were generally within 1% of the new target, with hedge funds overweight 2.6% and OPPM underweight 1.3%.

Staff Investment Committee (SIC). The SIC met on June 2 to review an approximate \$600 million rebalancing recommendation to better align the public equity portfolio versus the Board-approved public equity benchmark, improve returns and reduce fees. The SIC approved this public equity rebalancing recommendation on May 11 subject to further internal, consultant and legal review. The SIC updated Board delegated limits for July 1, 2022 to June 30, 2023, based on the \$38.45 billion Trust Fund balance. The new limits of 3.0% and 0.75% for public and private markets investments are \$1.154 billion and \$288 million, respectively. The SIC approved two private market investments including a \$250 million real estate commitment with an existing infrastructure manager and a \$75 million commitment to a promising new private equity manager. The SIC approved two investments to be recommended for Board approval including a \$200 million upsizing of an existing \$214 million real estate investment with

a top performing manager and a new \$300 million commitment to an existing top performing non-core fixed income manager. SIC-approved minutes are included in Diligent. The next SIC meeting is scheduled for June 30. Trustees can attend any meeting.

Global Investment Performance Standards (GIPS®). GIPS® standards are promulgated by the CFA Institute to promote ethical and transparent performance reporting. Specifically, GIPS® requires: 1) policies and procedures documenting the methodologies used to calculate performance; ii) performance be time-weighted; and iii) registering a claim of compliance with the CFA Institute.

IPS Review Committee. On June 3, the IPS Review Committee discussed the core components of the Investment Policy Statement (IPS) and Exhibits. I appreciate the excellent work completed by committee members and investment staff in being well prepared and engaged, including Bob Scott, Anali Alanis, Tom Masthay, Nick O’Keefe, and Cindy Morse. Our next meeting is scheduled for June 22.

Investment Consulting Update. Investments and Legal intend to finalize general investment consultant contract terms with NEPC by July 1. RVK will be retained through the third quarter to ensure a smooth transition to NEPC. The SIC completed a mid-term contract review of Albourne’s private markets investment consulting service in June following Albourne’s 2022 presentation to the Board.

Annual Activity and Completed Investments Reports. In 2022, TMRS reclassified \$341 million of private market commitments into non-core fixed income while reducing \$394 million of hedge funds in accordance with Board approved asset allocation directives. Completed investments exceeded \$2 billion in 2022, including approximately \$800 million in real estate, \$650 million in private equity, and \$630 million in OPPM. The Annual Activity and Completed Investments Reports are as of June 14, 2022.

Investment Team Update. I am pleased to announce that two top candidates accepted offers of employment to fill Investment department vacancies. I look forward to introducing these professionals to Trustees at our next Board meeting. I want to thank our investment team for doing a great job handling all of their responsibilities including the most recent interview processes. These new additions will continue to strengthen our already impressive investment team.



June 14, 2022

To: Board of Trustees
From: David J. Hunter, Chief Investment Officer
Re: Agenda Item 10b: Receive Trust Fund Report

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

The Q1 2022 Trust Fund Report is attached. The Report should be received and filed by the Board.

ATTACHMENT:

1 – Q1 2022 Trust Fund Report



Trust Fund Report: Q1 2022

Dave Hunter, CIO

Board of Trustees Meeting

June 23, 2022

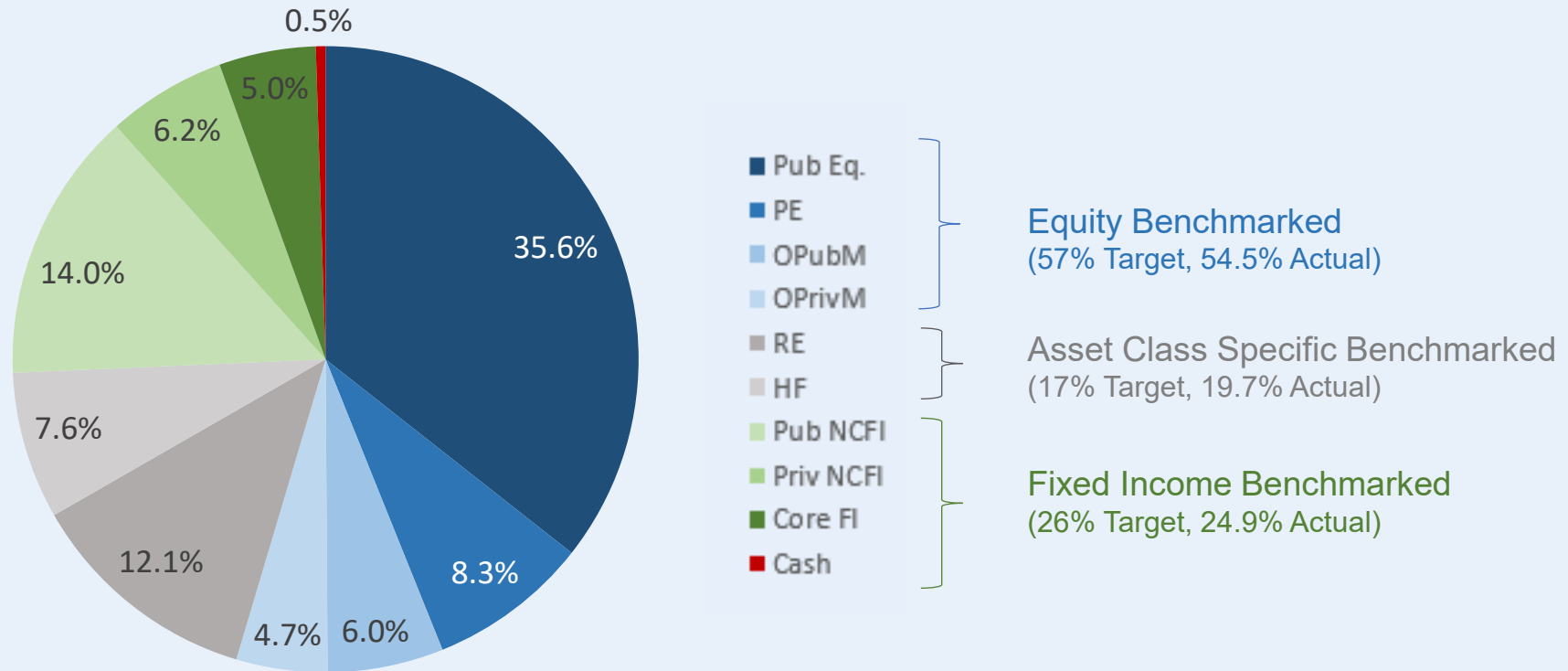
Table of Contents

- Executive Summary
- Asset Class Reports
- DPR Report
- Private Market Pacing Plans

Executive Summary

Asset Allocation

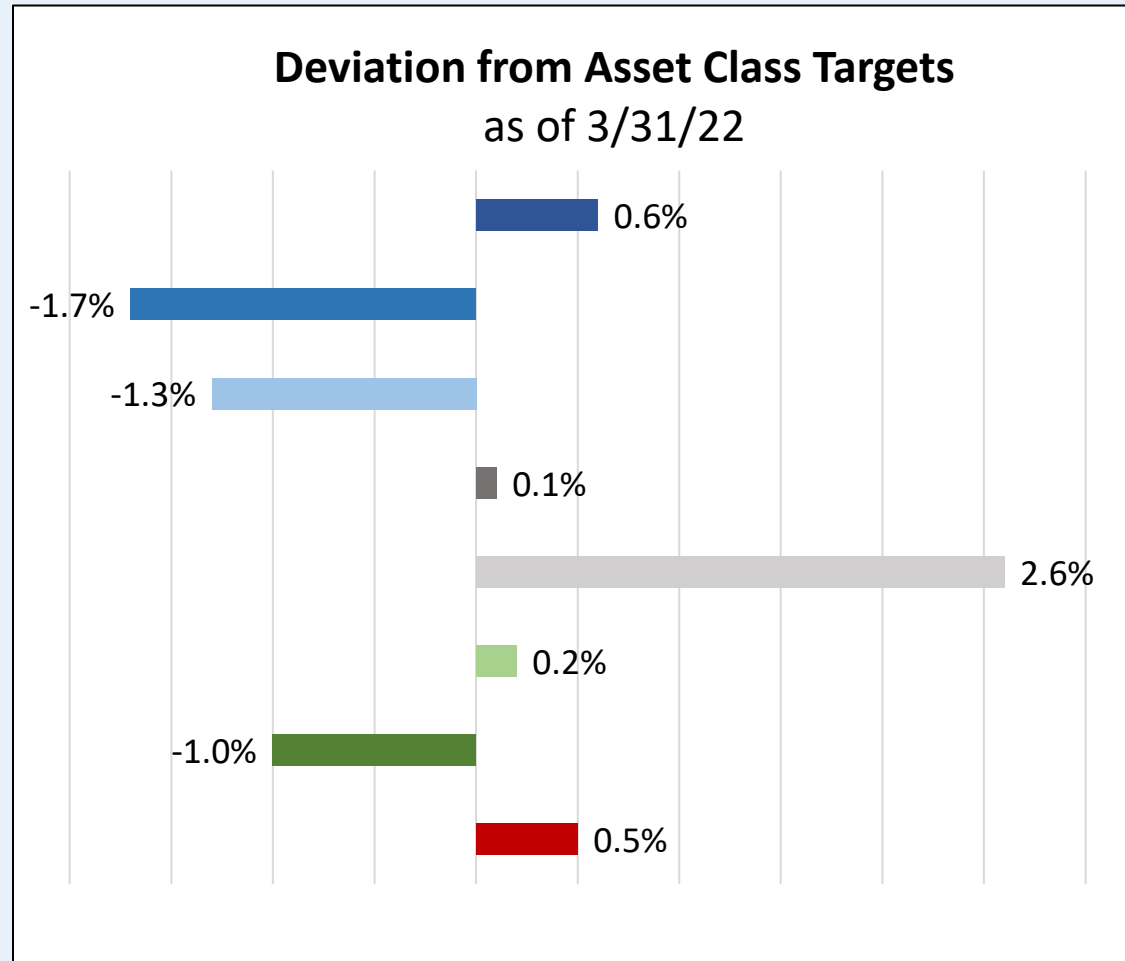
As of March 31, 2022



As the Trust Fund approaches its targeted asset allocation, the portfolios are increasingly in-line with broad asset-type categorizations.

Asset Allocation vs. Target

As of March 31, 2022



Asset Class (Target)

■ Pub Eq. (35%)

■ PE (10%)

■ OPPM (12%)

■ RE (12%)

■ HF (5%)

■ NCFI (20%)

■ Core FI (6%)

■ Cash (0%)

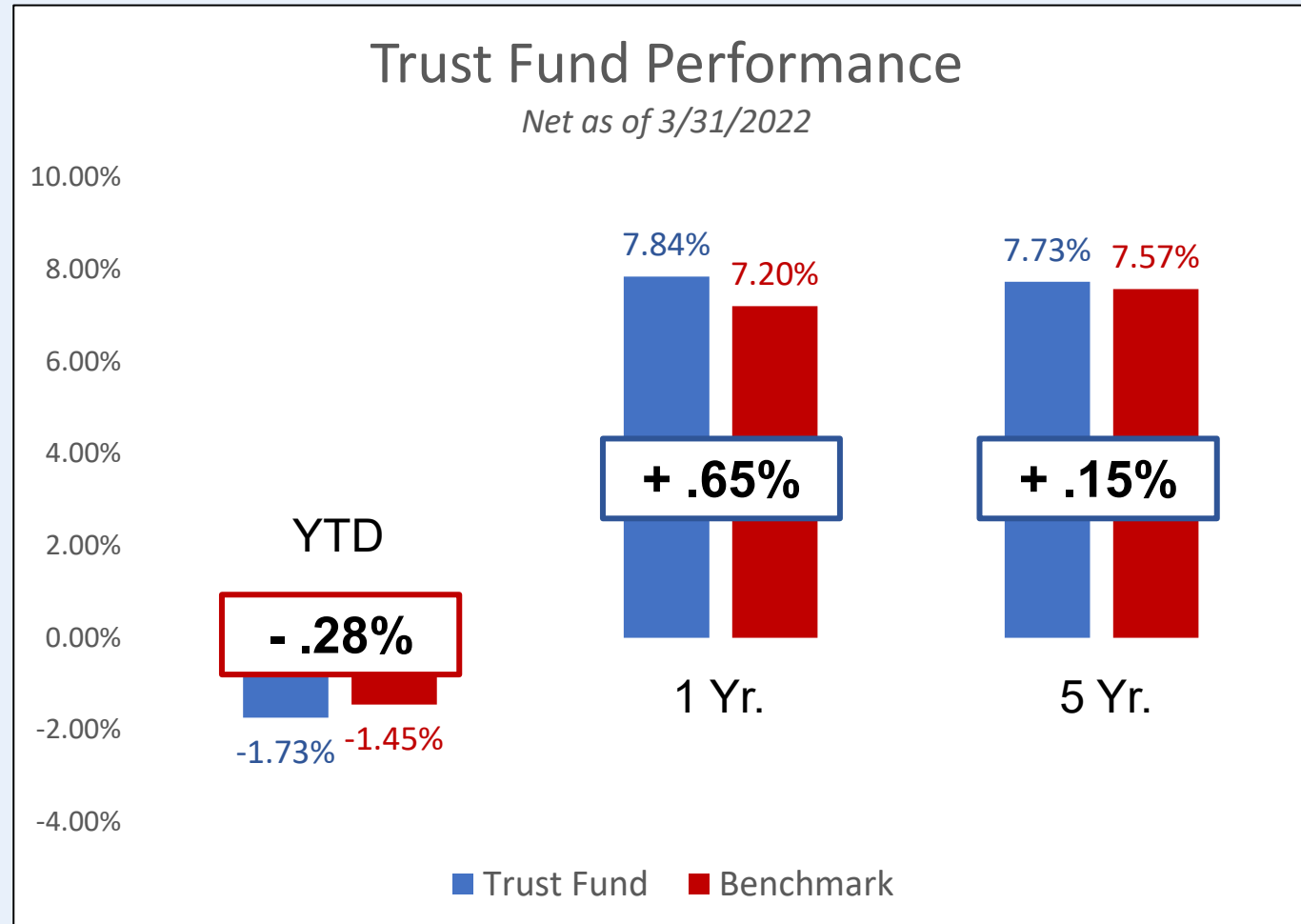
Equity Benchmarked
(57% Target)

Asset Class Benchmarked
(17% Target)

Fixed Income Benchmarked
(26% Target)

Trust Fund Net Performance – Preliminary

As of March 31, 2022

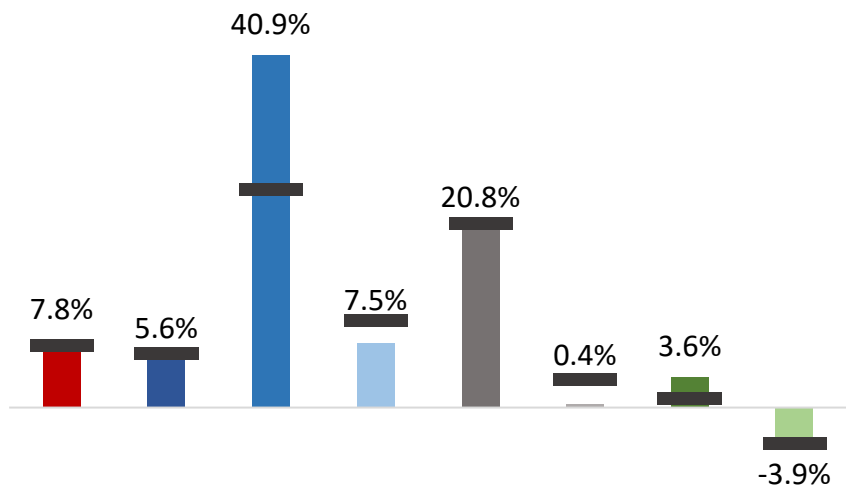


Performance Attribution – Preliminary

(Trailing One-Year and Five-Year Performance vs Benchmark, as of March 31, 2022)

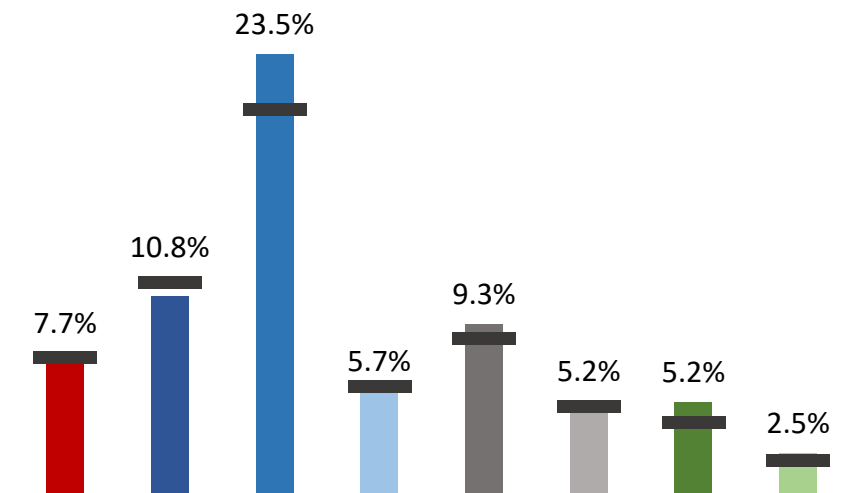
- Trust Fund Performance exceeded TMRS' 6.75% assumed rate of return over the 5-year time period. Global Equity, Private Equity, and Real Estate performance was a key driver of meeting the overall return expectation.

Trailing **One-Year** Performance vs Benchmark



	Trust Fund	Global Equity	Private Equity	OPPM	Real Estate	Hedge Funds	NCFI	Core Fixed Income
■ 1 Yr.	7.8%	5.6%	40.9%	7.5%	20.8%	0.4%	3.6%	-3.9%
— 1 Yr. Benchmark	7.2%	6.3%	25.3%	10.1%	21.3%	3.3%	1.1%	-4.2%

Trailing **Five-Year** Performance vs Benchmark



	Trust Fund	Global Equity	Private Equity	OPPM	Real Estate	Hedge Funds	NCFI	Core Fixed Income
■ 5 Yr.	7.7%	10.8%	23.5%	5.7%	9.3%	5.2%	5.2%	2.5%
— 5 Yr. Benchmark	7.6%	11.5%	20.6%	6.0%	8.6%	5.0%	4.1%	2.1%

Asset Class Strategic Initiatives

- *Asset Allocation Changes → Enhance Returns & Reduce Program Costs* – The Board approved asset allocation and benchmarking changes that became effective 7/1/21. The modifications increased allocations to equity benchmarked assets. Additionally, the new asset allocation motivated the reduction of program costs in public market asset classes. Implementation of the strategic asset allocation remains investment staff's top priority.
- *Asset Class Specific Initiatives:*
 - *Public Equity:* Passive Portfolio Research → Cost Reduction, Reduce Benchmark Mismatches
 - *Private Equity:* Scale Co-Invest / Transfer Credit Strategies → Increase Performance, Cost Reduction
 - *OPPM:* Add Private Market Exposure → Increase Performance, Cost Efficiency
 - *Real Estate:* Expand Successful Partnerships → Increase Performance, Cost Reduction
 - *Hedge Funds:* Reduce Exposure → Increase Performance, Reduce Benchmark Mismatches
 - *NCFI:* Manager Reallocation, Scale Program → Increase Performance
 - *Core Fixed Income:* End state achieved. At target with fee efficient, strong performing manager

Trust Fund Standard Deviation Summary

March 31, 2022

The Trust Fund's standard deviation should be very similar to the Benchmark's, and it is.

The Trust Fund's standard deviation is in line with the assumption from the most recent Asset Allocation Study.

The increase in standard deviation of excess return is reasonable given the new Benchmarks adopted as of 7/1/2021.

Standard Deviation Summary Table		
	Q1 2022	Q4 2021
Trust Fund Standard Deviation (Risk Model)	12.52%	12.13%
Benchmark Standard Deviation (Risk Model)	11.42%	11.08%
Asset Allocation Study Standard Deviation Assumption	11.7%	11.7%
Standard Deviation of Excess Return (Risk Model) Excess return is TMRS's Portfolio return minus the Benchmark return	2.5%	2.2%

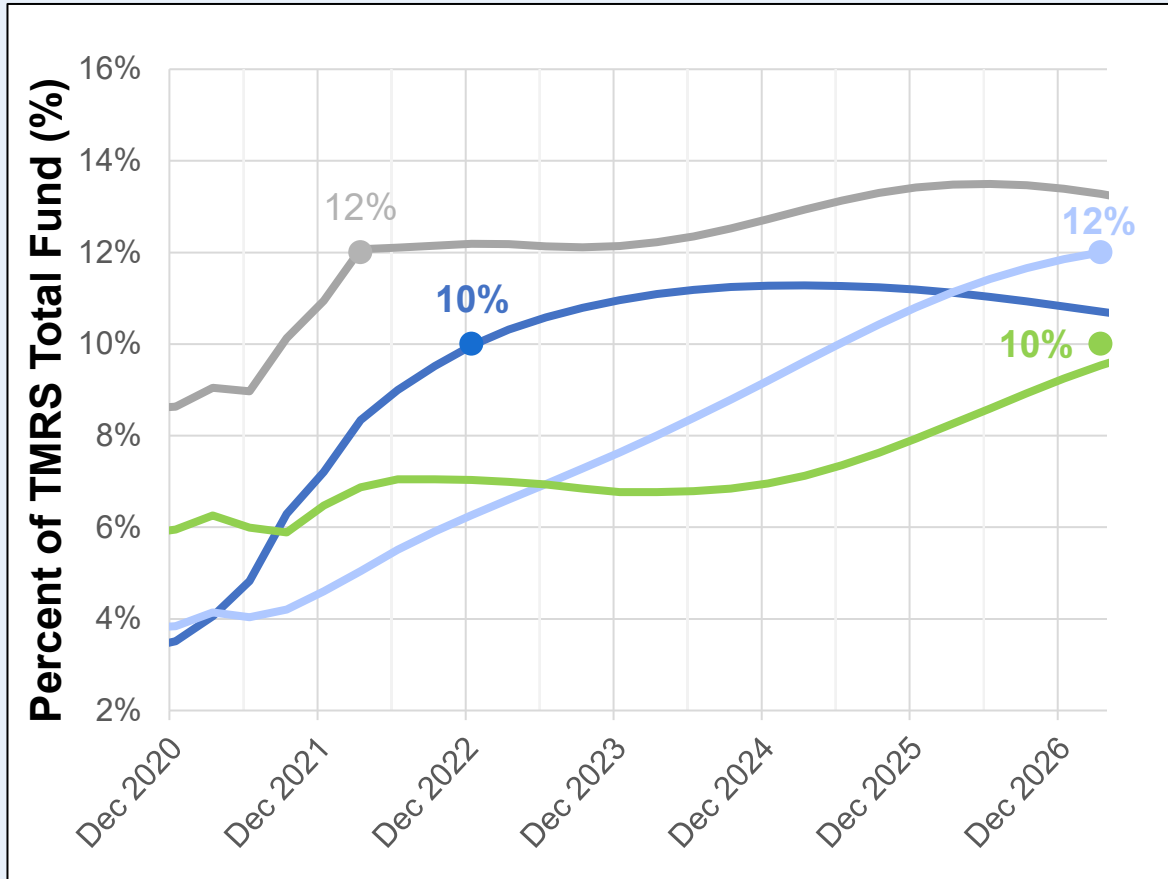
Investment Activity: Q1 2022

- Public markets activities were driven by asset allocation changes effective 7/1/21.
 - Hedge Fund redemptions continue due to a reduction of the target allocation for the asset class from 10% to 5%.
- Nine new private market commitments totaling \$1.1 billion were approved in Q1 2022.

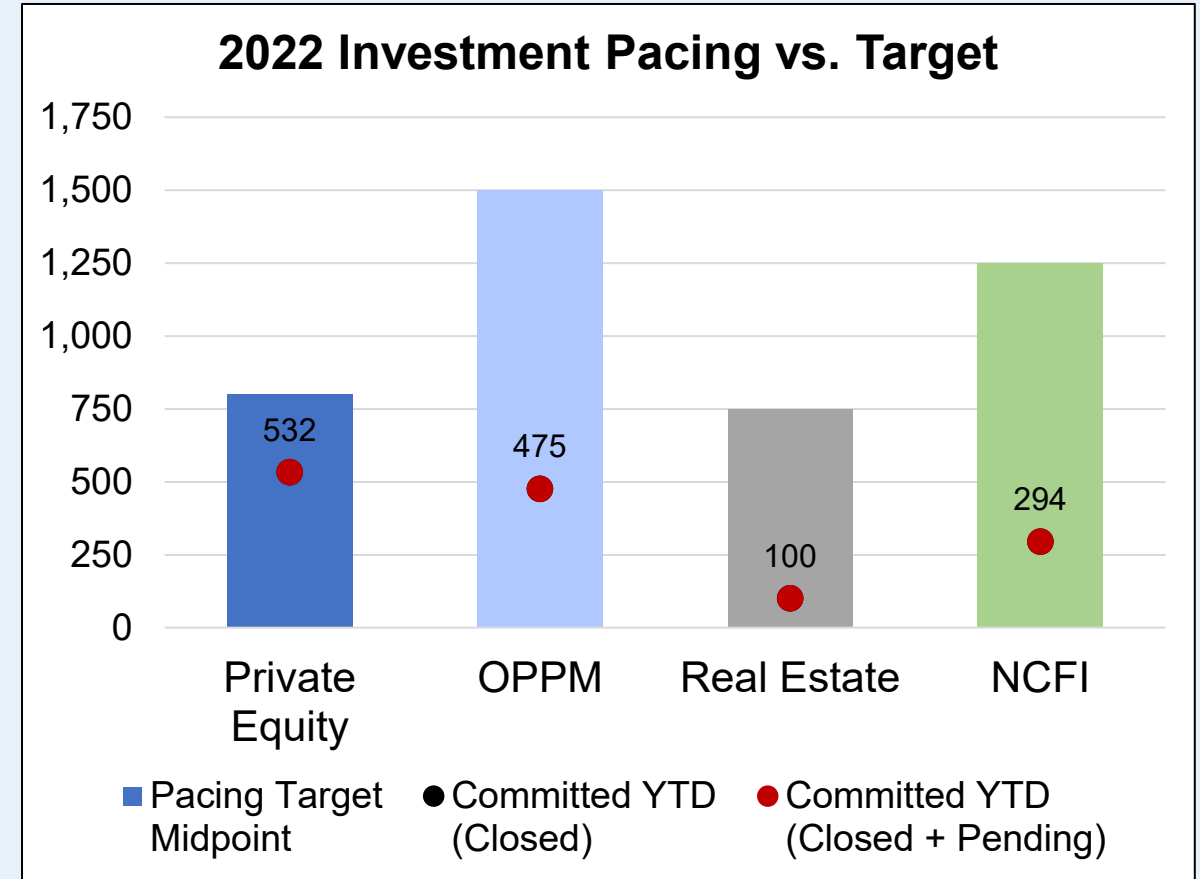
	Private Markets <i>(closed commitments)</i>			
	PE	OPPM	RE	NCFI
Mgrs. Hired	5	3	1	0
Total Amount (\$ millions)	455	475	100	0

Private Market Pacing Plans

As of March 2022



Asset Class		Target Allocation	
Private Equity	—	●	10%
Other Public & Private Markets	—	●	12%
Private Non-Core Fixed Income	—	●	10%
Real Estate	—	●	12%



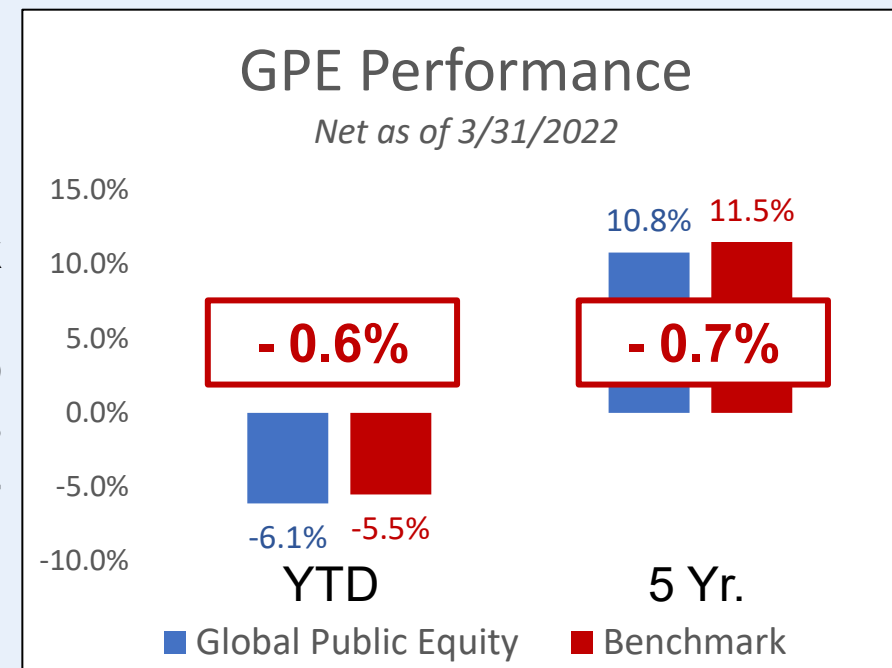
¹ Investment Pacing includes all new investment activity through the quarter plus any other capital activity scheduled in prior quarters to take place during the current period

Asset Class Reports

Global Public Equity: Q1 2022

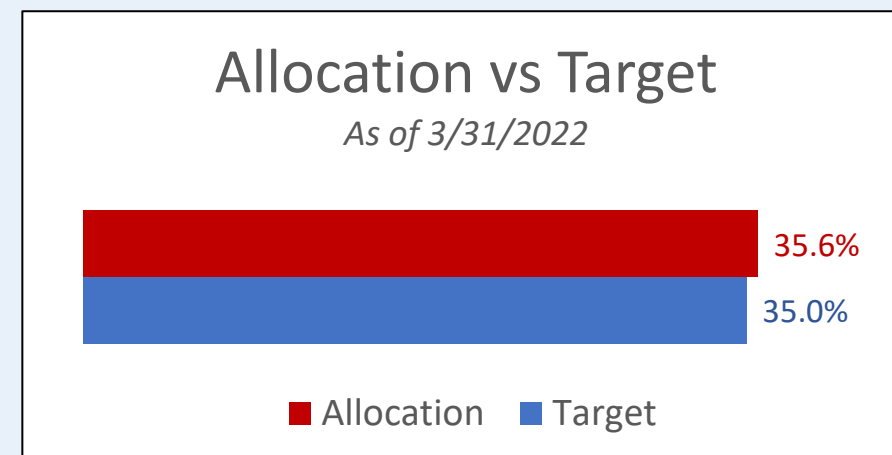
Performance Commentary:

- Global Public Equity returned -6.1% YTD and 10.8% on a trailing 5-year basis
- On a YTD basis the public equity portfolio trailed its benchmark by 0.6% due to negative sector impact from technology, consumer and healthcare stocks and slightly lower exposure to energy and financials. Longer term underperformance is primarily due to rebalancing activity and wind down of rules-based strategies that occurred when the portfolio shifted directionally toward a greater percentage being managed passively



Summary of Activity:

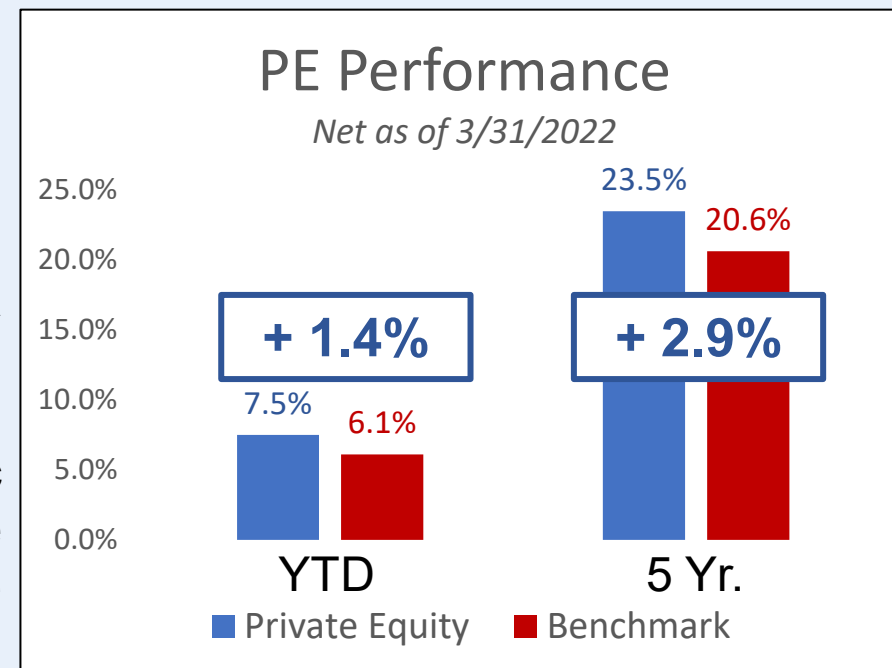
- Global Public Equity absorbed standard cash flows from other parts of the portfolio, reducing cash balances
- The Global Public Equity portfolio was slightly ahead of its 35% target allocation in Q1 2022. The overweight is intentional as it is offset by an underweight to the Private Equity asset class



Private Equity: Q1 2022

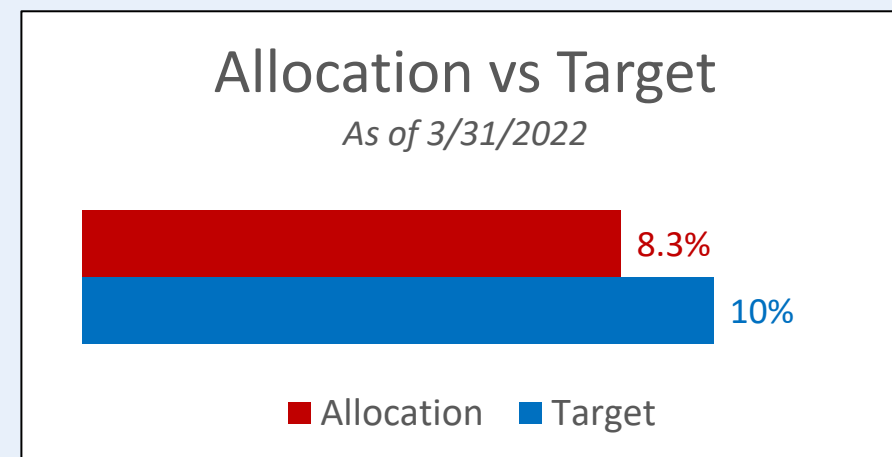
Performance Commentary:

- PE returned 7.5% YTD and 23.5% on a trailing 5-year basis
- The portfolio is outperforming the benchmark on a 5-year basis by +2.9%. Private Equity market activity started the year off at a cautious pace on account of rising interest rates, geopolitical crises, broad market volatility, and proceeding valuation adjustments. It remains to be seen what the full impact of public market volatility and valuation adjustments means for private markets, yet the portfolio continues to perform well on a relative on absolute basis



Summary of Activity:

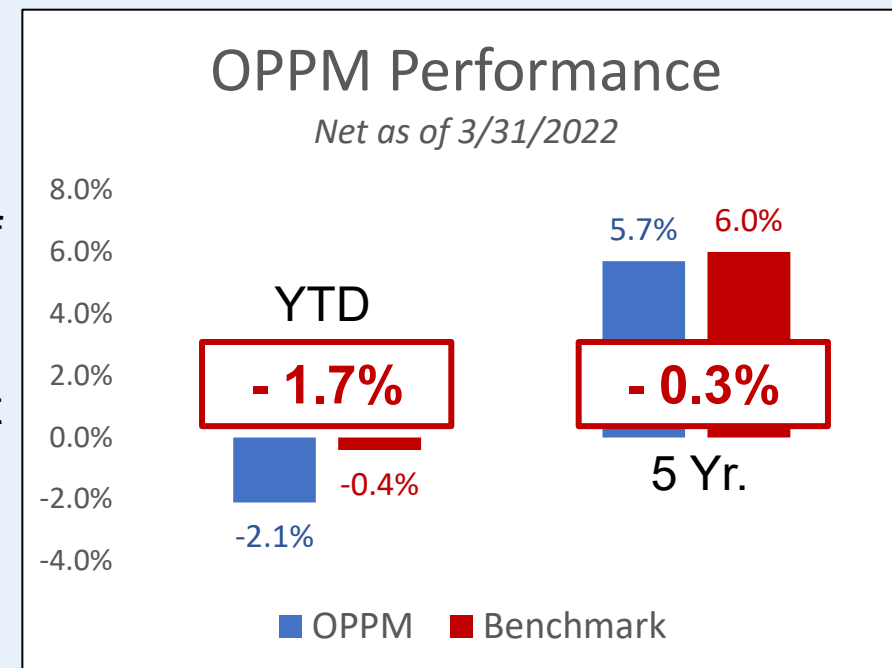
- Approved 5 new commitments totaling \$455 million
- All Q1 investments represent expansions of existing partnerships in smaller, earlier stage sector specialists. Continued to scale key relationships; all have offered co-invest opportunities and are embarking on their third fund iteration with TMRS or more



Other Public & Private Markets: Q1 2022

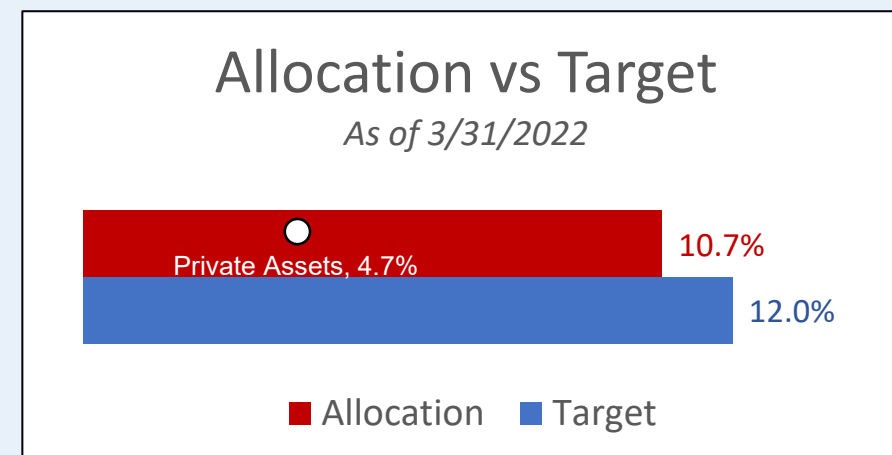
Performance Commentary:

- OPPM returned -2.1% YTD and 5.7% on a trailing 5-year basis
- Relative performance will vary from quarter-to-quarter, but staff expects the OPPM portfolio to outperform over five-year periods and longer. The private portion of the OPPM portfolio has continued consistent positive performance post-pandemic, but it recently lagged the public equity benchmark, which had a strong finish to 2021



Summary of Activity:

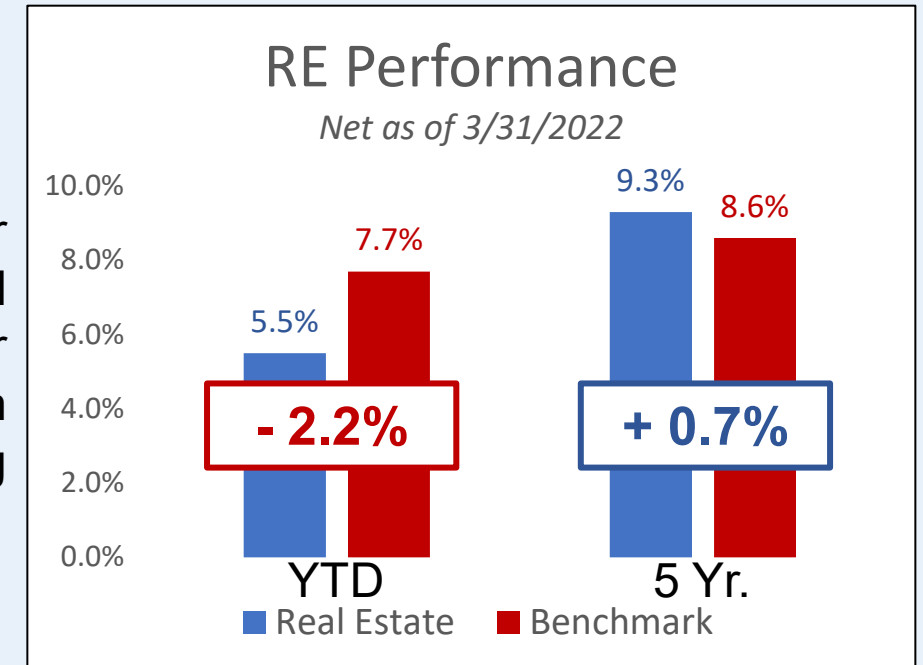
- Approved 3 new commitments totaling \$550 million (of which \$475mm was accepted and closed upon)
- Continuing to grow private market allocations while remaining fee efficient and targeting the recently implemented MSCI ACWI benchmark. Two of three Q1 investments represent expansions of existing partnerships that have performed well



Real Estate: Q1 2022

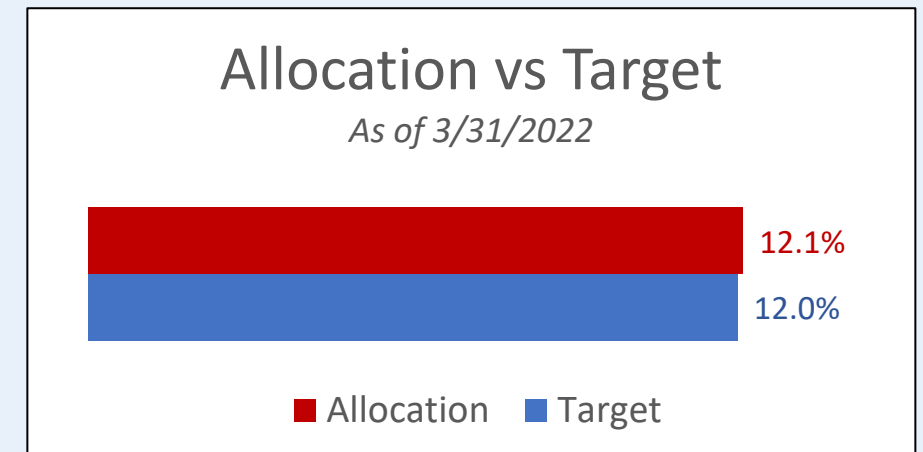
Performance Commentary:

- RE returned 5.5% YTD and 9.3% on a trailing 5-year basis
- The portfolio is outperforming on a five-year basis by 0.7%. For Q4 the portfolio underperformed by -2.2% as the benchmark had a record-breaking quarter with its largest ever single quarter movement of 7.7%. TMRS real estate managers have been active sellers in the market since the new year began, producing strong returns and returning capital



Summary of Activity:

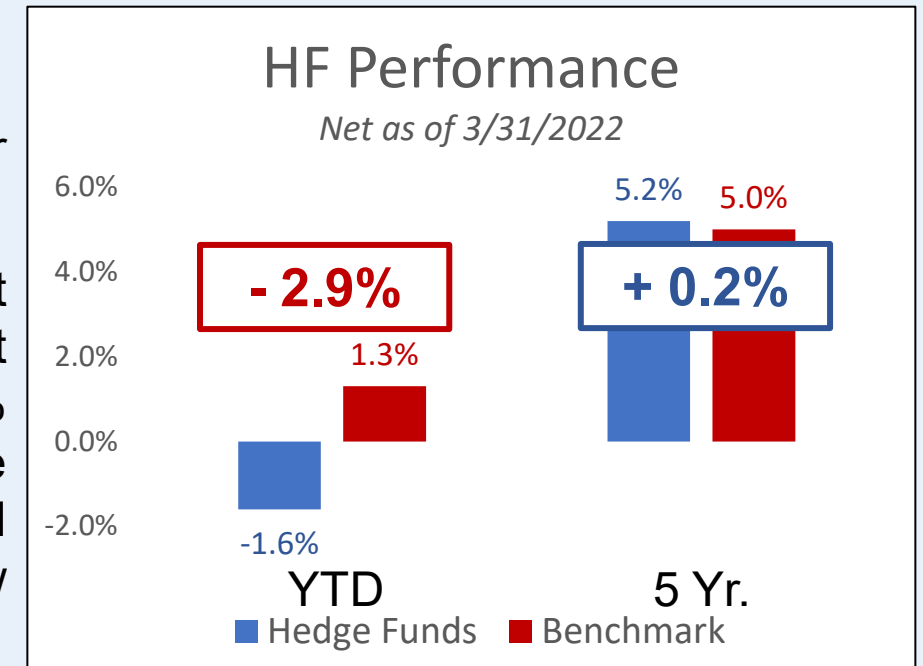
- Approved 1 new commitment totaling \$100 million
- Real estate is a mature portfolio; moving forward, the focus will be to lower costs through expanding successful partnerships and becoming a strategic partner for those groups. The one approved investment in Q1 was with a longstanding partner that has had exceptional performance



Hedge Funds: Q1 2022

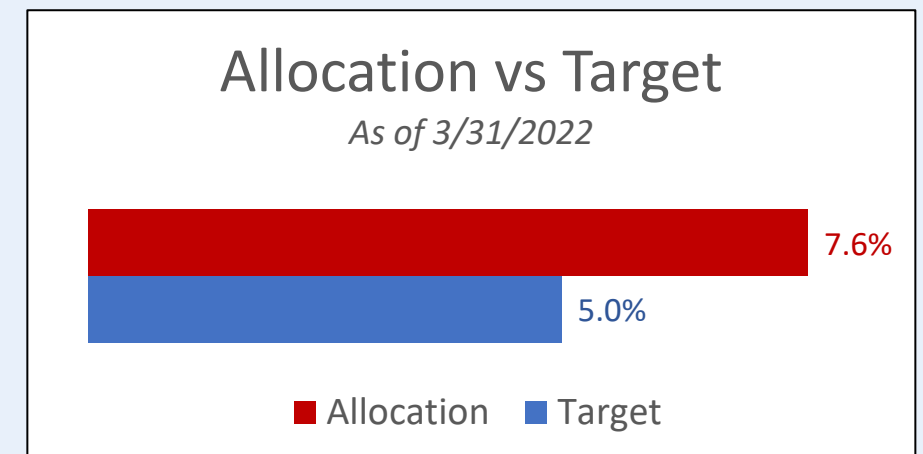
Performance Commentary:

- Hedge Funds returned -1.6% YTD and 5.2% on a trailing 5-year basis
- Hedge funds have lagged the benchmark by -2.9% YTD but outperformed by .20% on a five-year basis. During the first quarter hedge funds underperformed the benchmark by -2.9% and returned -1.6%. The quarter's difference is driven in large part by the portfolio's underweight to higher volatility global macro and commodity managers when compared to the new hedge fund benchmark



Summary of Activity:

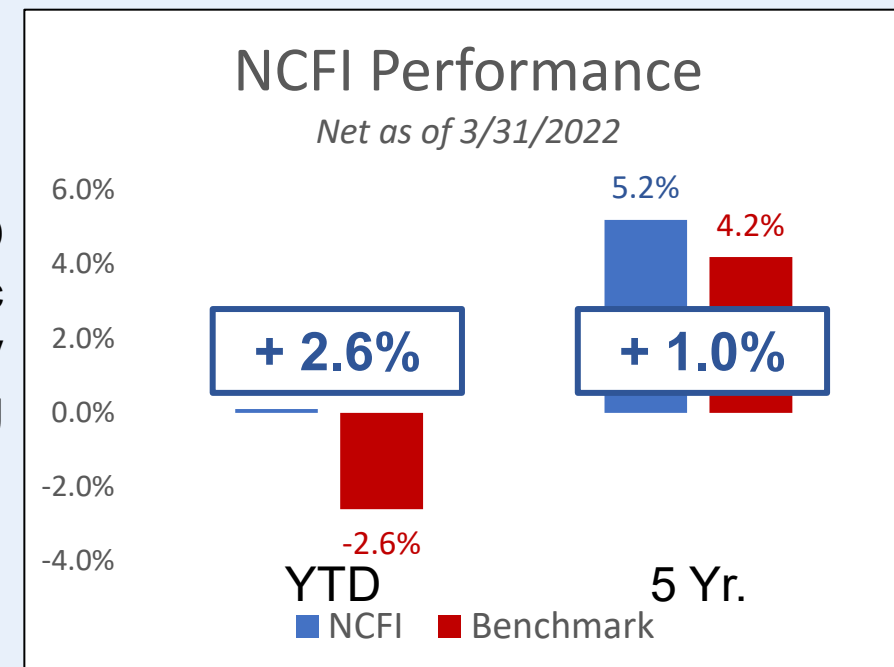
- Two full redemptions and three partial redemptions submitted in Q1. The Hedge Fund portfolio decreased as a percentage of the Trust from 8.3% to 7.6% in Q1
- While reducing the hedge fund portfolio, staff is strategically aligning the portfolio to better match the composition of the new benchmark, the HFRI Asset Weighted Composite Index



Non-Core Fixed Income: Q1 2022

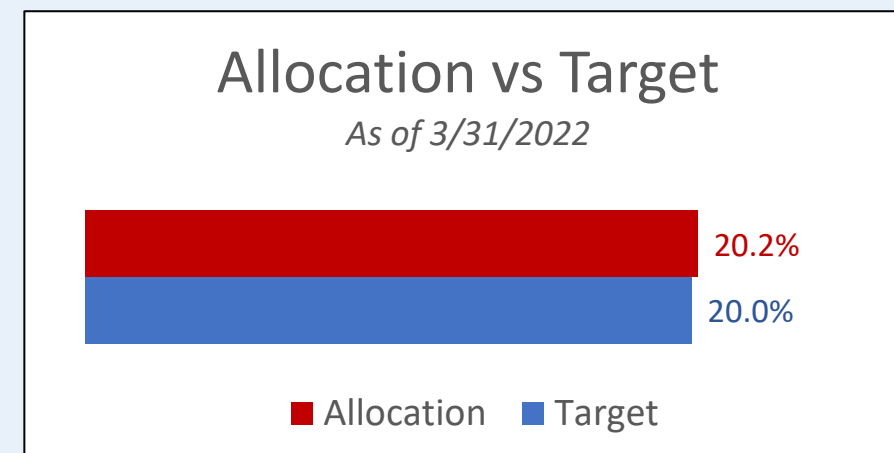
Performance Commentary:

- NCFI returned 0.1% YTD and 5.2% on a trailing 5-year basis
- The NCFI portfolio is outperforming its benchmark by 2.6% YTD and outperforming by 1.0% on a five-year basis. Opportunistic Credit, Direct Lending and Structured Credit generally contributed positively to performance YTD, while Emerging Markets Debt underperformed relative to the benchmark



Summary of Activity:

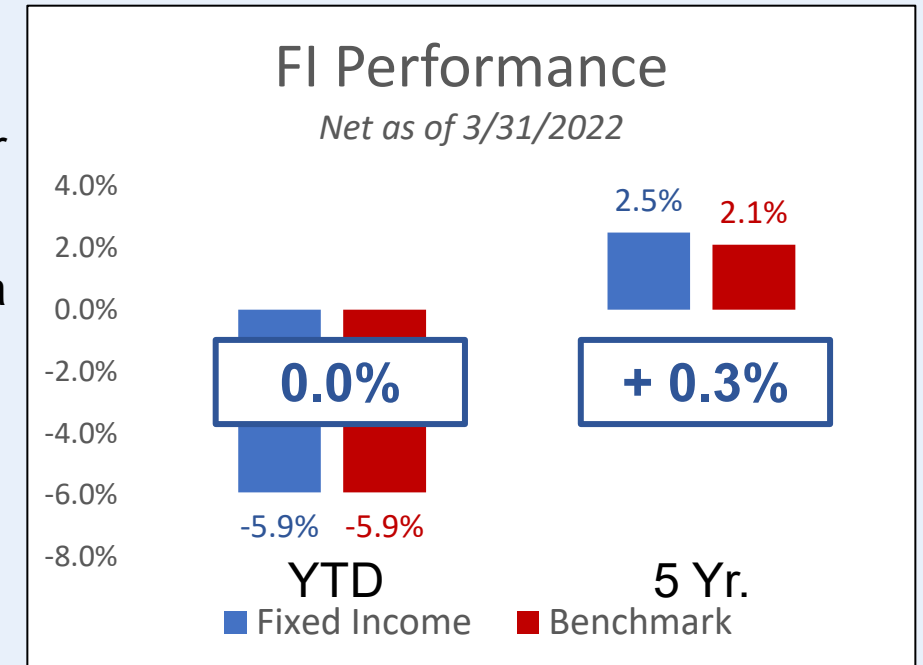
- No new investment activity in Q1
- Staff is working to increase the private credit allocation within Non-Core Fixed Income



Core Fixed Income: Q1 2022

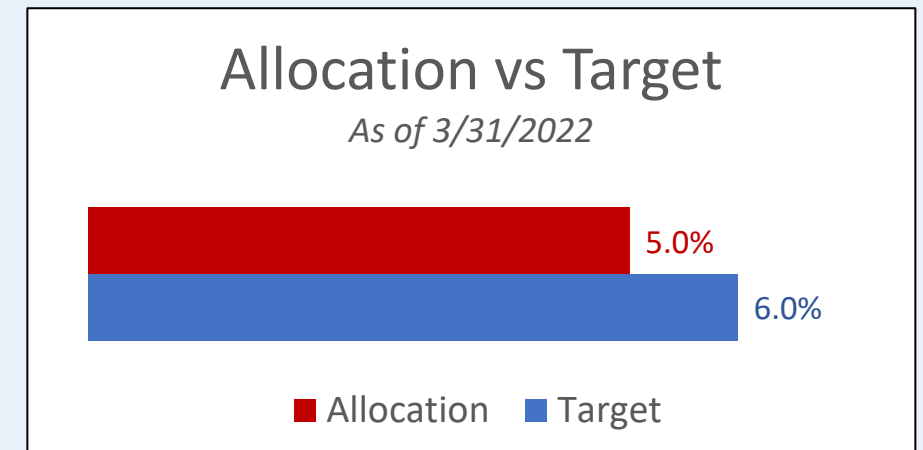
Performance Commentary:

- Fixed Income returned -5.9% YTD and 2.5% on a trailing 5-year basis
- Core Fixed Income is outperforming its benchmark by 0.3% on a five-year basis and was flat year to date



Summary of Activity:

- No new investment activity in Q1
- The Core Fixed Income Portfolio reached its target allocation and remains a source of liquidity for funding private asset investment when necessary



Q1 2022 Data, Performance and Risk Report

Ryan Conner, Senior Investment Data Analyst
Aaron Weiner, Investment Data Analyst II
June 23, 2022

Summary

March 31, 2022

The Data, Performance and Risk Team monitors what investments TMRS owns, how risks from those investments aggregate to the Trust Fund, and how that compares to the risks in our Benchmark.

This monitoring uses the industry standard MSCI BarraOne Risk Model, which models each investment in the Trust Fund and the Benchmark based on recent market behavior.

The Trust Fund's risk measures for Q1 2022 are in line with the risk guidance provided by the Board in the Investment Policy Statement, Benchmarks, and Asset Allocation Study assumptions.

Trust Fund Standard Deviation Summary

March 31, 2022

The Trust Fund's standard deviation should be very similar to the Benchmark's, and it is.

The Trust Fund's standard deviation is in line with the assumption from the most recent Asset Allocation Study.

The increase in standard deviation of excess return is reasonable given the new Benchmarks adopted as of 7/1/2021.

Standard Deviation Summary Table		
	Q1 2022	Q4 2021
Trust Fund Standard Deviation (Risk Model)	12.52%	12.13%
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Standard Deviation of Excess Return (Risk Model) Excess return is TMRS's Portfolio return minus the Benchmark return	2.5%	2.2%

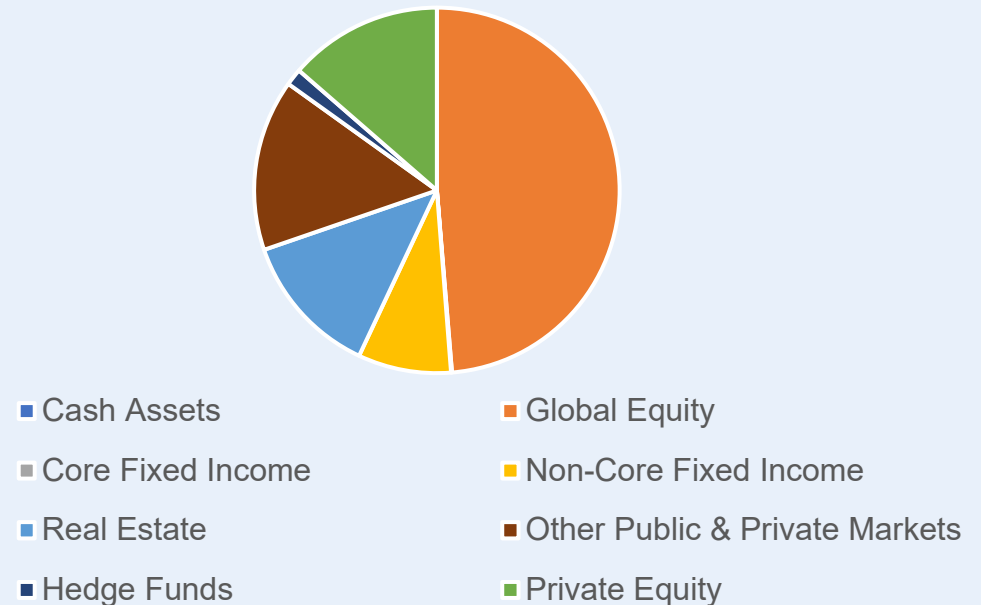
Contribution to Trust Fund Standard Deviation

March 31, 2022

- The Global Equity Index, MSCI ACWI, is 57% of the Trust Fund Benchmark adopted 7/1/2021 and accounts for 85% of the Benchmark Standard Deviation
- Asset Class Portfolios have been rebalanced internally to better match the return and standard deviation behavior of the new benchmark
- Non-Core Fixed Income remains significantly riskier than its benchmark with ongoing efforts to bring it more in line

	TMRS Trust Fund			Policy Benchmark		
	Allocation (%)	Standard Deviation	Contribution to Standard Deviation	Allocation (%)	Standard Deviation	Contribution to Standard Deviation
Total	100.0%	12.5	100.0%	100.0%	11.4	100.0%
Cash Assets	0.5%	0.0	0.0%	0.0%	0.0	0.0%
Global Equity	35.6%	17.7	48.8%	35.0%	17.5	52.6%
Core Fixed Income	5.0%	4.7	-0.1%	6.0%	4.7	0.1%
Non-Core Fixed Income	20.2%	6.1	8.3%	20.0%	4.7	0.2%
Real Estate	12.1%	18.1	12.8%	12.0%	17.2	13.1%
Other Public & Private Markets	10.7%	17.7	15.2%	12.0%	17.5	18.1%
Hedge Funds	7.6%	3.6	1.5%	5.0%	4.0	0.9%
Private Equity	8.3%	23.5	13.6%	10.0%	17.5	15.0%

TMRS Trust Fund
Contribution to Standard Deviation



Asset Class Allocation Ranges

March 31, 2022

- TMRS maintains Asset Class Allocations within allowed ranges.
- An overweight to Global Equity is maintained while we move towards our target allocation to Private Equity;
- The Hedge fund allocation is being brought down from 10% to its new target of 5%, significant progress should be seen in this over the next several quarters

Asset Class	Policy Benchmark	Trust Fund Allocation (%)	Target Allocation (%)	Allocation Difference (%)	Allowed Range	Within Range?
Total		100.0%	100.0%	--	--	--
Cash Assets	30 Day T-Bill	0.5%	0.0%	0.5%	0-3%	✓ Yes
Global Equity	MSCI ACWI IMI	35.6%	35.0%	0.6%	25-45%	✓ Yes
Core Fixed Income	Barclays US Agg	5.0%	6.0%	-1.0%	1-11%	✓ Yes
Non-Core Fixed Income	Barclays US Agg + 1.5%	20.2%	20.0%	0.2%	15-25%	✓ Yes
Real Estate	NCREIF ODCE	12.1%	12.0%	0.1%	7-17%	✓ Yes
Other Public & Private Markets	MSCI ACWI IMI	10.7%	12.0%	-1.3%	7-1%	✓ Yes
Hedge Funds	HFRI Asset Weighted	7.6%	5.0%	2.6%	0-10%	✓ Yes
Private Equity	MSCI ACWI IMI	8.3%	10.0%	-1.7%	5-15%	✓ Yes

Excess Return Standard Deviations

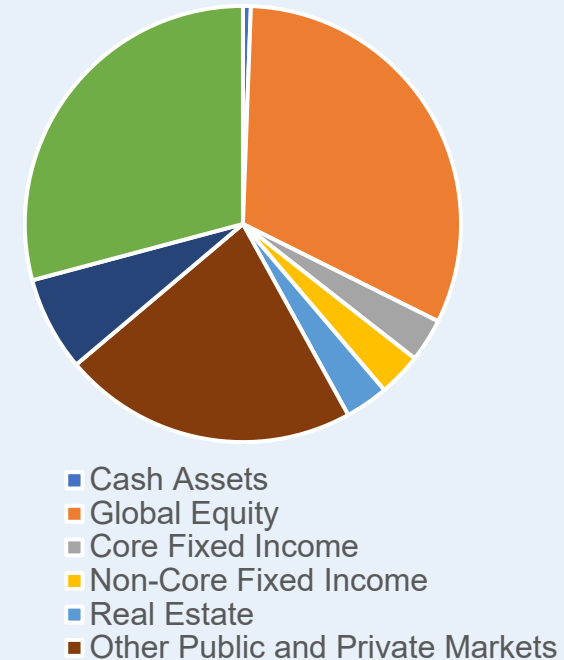
March 31, 2022

Excess return is TMRS's Trust Fund return minus the Benchmark return.

The standard deviation of excess return is 2.5%, consistent with an increased difference between Asset Class guidelines and the new Benchmarks adopted as of 7/1/2021.

	Contribution to Standard Deviation of Excess Return (from Risk Model)
Total	2.5
Cash Assets	-0.02
Global Equity	1.09
Core Fixed Income	-0.11
Non-Core Fixed Income	-0.11
Real Estate	0.11
Other Public & Private Markets	0.75
Hedge Funds	-0.24
Private Equity	1.00

Contribution to Standard Deviation of Excess Return



Historical Standard Deviation vs. Assumptions

March 31, 2022

We monitor the historical standard deviation of our Trust Fund and Benchmark returns. They have been very similar to each other but significantly lower than the Asset Allocation Study's long-term assumptions.

For Asset Classes that contain private market investments, historical standard deviations are lower than long-term assumptions due to appraisal-based valuations.

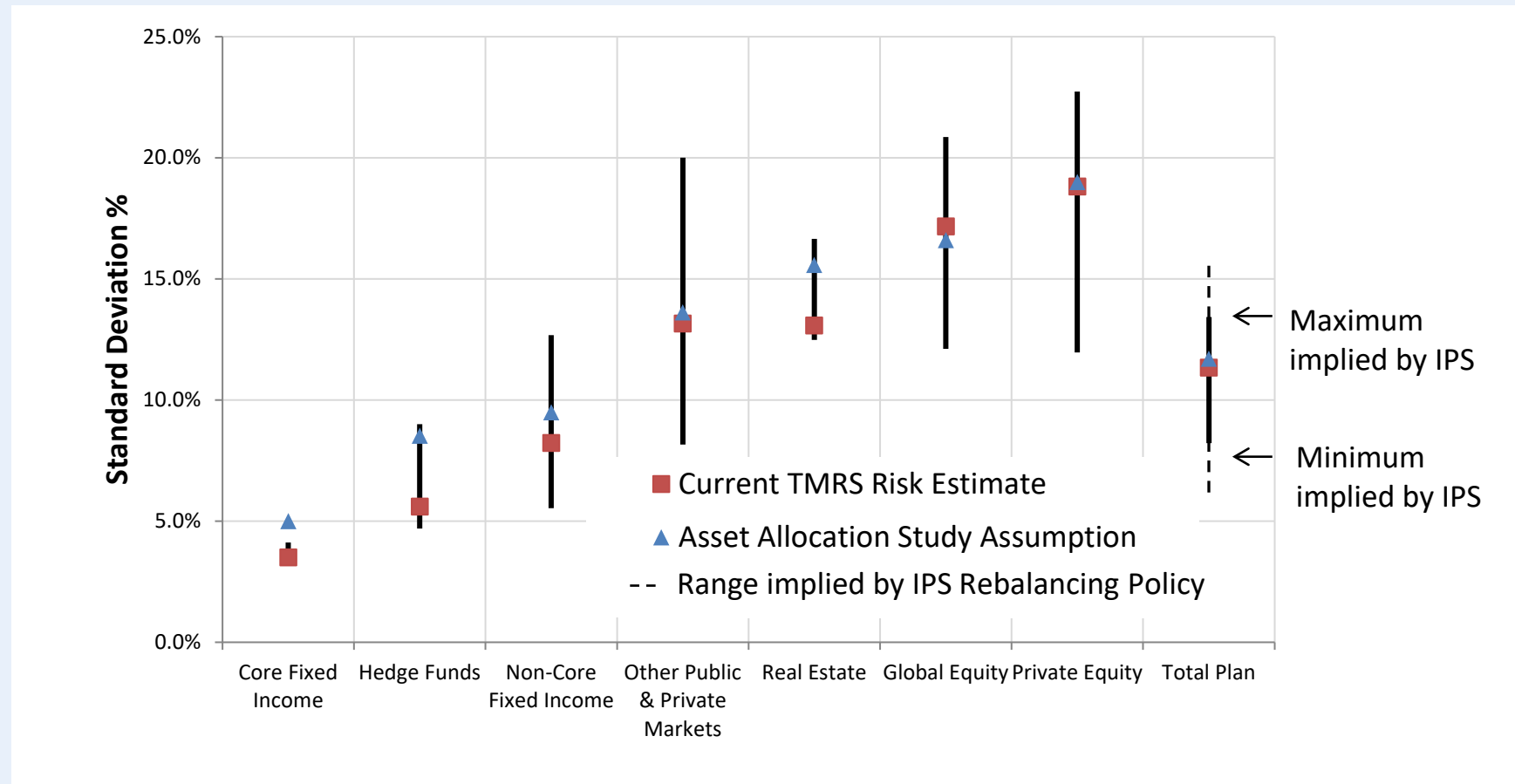
	Experienced 5-Year Standard Deviation of Returns		Asset Allocation Study Standard Deviation Assumption (from 2021 Asset Allocation Study)
	Portfolio	Benchmark	
Total	6.3%	6.3%	11.7
Cash Assets	0.4%	0.3%	2.0
Global Equity	16.7%	17.2%	16.6
Core Fixed Income	3.6%	3.6%	5.0
Non-Core Fixed Income	4.4%	4.1%	9.5
Real Estate	5.6%	5.6%	12.5
Other Public & Private Markets	6.6%	6.4%	12.8
Hedge Funds	4.7%	6.0%	8.5
Private Equity	15.9%	14.8%	19.0

Allowed Asset Class Standard Deviation Ranges

March 31, 2022

The Investment Policy Statement (IPS) Asset Class Guidelines place limits on allocations Staff can make to sub-strategies within an Asset Class. We monitor how Staff's sub-strategy allocation decisions compare to the choices allowed by the IPS.

- ✓ All Asset Classes are within the standard deviation ranges implied by the IPS Guidelines.



Regional Exposures

March 31, 2022

We monitor how each Asset Class contributes to the Trust Fund regional exposures.

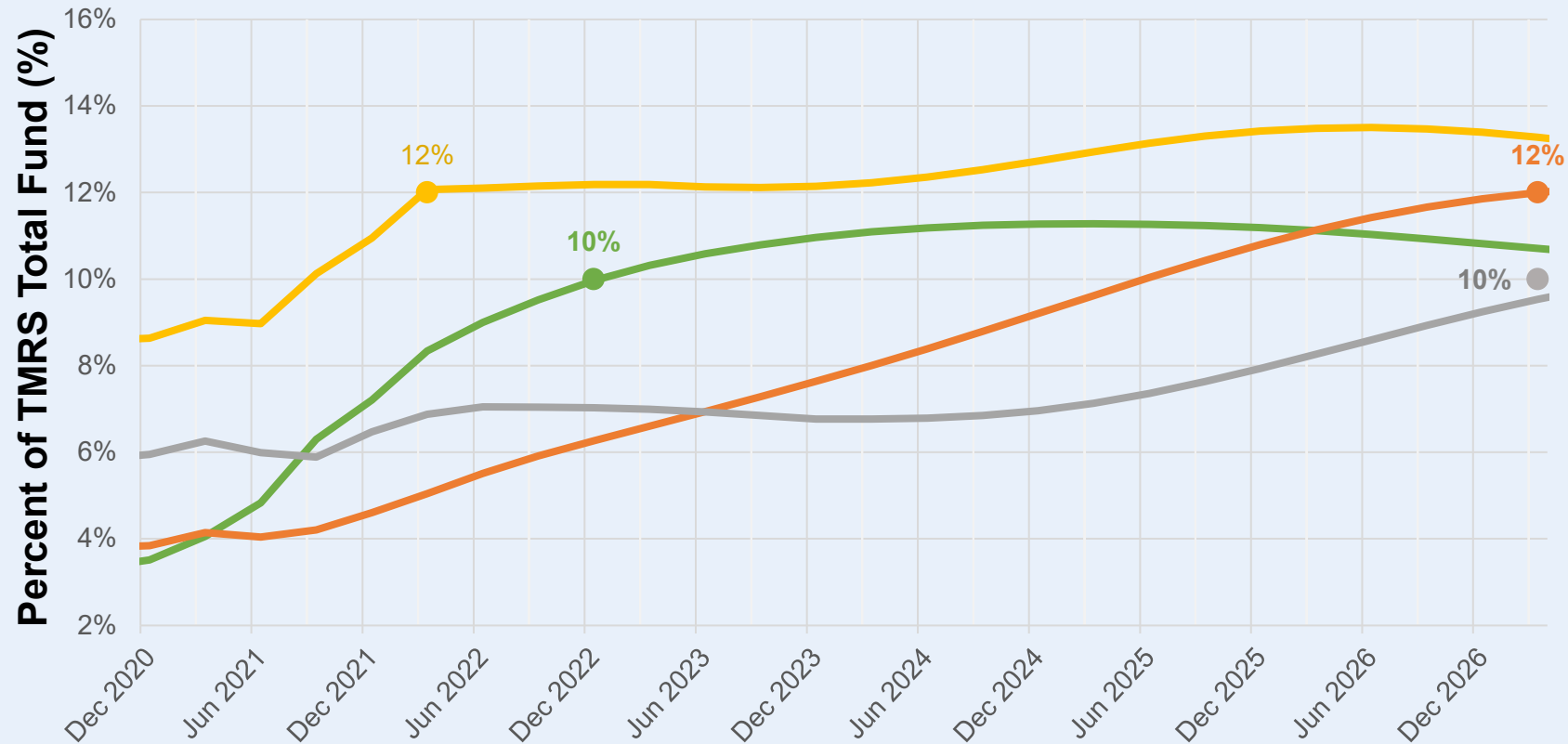
Asset Class	USA	Developed Europe	Developed Asia & Other	Emerging Americas	Emerging Europe	Emerging Asia & Pacific Rim	Emerging Middle East & Africa	Asset Class Allocation
Cash Assets	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%
Global Equity	21.6%	5.1%	4.0%	0.5%	0.1%	3.8%	0.5%	35.6%
Core Fixed Income	4.7%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	5.0%
Non-Core Fixed Income	14.7%	2.5%	1.0%	0.6%	0.3%	0.8%	0.3%	20.2%
Real Estate	10.3%	0.4%	1.3%	0.0%	0.0%	0.0%	0.0%	12.1%
Other Public & Private Markets	7.5%	1.1%	1.3%	0.1%	0.0%	0.6%	0.1%	10.7%
Hedge Funds	6.3%	0.4%	0.2%	0.1%	0.0%	0.5%	0.1%	7.6%
Private Equity	6.7%	0.7%	0.7%	0.1%	0.0%	0.1%	0.0%	8.3%
Grand Total	72.3%	10.4%	8.4%	1.5%	0.5%	5.9%	1.0%	

Q1 2022 Private Market Pacing Plans

Ryan Conner, Senior Investment Data Analyst
Aaron Weiner, Investment Data Analyst II
June 23, 2022

Private Market Projected Allocations

As of March 2022



Asset Class	Target Allocation
Private Equity	10%
Other Public & Private Markets	12%
Private Non-Core Fixed Income	10%
Real Estate	12%

Private Equity Pacing Plan

Cash Flow Model Projections based on Staff assumptions: As of March 2022

		(a)	(b)	(c)		(d)	(e = a + b - c + d)	(f)	(g = e / f)
Private Equity Private Markets	Capital Commitments	Beginning of Period Market Value	Capital Calls	Distributions	Quarterly Return (%)	Quarterly Return (\$)	End of Period Market Value	Projected Total Fund Market Value	Percent of Total Fund
6/30/2022	225,000,000	3,088,596,809	308,686,692	87,560,021	2.44%	75,390,519	3,385,113,999	37,629,938,460	9.00%
9/30/2022	225,000,000	3,385,113,999	276,749,613	105,716,782	2.44%	82,678,155	3,638,824,985	38,227,061,040	9.52%
12/31/2022	225,000,000	3,638,824,985	261,644,503	119,420,485	2.44%	88,923,093	3,869,972,095	38,833,658,931	9.97%
3/31/2023	225,000,000	3,869,972,095	239,352,953	133,634,660	2.45%	94,625,160	4,070,315,548	39,449,882,490	10.32%
6/30/2023	225,000,000	4,070,315,548	220,320,919	148,958,532	2.45%	99,577,925	4,241,255,859	40,075,884,460	10.58%
9/30/2023	225,000,000	4,241,255,859	213,304,180	165,527,762	2.45%	103,814,402	4,392,846,679	40,711,820,007	10.79%
12/31/2023	225,000,000	4,392,846,679	214,929,758	182,798,923	2.45%	107,582,926	4,532,560,441	41,357,846,761	10.96%
3/31/2024	225,000,000	4,532,560,441	216,305,841	200,434,872	2.45%	111,067,729	4,659,499,139	42,014,124,851	11.09%
6/30/2024	225,000,000	4,659,499,139	217,754,896	218,243,589	2.45%	114,246,683	4,773,257,129	42,680,816,949	11.18%
9/30/2024	320,000,000	4,773,257,129	220,459,105	236,039,577	2.45%	117,109,895	4,874,786,552	43,358,088,308	11.24%
12/31/2024	325,077,851	4,874,786,552	224,386,546	253,628,138	2.46%	119,680,455	4,965,225,415	44,046,106,800	11.27%
3/31/2025	330,236,279	4,965,225,415	230,014,636	270,762,853	2.46%	121,985,383	5,046,462,582	44,745,042,967	11.28%
6/30/2025	335,476,562	5,046,462,582	237,244,506	287,165,218	2.46%	124,069,520	5,120,611,390	45,455,070,051	11.27%
9/30/2025	340,800,000	5,120,611,390	244,336,808	302,582,788	2.46%	125,982,545	5,188,347,954	46,176,364,048	11.24%
12/31/2025	346,207,911	5,188,347,954	249,173,333	316,795,410	2.46%	127,738,064	5,248,463,940	46,909,103,743	11.19%
3/31/2026	351,701,637	5,248,463,940	251,174,532	329,615,657	2.46%	129,302,809	5,299,325,624	47,653,470,760	11.12%
6/30/2026	357,282,539	5,299,325,624	251,753,767	340,923,640	2.47%	130,633,021	5,340,788,772	48,409,649,605	11.03%
9/30/2026	362,952,000	5,340,788,772	252,959,736	350,735,811	2.47%	131,722,165	5,374,734,862	49,177,827,711	10.93%
12/31/2026	368,711,426	5,374,734,862	256,241,865	359,246,087	2.47%	132,614,582	5,404,345,222	49,958,195,486	10.82%
3/31/2027	374,562,244	5,404,345,222	261,912,143	366,798,648	2.47%	133,387,877	5,432,846,594	50,750,946,359	10.70%
6/30/2027	380,505,904	5,432,846,594	269,319,187	373,775,917	2.47%	134,122,046	5,462,511,910	51,556,276,829	10.60%
9/30/2027	386,543,880	5,462,511,910	277,375,523	380,428,340	2.47%	134,874,664	5,494,333,757	52,374,386,512	10.49%

Private Equity Private Market Cash Flow Projections based on Staff assumptions

As of 3/31/2022

Other Public And Private Markets: Private Markets Pacing Plan

Cash Flow Model Projections based on Staff assumptions: As of March 2022

Other Private Markets	Capital Commitments	(a) Beginning of Period Market Value	(b) Capital Calls	(c) Distributions	Quarterly Return (%)	(d) Quarterly Return (\$)	(e = a + b - c + d) End of Period Market Value	(f) Projected Total Fund Market Value	(g = e / f) Percent of Total Fund
6/30/2022	375,000,000	1,866,913,963	240,207,419	69,096,632	1.94%	36,267,692	2,074,292,442	37,629,938,460	5.51%
9/30/2022	375,000,000	2,074,292,442	225,993,162	80,707,096	1.94%	40,296,339	2,259,874,849	38,227,061,040	5.91%
12/31/2022	375,000,000	2,259,874,849	222,747,673	92,642,723	1.94%	43,901,565	2,433,881,364	38,833,658,931	6.27%
3/31/2023	400,000,000	2,433,881,364	229,099,843	104,630,508	1.94%	47,281,910	2,605,632,609	39,449,882,490	6.60%
6/30/2023	400,000,000	2,605,632,609	241,608,015	116,414,325	1.94%	50,618,444	2,781,444,743	40,075,884,460	6.94%
9/30/2023	400,000,000	2,781,444,743	257,259,921	127,833,079	1.94%	54,033,867	2,964,905,451	40,711,820,007	7.28%
12/31/2023	400,000,000	2,964,905,451	274,493,995	138,865,379	1.94%	57,597,875	3,158,131,942	41,357,846,761	7.64%
3/31/2024	400,000,000	3,158,131,942	292,925,277	149,579,270	1.94%	61,351,598	3,362,829,547	42,014,124,851	8.00%
6/30/2024	406,347,314	3,362,829,547	312,357,535	160,185,294	1.94%	65,328,166	3,580,329,954	42,680,816,949	8.39%
9/30/2024	412,795,349	3,580,329,954	332,149,178	171,201,295	1.94%	69,553,448	3,810,831,285	43,358,088,308	8.79%
12/31/2024	419,345,703	3,810,831,285	351,389,269	183,279,689	1.94%	74,031,293	4,052,972,158	44,046,106,800	9.20%
3/31/2025	426,000,000	4,052,972,158	369,069,706	196,854,625	1.94%	78,735,254	4,303,922,492	44,745,042,967	9.62%
6/30/2025	432,759,889	4,303,922,492	384,064,158	211,847,120	1.94%	83,610,352	4,559,749,881	45,455,070,051	10.03%
9/30/2025	439,627,046	4,559,749,881	394,992,773	227,736,158	1.94%	88,580,195	4,815,586,691	46,176,364,048	10.43%
12/31/2025	446,603,174	4,815,586,691	400,636,661	244,003,004	1.94%	93,550,221	5,065,770,569	46,909,103,743	10.80%
3/31/2026	453,690,000	5,065,770,569	401,161,435	260,472,680	1.94%	98,410,430	5,304,869,755	47,653,470,760	11.13%
6/30/2026	460,889,282	5,304,869,755	397,854,925	277,355,160	1.94%	103,055,301	5,528,424,821	48,409,649,605	11.42%
9/30/2026	468,202,805	5,528,424,821	392,930,968	294,879,794	1.94%	107,398,204	5,733,874,200	49,177,827,711	11.66%
12/31/2026	475,632,380	5,733,874,200	388,831,956	313,256,132	1.94%	111,389,376	5,920,839,400	49,958,195,486	11.85%
3/31/2027	483,179,850	5,920,839,400	387,309,787	332,632,779	1.94%	115,021,464	6,090,537,872	50,750,946,359	12.00%
6/30/2027	490,847,085	6,090,537,872	388,834,499	353,035,138	1.94%	118,318,120	6,244,655,352	51,556,276,829	12.11%
9/30/2027	498,635,987	6,244,655,352	392,764,158	374,271,916	1.94%	121,312,090	6,384,459,684	52,374,386,512	12.19%

Other Private Market Cash Flow Projections based on Staff assumptions

As of 3/31/2022

Non-Core Fixed Income: Private Markets Pacing Plan

Cash Flow Model Projections based on Staff assumptions: As of March 2022

Non-core Fixed Income Private Markets	(a) Capital Commitments	(b) Beginning of Period Market Value	(c) Capital Calls	(c) Distributions	(d) Quarterly Return (%)	(d) Quarterly Return (\$)	(e = a + b - c + d) End of Period Market Value	(f) Projected Total Fund Market Value	(g = e / f) Percent of Total Fund
6/30/2022	309,596,512	2,546,603,605	152,905,079	96,959,982	1.98%	50,401,233	2,652,949,934	37,629,938,460	7.05%
9/30/2022	314,509,277	2,652,949,934	95,966,731	108,586,222	1.98%	52,472,275	2,692,802,718	38,227,061,040	7.04%
12/31/2022	319,500,000	2,692,802,718	105,257,903	121,316,541	1.98%	53,229,973	2,729,974,053	38,833,658,931	7.03%
3/31/2023	324,569,917	2,729,974,053	114,250,683	138,846,971	1.98%	53,930,256	2,759,308,022	39,449,882,490	6.99%
6/30/2023	329,720,285	2,759,308,022	124,703,096	160,153,104	1.97%	54,479,425	2,778,337,439	40,075,884,460	6.93%
9/30/2023	334,952,380	2,778,337,439	139,683,938	185,763,359	1.97%	54,829,329	2,787,087,348	40,711,820,007	6.85%
12/31/2023	340,267,500	2,787,087,348	158,428,085	201,328,395	1.97%	54,977,575	2,799,164,613	41,357,846,761	6.77%
3/31/2024	345,666,962	2,799,164,613	176,707,523	187,410,391	1.97%	55,186,019	2,843,647,764	42,014,124,851	6.77%
6/30/2024	351,152,103	2,843,647,764	196,255,683	198,236,693	1.97%	56,019,008	2,897,685,762	42,680,816,949	6.79%
9/30/2024	356,724,285	2,897,685,762	219,376,440	205,628,333	1.97%	57,034,153	2,968,468,021	43,358,088,308	6.85%
12/31/2024	362,384,888	2,968,468,021	245,703,800	208,124,138	1.97%	58,373,607	3,064,421,290	44,046,106,800	6.96%
3/31/2025	368,135,314	3,064,421,290	271,122,325	206,578,544	1.96%	60,202,793	3,189,167,864	44,745,042,967	7.13%
6/30/2025	373,976,990	3,189,167,864	292,833,116	201,648,289	1.96%	62,592,163	3,342,944,855	45,455,070,051	7.35%
9/30/2025	379,911,363	3,342,944,855	308,654,441	194,482,908	1.96%	65,545,480	3,522,661,869	46,176,364,048	7.63%
12/31/2025	385,939,905	3,522,661,869	318,406,562	187,749,456	1.96%	69,001,924	3,722,320,898	46,909,103,743	7.94%
3/31/2026	392,064,110	3,722,320,898	324,396,371	183,115,477	1.96%	72,844,266	3,936,446,058	47,653,470,760	8.26%
6/30/2026	398,285,494	3,936,446,058	329,044,414	181,822,545	1.96%	76,965,562	4,160,633,490	48,409,649,605	8.59%
9/30/2026	404,605,602	4,160,633,490	333,451,229	185,180,931	1.95%	81,279,929	4,390,183,717	49,177,827,711	8.93%
12/31/2026	411,025,999	4,390,183,717	337,594,305	194,642,869	1.95%	85,696,063	4,618,831,217	49,958,195,486	9.25%
3/31/2027	417,548,277	4,618,831,217	341,496,088	210,625,826	1.95%	90,092,619	4,839,794,098	50,750,946,359	9.54%
6/30/2027	424,174,052	4,839,794,098	345,242,632	232,468,651	1.95%	94,338,602	5,046,906,681	51,556,276,829	9.79%
9/30/2027	430,904,966	5,046,906,681	348,990,096	258,696,139	1.95%	98,315,313	5,235,515,951	52,374,386,512	10.00%

Non-Core Fixed Income Private Market Cash Flow Projections based on Staff assumptions

As of 3/31/2022

Real Estate Pacing Plan

Cash Flow Model Projections based on Staff assumptions: As of March 2022

Real Estate Private Markets	Capital Commitments	(a) Beginning of Period Market Value	(b) Capital Calls	(c) Distributions	Quarterly Return (%)	(d) Quarterly Return (\$)	(e = a + b - c + d) End of Period Market Value	(f) Projected Total Fund Market Value	(g = e / f) Percent of Total Fund
6/30/2022	512,000,000	4,470,584,978	121,797,770	122,260,653	1.88%	83,980,239	4,554,102,333	37,629,938,460	12.10%
9/30/2022	164,570,662	4,554,102,333	138,472,982	134,830,921	1.88%	85,781,912	4,643,526,307	38,227,061,040	12.15%
12/31/2022	167,182,116	4,643,526,307	146,752,910	145,562,979	1.89%	87,707,170	4,732,423,408	38,833,658,931	12.19%
3/31/2023	169,835,010	4,732,423,408	137,954,232	153,135,996	1.89%	89,581,480	4,806,823,125	39,449,882,490	12.18%
6/30/2023	172,530,000	4,806,823,125	120,438,892	156,941,015	1.89%	91,051,444	4,861,372,446	40,075,884,460	12.13%
9/30/2023	175,267,755	4,861,372,446	135,176,153	156,833,443	1.89%	92,040,924	4,931,756,080	40,711,820,007	12.11%
12/31/2023	178,048,954	4,931,756,080	150,089,540	153,146,622	1.89%	93,411,994	5,022,110,991	41,357,846,761	12.14%
3/31/2024	180,874,285	5,022,110,991	164,737,899	146,762,043	1.90%	95,266,060	5,135,352,907	42,014,124,851	12.22%
6/30/2024	183,744,450	5,135,352,907	178,398,579	139,114,184	1.90%	97,674,949	5,272,312,251	42,680,816,949	12.35%
9/30/2024	186,660,159	5,272,312,251	189,936,938	131,961,509	1.91%	100,659,826	5,430,947,506	43,358,088,308	12.53%
12/31/2024	189,622,136	5,430,947,506	197,915,064	127,054,446	1.92%	104,172,012	5,605,980,137	44,046,106,800	12.73%
3/31/2025	192,631,114	5,605,980,137	200,995,980	125,831,686	1.93%	108,084,049	5,789,228,480	44,745,042,967	12.94%
6/30/2025	195,687,839	5,789,228,480	198,654,492	129,236,406	1.94%	112,197,784	5,970,844,350	45,455,070,051	13.14%
9/30/2025	198,793,070	5,970,844,350	191,904,456	137,649,368	1.95%	116,274,372	6,141,373,810	46,176,364,048	13.30%
12/31/2025	201,947,575	6,141,373,810	183,381,691	150,889,449	1.96%	120,084,221	6,293,950,274	46,909,103,743	13.42%
3/31/2026	205,152,136	6,293,950,274	176,179,666	168,254,753	1.96%	123,460,049	6,425,335,236	47,653,470,760	13.48%
6/30/2026	208,407,549	6,425,335,236	171,916,669	188,649,342	1.97%	126,321,984	6,534,924,546	48,409,649,605	13.50%
9/30/2026	211,714,619	6,534,924,546	170,019,408	210,730,274	1.97%	128,653,501	6,622,867,181	49,177,827,711	13.47%
12/31/2026	215,074,167	6,622,867,181	169,437,849	232,990,537	1.97%	130,456,017	6,689,770,509	49,958,195,486	13.39%
3/31/2027	218,487,025	6,689,770,509	170,123,389	253,844,409	1.97%	131,741,901	6,737,791,391	50,750,946,359	13.28%
6/30/2027	221,954,039	6,737,791,391	171,814,290	271,845,674	1.97%	132,561,041	6,770,321,048	51,556,276,829	13.13%
9/30/2027	225,476,069	6,770,321,048	174,152,087	285,775,253	1.96%	132,993,501	6,791,691,382	52,374,386,512	12.97%

Real Estate Private Market Cash Flow Projections based on Staff assumptions

As of 3/31/2022

DISCLOSURES

TMRS periodically discloses public information that is not excepted from disclosure under Section 552.0225(b) of the Texas Public Information Act. Information provided by a manager, a Managing General Partner (GP), any of its Associates or other data provider to TMRS or a TMRS service provider, and contained in these materials (i) may have been independently produced or modified by TMRS or the TMRS service provider; (ii) has not been reviewed or approved by the manager, Managing GP or any of its Associates; and (iii) may not reflect the historical performance or asset value reflected in the manager's, Managing GP's or any of its Associates' records and, therefore, should not be used for comparative purposes.





2022 Annual Completed Investments Report

(unaudited and subject to change)

As of 6/14/2022

COMPLETED INVESTMENTS

ASSET CLASS / STRATEGY	COMPLETED DATE	MANAGER NAME / FUND NAME	NEW / EXISTING MANAGER	AMOUNT COMMITTED	PUBLIC / PRIVATE MARKET
Global Equity					
		N/A			
Core Fixed Income					
		N/A			
Non-Core Fixed Income					
		N/A			
Real Estate					
Value Add	June 2	Pennybacker VI, LP	Existing	\$150,000,000	Private
Value Add	April 6	Abacus Multi-Family Partners VI	Existing	\$100,000,000	Private
Opportunistic/N. America & Europe	January 28	TPG Real Estate Partners IV, LP	Existing	\$250,000,000	Private
Core Plus	January 7	BentallGreenOak US Core Plus Fund, LP	Existing	\$100,000,000	Private
Enhanced Core	January 1	Virtus Real Estate Enhanced Core, LP	Existing	\$200,000,000	Private
Other Public & Private Markets					
Minerals & Mining	March 31	Sprott Private Resource Lending (US) III, LP	Existing	\$150,000,000	Private
Energy/Infra Buyouts	March 23	Oaktree Power Opportunities Fund VI	New	\$200,000,000	Private
Digital Infrastructure	March 4	SDC Digital Infrastructure Opportunity Fund III	Existing	\$200,000,000	Private
Infrastructure	February 24	Hull Street Energy Partners II, L.P.	Existing	\$50,000,000	Private
Infrastructure	February 16	Pioneer Infrastructure Partners SCSp	Existing	€ 28,859,700	Private
Hedge Fund					
		N/A			
Private Equity					
Venture/Growth/Minority	May 20	PSG Europe II	Existing	€ 100,000,000	Private
Buyout	May 17	Bregal Sagemount IV	New	\$100,000,000	Private
Buyout	April 29	Tritium III, L.P. (upsized)	Existing	\$25,000,000	Private
Venture Capital	March 15	Foundry 2022, L.P.	Existing	\$75,000,000	Private
Venture/Growth/Minority	February 4	Updata Partners VII	Existing	\$100,000,000	Private
Buyout	January 28	Dunes Point Capital Fund III, LP	Existing	\$75,000,000	Private
Buyout	January 28	Tritium III, L.P.	Existing	\$75,000,000	Private
Growth Equity	January 13	FTV VII, L.P.	Existing	\$100,000,000	Private
TOTAL:				\$2,087,789,677	

NOTE : Currency exchange rate as of 6/6/2022



June 14, 2022

To: Board of Trustees

From: Bob Scott, Board of Trustees Vice Chair
Anali Alanis, Board Trustee
David J. Hunter, Chief Investment Officer

A handwritten signature in blue ink, appearing to read "D. Hunter", is written over the name "David J. Hunter" in the "From:" field.

Re: Agenda Item 11: Report on IPS Committee Meetings

Investment Policy Statement Committee members Scott and Alanis met with Dave Hunter, Nick O'Keefe, and Tom Masthay on May 12 and June 3 to update the IPS. Strategic goals for the IPS review process have been to provide for greater focus, clarity, and consistency. The Committee will continue to provide updates to the Board on its progress.



June 14, 2022

To: Board of Trustees

From: Nick O'Keefe, Deputy Chief Legal Officer, Investments
Michele Fullon, Investment Compliance Officer 

Re: Agenda Item 12: First Quarter 2022 Investment Compliance Report

Investment Manager Compliance: In the first quarter of 2022, State Street completed 2,071 automated tests to determine whether TMRS investment managers adhered to their investment guidelines. The tests confirmed that the managers were in compliance with the guidelines during the quarter.

Investment Policy Statement (IPS) Compliance: We completed our first quarter IPS compliance testing, testing on all testable parameters within the IPS. We confirmed that TMRS was in compliance with the IPS during the first quarter.

New Implementation Compliance Procedures: We initiated an IPS review with State Street Bank to include any IPS testing that can be automated. This review resulted in eleven additional investment thresholds being added to the State Street Bank automated tests.

Compliance Annual Review: We conducted our annual testing of TMRS investment staff's 2021 compliance with TMRS' Personal Trading Policy. Investment staff were in compliance with the Policy. We are currently reviewing the Personal Trading Policy to ensure it maintains the highest ethical standards and best practices.



June 14, 2022

To: Board of Trustees

From: Dave Hunter, Chief Investment Officer

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

Re: Agenda Item 13: Consider and Act on Real Estate Manager Recommendation

The Investment Policy Statement (IPS) states that, "...an investment made in Private Markets may not exceed 0.75% of the market value of the [Trust Fund]..." The current delegated limit is \$258 million. As a result, this investment is being brought forward for the Board's consideration as a non-delegated item because TMRS is already invested in the noted vehicle and the additional allocation causes the total investment in the vehicle to move above the delegated 75bps limit.

The Real Estate portfolio has reached its 12% target allocation. The recommended allocation to one real estate manager totals \$200 million and is a multi-vintage year commitment to an existing Fund of One that TMRS controls with Abacus, one of the highest performing managers within the Real Estate portfolio. As we have done with other multi-vintage year commitments, we will allocate the total amount to the Pacing Plan over two years, with \$100 million being budgeted for each pacing model from 2022-2023.

RECOMMENDATION:

- (i) Staff and Albourne recommend that the Board authorize the following allocations, each as proposed and in accordance with the IPS, with an initial investment allocation up to the amount set out below and at fees no greater than presented in the TMRS Staff Memo to Board, each individually contingent on favorable background checks, if required below, and successful negotiation of the investment agreements:

Name of Investment Manager, Investment Fund, or Fund Strategy	Asset Class Strategy	Initial Investment Allocation	Background Check Required (Yes or No)
Abacus Core Income Fund I LP	Real Estate / Core+	\$200M	Yes

- (ii) Approve and incorporate by reference for all purposes the Board Standard Investment Authorizations for each such investment allocation.

ATTACHMENTS:

- 1- Board Presentation
- 2 - Consultant Memo – Albourne
- 3 - Staff Executive Summary



June 14, 2022

To: Board of Trustees

From: Dave Hunter, Chief Investment Officer

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

Re: Agenda Item 14: Consider and Act on Non-Core Fixed Income Manager Recommendation

The Investment Policy Statement (IPS) states that, "...an investment made in Private Markets may not exceed 0.75% of the market value of the [Trust Fund]..." The current delegated limit is \$258 million. As a result, this investment is being brought forward for the Board's consideration as a non-delegated item because the primary fund and the co-investment vehicle invest in the same assets and when combined exceed delegated limits.

The Non-Core Fixed Income portfolio has reached its 20% target allocation. The recommended allocation to one private credit manager and associated co-investment vehicle totals \$300 million.

RECOMMENDATION:

- (i) Staff and Albourne recommend that the Board authorize the following allocations, each as proposed and in accordance with the IPS, with an initial investment allocation up to the amount set out below and at fees no greater than presented in the TMRS Staff Memo to Board, each individually contingent on favorable background checks, if required below, and successful negotiation of the investment agreements:

Name of Investment Manager, Investment Fund, or Fund Strategy	Asset Class Strategy	Initial Investment Allocation	Background Check Required (Yes or No)
Pemberton Strategic Credit Fund III	NCFI / Direct Lending	\$250M	Yes
Pemberton SCF II Co-Invest Vehicle	NCFI / Direct Lending	\$50M	Yes

(ii) Approve and incorporate by reference for all purposes the Board Standard Investment Authorizations for each such investment allocation.

ATTACHMENTS:

- 1- Board Presentation
- 2 - Consultant Memo – Albourne
- 3 - Staff Executive Summary



June 14, 2022

To: Board of Trustees

From: David J. Hunter, Chief Investment Officer

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

Re: Agenda Item 15: General Investment Consultant Report

Marcia Beard from RVK will provide a General Investment Consultant Report. Presentation materials will be shared with Trustees in the June 23 Board meeting.



June 14, 2022

To: Board of Trustees

From: David J. Hunter, Chief Investment Officer

A handwritten signature in blue ink, appearing to read "D. Hunter", with a long, sweeping horizontal line extending to the right.

Re: Agenda Item 16: Board Education: Private Markets - Real Estate and Other Public and Private Markets

In accordance with the Investment Policy Statement, comprehensive asset class reviews are conducted at least annually. At the June Board meeting, Eddie Schultz, Director of Private Markets, will present the Real Estate and Other Public and Private Markets reviews. The presentation material is available in the Diligent Resource Center in the tab titled "June 23, 2022, Board Meeting."



Annual Review: Real Estate

Eddie Schultz, TJ Moen, Yvonne Huang, Joel Palmer

June 23, 2022

Why Does TMRS Invest in Real Estate?

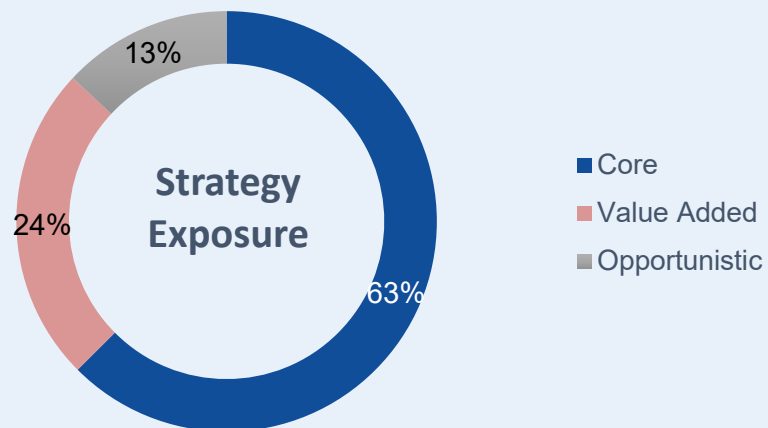
- **Core Real Estate – Buy and Hold**
 - Core real estate provides a strong income component and an excellent diversifier due to low correlations to the public equity market.
- **Non-Core Real Estate – Buy, Fix, Sell**
 - Non-core real estate is used to generate excess return to help TMRS achieve long term return targets.
 - Value-add real estate involves moderate risk projects. This typically includes moderate rehabilitation projects or development projects that are pre-leased to a tenant prior to construction.
 - Opportunistic real estate involves higher risk to achieve the highest possible return. This typically includes speculative development or foreign real estate exposure.

<u>TMRS Investment Policy Statement Strategy Limits</u>	
Core	50% to 100%
Value-Add	0% to 50.0%
Opportunistic	0% to 25.0%

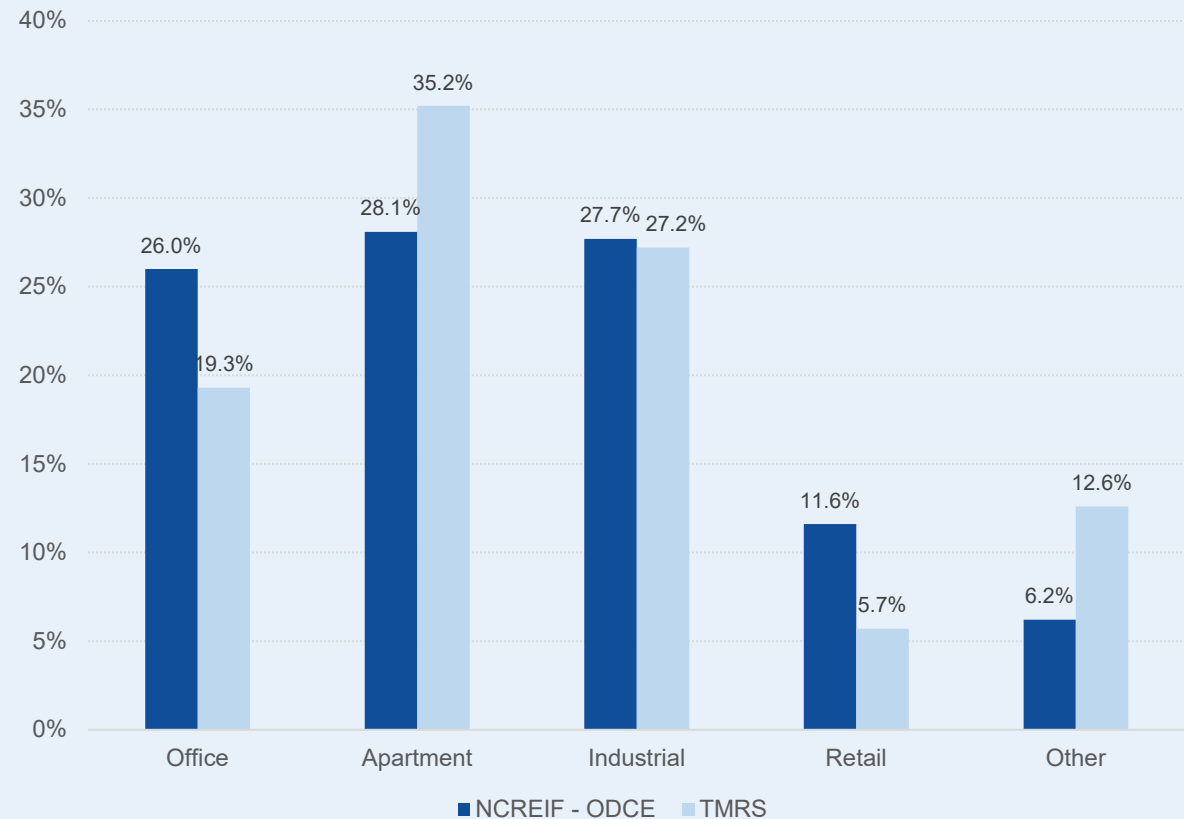
Core	50% to 100%
Value-Add	0% to 50.0%
Opportunistic	0% to 25.0%

Current TMRS Real Estate Portfolio

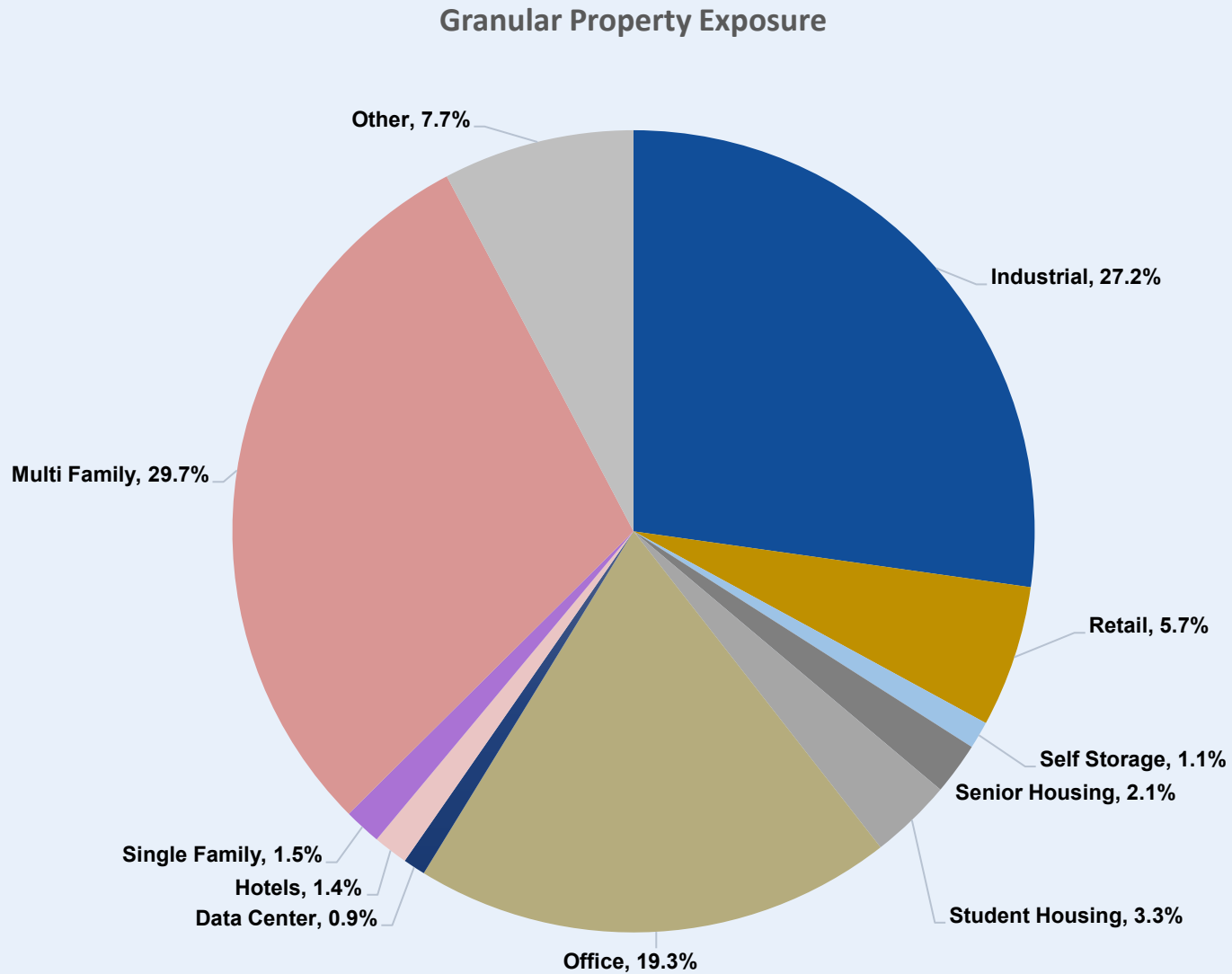
Total Commitments:	\$5.3 billion
Total Invested:	\$4.2 billion
Total Income:	\$1.9 billion
Net Asset Value:	\$4.2 billion
Portfolio Weight:	10.9%
Target Portfolio Wgt.	12.0%
Investment Vehicles:	50
Investment Managers:	28



Sector Exposure - TMRS vs. ODCE (Benchmark)

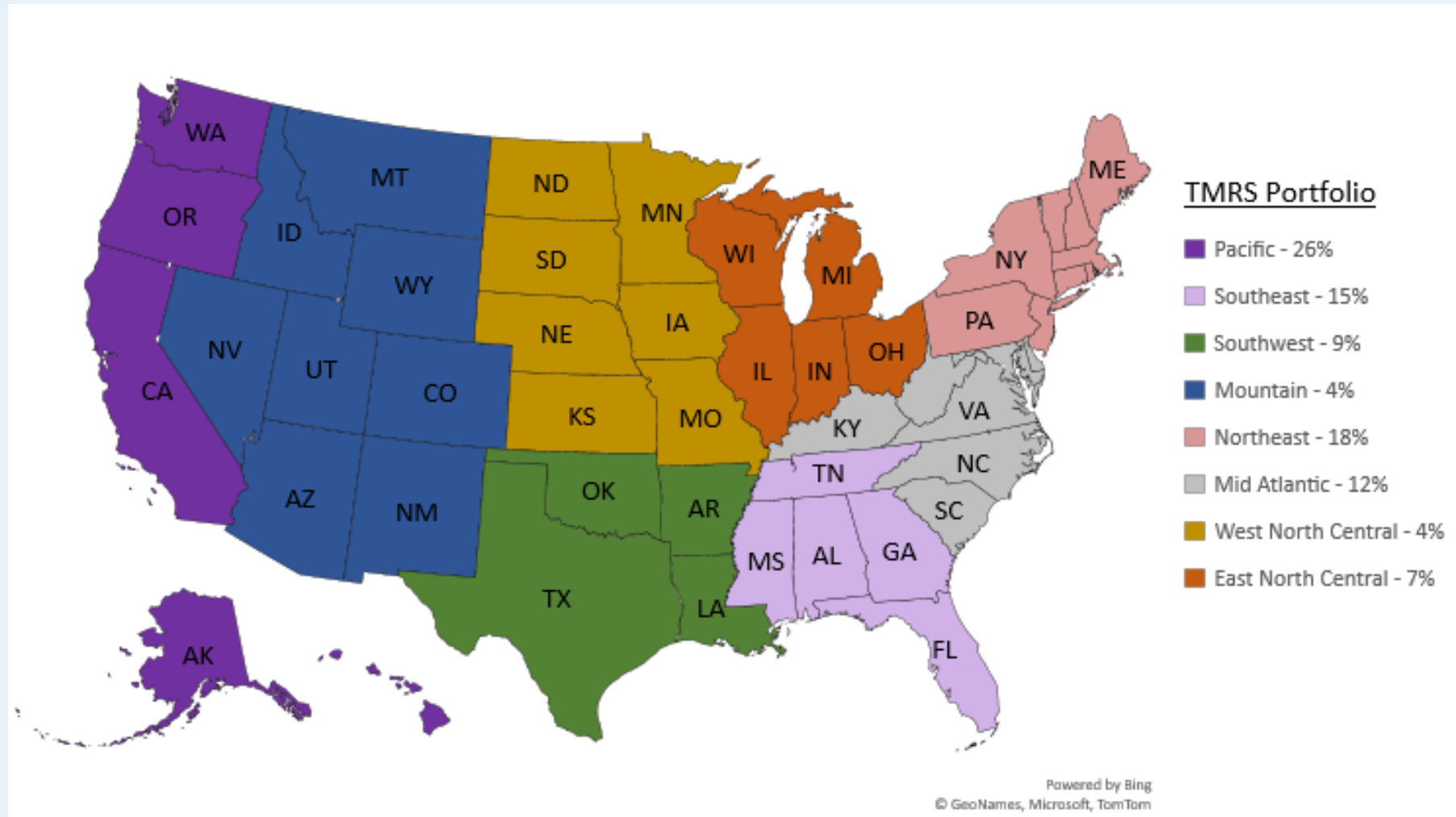


Current TMRS Real Estate Portfolio



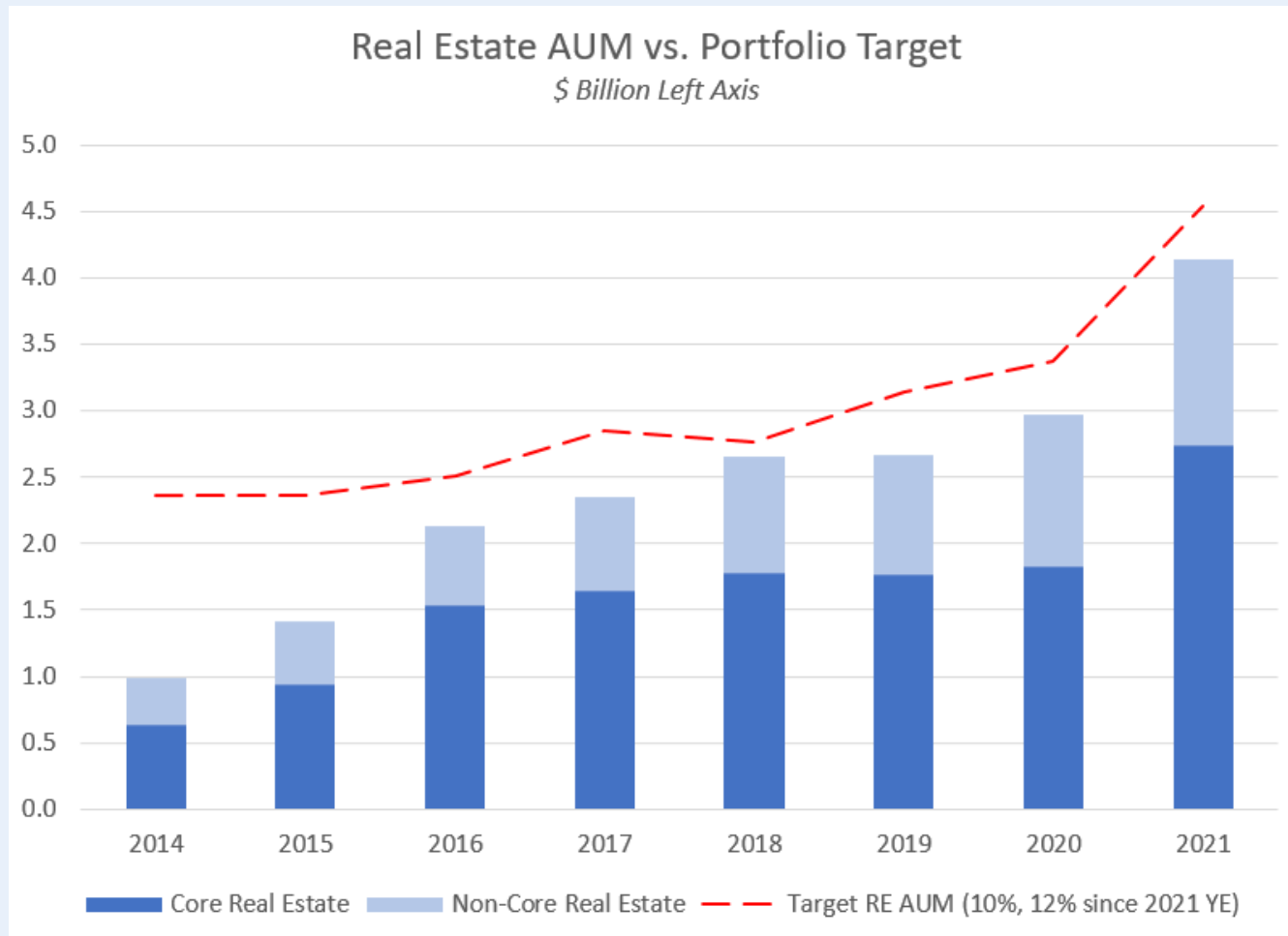
Current TMRS Real Estate Portfolio

TMRS geographical breakdown continues to pursue high growth and income-oriented areas of the country.



Source: Albourne Q4 2021 Real Estate Report; Note: The US is 94% of the portfolio. Europe is 4% and Canada is 2%.

Capital Allocation Objectives



- The TMRS Real Estate portfolio is at a mature state.
- Future decisions will center around fee efficiency and portfolio level risk.

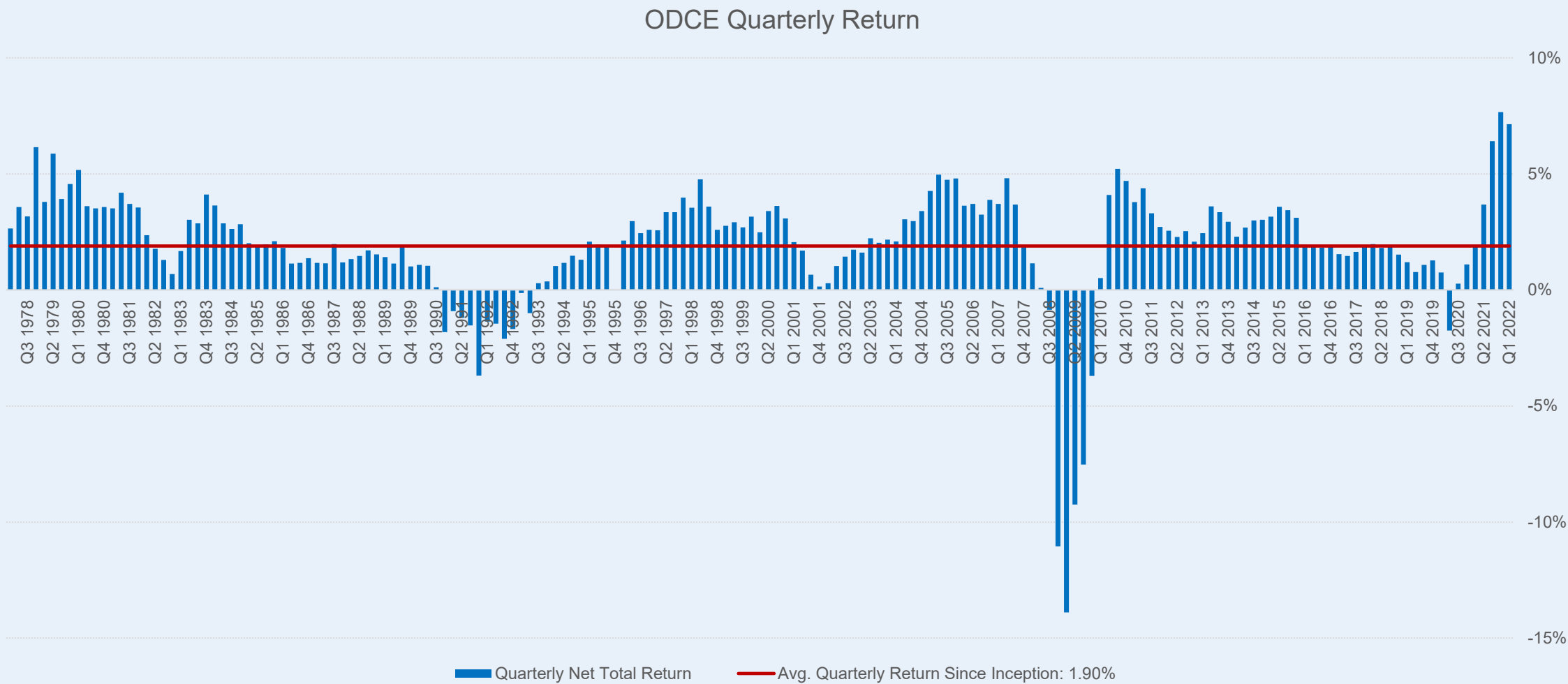
TMRS Real Estate Performance (as of Q4 2021)

	1 Yr.	3 Yrs.	5 Yrs.	7 Yrs.	Since Inception
TMRS Real Estate	24.1%	10.56%	10.43%	10.87%	11.24%
ODCE Benchmark	21.57%	9.02%	8.6%	9.52%	10.44%
Excess	2.53%	1.54%	1.82%	1.35%	0.79%

During 2021, the TMRS Real Estate portfolio experienced significant appreciation, which is mainly driven by the industrial and multi-family sectors. The total portfolio performance is returning to pre-pandemic levels as the market activities are gradually back to normal.

During Q4 2021 and Q1 2022, TMRS saw very large capital draws within the Real Estate portfolio as activity returned to normal. The large investment during these quarters allowed the Real Estate asset class to reach its 12% target shortly after year end.

Real Estate Benchmark Performance



Source: NCREIF ODCE Quarterly Returns to Q1 2022

Real Estate IPS Compliance

The Real Estate portfolio is compliant with all IPS provisions.

- **Sector** – TMRS is within sector limitations established. Core exposure is at 63% (greater than the 50% minimum limitation), Value-Add exposure at 24% (less than 50% limitation) and Opportunistic exposure at 13% (less than 25% limitation).
- **Investment Size** – No manager (20% limitation) nor vehicle (15% limitation) violates size limits.
- **Geography** – TMRS is within Geographic Limitations established. Non-US exposure is currently at 6%, under the 20% limitation.
- **Leverage** – Portfolio leverage as of Dec. 31, 2021, was 40.9% (41.2% YE 2020, 42.9% YE 2019, 41.3% YE 2018), under the overall portfolio limitation of 65%.
- **Vintage Year Concentration** – TMRS has not breached the 30% concentration limit in any calendar year.
- **Public Security Limits** – TMRS currently holds no separately managed accounts of public securities.
- **Commercial Mortgage Limitation** – TMRS holds no commercial mortgages in separately managed accounts.
- **Co-Investment** – TMRS currently has no real estate co-investments.
- **Valuation Policy** – TMRS' managers are in compliance with valuation requirements.

Accomplishments & Planning

2021 Checklist



Commit \$800mm of capital.

\$860mm committed in calendar year 2020.



Meet/Exceed performance expectations.

Real Estate has outperformed the benchmark by 253bps.



Expand strategic capital relationships.

Real Estate continues expanding the relationships we have with our strongest partners.

2022 Goals



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.

DISCLOSURES

TMRS periodically discloses public information that is not excepted from disclosure under Section 552.0225(b) of the Texas Public Information Act. Information provided by a manager, a Managing General Partner (GP), any of its Associates or other data provider to TMRS or a TMRS service provider, and contained in these materials (i) may have been independently produced or modified by TMRS or the TMRS service provider; (ii) has not been reviewed or approved by the manager, Managing GP or any of its Associates; and (iii) may not reflect the historical performance or asset value reflected in the manager's, Managing GP's or any of its Associates' records and, therefore, should not be used for comparative purposes.





Annual Review: OPPM

Eddie Schultz, TJ Moen, Yvonne Huang, Joel Palmer

June 23, 2022

What is the OPPM Asset Class?



Infrastructure



Mining



Energy



Agriculture



Other

The OPPM asset class is meant to **enhance return, provide diversification and be inflation aware**. While the asset class is frequently associated with physical assets it may include any asset that provides the three main characteristics listed above, including financial instruments like patents or royalties (frequently referred to as “esoterics”). The asset class can also include either equity or debt investments.

Currently the asset class is a mixture of managers who invest in private assets alongside a passive account of public securities, but in order to reach long term return goals, investments will move toward being private asset dominate in the next five years.

What is OPPM looking for?

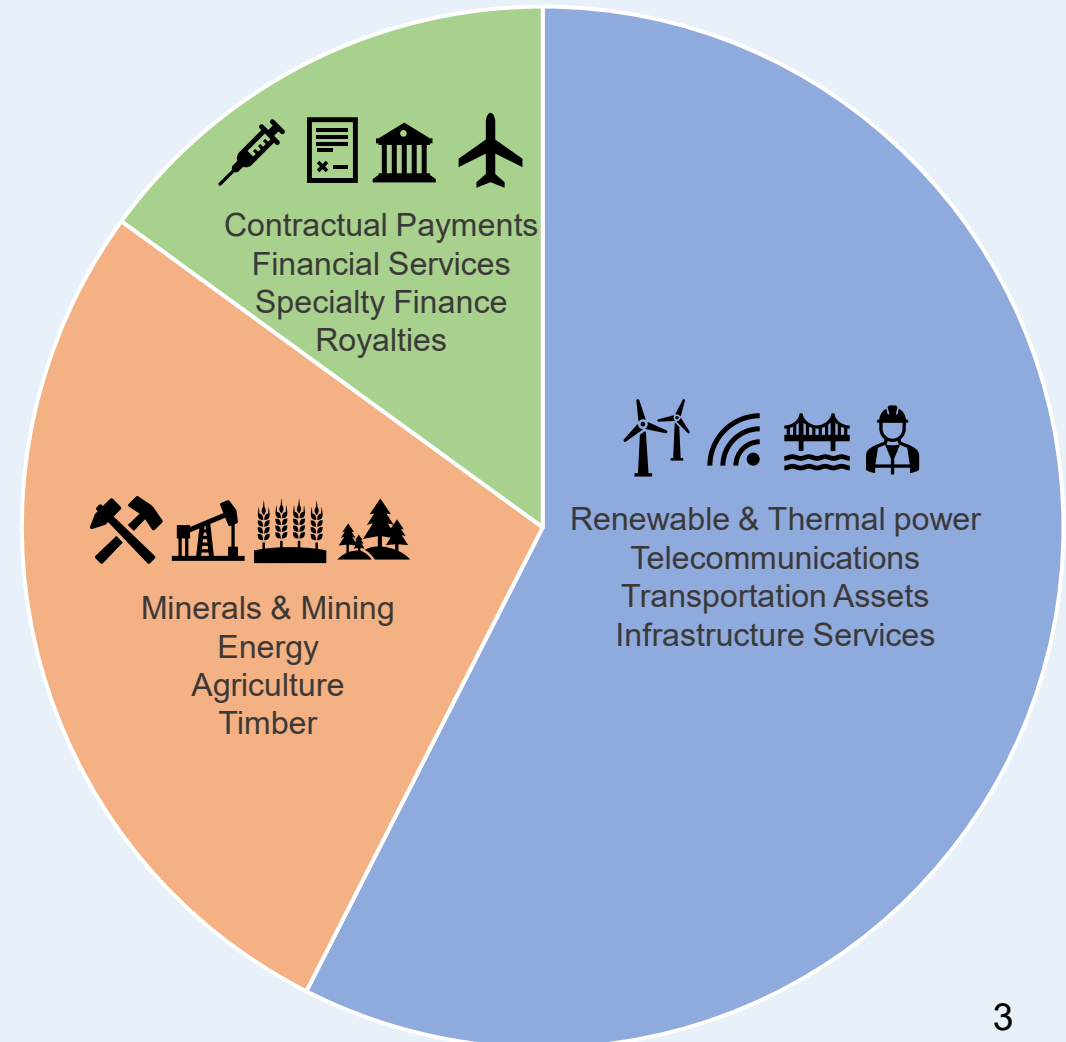
What is OPPM looking for?

Investments that enhance return
while diversifying the total fund

Desired Asset Characteristics

Low correlation to equity markets
Critical demand (“essential service”)
Reliable cash flows
Inflation-linked cash flows
Significant barriers to entry
Conservative risk profile

Representative Portfolio



TMRS OPPM Portfolio

OPPM Private Asset Summary

Total Commitments:	\$3.0 billion
Total Invested:	\$1.8 billion
Total Income:	\$0.5 billion
Net Asset Value:	\$1.6 billion
Portfolio Weight:	4.37%
Target Portfolio Wgt.	12.0%
Investment Vehicles:	39
Investment Managers:	22

Purple – Private Infrastructure: 55%

Gold – Private Minerals & Mining: 17%

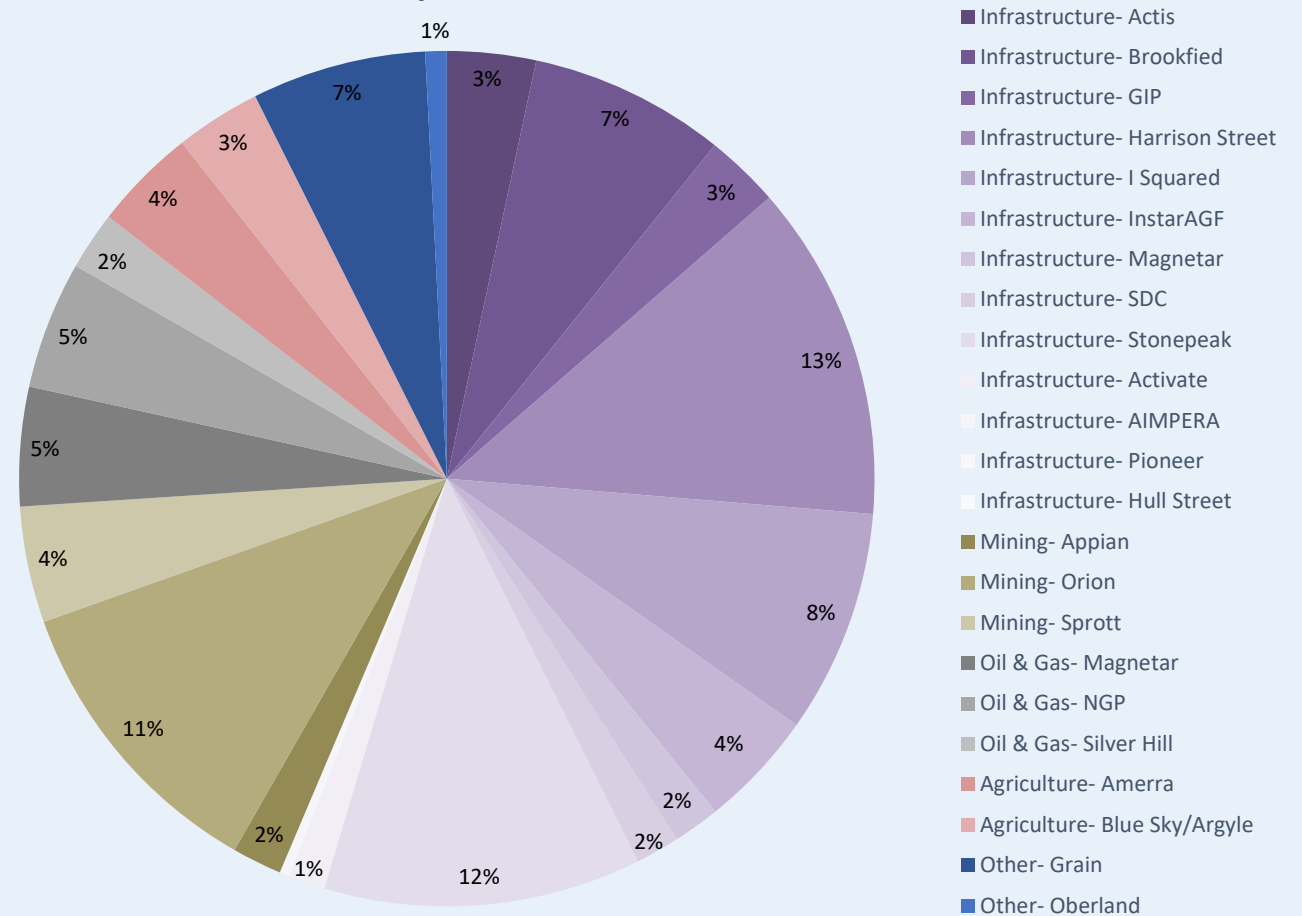
Red – Private Agriculture: 7%

Grey – Private Energy: 12%

Blue – Other: 8%

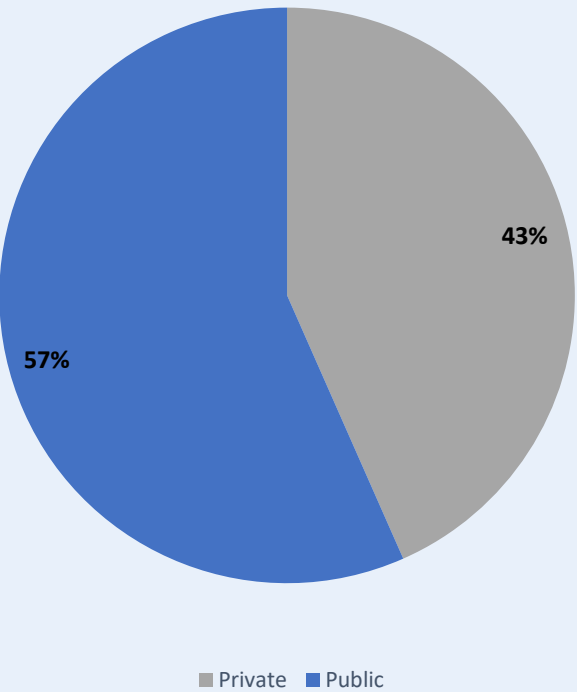
OPPM Portfolio Private Exposure by Manager

MV as of 12/31/2021

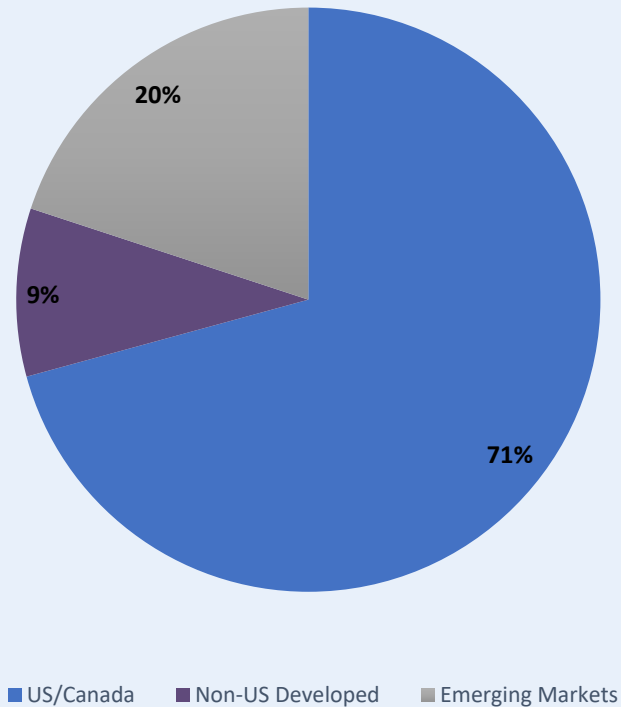


TMRS OPPM Portfolio

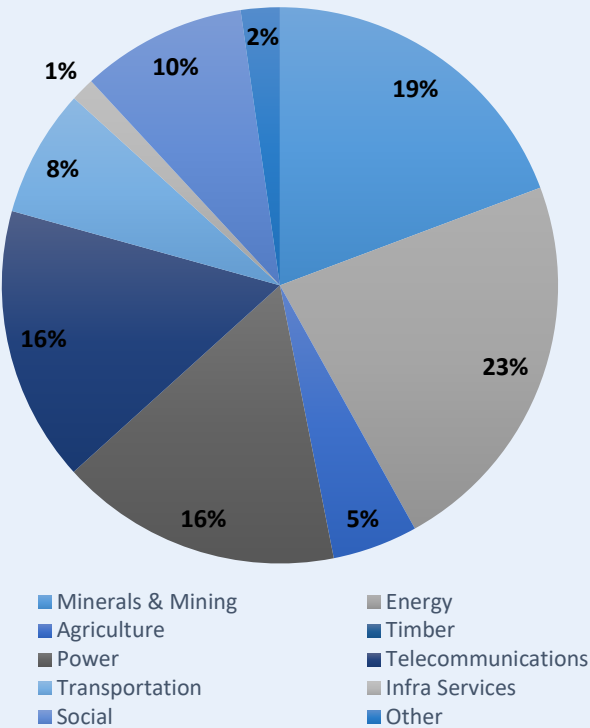
Current Private vs. Public Assets
as of 12/31/2021



Private Portfolio Exposure by Geography
as of 12/31/2021

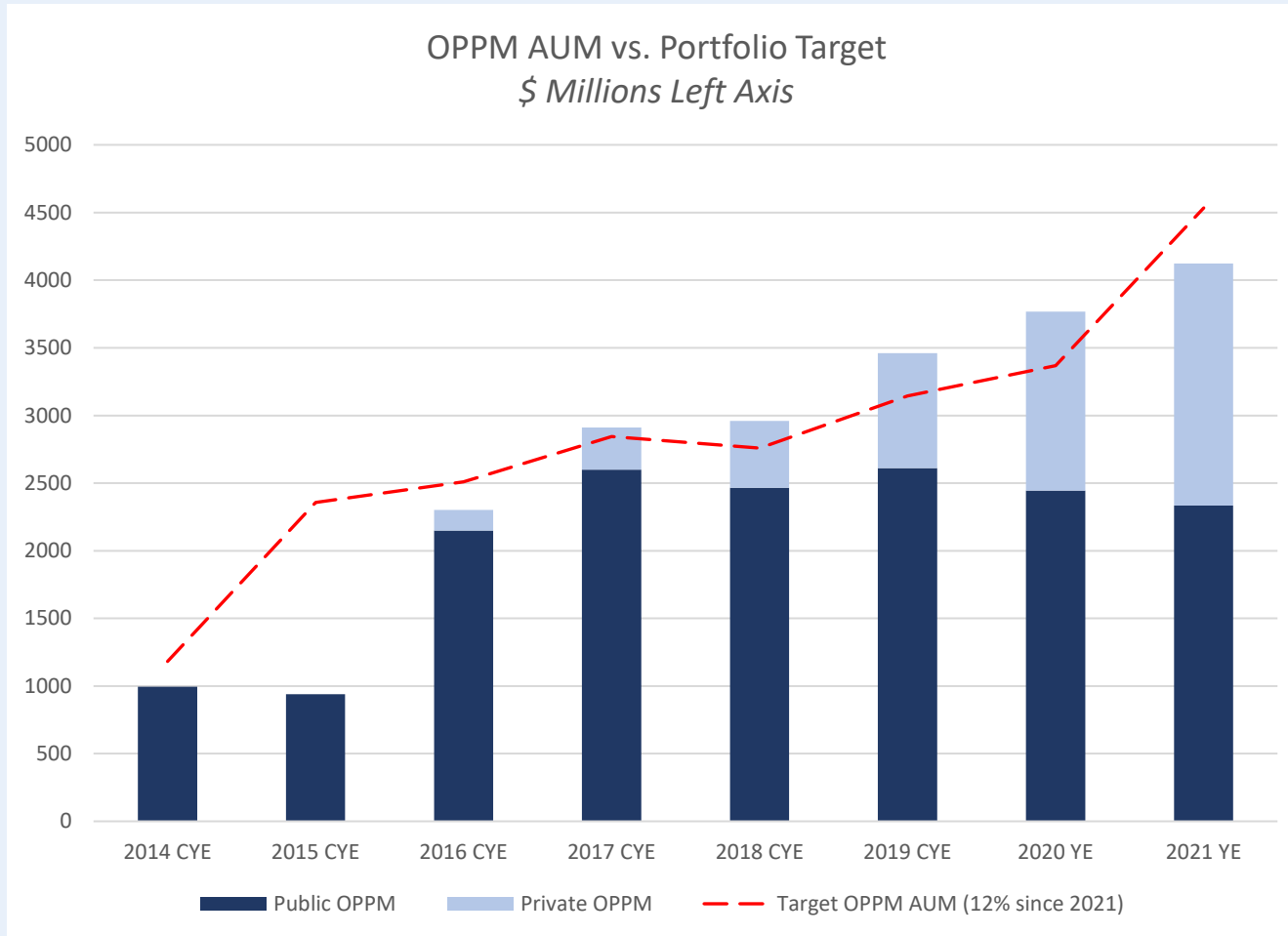


Private Portfolio Exposure by Sector
as of 12/31/2021



Note: State Street Q4 2021 data

Capital Allocation Objectives



- Continued OPPM commitments have moved TMRS toward its targeted asset allocation goals.
- There will be a continued focus on private OPPM deployment going forward.

TMRS OPPM Performance as of Q1 2022

All Strategies	1 Yr.	3 Yrs.	5 Yrs.	7 Yrs.	Since Inception
Public (57%)	3.40%	4.29%	4.40%	3.51%	3.71%
Private (43%)	11.17%	11.48%	10.52%	-	10.12%
Total Performance	7.52%	6.54%	5.73%	4.49%	4.32%
<i>Total Benchmark</i>	<i>10.06%</i>	<i>6.74%</i>	<i>6.02%</i>	<i>5.07%</i>	<i>4.46%</i>

The public portfolio has had low returns due to the low-risk nature of the portfolio. The OPPM private portfolio has added positive performance.

OPPM IPS Compliance

The OPPM portfolio is compliant with all IPS provisions.

- **Vehicle Concentration Guideline** – TMRS is within guideline limits that no more than 35% of the total net assets of the OPPM portfolio may be invested in any one Registered Investment Vehicle.
- **Closed or Open-end Vehicle Concentration Limit** – TMRS is within guideline limits that no more than 15% of total net assets may be invested in a single Private investment Vehicle.
- **Commingled Open-End Concentration Limit** – TMRS is within guideline limits that TMRS can not represent more than 20% of total net assets of a commingled investment vehicle.
- **Percentage of Manager AUM Limit** – TMRS does not account for more than 25% of total AUM of any contracted manager's total AUM.

Accomplishments & Planning

2021 Checklist



Commit \$600mm to \$800mm of capital.
\$1.2bn committed in calendar year 2021.



Meet/Exceed performance expectations.
Private OPPM has exceeded early expectations. The public accounts were liquidated in 2021 and the proceed has been transferred to a passive vehicle.



Expand strategic capital relationships.
OPPM continues expanding the relationships we have with our strongest partners.

2022 Goals



Commit \$1.5bn of capital.

Largely increased deployment expectations as the asset class target allocation was upsized to 12%.



Position portfolio for market dynamics.

The TMRS infrastructure and minerals portfolios are poised to benefit from global reopening and inflationary pressure.



Continue push for fee efficient private assets.

Strategic relationships and co-investment expansion will help reduce fee load on portfolio.

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June 14, 2022

To: Board of Trustees
From: David Wescoe, Executive Director 
Re: Agenda Item 17: Discuss Strategic Plan Update and Future Planning Process

As you know, staff has completed the Board's 2018 - 2022 Strategic Plan, and a copy of the results has previously been provided to you. Given that Plan's completion, the next iteration of the Board's strategic planning process will be an important topic at the Board's October retreat.

During this Agenda Item, Trustees and staff will discuss the framework for the October meeting's strategic planning discussion.