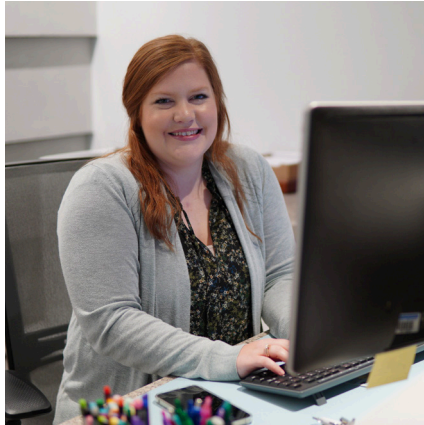
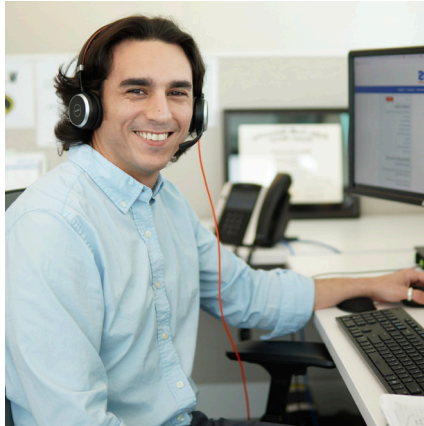




Annual Comprehensive Financial Report

FOR THE YEAR ENDED DECEMBER 31, 2021



TEXAS MUNICIPAL RETIREMENT SYSTEM

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P.O. Box 149153
Austin, TX 78714-9153
800-924-8677
tmrs.com

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On the cover are TMRS employees. From left to right, top to bottom: Tim Sweeney, Investments; Shannon Lucero, Member Education Center; Naqqash Sharif, Member Service Center; Natalie Garza, Communications; Barrett Smith, Member Service Center; Nadia Ali, Finance; Chyrlynnne Crockett and Ricardo Zavala, Records; Brittany Zenge, Human Resources; and Joshua Garcia, Investments. Photos by Angel Vidal, TMRS Communications.





Annual Comprehensive Financial Report

For the Year Ended December 31, 2021

Prepared by:

David Wescoe, Executive Director

Rhonda Covarrubias, Director of Finance

Candace Nolte, Assistant Finance Director

Table of Contents

Introductory Section

Executive Director's Letter of Transmittal	6
Board of Trustees	9
Board Committees	10
Organization Chart	11
Professional Advisors	12
Highlights	13
GFOA Certificate of Achievement for Excellence in Financial Reporting	14
PPCC Public Pension Standards Award for Funding and Administration	15

Financial Section

Independent Auditors' Report	18
Management's Discussion and Analysis	21
Basic Financial Statements	
Statement of Fiduciary Net Position	25
Statement of Changes in Fiduciary Net Position	26
Notes to Financial Statements	27
Required Supplementary Information	43
Supplemental Schedules	44

Investment Section

Report on Investment Activity	48
Chief Investment Officer's Year in Review	50
Outline of Investment Policies	51
Asset Allocation	54
Investment Summary	55
Largest Holdings	56
Investment Results	57
Investment Expenses	58
Investment Managers	59

Table of Contents

CONTINUED

Actuarial Section

Pension Trust Fund

Actuary's Certification Letter	62
Summary of Actuarial Assumptions	64
Definitions	70
Participating Cities and Active Members	72
Retiree and Beneficiary Data	73
Summary of Actuarial Liabilities and Funding Progress	74
Funded Portion of Actuarial Liabilities by Type	75

Supplemental Death Benefits Fund (SDBF)

Actuary's Certification Letter	76
Summary of Actuarial Assumptions	78
Membership and Contribution Rate Data	79

Statistical Section

Statistical Section Overview	82
Financial Trends Information	83
Demographic Information	87

Tables and Charts

F-1: Summary of Fiduciary Net Position — Pension Trust Fund	22
F-2: Summary of Changes in Fiduciary Net Position — Pension Trust Fund	23
F-3: Summary of Fiduciary Net Position — SDBF	24
F-4: Summary of Changes in Fiduciary Net Position — SDBF	24
F-5: Statement of Fiduciary Net Position	25
F-6: Statement of Changes in Fiduciary Net Position	26
F-7: TMRS Member Accounts	30
F-8: Strategic Target Allocation	32
F-9: Supplemental Death Benefits Fund Member Accounts	33
F-10: TMRS as Employer — Actuarial Valuation	34
F-11: Fair Value of Investments	36
F-12: Investments Measured at Net Asset Value (NAV)	37
F-13: Fixed Income Securities with Exposure to Credit Default Risk	39

Table of Contents

CONTINUED

F-14: Fixed Income Securities with Exposure to Interest Rate Risk	40
F-15: Foreign Currency Exposure	41
F-16: Foreign Currency Contracts	42
F-17: Futures Contract	42
F-18: Money-Weighted Rate of Return — Pension Trust Fund	43
F-19: Combined Schedule of Changes in Fiduciary Net Position	44
F-20: Schedule of Administrative and Investment Expenses	45
F-21: Schedule of Professional Services	46
I-1: Strategic Target Allocation	52
I-2: Asset Class Policy Benchmarks	53
I-3: Investment Summary by Asset Class	55
I-4: Largest Holdings — Fixed Income Securities	56
I-5: Largest Holdings — Public Equities	56
I-6: Total Fund and Asset Class Returns	57
I-7: Schedule of Investment Expenses	58
I-8: Schedule of External Investment Fees	58
I-9: Investment Managers	59
A-1: Participating Cities and Active Members	72
A-2: Retiree and Beneficiary Data	73
A-3: Summary of Actuarial Liabilities and Funding Progress	74
A-4: Funded Portion of Actuarial Liabilities by Type	75
A-5: Participating Cities and Covered Members	79
A-6: Average Contribution Rates	79
S-1: Changes in Fiduciary Net Position — Last 10 Years (Pension Trust Fund)	83
S-2: Changes in Fiduciary Net Position — Last 10 Years (Supplemental Death Benefits Fund)	85
S-3: Schedule of Average Benefit Payments for New Retirements — Last 10 Years	87
S-4: Schedule of Retirement Benefit Recipients by Type of Benefit	88
S-5: Schedule of Principal Participating Cities (Pension Trust Fund)	89
S-6: Schedule of Principal Participating Cities (Supplemental Death Benefits Fund)	89

Introductory Section

Executive Director's Letter of Transmittal

Board of Trustees

Board Committees

Organization Chart

Professional Advisors

Highlights

Awards

Executive Director's Letter of Transmittal



To: The Trustees, Members, Retirees, Beneficiaries and Participating Cities of the Texas Municipal Retirement System

I am pleased to present to you the Annual Comprehensive Financial Report for the year ended December 31, 2021 (Report) for the Texas Municipal Retirement System (TMRS).

TMRS Background

In 1947, the Texas Legislature established TMRS to provide retirement, disability and death benefits to the employees of TMRS participating cities. TMRS administers a cash-balance retirement plan in which the member's benefit is based on their own contributions and annual interest, their employing city's matching contribution and any additional earned credits. When the member retires, their monthly benefit payment is determined by their benefit option selection and actuarial factors, including their age.

As of December 31, 2021, TMRS had 144,635 members, 68,092 retirees and 901 participating cities. In 2021, TMRS paid \$1.6 billion in benefits, an increase of \$101.3 million, or 6.6%, from \$1.5 billion in benefits paid in 2020.

Investments

TMRS' 2021 net investment return was 12.86%, and Trust Fund investments totaled \$38.8 billion as of December 31, 2021. TMRS' three-year, five-year and 10-year net investment returns were 12.08%, 9.28% and 7.82%, respectively. The Investment Section summarizes 2021 investment operations and asset class performance.

TMRS' Investment Policy Statement (IPS) establishes the Trust Fund's asset allocation that is designed to meet our 6.75% actuarial return assumption, portfolio performance objectives, and appropriate benchmarks. The IPS and its asset allocation are reviewed at least annually and updated, if necessary, to reflect prevailing investment and economic circumstances. Compliance with the IPS is monitored by TMRS staff, and updates are reported regularly to the TMRS Board of Trustees (Board).

In January 2022, David Hunter was hired as Chief Investment Officer (CIO). Mr. Hunter comes to TMRS with extensive finance and investment management experience, most recently managing a more than \$20 billion investment portfolio as the Executive Director and CIO of the North Dakota Retirement and Investment Office.

Actuarial Valuation Report

Gabriel, Roeder, Smith & Company (GRS), the Board's independent actuary, provided an annual Actuarial Valuation Report in accordance with Actuarial Standards of Practice, Governmental Accounting Standards Board (GASB) principles and state law. The Actuarial Section contains a summary of TMRS' actuarial assumptions and funding progress.

While each TMRS participating city has its own funded ratio, TMRS' composite funded ratio was 90.5% as of December 31, 2021, an increase from 89.5% as of December 31, 2020.

In March 2022, the Board approved a 12.26% interest credit to participating city accounts effective as of December 31, 2021. The TMRS asset smoothing policy resulted in an actuarial return on assets of 7.57%.

Executive Director's Letter of Transmittal

CONTINUED

TMRS provides each participating city with an annual actuarial valuation and a rate letter that reconciles the required contribution rates from their prior valuation and establishes the city's contribution rate for the upcoming rate cycle. Participating city valuations and rate letters are available on the TMRS website.

Each participating city chooses its own plan provisions from available options. Whatever plan options are chosen, each city's funding objective is to accumulate sufficient assets to pay benefits when they become due. TMRS' actuarial funding policy, which is posted on the TMRS website, requires any new unfunded liabilities to be amortized over a closed period of no more than 20 years.

2021 Operational Activities

TMRS' Senior Staff completed an ambitious 2021 Action Plan, which included:

Passing Return to Work Legislation. On May 28, 2021, Texas Governor Greg Abbott signed Senate Bill 1105 into law, which became effective September 1. The legislation, the first TMRS-sponsored benefit enhancement enacted in almost two decades, removed significant barriers for retirees who have been retired for more than one year to return to work for the same city without forfeiting their TMRS retirement benefit.

Moving Our Offices to The Grove. In October 2021, TMRS moved its Austin offices from 1200 North Interstate Highway 35, which had reached full capacity and presented many operational challenges, to The Grove at 2717 Perseverance Drive. The move keeps costs low, provides convenience for employees, Members and visitors, and creates an efficient and collaborative staff workspace.

Improving Communications with Members and Participating Cities. Staff enhanced communications by redesigning Member Account and Retiree Benefit Statements, improving the clarity and layout of the Annual Comprehensive Financial and Popular Annual Financial Reports, implementing comprehensive stakeholder communications and training plans, producing TMRS' first-ever virtual Annual City Conference and introducing TMRS' Mobile App.

Implementing Pension Administration System Improvements. Significant improvements included the rollout of an enhanced City Portal with a new look and feel and additional user functionality. City Portal users now can register online, and cities can assign multiple administrators who can make real-time updates to city contact information.

Completing TMRS' 2018-2022 Strategic Plan. All of the goals and objectives in the 2018-2022 Strategic Plan were completed, one year ahead of schedule.

Renewing State Street as our Custodian Bank. A nine-member staff evaluation committee unanimously recommended retaining State Street as TMRS' Custodian Bank, and the Board approved the committee's recommendation at its May 2021 meeting.

TMRS Accountability, Transparency and Financial Integrity

Financial Statements. TMRS management prepared this Report and is responsible for the accuracy of the data and the completeness and fairness of the presentation of the financial information in it. To the best of management's knowledge, the Report's data is accurate in all material respects and is reported in a manner designed to present transparently TMRS' operating results, financial position and Trust Fund assets.

TMRS is required to retain independent auditors to perform an annual audit of the financial statements contained in this Report. CliftonLarsonAllen LLP (CLA) performed the 2021 audit, and information regarding the scope of their audit is included in the Independent Auditors' Report in the Financial Section.

Condensed financial information is provided in Management's Discussion and Analysis (MD&A) in the Financial Section immediately following the Independent Auditors' Report. MD&A provides an analysis of financial information for the current and prior fiscal years and should be read in conjunction with this Letter of Transmittal and the financial statements.

Executive Director's Letter of Transmittal

CONTINUED

Internal Controls. TMRS management is responsible for establishing and maintaining internal controls designed to ensure that TMRS operates effectively and efficiently, reports reliable financial information and complies with applicable laws and regulations. Internal controls are designed to provide reasonable, but not absolute, assurance that these objectives are met. Reasonable assurance recognizes the cost of a control relative to the benefits likely to be derived and that these judgments by management are based on estimates.

Achievements in Financial Reporting and System Administration

The Government Finance Officers Association of the United States and Canada (GFOA) awarded TMRS a Certificate of Achievement for Excellence in Financial Reporting for TMRS' Annual Comprehensive Financial Report for the year ended December 31, 2020. To be awarded the Certificate of Achievement, a governmental entity must publish an easily readable and efficiently organized annual comprehensive financial report that satisfies both generally accepted accounting principles and applicable legal requirements. This was the 34th consecutive year that TMRS has achieved this recognition.

A Certificate of Achievement is valid for one year. We believe that this Report meets the GFOA's Certificate of Achievement program's requirements, and we will submit it to the GFOA to determine its eligibility for another Certificate.

The GFOA also recognized TMRS' 2020 Popular Annual Financial Report for Outstanding Achievement in Popular Annual Financial Reporting.

TMRS received the Public Pension Coordinating Council's 2021 Public Pension Standards Award for Funding and Administration in recognition of meeting professional standards for plan funding and administration as set forth in the Public Pension Standards.

Board of Trustees Update

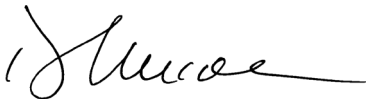
David Landis, the City Manager of the City of Perryton, served as Board Chair in 2021. Mr. Landis was the Board's Vice Chair in 2019 and 2020 and has served as Chair of the Audit Committee and the Advisory Committee on Benefit Design. Mr. Landis' leadership, experience and wisdom benefits us all.

Jesús Garza, the City Manager of the City of Victoria, was elected to serve as Board Chair in 2022. In 2021, Mr. Garza served as Board Vice Chair and Chair of the Advisory Committee on Benefit Design.

Trustee Appointments. In May 2021, the Texas Senate unanimously confirmed the appointments of Trustees Alanis, Huizar, Philibert and Scott to the Board. In May 2022, Governor Abbott reappointed Trustee Landis for a six-year term, which requires Senate confirmation in 2023.

Acknowledgements

2021 was a year of significant achievement. I want to thank Board Chair David Landis, Vice Chair Jesús Garza and their Board colleagues for their leadership and support. I also want to thank my staff colleagues for their unwavering commitment to serving our members, retirees, beneficiaries and participating cities.



David B. Wescoe
Executive Director

June 9, 2022

Board of Trustees

AS OF DECEMBER 31, 2021



David Landis, Chair
City Manager
City of Perryton
Term expires: February 1, 2027



Jesús Garza, Vice Chair
City Manager
City of Victoria
Term expires: February 1, 2023



Anali Alanis
Assistant City Manager
City of Pharr
Term expires: February 1, 2027



Johnny Huizar
City Manager
City of Pleasanton
Term expires: February 1, 2023



Bill Philibert
Director of Human Resources
and Risk Management
City of Deer Park
Term expires: February 1, 2025



Bob Scott
Assistant City Manager
and Chief Financial Officer
City of Carrollton
Term expires: February 1, 2025

Board Committees

AS OF DECEMBER 31, 2021

Advisory Committee on Benefit Design

The Advisory Committee on Benefit Design provides the Board with input on potential benefit changes. The Committee has 10 members, including three Individual Representatives consisting of TMRS members, retirees and elected officials; and seven Group Representatives representing stakeholder associations and groups with an interest in TMRS. Group Representatives are chosen by their respective associations and approved by the Board.

Chair • Jesús Garza

Vice Chair • Bill Philibert

Individual Representatives

- Allison Heyward, Councilmember, City of Schertz
- Paul Parker, Retiree
- Barry Sullivan, City Manager, City of Gainesville

Group Representatives

- Chereé Bontrager, Texas Municipal Human Resources Association
- Paulette Hartman, Texas City Management Association
- Mitch Landry, Texas Municipal Police Association
- Scott Leeton, Combined Law Enforcement Associations of Texas
- Evelyn Njuguna, Texas Municipal League
- David Riggs, Texas State Association of Fire Fighters
- Casey Srader, Government Finance Officers Association of Texas

Audit Committee

The Audit Committee provides oversight of the internal and external audit functions, risk management and internal controls.

Chair • Bob Scott

Vice Chair • Johnny Huizar

Budget and Compensation Committee

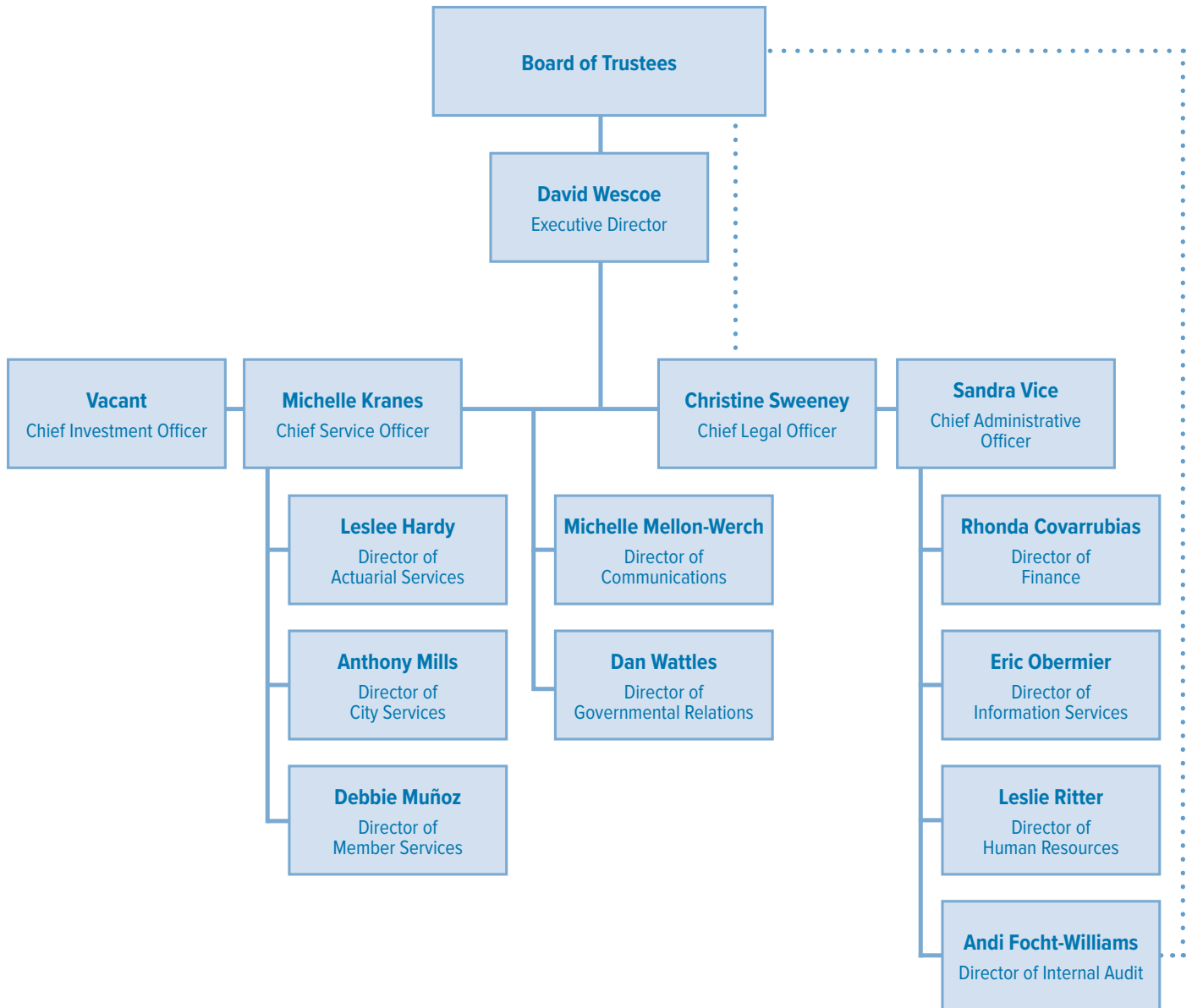
The Budget and Compensation Committee reviews the annual budget and compensation policies.

Chair • Anali Alanis

Vice Chair • Johnny Huizar

Organization Chart

AS OF DECEMBER 31, 2021



Professional Advisors

AS OF DECEMBER 31, 2021

Actuary

Gabriel, Roeder, Smith & Company (GRS)
Irving, TX

Custodian

State Street Bank and Trust Company
Boston, MA

Depository Bank

JPMorgan Chase Bank, N.A.
New York, NY

Fiduciary Counsel

Robert D. Klausner, Esq.
Klausner, Kaufman, Jensen & Levinson
Plantation, FL

Independent Auditor

CliftonLarsonAllen LLP (CLA)
Baltimore, MD

Investment Consultants

Albourne America LLC
San Francisco, CA

RVK, Inc.
Portland, OR

Investment expenses, external investment fees and investment managers are presented in Tables I-7, I-8 and I-9 in the Investment Section.

Highlights

AS OF DECEMBER 31, 2021

Financial Highlights (dollars in millions)	
City Contributions	\$1,076.9
Member Contributions	\$492.3
Retirement Benefits	\$1,645.3
Member Account Refunds	\$62.3
Administrative Expenses	\$20.7
Fiduciary Net Position	\$38,593.0
Composite Funded Ratio	90.5 %

Investments (dollars in millions)	
Investments	\$38,790.2
Time-Weighted Net Investment Returns:	
1 Year	12.86 %
3 Years	12.08 %
5 Years	9.28 %
10 Years	7.82 %
Actuarial Investment Return Assumption	6.75 %

Membership Statistics	
Active Members	115,831
Retired Members	68,092
Inactive, Vested Members	28,804
Total Members	212,727

Participating Cities	
Total Participating Cities	901
New Participating Cities	6
Number of Cities with:	
City Match – 1:1	178
City Match – 1.5:1	113
City Match – 2:1	610
Member Contribution Rate – 3%	3
Member Contribution Rate – 5%	332
Member Contribution Rate – 6%	100
Member Contribution Rate – 7%	466
5-Year Vesting	853
10-Year Vesting	48

Highlights are presented for the Pension Trust Fund only.

GFOA Certificate of Achievement for Excellence in Financial Reporting



Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Texas Municipal Retirement System

For its Annual Comprehensive
Financial Report
For the Fiscal Year Ended

December 31, 2020

Christopher P. Morill

Executive Director/CEO

This Certificate of Achievement for Excellence in Financial Reporting was presented to TMRS by the Government Finance Officers Association (GFOA) for the year ended December 31, 2020. This is the 34th consecutive year that TMRS has received this prestigious award.



Public Pension Coordinating Council

***Public Pension Standards Award
For Funding and Administration
2021***

Presented to

Texas Municipal Retirement System

In recognition of meeting professional standards for
plan funding and administration as
set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA)
National Conference on Public Employee Retirement Systems (NCPERS)
National Council on Teacher Retirement (NCTR)

A handwritten signature in cursive script that reads "Alan H. Winkle".

Alan H. Winkle
Program Administrator

This Public Pension Standards Award for Funding and Administration was presented to TMRS by the Public Pension Coordinating Council (PPCC) for 2021. This is the 16th consecutive year that TMRS has received the award for meeting these standards.

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Financial Section

Independent Auditors' Report
Management's Discussion and Analysis
Basic Financial Statements
Required Supplementary Information
Supplemental Schedules

Independent Auditors' Report



CliftonLarsonAllen LLP
CLAconnect.com

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.



CLA is an independent member of Nexia International, a leading, global network of independent accounting and consulting firms. See nexia.com/member-firm-disclaimer for details.

Independent Auditors' Report

CONTINUED

Board of Trustees
Texas Municipal Retirement System

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.

Independent Auditors' Report

CONTINUED

Board of Trustees
Texas Municipal Retirement System

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.



CliftonLarsonAllen LLP

Baltimore, Maryland
June 9, 2022

Management's Discussion and Analysis

Management's Discussion and Analysis (MD&A) provides an overview of the financial activities of the Texas Municipal Retirement System (TMRS) for the year ended December 31, 2021.

MD&A is intended to help the reader understand the key components of TMRS' financial statements and provide a summary of its financial condition. It should be read along with the Executive Director's Letter of Transmittal in the Introductory Section and the Basic Financial Statements that follow.

Overview of the Financial Statements

TMRS administers three Trust Funds: the Pension Trust Fund, the Full Benefit Arrangement Fund (FBAF) and the Supplemental Death Benefits Fund (SDBF). The Pension Trust Fund accounts for the resources available for service and disability retirement benefits to TMRS retirees and their beneficiaries. The FBAF pays benefits that are in excess of the limits established by Section 415(b) of the Internal Revenue Code, and is included with the Pension Trust Fund for presentation purposes only. The SDBF provides a lump sum death benefit to the beneficiaries of active members and retirees of TMRS participating cities that provide supplemental death benefits.

- The Basic Financial Statements:
 - The Statement of Fiduciary Net Position presents the assets available for future payments of benefits to members, retirees and beneficiaries and current liabilities owed as of December 31, 2021.
 - The Statement of Changes in Fiduciary Net Position includes the annual additions (investment income and contributions) and deductions (benefit payments and other expenses) for the year ended December 31, 2021.
 - The Notes to the Financial Statements provide additional information that is essential to a full understanding of the data in the Basic Financial Statements.
- The Required Supplementary Information includes the historical money-weighted investment returns on TMRS' Trust Fund investments.
- The Supplemental Schedules include additional information regarding changes in fiduciary net position by fund, administrative and investment expenses and professional services for the year ended December 31, 2021.

These financial statements and the required disclosures are prepared in accordance with Generally Accepted Accounting Principles and reporting guidelines as set forth by the Governmental Accounting Standards Board (GASB).

Management's Discussion and Analysis

CONTINUED

Financial Highlights

Net Position Restricted for Pensions – Pension Trust Fund

Tables F-1 and F-2 display a summary of assets, liabilities and fiduciary net position for the Pension Trust Fund (including the FBAF) as of December 31, 2021 and 2020, and a summary of changes in fiduciary net position for the years then ended. The fiduciary net position of the Pension Trust Fund increased by \$4.31 billion from 2020 to 2021, or 12.6%, primarily from investment returns in 2021.

Table F-1

Summary of Fiduciary Net Position – Pension Trust Fund (dollars in millions)				
As of December 31				
	2021	2020	Increase (Decrease)	% Change
ASSETS				
Investments, at fair value	\$ 38,790.2	\$ 34,522.3	\$ 4,267.9	12.4 %
Receivables	524.0	832.8	(308.8)	(37.1)
Cash and other assets	15.7	7.8	7.9	101.3
Capital assets, net	9.6	7.9	1.7	21.5
Total assets	39,339.5	35,370.8	3,968.7	11.2
LIABILITIES				
Payables and other liabilities	741.9	1,068.7	(326.8)	(30.6)
Due to depository bank	—	7.5	(7.5)	(100.0)
Funds held for SDBF	4.6	11.7	(7.1)	(60.7)
Total liabilities	746.5	1,087.9	(341.4)	(31.4)
FIDUCIARY NET POSITION	\$ 38,593.0	\$ 34,282.9	\$ 4,310.1	12.6 %

The most significant component of TMRS' fiduciary net position is the fair value of its Trust Fund investment portfolio. The change in investments reflects the net appreciation in the investment portfolio during 2021. The fluctuation of receivables and payables is due primarily to the change in unsettled trades from year to year (i.e., timing of trade activity near year-end).

Management's Discussion and Analysis

CONTINUED

Table F-2

Summary of Changes in Fiduciary Net Position – Pension Trust Fund (dollars in millions)				
For the Year Ended December 31				
	2021	2020	Increase (Decrease)	% Change
ADDITIONS				
City contributions	\$ 1,076.9	\$ 1,191.7	\$ (114.8)	(9.6) %
Member contributions	492.3	479.2	13.1	2.7
Net investment income	4,469.1	2,414.5	2,054.6	85.1
Other	0.5	—	0.5	—
Total additions	6,038.8	4,085.4	1,953.4	47.8
DEDUCTIONS				
Retirement benefits	1,645.3	1,544.0	101.3	6.6
Member account refunds	62.3	56.0	6.3	11.3
Administrative expenses	20.7	15.6	5.1	32.7
Income allocated to SDBF	0.4	0.7	(0.3)	(42.9)
Total deductions	1,728.7	1,616.3	112.4	7.0
CHANGE IN FIDUCIARY NET POSITION	4,310.1	2,469.1	1,841.0	74.6
FIDUCIARY NET POSITION				
Beginning of year	34,282.9	31,813.8	2,469.1	7.8
END OF YEAR	\$ 38,593.0	\$ 34,282.9	\$ 4,310.1	12.6 %

The change in city contributions is due to lump sum contributions received from cities (\$214.4 million in 2020 compared with \$62.3 million in 2021).

Net investment income includes interest, dividends and net appreciation in the fair value of investments, less investment expenses. The increase in net investment income from 2020 to 2021 is due to the net appreciation experienced over the periods. The time-weighted net investment returns were 12.86% in 2021 and 7.65% in 2020.

The increase in retirement benefits is due to an increase in the number of retirement beneficiaries (from 64,121 in 2020 to 68,092 in 2021), and cost of living adjustments (COLA) that were applied in each year.

Management's Discussion and Analysis

CONTINUED

Net Position – Supplemental Death Benefits Fund

Tables F-3 and F-4 display a summary of fiduciary net position as of December 31, 2021 and 2020 for the SDBF and a summary of changes in fiduciary net position for the years then ended. The fiduciary net position of the SDBF decreased over the two-year period by 54.0% due to supplemental death benefit payments exceeding contributions.

Table F-3

Summary of Fiduciary Net Position – SDBF (dollars in millions)				
As of December 31				
	2021	2020	Increase (Decrease)	% Change
TOTAL ASSETS AND FIDUCIARY NET POSITION	\$ 5.8	\$ 12.6	\$ (6.8)	(54.0) %

Table F-4

Summary of Changes in Fiduciary Net Position – SDBF (dollars in millions)				
For the Year Ended December 31				
	2021	2020	Increase (Decrease)	% Change
ADDITIONS				
City contributions	\$ 10.6	\$ 8.9	\$ 1.7	19.1 %
Income allocated from Interest Reserve	0.4	0.7	(0.3)	(42.9)
Total additions	11.0	9.6	1.4	14.6
DEDUCTIONS				
Supplemental death benefits	17.8	11.1	6.7	60.4
Total deductions	17.8	11.1	6.7	60.4
CHANGE IN FIDUCIARY NET POSITION	(6.8)	(1.5)	(5.3)	(353.3)
FIDUCIARY NET POSITION				
Beginning of year	12.6	14.1	(1.5)	(10.6)
END OF YEAR	\$ 5.8	\$ 12.6	\$ (6.8)	(54.0) %

Contributions from cities participating in the SDBF are based on the payroll of covered members at actuarially determined rates. TMRS' Board of Trustees approved new actuarial assumptions effective with the December 31, 2019 actuarial valuation, increasing the retiree death benefit used in the SDBF rate calculation from \$2,500 to \$7,500. Contribution rates from the 2019 valuation were effective January 1, 2021. The fluctuation in supplemental death benefits over the two-year period is a result of the number and type of claims in those years (active or retired). The SDBF receives a 5% statutory interest allocation from the Interest Reserve Account based on the Fund's average balance during the year.

Requests for Information

MD&A is designed to provide a general overview of TMRS' finances. Questions and requests for additional information should be emailed to finance@tmrs.com.

Basic Financial Statements

Table F-5

Statement of Fiduciary Net Position			
As of December 31, 2021			
	Pension Trust Fund	Supplemental Death Benefits Fund	Total
ASSETS			
Cash	\$ 9,959,259	\$ —	\$ 9,959,259
Receivables			
Contributions	140,779,141	1,189,678	141,968,819
Interest and dividends	22,314,890	—	22,314,890
Unsettled investment trades	360,869,082	—	360,869,082
Total receivables	523,963,113	1,189,678	525,152,791
Investments, at fair value			
Short term investments	727,050,696	—	727,050,696
Fixed income securities	3,336,959,069	—	3,336,959,069
Public equities	16,363,719,812	—	16,363,719,812
Non-core fixed income funds	5,908,218,775	—	5,908,218,775
Other public & private markets funds	1,785,527,467	—	1,785,527,467
Hedge funds	3,150,685,294	—	3,150,685,294
Private equity funds	3,140,031,298	—	3,140,031,298
Private real estate funds	4,378,033,443	—	4,378,033,443
Total investments	38,790,225,854	—	38,790,225,854
Capital assets, net	9,585,115	—	9,585,115
Other Assets	5,748,571	—	5,748,571
Funds held by Interest Reserve Account	—	4,625,805	4,625,805
TOTAL ASSETS	39,339,481,912	5,815,483	39,345,297,395
LIABILITIES			
Accounts payable and other accrued liabilities	21,851,012	—	21,851,012
Unsettled investment trades payable	719,990,711	—	719,990,711
Funds held for Supplemental Death Benefits Fund	4,625,805	—	4,625,805
TOTAL LIABILITIES	746,467,528	—	746,467,528
FIDUCIARY NET POSITION			
Net position restricted for pensions	38,593,014,384	—	38,593,014,384
Fiduciary net position held in trust for other benefits	—	5,815,483	5,815,483
TOTAL FIDUCIARY NET POSITION	\$ 38,593,014,384	\$ 5,815,483	\$ 38,598,829,867

The accompanying notes are an integral part of these financial statements.

Basic Financial Statements

CONTINUED

Table F-6

Statement of Changes in Fiduciary Net Position			
For the Year Ended December 31, 2021			
	Pension Trust Fund	Supplemental Death Benefits Fund	Total
ADDITIONS			
Contributions			
City	\$ 1,076,907,798	\$ 10,655,161	\$ 1,087,562,959
Member	492,319,722	—	492,319,722
Total contributions	1,569,227,520	10,655,161	1,579,882,681
Net investment income			
Net appreciation in fair value of investments	4,012,087,723	—	4,012,087,723
Interest and dividends	499,024,961	—	499,024,961
Total investment income	4,511,112,684	—	4,511,112,684
Less investment expense	(42,010,847)	—	(42,010,847)
Net investment income	4,469,101,837	—	4,469,101,837
Other miscellaneous	560,172	—	560,172
Income allocated from Interest Reserve Account	—	418,537	418,537
TOTAL ADDITIONS	6,038,889,529	11,073,698	6,049,963,227
DEDUCTIONS			
Retirement benefits	1,645,334,415	—	1,645,334,415
Supplemental death benefits	—	17,849,592	17,849,592
Member account refunds	62,336,087	—	62,336,087
Administrative expenses	20,679,140	—	20,679,140
Income allocated to Supplemental Death Benefits Fund	418,537	—	418,537
TOTAL DEDUCTIONS	1,728,768,179	17,849,592	1,746,617,771
CHANGE IN FIDUCIARY NET POSITION	4,310,121,350	(6,775,894)	4,303,345,456
FIDUCIARY NET POSITION			
Fiduciary net position restricted for pensions			
Beginning of year	34,282,893,034	—	34,282,893,034
End of year	38,593,014,384	—	38,593,014,384
Fiduciary net position held in trust for other benefits			
Beginning of year	—	12,591,377	12,591,377
End of year	—	5,815,483	5,815,483
TOTAL FIDUCIARY NET POSITION	\$ 38,593,014,384	\$ 5,815,483	\$ 38,598,829,867

The accompanying notes are an integral part of these financial statements.

Notes to Financial Statements

1. Summary of Significant Accounting Policies

A. Reporting Entity

The Texas Municipal Retirement System (TMRS) is a statewide public retirement plan created by the State of Texas and administered in accordance with Texas Government Code, Title 8, Subtitle G (TMRS Act) for the benefit of the employees of Texas participating cities. The TMRS Act places the administration and management of TMRS with a six-member Board of Trustees (Board) appointed by the Governor with the advice and consent of the Texas Senate. TMRS does not receive any funding from the State of Texas.

The accompanying financial statements include only the operations of TMRS. TMRS is not a component unit of any other entity and has no component units. TMRS manages three fiduciary trust funds: the Pension Trust Fund, the Full Benefit Arrangement Fund (FBAF) and the Supplemental Death Benefits Fund (SDBF). The FBAF is legally separate from the Pension Trust Fund, but is combined with the Pension Trust Fund for presentation purposes on the Statement of Fiduciary Net Position and the Statement of Changes in Fiduciary Net Position.

B. Basis of Accounting

TMRS' financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP), as prescribed by the Governmental Accounting Standards Board (GASB). The Pension Trust Fund and the SDBF are maintained on the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when incurred, regardless of when payments are made. City and active member contributions are recorded when due, which is in the period the city reports compensation for its member employees. Benefits are recorded when payable, in accordance with TMRS' plan terms. Member account refunds are recorded and paid upon receipt of an approved refund application.

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions. These estimates and assumptions affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

TMRS invests city and active member contributions in a diversified investment portfolio. Investments are exposed to various risks, such as interest rate risk, credit risk and market volatility risk. Due to the risks associated with certain investments, changes in the fair value of investments will occur in the future and any such changes could materially affect the amounts reported in the Statement of Fiduciary Net Position and the Statement of Changes in Fiduciary Net Position.

Notes to Financial Statements

CONTINUED

C. Basis of Presentation

TMRS maintains separate funds that are segregated for the purpose of carrying out specific activities or complying with applicable statutory guidelines or restrictions.

The following is a brief description of each fund.

Fiduciary Fund — Pension Trust Fund

The Pension Trust Fund records the resources held in trust for the benefit of TMRS' active members, vested terminated members, retirees and beneficiaries (Members). The TMRS Act does not create legally required reserves, but establishes the following accounts:

Benefit Accumulation Fund (BAF). The activity affecting each participating city's reserve fund is recorded in the BAF. The BAF is increased by contributions from participating cities and active members and decreased by benefit payments and refunds. Effective each December 31, the Board approves an interest credit or debit to the BAF, allocated to each city in proportion to its BAF balance at January 1 of that year. The BAF received an approximate 12.26% interest credit effective December 31, 2021.

Supplemental Disability Benefits Fund. Effective January 1, 1988, the TMRS Act was amended to terminate the Supplemental Disability Benefits Fund and closed participation to new members. There have been no contributions to this fund since 1987, but supplemental disability benefit payments continue to be paid. The TMRS Act requires that a 5% interest credit be allocated to the Supplemental Disability Benefits Fund effective each December 31 based on the average balance in the fund during the year.

Endowment Fund. The Endowment Fund accumulates unallocated investment income in the Interest Reserve Account and escheated member balances in the Perpetual Endowment Account.

Expense Fund. The Expense Fund records the expenses incurred for TMRS' administration. The Board authorizes transfers from the Endowment Fund's Interest Reserve Account to the Expense Fund for the amount estimated to cover annual administrative expenses.

Fiduciary Fund — Full Benefit Arrangement Fund (FBAF)

Any portion of a retiree's annual retirement benefit that exceeds the limit set by Section 415(b) of the Internal Revenue Code (IRC) cannot be paid from the Pension Trust Fund. In accordance with the TMRS Act and IRC Section 415(m), cities pay these excess amounts through a separate fund. The FBAF receives contributions from cities and pays benefits from such contributions for any benefits exceeding the Section 415(b) limit.

Fiduciary Fund — Supplemental Death Benefits Fund (SDBF)

The SDBF records the resources available to pay supplemental death benefit claims for covered members and retirees. Cities may elect, by ordinance, to provide a supplemental death benefit (SDB) for their active members and may also cover retirees. The TMRS Act requires that a 5% interest credit be allocated to the SDBF effective each December 31 based on the average balance in the SDBF during the year. SDB payments are payable only from the SDBF and are not an obligation of, or a claim against, other TMRS funds.

Notes to Financial Statements

CONTINUED

D. Investments

As of December 31, 2021, TMRS' investments include short term, domestic and international fixed income securities, domestic and international public equities, non-core fixed income funds, other public and private markets (OPPM) funds, hedge funds, private equity funds and private real estate funds. Investment transactions are reported on a trade-date basis, with resulting gains/losses from sales determined by the average cost method. Short term investments are reported at cost, which approximates fair value. Fixed income securities are valued by pricing vendors using quoted market prices, broker prices or other valuation methodologies. Public equity securities are valued by TMRS' custodian bank using the last trade date "quoted market price" supplied by various pricing data vendors. Fair values of commingled public equity funds are determined based on the funds' net asset values at the date of valuation. Fair values of non-core fixed income funds, OPPM funds, hedge funds, private equity funds and private real estate funds (alternative investments) are reported at the net asset values as provided by the fund's investment manager, which are based on audited financial statements of the respective funds. Withdrawal from alternative investments prior to a fund's liquidation may be allowed, subject to constraints as set forth in the private fund's documents.

Forward currency contracts and futures contracts are considered derivative financial instruments and are reported at fair value, with valuation changes reported as investment income. The accumulated gain/loss of these derivative contracts is included in unsettled investment trades receivable or payable in the accompanying Statement of Fiduciary Net Position.

Investment expenses presented on the Statement of Changes in Fiduciary Net Position include the internal direct costs of investment administration and the fees invoiced and paid directly to external investment managers. Expenses of alternative investments are not reported separately but are included in the net appreciation/(depreciation) in fair value of investments.

E. Capital Assets

Capital assets, which include land, building and improvements, leasehold improvements, furniture, software and equipment, are reported at cost less accumulated depreciation/amortization. TMRS capitalizes items that individually exceed \$10,000. Depreciation of furniture, equipment and software is calculated on a straight-line basis over estimated useful lives, which range from three to ten years; depreciation of building and improvements is calculated on a straight-line basis over forty years. Amortization of leasehold improvements is calculated on a straight-line basis over the lease term. Land is not depreciated.

2. Plan Description

A. Pension Trust Fund

TMRS administers a defined benefit cash-balance plan for the eligible employees of 901 participating cities. Under GASB, TMRS is an agent multiple-employer public employee retirement system.

Membership. A participating city employee, in a position the city determines normally requires at least 1,000 hours of work in a year, must be a TMRS member. A member terminates participation in TMRS upon their account refund, death or, if not vested, absence from service with a participating city for more than 60 consecutive months. Member account information in Table F-7 includes multiple accounts for Members that have service with more than one TMRS participating city.

Notes to Financial Statements

CONTINUED

Table F-7

TMRS Member Accounts	
As of December 31, 2021	
Active member accounts:	
Vested	68,912
Non-vested	47,141
TOTAL	116,053
Inactive member accounts entitled to but not yet receiving benefits:	
Vested	36,566
Non-vested	37,520
TOTAL	74,086
Retirees and beneficiaries currently receiving benefits	76,675
TOTAL MEMBER ACCOUNTS	266,814

Service Credit. An active member receives service credit for each month they work in an eligible position at any participating city and their required member contribution is paid. Service credit can include other types of credit as defined in the TMRS Act (e.g., military service credit and repurchased previously refunded TMRS service credit.)

Vesting and Retirement Eligibility. An active member vests after either five or 10 years of service, depending on their city’s plan provisions. Members may work for more than one participating city during their career. If a member becomes vested in one participating city, they are vested upon employment with any other participating city.

Depending on a city’s plan provisions, a member is eligible to retire at age 60 with either five or 10 years of service, or at any age with 20 or 25 years of service.

If a vested member leaves city employment before reaching retirement eligibility, they may leave their contributions with TMRS, receive interest credits on their contributions, and upon reaching that city’s retirement eligibility, apply for and receive a lifetime monthly retirement benefit.

Contributions.

Active Members. Active member contribution rates are adopted by a participating city and may be either 5%, 6% or 7% of the member’s total compensation. A city withholds the member’s contribution from wages on a pre-tax basis and sends it to TMRS monthly.

Cities. A participating city’s contribution rate is determined annually by TMRS using the Entry Age Normal actuarial cost method based on the liabilities created from the city’s benefit options and any changes in benefits or actual experience over time. The city’s contribution rate consists of the normal cost contribution rate and the prior service contribution rate, which is calculated as a level percent of the city’s reported payroll. The normal cost contribution rate is the percentage of total gross payroll that, if applied to all employees’ compensation throughout their period of anticipated employment with the city, would be sufficient to pay the expected benefits. The prior service contribution rate amortizes any unfunded actuarial accrued liability over the amortization period for that city. Both the normal cost and prior service contribution rates include the projected costs of annually repeating benefits adopted by a city, such as updated service credit and cost of living adjustments.

Notes to Financial Statements

CONTINUED

City contributions are required to be deposited with TMRS monthly. There is a one-year delay between the actuarial valuation that serves as the basis for a city's contribution rate and the calendar year when the rate goes into effect. Cities may make contributions to TMRS in excess of their actuarially determined contributions as additional monthly contributions or lump sum contributions.

Retirement Benefit Calculation. A member's retirement benefit is calculated based on the sum of the member's contributions with interest, the city-financed monetary credits with interest, and their age at retirement and other actuarial factors. City-financed monetary credits, which do not affect the amount a member will receive if they refund their account, are composed of three sources:

- Prior Service Credit is a monetary credit that a city may grant to eligible employees when the city joins TMRS. The credit is used in calculating the employee's retirement benefit and is based on compensation they earned while working for the city before the city joined TMRS.
- Current Service Credit is a monetary credit for service performed by a member after a city joins TMRS and is based on a city's matching ratio (1:1, 1.5:1 or 2:1) of the member's total contributions and interest. A change in a city's matching ratio is applied prospectively.
- Updated Service Credit (USC) is a monetary credit a city may grant to active members. The USC calculation is performed annually on a member's account and may grant supplemental financial credits. The USC calculation considers a member's salary history and the city's plan changes and may increase the value of a member's benefit at retirement.

Retirement Benefits.

Benefit Payment Options. When a member applies for retirement, they have three options to determine how their lifetime monthly benefit will be paid.

- Retiree Life Only provides the largest monthly retirement benefit. A retiree will receive a lifetime monthly retirement benefit with no survivor benefits. At their death, all TMRS payments will cease.
- Retiree Life and Survivor provides a reduced lifetime monthly retirement benefit, but it provides a lifetime monthly benefit after the retiree's death to their beneficiary. At the retiree's death, the beneficiary will receive a percentage (50%, 75% or 100%) of the retiree's monthly benefit each month for the rest of the beneficiary's life.
- Retiree Life and Guaranteed Term provides a reduced lifetime monthly retirement benefit, but it provides a monthly benefit to their beneficiary(ies) if the retiree dies before the guaranteed payment term ends. At retirement, the retiree will select a guaranteed payment term of 5, 10 or 15 years that begins at their retirement date. Then, if the retiree dies before their selected term ends, the beneficiary(ies) will receive their benefit for the remainder of that term.

Partial Lump Sum Distribution (PLSD). After a member selects one of the three benefit payment options, they can choose to receive a PLSD equal to 12, 24 or 36 times the Retiree Life Only monthly benefit. The PLSD cannot exceed 75% of the total member contributions and interest. If a member chooses a PLSD, it will reduce the amount of their monthly retirement benefit.

Cost of Living Adjustment (COLA). A participating city can increase the retiree's monthly benefit payment annually, effective January 1. Cities may adopt a COLA at a rate equal to either 30%, 50% or 70% of any increase in the Consumer Price Index — All Urban Consumers between the December preceding the retiree's retirement date and the December one year before the effective date of the increase, minus any previously granted COLA increases.

Notes to Financial Statements

CONTINUED

Member Account Refunds. If a member terminates employment with all participating cities, they can request a refund of their total contributions, plus credited interest. A refund does not include any of the city-financed monetary credits.

Investment Policy. The Board approves an Investment Policy Statement (IPS) that governs the investment and management of Pension Trust Fund assets. The IPS describes investment objectives, benchmarks, restrictions and responsibilities for the Board, TMRS staff, investment managers, consultants and TMRS stakeholders.

The IPS contains the Board's strategic target allocation that reflects the IPS' investment return objective. The strategic target allocation is designed to meet or exceed the Board's objectives at a controlled level of risk and liquidity.

In 2021, the Board amended the IPS to decrease the strategic target allocation to hedge funds and increase the allocation to global public equity.

Table F-8

Strategic Target Allocation			
As of December 31, 2021			
Asset Class	Minimum %	Target %	Maximum %
Core fixed income	1%	6%	11%
Non-core fixed income	15%	20%	25%
Global public equity	25%	35%	45%
Real estate	7%	12%	17%
Other public & private markets	7%	12%	17%
Hedge funds	0%	5%	10%
Private equity	5%	10%	15%
Cash equivalents	0%	0%	3%

As of December 31, 2021, the annual money-weighted rate of return on Pension Trust Fund assets, net of investment expenses, was 12.92%. The money-weighted rate of return reflects investment performance, net of investment expense, adjusted for assets invested.

B. Supplemental Death Benefits Fund

TMRS administers the Supplemental Death Benefits Fund (SDBF), which is an optional death benefit plan that operates like a group-term life insurance plan. The SDBF allows participating cities to provide supplemental death benefits for their active members, with optional coverage for their retirees. A city may terminate coverage in the SDBF by adopting an ordinance before November 1 of any year to be effective the following January 1. The SDBF had 783 participating cities as of December 31, 2021.

Notes to Financial Statements

CONTINUED

Table F-9

Supplemental Death Benefits Fund Member Accounts	
As of December 31, 2021	
Active member accounts	79,205
Inactive vested member accounts	11,284
Retirees eligible for benefits	35,323
Total	125,812

Contributions. Participating cities contribute to the SDBF monthly based on the payroll of their covered members at an actuarially determined rate. There is a one-year delay between the actuarial valuation that serves as the basis for the city's contribution rate and the calendar year when the rate goes into effect.

TMRS pools the SDBF contributions with those of the Pension Trust Fund for investment purposes. The SDBF's funding policy assures that adequate resources are available to meet all death benefit payments for the upcoming year. The SDBF is a pay-as-you-go fund, and any excess contributions are available for future SDBF benefits.

Benefits. SDBF benefits are paid to designated beneficiaries upon TMRS' receipt of an approved benefit application. The death benefit for active members is a lump sum payment approximately equal to the member's annual salary. The death benefit for retirees is \$7,500 and is an "other post-employment benefit." SDBF benefits are paid from the SDBF and are not an obligation of the Pension Trust Fund.

3. TMRS as Employer

A. Pension Plan

TMRS participates in the TMRS pension plan and provides pension benefits to all of its eligible employees. Eligible employees may retire at age 60 with five years of service or at any age with 20 years of service. The contribution rate for TMRS employees is 7% and TMRS' matching ratio is 2:1. TMRS has a repeating 100% USC and a repeating COLA at 70% of the change in the CPI-U. Employees are vested after five years of service. See Note 2-A.

TMRS' net pension liability (NPL) and pension expense were measured as of the December 31, 2020 actuarial valuation, TMRS' measurement date for GASB Statement No. 68. The NPL of \$5,852,956 is included in "accounts payable and other accrued liabilities" in the accompanying Statement of Fiduciary Net Position. TMRS' pension expense of \$1,684,665 for the fiscal year 2021 is included in "administrative expenses" in the accompanying Statement of Changes in Fiduciary Net Position.

Notes to Financial Statements

CONTINUED

Table F-10

TMRS as Employer — Actuarial Valuation	
As of Measurement Date	
Member Accounts	
Active member accounts	120
Inactive member accounts	35
Retiree accounts	41
Total	196
Net Pension Liability	
Total pension liability	\$ 57,863,517
Fiduciary net position	52,010,561
Net pension liability	\$ 5,852,956
Plan Fiduciary Net Position as a % of Total Pension Liability	89.88 %
Sensitivity of the NPL to changes in discount rate	
1% increase to 7.75%	\$ (699,371)
Current rate assumption of 6.75%	\$ 5,852,956
1% decrease to 5.75%	\$ 13,745,582

B. Supplemental Death Benefits

As an employer, TMRS provides a supplemental death benefit to beneficiaries of its employees and retirees. TMRS contributes to the Supplemental Death Benefits Fund (SDBF) at an actuarially determined contribution rate. For 2021, the rate was 0.17% as a percentage of payroll of covered members, of which 0.05% represented the retiree-only (other post-employment benefit) portion. TMRS' employer contributions to the SDBF for the years ended December 31, 2021, 2020 and 2019 were \$24,025, \$25,665 and \$21,140, respectively, representing contributions for both employee and retiree coverage.

See Note 2-B.

C. TMRS Insurance Benefits

TMRS' employees and retirees are eligible for insurance through the Texas Employees Group Benefits Program (GBP), administered by the Employees Retirement System of Texas (ERS). The GBP is administered through a trust, governed and managed by ERS' Board of Trustees. TMRS provides its employees with health, life, disability and dental insurance benefits, and subsidizes the cost of health coverage for its retirees. TMRS' contributions to the GBP for active employees for the years ended December 31, 2021, 2020 and 2019 were \$1,171,811, \$1,256,990 and \$1,236,717, respectively, and \$76,233, \$50,614 and \$48,674, respectively, for retirees.

TMRS' retirees participate in the GBP's State Retiree Health Plan (SRHP), which is a cost-sharing multiple-employer defined benefit post-employment healthcare plan that covers retired employees of the State and other entities as specified by the state legislature, including TMRS. The SRHP's assets are legally protected from State of Texas and ERS creditors. As a cost-sharing plan, all assets and risks are pooled in the SRHP and the contribution rates are the same for each participating employer. Contribution requirements are established and may be amended by the Texas Legislature. ERS issues an Annual Comprehensive Financial Report that includes financial statements and required supplementary information for the GBP, available at ers.texas.gov.

Notes to Financial Statements

CONTINUED

D. Deferred Compensation

TMRS employees may participate in a deferred compensation plan created in accordance with Internal Revenue Code Section 457. The plan permits the deferral of a portion of the participant's salary during their employment.

4. Cash

A. Cash in Bank

Cash is held in demand deposit accounts with a local banking institution under terms of a depository contract and with TMRS' custodian bank.

Demand deposit balances with TMRS' depository bank totaled \$10,085,077, with a book value of \$3,072,819 as of December 31, 2021. Cash on deposit with TMRS' custodian bank totaled \$6,886,440 as of December 31, 2021.

B. Custodial Credit Risk

TMRS' deposits are subject to custodial credit risk, which is the risk that, in the event of a bank failure, the deposits might not be recovered. TMRS does not have a formal deposit policy for custodial credit risk of its deposits. Demand deposits held by the depository bank as of December 31, 2021, to the extent not insured by the Federal Deposit Insurance Corporation (FDIC), were collateralized by securities held by a third-party independent custodian, in TMRS' name, under a joint custody agreement giving TMRS unconditional rights and claims to collateral. Securities pledged as collateral had a fair value of \$145,917,361 as of December 31, 2021. The current FDIC coverage limit is \$250,000 for deposits held in noninterest-bearing accounts. Deposits denominated in a foreign currency are neither collateralized nor insured as of December 31, 2021.

5. Investments

A. Fair Value of Investments

TMRS categorizes its fair value measurements within the hierarchy established by GAAP, which recognizes a three-tiered fair value hierarchy, as follows:

- Level 1: Investments with values based on quoted prices (unadjusted) for identical assets in active markets at the measurement date.
- Level 2: Investments with inputs, other than quoted prices included within Level 1, that are observable for an asset, either directly or indirectly.
- Level 3: Investments classified as Level 3 have unobservable inputs for an asset and may require a degree of professional judgment.

Notes to Financial Statements

CONTINUED

Table F-11

Fair Value of Investments As of December 31, 2021	Fair Value Measurements Using			
	Total Fair Value	Level 1	Level 2	Level 3
Fixed income				
U.S. Treasury bonds/notes	\$ 519,635,229	\$ —	\$ 519,635,229	\$ —
U.S. government agency	131,503,223	—	131,503,223	—
U.S. government-sponsored enterprise	414,699,959	—	414,699,959	—
Municipal bonds	11,542,014	—	11,542,014	—
Corporate bonds	1,044,891,218	—	1,044,891,218	—
Collateralized mortgage obligations	818,030,257	—	818,030,257	—
Other asset-backed securities	364,554,743	—	364,554,743	—
Foreign government bonds	32,102,426	—	32,102,426	—
	3,336,959,069	—	3,336,959,069	—
Public equities				
Equity securities, domestic	1,259,917,078	1,259,917,078	—	—
Equity securities, international	1,271,934,443	1,271,934,443	—	—
Global equity REITs	53,921,725	53,921,725	—	—
	2,585,773,246	2,585,773,246	—	—
Total investments by fair value level	\$ 5,922,732,315	\$ 2,585,773,246	\$ 3,336,959,069	\$ —
Investments measured at Net Asset Value (NAV)				
Non-core fixed income funds	\$ 5,908,218,775			
Other public & private markets funds	1,785,527,467			
Equity commingled funds	13,777,946,566			
Hedge funds	3,150,685,294			
Private equity funds	3,140,031,298			
Private real estate funds	4,378,033,443			
Total investments measured at NAV	32,140,442,843			
Short term investments at cost	727,050,696			
Total investments	\$ 38,790,225,854			

Equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those investments. Fixed income securities classified in Level 2 of the fair value hierarchy are valued using matrix pricing. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. TMRS did not hold any Level 3 investments as of December 31, 2021.

Investments measured at NAV per share (or its equivalent) generally do not have readily obtainable fair values. TMRS values these investments based on the financial statements of the investment funds. Table F-12 presents the unfunded commitments, redemption frequency (if currently eligible), and the redemption notice period for TMRS' investments measured at NAV.

Notes to Financial Statements

CONTINUED

Table F-12

Investments Measured at Net Asset Value (NAV)				
As of December 31, 2021				
	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Equity commingled funds				
Domestic commingled funds	\$ 7,341,836,574	\$ —	Daily	1 – 2 days
International commingled funds	6,436,109,992	—	Daily	1 – 2 days
Non-core fixed income funds				
Emerging market debt	1,013,866,744	—	Weekly	10 days
High yield	379,703,730	—	Daily	10 days
Loans	2,637,838,679	694,117,845	Quarterly	Varies: 45 – 60 days
Opportunistic credit	1,636,334,761	908,227,324	Varies: Monthly, Quarterly, Yearly, N/A	Varies: 60 – 90 days, N/A
Structured credit	240,474,861	—	Quarterly	Varies: 45 – 60 days
Other public & private markets funds				
Agriculture	127,417,573	18,898,871	N/A	N/A
Energy	230,855,117	351,945,586	N/A	N/A
Esoterics	131,574,942	346,999,109	N/A	N/A
Infrastructure	998,950,020	1,248,309,300	Varies: Daily, N/A	Varies: 90 days, N/A
Mining	296,729,815	289,398,314	N/A	N/A
Hedge funds				
Credit	620,089,369	18,708,999	Varies: Quarterly, Yearly, N/A	Varies: 90 – 180 days
Equity	693,842,060	47,655,509	Varies: Monthly, Quarterly, N/A	Varies: 45 – 80 days
Event-driven	979,828	—	Quarterly	90 days
Fund of funds	4,636,797	—	Quarterly	95 days
Global macro	537,214,605	—	Quarterly	Varies: 30 – 90 days
Multi-strategy opportunistic	547,164,237	94,230,709	Varies: Quarterly, Rolling 3-year	Varies: 60 days, N/A
Relative value	746,758,398	—	Varies: Monthly, Quarterly, 2.5 years	Varies: 25 – 180 days
Private equity funds				
Buy-out	1,487,165,598	1,500,231,726	N/A	N/A
Special situations	337,655,019	988,940,702	N/A	N/A
Venture/growth	1,315,210,681	666,078,646	N/A	N/A
Private real estate funds				
Core	2,578,341,011	200,361,856	Varies: Quarterly, N/A	Varies: 45 – 90 days, N/A
Opportunistic	557,459,060	272,501,191	N/A	N/A
Value-added	1,242,233,372	1,072,253,673	N/A	N/A
Total	\$ 32,140,442,843	\$ 8,718,859,360		

Notes to Financial Statements

CONTINUED

- **Equity commingled funds.** Equity commingled funds offer daily liquidity and provide return and risk characteristics that approximate the overall domestic and international securities included in an underlying index.
- **Non-core fixed income funds.** Non-core fixed income seeks high income and price appreciation. Liquidity, volatility, expected return and investment horizon vary with each strategy.
- **Other public and private markets funds (OPPM).** OPPM funds invest primarily in global hard assets such as agriculture, energy, esoterics, infrastructure, minerals and timber. TMRS invests in closed-end funds with average term lengths of 6 – 14 years, during which the funds will purchase and dispose of assets. Distributions from each fund will be received as the underlying assets are liquidated.
- **Hedge funds.** Hedge funds offer both favorable stand-alone risk-adjusted returns and diversification for the overall plan. Strategies TMRS may utilize include: credit, commodities, currencies, equity, event-driven, global macro, multi-strategy and relative value. Leverage may be used by some managers. Hedge funds are typically subject to gating provisions, which may limit withdrawals.
- **Private equity funds.** Private equity funds primarily invest in non-publicly traded equity and debt securities in the U.S. and internationally. These investments are typically closed-end funds with average term lengths of 10 – 14 years, during which the funds will purchase and dispose of assets. Distributions from each fund will be received as the underlying assets are liquidated.
- **Private real estate funds.** Private real estate funds invest in global commercial real estate, equity or debt collateralized by commercial real estate. TMRS invests in these closed-end funds with average term lengths of 8 – 12 years, during which the funds will purchase and dispose of assets. Distributions from each fund will be received as quarterly income or as the underlying assets are liquidated.

B. Investment Risk

TMRS' investments are subject to various risks, including custodial credit risk, credit default risk, concentration of credit risk, interest rate risk and foreign currency risk.

Custodial Credit Risk

Custodial credit risk is the risk that, in the event of failure of the counterparty, TMRS will not be able to recover the value of its investments or collateral securities that are in the possession of the counterparty. TMRS' assets may be held in the name of agents, nominees, depository trust companies or other entities designated by the Board. As of December 31, 2021, all investment securities were registered in TMRS' name or in the name of its custodian, and are held by the custodian.

Credit Default Risk

Credit default risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. TMRS' Investment Policy Statement (IPS) sets minimum credit ratings for the core fixed income portfolio to manage credit default risk. As of December 31, 2021, TMRS' core fixed income portfolio complied with the IPS guidelines on credit default risk. Investment guidelines established with the individual investment managers address the management of credit default risk for the non-core fixed income portfolio.

Notes to Financial Statements

CONTINUED

Table F-13

Fixed Income Securities with Exposure to Credit Default Risk								
As of December 31, 2021								
Bond Rating	Total Fair Value	U.S. Government- Sponsored Enterprise	Municipal Bonds	Corporate Bonds	Collateralized Mortgage Obligations	Other Asset-Backed Securities	Foreign Government Bonds	
Securities subject to credit default risk								
AAA	\$ 94,517,704	\$ —	\$ —	\$ 522,000	\$ 88,631,955	\$ 5,363,749	\$ —	
AA	67,391,174	—	3,990,889	12,796,059	36,196,327	13,654,997	752,902	
A	305,818,515	—	3,282,840	268,784,239	13,804,589	15,418,263	4,528,584	
BBB	483,263,669	—	4,268,285	379,053,733	44,569,149	28,551,563	26,820,939	
BB	201,785,939	—	—	167,960,953	33,712,675	112,311	—	
B	203,678,773	—	—	155,435,075	42,845,352	5,398,346	—	
CCC	158,148,637	—	—	59,808,425	75,659,952	22,680,260	—	
CC	56,336,257	—	—	130,515	32,757,114	23,448,628	—	
C	42,786,274	—	—	—	8,855,901	33,930,373	—	
D	11,747,057	—	—	—	3,655,428	8,091,629	—	
Not Rated	1,060,346,617	414,699,959	—	400,219	437,341,815	207,904,624	—	
Total	\$ 2,685,820,616	\$ 414,699,959	\$ 11,542,014	\$ 1,044,891,218	\$ 818,030,257	\$ 364,554,743	\$ 32,102,425	
Securities not subject to credit default risk								
U.S. Treasury bonds/notes	\$ 519,635,230							
U.S. government agency	131,503,223							
Total	\$ 3,336,959,069							

Table F-13 excludes non-core fixed income funds, which are exposed to credit default risk but credit ratings for these investments are not available.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of TMRS' investment in a single issuer.

The IPS sets forth the following investment guidelines to address the management of concentration of credit risk for the core fixed income asset class portfolio.

- Investments in a single government related issuer (excluding U.S. Treasuries and U.S. government agencies) will not exceed 5% of the total market value of the core fixed income portfolio and manager mandates.
- Investments in a single corporate issuer will not exceed 2% of the total market value of the core fixed income portfolio and manager mandates.
- For asset-backed, non-agency mortgage-backed and commercial mortgage-backed securities, each separate trust (pool of assets) is defined as a separate issuer and will not exceed 2% of the total market value of the core fixed income portfolio and manager mandates.

Notes to Financial Statements

CONTINUED

Concentration risk for the other asset class portfolios is managed through diversification of investment managers, investment vehicles, sectors and geographic/economic locations.

As of December 31, 2021, TMRS did not exceed any of the issuer diversification limits in the IPS.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment.

Core Fixed Income. The IPS states that interest rate risk of the core fixed income portfolio will be controlled through duration management. Duration is a measure of the sensitivity of the price (the value of principal) of a fixed income investment to a change in interest rates, and is expressed as a number of years. The IPS requires duration of the core fixed income portfolio remain within +/- 25% of the Bloomberg Barclay's U.S. Aggregate Bond Index, which was 6.7 years as of December 31, 2021. As of December 31, 2021, TMRS' core fixed income portfolio was in compliance with the IPS on interest rate risk.

Non-Core Fixed Income. Investment guidelines established with the individual investment managers address the management of interest rate risk for the non-core fixed income portfolio.

Table F-14

Fixed Income Securities with Exposure to Interest Rate Risk		
As of December 31, 2021		
	Fair Value	Effective Duration
Securities subject to interest rate risk		
U.S. Treasury bonds/notes	\$ 519,635,230	9.16
U.S. government agency	131,503,223	3.92
U.S. government-sponsored enterprise	414,699,959	4.72
Municipal bonds	11,542,014	13.86
Corporate bonds	1,044,891,218	5.92
Collateralized mortgage obligations	818,030,257	2.80
Other asset-backed securities	364,554,743	2.66
Foreign government bonds	32,102,425	11.42
Total	\$ 3,336,959,069	5.16

Table F-14 excludes non-core fixed income funds, which are exposed to interest rate risk but duration information for these investments is not available.

Foreign Currency Risk

Foreign currency risk is the risk that changes in currency exchange rates will adversely affect the fair value of an investment or a deposit. Foreign currency risk is generally considered a diversification benefit of foreign investments. Table F-15 displays TMRS' direct exposure to foreign currency risk but does not include indirect exposure from the underlying assets of a commingled or private investment fund.

Notes to Financial Statements

CONTINUED

Table F-15

Foreign Currency Exposure (in U.S. dollars)									
As of December 31, 2021									
Currency	Cash Equivalents	Foreign Currency Contracts	Fixed Income Securities	Equities	Private Equity	OPPM	Private Real Estate Funds	Total	
Australian Dollar	\$ —	\$ —	\$ —	\$ 21,529,057	\$ —	\$ 54,794,934	\$ —	\$ 76,323,991	
Brazilian Real	845,967	—	—	46,907,305	—	—	—	47,753,272	
Canadian Dollar	65,109	—	—	69,468,221	—	—	—	69,533,330	
Chilean Peso	29,142	—	—	1,803,174	—	—	—	1,832,316	
Czech Koruna	7,030	—	—	—	—	—	—	7,030	
Colombian Peso	1,079	—	477,763	76,451	—	—	—	555,293	
Danish Krone	—	—	—	10,552,924	—	—	—	10,552,924	
Egyptian Pound	2,271	—	—	33,595	—	—	—	35,866	
Euro Currency	212	—	—	134,671,875	24,107,813	—	68,920,191	227,700,091	
Hong Kong Dollar	40,264	(38)	—	129,934,586	—	—	—	129,974,812	
Hungarian Forint	—	—	—	4,790,491	—	—	—	4,790,491	
Indian Rupee	192,257	—	—	144,019,673	—	—	—	144,211,930	
Indonesian Rupiah	22,592	—	—	14,520,220	—	—	—	14,542,812	
Japanese Yen	2,409	—	—	146,860,771	—	—	—	146,863,180	
Malaysian Ringgit	15,840	—	—	262,375	—	—	—	278,215	
Mexican Peso	80,686	(83)	—	25,444,401	—	—	—	25,525,004	
New Israeli Shequel	—	—	—	2	—	—	—	2	
New Taiwan Dollar	131,269	—	—	132,259,093	—	—	—	132,390,362	
Norwegian Krone	—	—	—	6,608,837	—	—	—	6,608,837	
Philippine Peso	4,138	—	—	185,628	—	—	—	189,766	
Polish Zloty	232	—	—	12,226,219	—	—	—	12,226,451	
Pound Sterling	22	902	—	132,634,371	—	—	19,966,541	152,601,836	
Qatari Rial	—	—	—	1,569,767	—	—	—	1,569,767	
Saudi Riyal	49,769	—	—	18,460,501	—	—	—	18,510,270	
Singapore Dollar	475	—	—	—	—	—	—	475	
South African Rand	13,249	—	—	22,925,980	—	—	—	22,939,229	
South Korean Won	86,627	—	—	89,768,541	—	—	—	89,855,168	
Swedish Krona	—	—	—	6,057,898	—	—	—	6,057,898	
Swiss Franc	39	—	—	38,514,572	—	—	—	38,514,611	
Thailand Baht	5,527	—	—	12,143,563	—	—	—	12,149,090	
Turkish Lira	—	—	—	1,007,604	—	—	—	1,007,604	
UAE Dirham	3,227	—	—	1,309,004	—	—	—	1,312,231	
Yuan Renminbi	77,420	—	—	52,348,095	—	—	—	52,425,515	
Total	\$ 1,676,852	\$ 781	\$ 477,763	\$1,278,894,794	\$ 24,107,813	\$ 54,794,934	\$ 88,886,732	\$1,448,839,669	

Notes to Financial Statements

CONTINUED

C. Derivatives

Derivative instruments are financial contracts whose values depend on the values of one or more underlying assets, reference rates or financial indexes. They include forward currency contracts and futures contracts. TMRS' derivative instruments are considered investments and not hedges for accounting purposes. The notional values associated with derivative contracts are not recorded on the financial statements. The exposure to forward currency contracts and accumulated gain/loss on futures contracts are recorded as unsettled trades on the Statement of Fiduciary Net Position.

Foreign currency managers may engage in forward currency transactions to eliminate foreign currency risk in the settlement of trades.

Table F-16

Foreign Currency Contracts		
As of December 31, 2021		
Currency	Net Notional Long/(Short)	Exposure
Hong Kong Dollar	\$ (551,927)	\$ (38)
Mexican Peso	(79,676)	(83)
Pound Sterling	255,902	902
U.S. Dollar	376,482	—
Total	\$ 781	\$ 781

TMRS could be exposed to risk if the counterparties to the derivatives contracts are unable to meet the terms of the contracts. Currently, TMRS limits counterparty risk exposure on its forward currency contracts to its custodian bank.

TMRS may allow its investment managers to invest in U.S. Treasury note and U.S. Treasury bond futures contracts, cleared on a U.S. futures exchange, with a maximum contractual maturity of no greater than 360 days. U.S. Treasury futures contracts are used to gain nominal exposure in a portfolio and must be fully backed by cash equivalents equaling the notional contract value, unless otherwise permitted in the IPS.

Table F-17

Futures Contract				
As of December 31, 2021				
Futures Contract	Expiration Date	Notional Value	Notional Proceeds	Accumulated Gain/(Loss)
U.S. 10-Yr Treasury Note Futures	3/22/2022	\$ 35,487,500	\$ 35,466,925	\$ (20,575)
Total		\$ 35,487,500	\$ 35,466,925	\$ (20,575)

6. Commitments and Contingencies

As of December 31, 2021, TMRS had \$8.7 billion of unfunded commitments to private investment funds.

Required Supplementary Information

Table F-18

Money-Weighted Rate of Return — Pension Trust Fund
For the Years Ended December 31

Year	Rate of Return
2021	12.92%
2020	7.55%
2019	14.68%
2018	(2.38)%
2017	13.82%
2016	7.55%
2015	0.08%
2014	5.85%

See accompanying Independent Auditors' Report.

Table F-18 presents the money-weighted rate of return for TMRS' investments in accordance with GASB 67, which differs from the time-weighted performance reported elsewhere in this Report. This table is intended to show information for 10 years, and additional years will be displayed as they become available.

Supplemental Schedules

Table F-19

Combined Schedule of Changes in Fiduciary Net Position For the Year Ended December 31, 2021								
	Benefit Accumulation Fund	Supplemental Disability Benefits Fund	Endowment Fund	Expense Fund	Full Benefit Arrangement Fund	Total Pension Trust Fund	Supplemental Death Benefits Fund	Total
ADDITIONS								
City contributions	\$ 1,074,590,007	\$ —	\$ —	\$ —	\$ 2,317,791	\$ 1,076,907,798	\$ 10,655,161	\$ 1,087,562,959
Member contributions	492,319,722	—	—	—	—	492,319,722	—	492,319,722
Net investment income	—	—	4,480,455,839	(11,354,002)	—	4,469,101,837	—	4,469,101,837
Other	—	—	832,234	(272,062)	—	560,172	—	560,172
Total additions	1,566,909,729	—	4,481,288,073	(11,626,064)	2,317,791	6,038,889,529	10,655,161	6,049,544,690
DEDUCTIONS								
Retirement benefits	1,642,971,751	44,873	—	—	2,317,791	1,645,334,415	—	1,645,334,415
Supplemental death benefits	—	—	—	—	—	—	17,849,592	17,849,592
Member account refunds	62,336,087	—	—	—	—	62,336,087	—	62,336,087
Administrative expenses	—	—	—	20,679,140	—	20,679,140	—	20,679,140
Total deductions	1,705,307,838	44,873	—	20,679,140	2,317,791	1,728,349,642	17,849,592	1,746,199,234
FUND TRANSFERS								
Operating budget transfer	—	—	(34,500,000)	34,500,000	—	—	—	—
Allocation from Interest Reserve	4,149,658,871	14,443	(4,150,091,851)	—	—	(418,537)	418,537	—
Escheated funds	(2,964,966)	—	2,964,966	—	—	—	—	—
Net fund transfers	4,146,693,905	14,443	(4,181,626,885)	34,500,000	—	(418,537)	418,537	—
CHANGE IN FIDUCIARY NET POSITION	4,008,295,796	(30,430)	299,661,188	2,194,796	—	4,310,121,350	(6,775,894)	4,303,345,456
FIDUCIARY NET POSITION								
Beginning of year	33,858,014,915	311,327	411,879,517	12,687,275	—	34,282,893,034	12,591,377	34,295,484,411
End of year	\$ 37,866,310,711	\$ 280,897	\$ 711,540,705	\$ 14,882,071	\$ —	\$ 38,593,014,384	\$ 5,815,483	\$ 38,598,829,867

See accompanying Independent Auditors' Report.

The Full Benefit Arrangement Fund is separate from the Pension Trust Fund, but is combined for presentation purposes only.

Supplemental Schedules

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Table F-20

Schedule of Administrative and Investment Expenses		
For the Year Ended December 31, 2021		
	Administrative Expenses	Investment Expenses
Personnel services		
Staff salaries and benefits	\$ 12,390,730	\$ 4,832,682
Payroll taxes	703,245	243,753
Contract labor/temporary services	211,402	—
Total personnel services	13,305,377	5,076,435
Professional services		
Actuarial	588,300	—
Audit	177,150	—
Banking and custodial	54,220	2,331,000
Consulting	1,500,815	1,423,604
Legal	121,962	977,075
Other services	32,970	—
Total professional services	2,475,417	4,731,679
Information technology		
Cloud services	751,338	1,480,303
Hardware/software and support	934,588	—
Equipment/services	243,120	—
Total information technology	1,929,046	1,480,303
Other administrative		
Board and Committees	61,555	—
Business insurance	197,277	—
City and member outreach	599,325	—
Depreciation/amortization	592,191	—
Facilities	985,823	—
Professional development	158,609	3,726
Miscellaneous	374,520	61,859
Total other administrative	2,969,300	65,585
Investment fees paid from Trust Fund		
Management fees	—	28,787,810
Transaction costs	—	1,869,035
Total investment fees paid from Trust Fund	—	30,656,845
Totals	\$ 20,679,140	\$ 42,010,847

See accompanying Independent Auditors' Report.

Fees for private investments are not reflected as investment expenses in TMRS' financial statements but are included in the net appreciation in fair value of investments as reported on the Statement of Changes in Fiduciary Net Position.

Supplemental Schedules

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Table F-21

Schedule of Professional Services	
For the Year Ended December 31, 2021	
Actuarial	
Gabriel, Roeder, Smith & Company	\$ 588,300
Audit	
CliftonLarsonAllen LLP	177,150
Banking	
JPMorgan Chase Bank, N.A.	54,220
Consulting	
Pension administration system	843,840
Information systems support	195,971
Architectural and construction management	161,500
Network management and security	86,246
Governmental relations support	84,000
Executive recruiting	64,458
Member mortality records	27,633
Benefit processing workflow	14,229
Insurance risk management	12,720
Human resources management	9,090
Governance/strategic planning	1,128
Total consulting	<u>1,500,815</u>
Legal	
Fiduciary counsel	27,186
Other legal services	94,776
Total legal	<u>121,962</u>
Other Services	
Disability review	32,970
Total Professional Services	<u><u>\$ 2,475,417</u></u>

See accompanying Independent Auditors' Report.

Investment Section

Report on Investment Activity
Chief Investment Officer's Year in Review
Outline of Investment Policies
 Asset Allocation
 Investment Summary
 Largest Holdings
 Investment Results
 Investment Expenses
 Investment Managers

Report on Investment Activity

June 7, 2022

Board of Trustees
Texas Municipal Retirement System
P.O. Box 149153
Austin, Texas 78714-9153



Dear Trustees,

This letter reports the investment results for the Texas Municipal Retirement System (TMRS) for the fiscal year ended December 31, 2021.

As of December 31, 2021, the market value of TMRS' investments was \$38.5 billion,¹ and all asset classes were within their target allocation ranges as outlined within TMRS' Investment Policy Statement. TMRS' investment return for the fiscal year was 12.86%.¹ For the five- and ten-year periods ended December 31, 2021, TMRS' annualized returns were 9.28% and 7.82%, respectively.¹ Investment results were primarily driven by TMRS' asset allocation, which is characterized by a diversified approach that seeks to achieve the 6.75% assumed actuarial rate of return in a manner consistent with the Board's risk tolerance.

The first half of 2021 was marked by a global COVID-19 vaccine rollout, as countries around the world attempted the largest vaccine campaign in history. An uneven pace of coronavirus vaccine distribution outside of North America and Europe contributed to delayed reopening efforts in certain regions. The emergence of more transmissible coronavirus variants such as "delta" further slowed reopening efforts worldwide.

Jerome Powell and the Federal Open Market Committee (FOMC) kept the federal funds rate at 0%-0.25% over the course of the fiscal year, though comments made toward the end of the year hinted at interest rate increases in 2022 as well as the wind-down of the Fed's bond buying program, putting upward pressure on interest rates. As of the end of the fiscal year, the unemployment rate in the U.S. was 3.9% while year-over-year inflation, as measured by the Consumer Price Index, ended the year at 7.0%, a level of inflation not seen since 1982. The U.S. Federal government passed the American Rescue Plan and an infrastructure bill, which provided \$1.9 trillion and \$1.2 trillion in fiscal stimulus, respectively.

The fiscal and monetary support in the U.S. helped lead domestic markets to new all-time highs. U.S. equity markets, as measured by the S&P 500 Index, returned 28.7% in 2021. International developed equity markets posted strong results but lagged their U.S. counterparts. Developed non-U.S. equity markets, as measured by the MSCI EAFE Index (Net), returned 11.3% in 2021, while emerging markets, as measured by the MSCI Emerging Markets Index (Net), returned -2.5%. Emerging market index performance was dragged down, in part, by stalled reopening efforts in many economies as well as a sharp decline in Chinese equity markets driven by

¹ As reported by State Street Bank & Trust. All TMRS portfolio returns are stated on a net of fees basis.

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Report on Investment Activity

CONTINUED



increased government regulation and concerns surrounding Chinese debt markets.

While the Federal Funds rate remained low throughout 2021 in the U.S., the prospect of rising interest rates in 2022 and beyond likely weighed on bond investors' outlook. Treasury yields moved slightly higher on the short end of the yield curve toward the end of 2021, as the Bloomberg U.S. Aggregate Bond Index returned -1.5%. Lower-quality, higher-yielding bonds outperformed their investment-grade counterparts in the U.S. Internationally, the Bloomberg Global Aggregate Index returned -4.7% during the year.

The price of oil increased sharply from \$49 to \$75 a barrel during the year, contributing to the Bloomberg Commodity Index (TR) returning 27.1%. After a flat year in 2020, private real estate assets, as measured by the NCREIF ODCE Index (Gross), returned 22.2% in 2021. Despite the strong year for private real estate assets, public market real estate outperformed private markets as the FTSE NAREIT Equity REITs (TR) index returned 43.2% during 2021.

TMRS' investment policies, goals, and objectives, as well as the performance of its assets and transaction costs are regularly monitored by Staff, the Board, and by RVK. These evaluations include analysis of the investment management firms and the custodial bank that serve TMRS. The Investments section of TMRS' website (www.TMRS.com) links to the quarterly investment reports which RVK prepares and presents to the Board. The Investment section also includes the Board's Investment Policy Statement, a review of the Board-approved asset allocation and the Evaluation of Investment Practices dated May 2020 pursuant to Texas Government Code 802.109.

We look forward to continuing to work with the Board and Staff to monitor, review, and position TMRS' portfolio to best meet its long term goals and objective.

Sincerely,

A handwritten signature in blue ink, appearing to read "Rebecca A. Gratsinger".

Rebecca Gratsinger
Chief Executive Officer
RVK, Inc.

Chief Investment Officer's Year in Review



To: The Trustees, Members, Retirees, Beneficiaries and Participating Cities of the Texas Municipal Retirement System

2021 was a banner year for most higher return seeking investments like stocks, real estate and commodities due to the ongoing recovery from the COVID-19 induced market selloff in early 2020. U.S. stocks outperformed their non-U.S. counterparts, with domestic equity markets returning more than 25% during the year versus 8% for international stocks. Alternative investments, including most real assets and commodities, posted strong returns in 2021 as government actions to stimulate global economic demand caused asset prices to rise and inflation expectations to grow.

TMRS continued its diversified investment approach, with global exposure across a variety of asset classes. In July, the Board approved a new strategic target allocation, which slightly increased the expected volatility of the Trust Fund in a measured and thoughtful manner and in line with TMRS' long-term liabilities.

TMRS' 2021 net of fees investment return was 12.86%, exceeding our asset allocation benchmark of 12.23% by 0.63%. TMRS' three-year, five-year and ten-year net investment returns were 12.08%, 9.28% and 7.82%, respectively, exceeding our 6.75% actuarial return assumption. Trust Fund assets totaled \$38.5 billion as of December 31, 2021, and all asset classes are within Investment Policy Statement target ranges. Total Trust Fund returns and all asset class returns as of December 31, 2021 reflect actual results.

In 2021, the Trust Fund's Private Equity portfolio was a bright spot, returning 45.79%. Global Public Equity, Real Estate, and Other Public and Private Markets turned in double digit gains, returning 17.87%, 22.23%, and 12.02%, respectively. Non-Core Fixed Income and Hedge Funds were also positive for the year, with returns of 5.85% and 1.60%, respectively. Core Fixed Income was the sole asset class delivering a loss in 2021 with a return of -1.39% as rising interest rates and inflation fears combined to have a negative impact on yields and returns.

I am proud to report that TMRS claims compliance with the Global Investment Performance Standards (GIPS®), and that the Trust Fund was examined, and the organization has been verified for 2021. All valuations are reported in USD. GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote TMRS, nor does it warrant the accuracy or quality of the content contained herein. A copy of the 2021 GIPS Asset Owner report can be obtained by emailing invrisk@tmrs.com.

Detailed performance and asset allocation reports prepared by RVK, the Board's independent investment consultant, are available on the TMRS website.

Sincerely,

A handwritten signature in blue ink, appearing to read "David J. Hunter", with a long horizontal flourish extending to the right.

David J. Hunter
Chief Investment Officer

June 15, 2022

Outline of Investment Policies

The TMRS Board of Trustees (the Board) approves the Investment Policy Statement (IPS) that governs the investment of assets and provides a framework for the management of those assets. The IPS outlines objectives, benchmarks, restrictions and responsibilities so that the Board, TMRS staff, investment managers, consultants and stakeholders clearly understand the policies, goals and objectives connected with the TMRS investment program.

Investment Objectives

The overall objective of TMRS' investment program is to ensure that members, retirees and beneficiaries are provided with their expected benefits at a reasonable and predictable cost to participating cities. Assets are invested for total return considering portfolio risk and liquidity. Emphasis is on capital appreciation and income to satisfy TMRS' funding needs. Total return includes dividends, interest and realized and unrealized capital appreciation.

General Investment Policies

A. Standard of Prudence.

1. The Board, the Executive Director and investment staff shall exercise the degree of judgment and care, under the circumstances that persons of prudence, discretion and intelligence exercise in the management of their own affairs, considering the probable income and safety of their capital.
2. Investment and management decisions respecting individual assets will be evaluated, not in isolation, but in the context of the Trust Fund as a whole and as a part of an overall investment strategy having risk and return objectives reasonably suited to TMRS.

B. Conflict of Interest Prohibited. The Board, Executive Director, investment staff, investment managers and consultants involved in investing TMRS assets will refrain from any activity that could conflict with the proper execution and management of the TMRS investment program, or that could impair their ability to make impartial recommendations and decisions. These parties are required to disclose, in writing, all relationships that could create, or appear to create, a conflict of interest in their unbiased involvement in the investment process.

Portfolio Management

The Board recognizes the most important determinant of long-term return and risk is their asset allocation decision. The Board's strategic target allocation is intended to reflect, and be consistent with, the return objective expressed in the IPS and is designed to meet or exceed the Board's objectives at a level of risk and liquidity acceptable to the Board. In establishing the asset allocation, the Board considers TMRS' ability to withstand the long-term risks of underperforming its return objective, volatility in investment performance and fluctuations in the financial condition of the Trust Fund.

Outline of Investment Policies

CONTINUED

The strategic target allocation and acceptable ranges as determined by the Board to facilitate the achievement of long-term investment objectives within acceptable risk parameters are as follows:

Table I-1

Strategic Target Allocation			
Asset Class	Minimum %	Target %	Maximum %
Core fixed income	1%	6%	11%
Non-core fixed income	15%	20%	25%
Global public equity	25%	35%	45%
Real estate	7%	12%	17%
Other public & private markets	7%	12%	17%
Hedge funds	0%	5%	10%
Private equity	5%	10%	15%
Cash equivalents	0%	0%	3%

To ensure that risk remains appropriate, the strategic target allocation will be reviewed at least annually for reasonableness relative to significant economic and market changes or to changes in the Board's long-term goals and objectives. A formal asset allocation study will be conducted at least every three years to verify or amend the targets, and a formal asset-liability study will be conducted at least every six years.

During 2021, the Board approved asset allocation and benchmark changes that were effective July 1, 2021. Changes to the target asset allocation included:

- Decrease of allocation to core fixed income from 10% to 6%
- Decrease of allocation to hedge funds from 10% to 5%
- Increase of allocation to global public equity from 30% to 35%
- Increase of allocation to real estate from 10% to 12%
- Increase of allocation to other public and private markets, formerly known as real return, from 10% to 12%

The Board has chosen to adopt a rebalancing policy that is governed by allocation ranges rather than time periods. The ranges specified in Table I-1 are a function of the volatility of each asset class and the proportion of the total Trust Fund allocated to the asset class. The goal of the IPS rebalancing policy is to ensure that the integrity of the strategic target allocation is preserved through a disciplined process that allows investment staff the flexibility to rebalance the portfolio within the Board-approved ranges, to adjust for market movements and consider current market conditions and valuations in portfolio allocations.

Performance measurement will be based on total rate of return and will be monitored over a sufficient time period to reflect the investment expertise of the manager(s) over one full market cycle, or five years, whichever is less. Performance results and evaluation relative to objectives will be reported to the Board on a quarterly basis. Specific total portfolio performance objectives include, but may not be limited to, the following:

- a. Achieve a total rate of return over rolling five-year periods that meets or exceeds the actuarial return assumption.
- b. Exceed an appropriate benchmark reflective of asset class participation over rolling five-year periods.

Outline of Investment Policies

CONTINUED

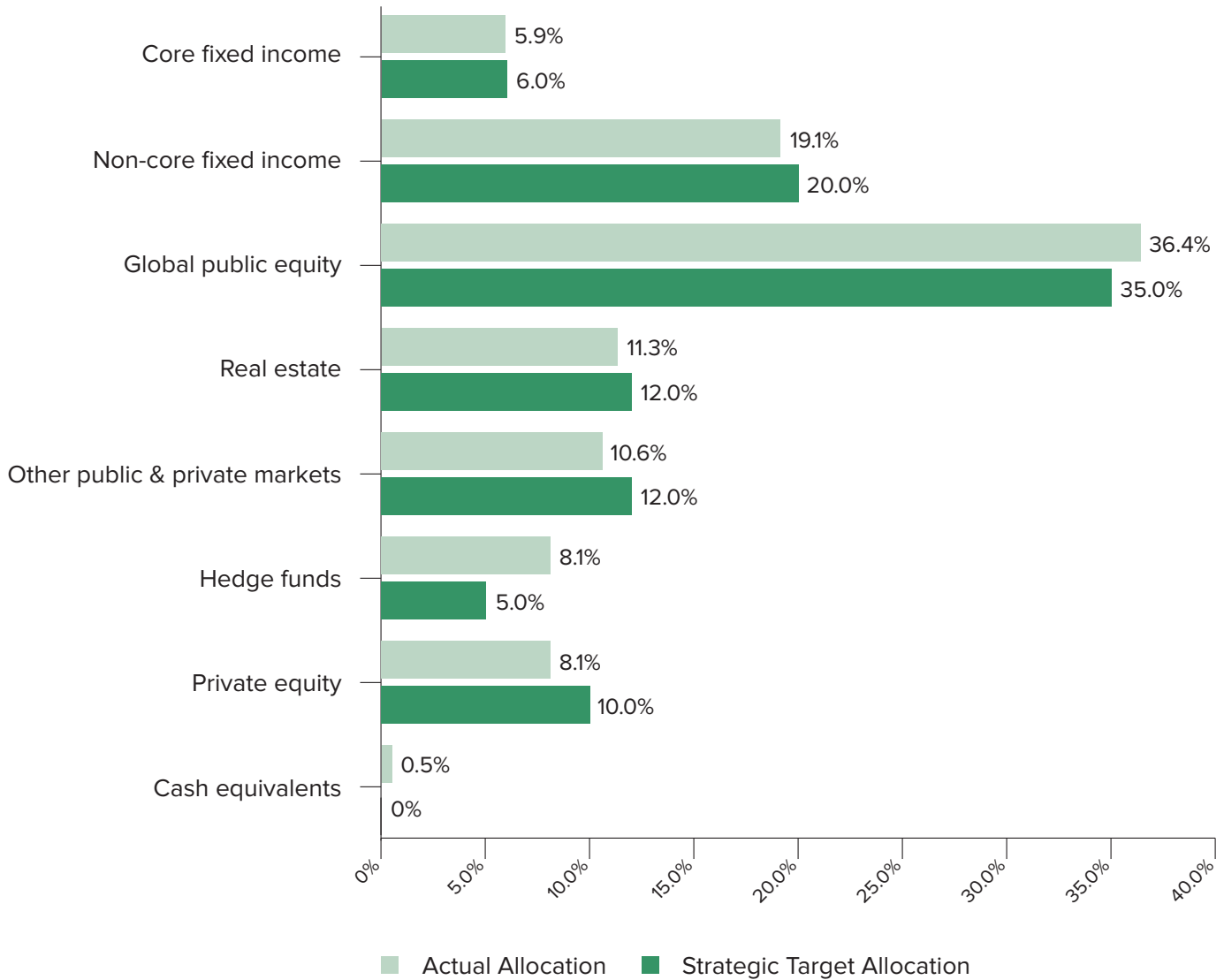
Based on recommendations by investment staff and the Board's general investment consultant, the Board selected the following benchmarks and indices, by asset class, effective July 1, 2021.

Table I-2

Asset Class Policy Benchmarks		
Asset Class	Asset Class Benchmarks	Strategic Target Allocation Index
Core fixed income	Bloomberg Barclays U.S. Aggregate Bond Index	6%
Non-core fixed income	Bloomberg Barclays U.S. Aggregate Bond Index + 1.50%	20%
Global public equity	MSCI All Country World Investable Market Index, Net	35%
Real estate	NCREIF – ODCE Index, Net	12%
Other public & private markets	MSCI All Country World Investable Market Index, Net	12%
Hedge funds	HFRI Asset Weighted Composite Index	5%
Private equity	MSCI All Country World Investable Market Index, Net	10%
Cash equivalents	30 Day U.S. Treasury Bills	0%

Asset Allocation

Asset Allocation – Actual versus Strategic Target as of December 31, 2021



Investment Summary

Table I-3 Investment Summary by Asset Class
As of December 31, 2021

	Fair Value	Percent of Total
Core fixed income		
Short term investments	\$ 435,299,234	1.1 %
Fixed income securities	1,869,213,944	4.8
Total core fixed income	2,304,513,178	5.9
Non-core fixed income		
Short term investments	49,716,635	0.1
Fixed income securities	1,467,267,362	3.8
Non-core fixed income funds	5,908,218,775	15.2
Total non-core fixed income	7,425,202,772	19.1
Global public equity		
Short term investments	49,199,913	0.1
Domestic public equity securities	1,257,795,865	3.3
International public equity securities	1,271,934,443	3.4
REITS	53,921,725	0.1
Commingled public equity funds	11,444,705,760	29.5
Total global public equity	14,077,557,706	36.4
Real estate		
Private real estate funds	4,378,033,443	11.3
Total real estate	4,378,033,443	11.3
Other public and private markets		
Fixed income securities	477,763	—
Commingled public equity funds	2,333,240,806	6.0
Other public and private markets funds	1,785,527,467	4.6
Total other public and private markets	4,119,246,036	10.6
Hedge funds		
Direct hedge funds	3,146,048,497	8.1
Hedge fund of funds	4,636,797	—
Total hedge funds	3,150,685,294	8.1
Private equity		
Domestic public equity securities	2,121,213	—
Private equity funds	3,140,031,298	8.1
Total private equity	3,142,152,511	
Cash equivalents		
Short term investments	192,834,914	0.5
Total cash equivalents	192,834,914	0.5
Total investments	\$ 38,790,225,854	100.0 %
Other investment-related items		
Custodial cash	6,886,440	
Interest and dividends receivable	22,314,890	
Unsettled trades receivable	360,869,082	
Management fees payable	(6,612,194)	
Unsettled trades payable	(719,990,711)	
Trust fund net assets value	\$ 38,453,693,361	

Largest Holdings

Table I-4

Largest Holdings – Fixed Income Securities				
As of December 31, 2021				
Description	Coupon	Maturity	Par Value	Fair Value
FNMA TBA 30 YR	2.00	2/14/2052	\$100,837,000	\$100,384,496
FNMA TBA 30 YR	2.50	2/11/2051	\$73,949,000	\$75,318,560
U.S. Treasury N/B	0.50	11/30/2023	\$56,905,000	\$56,698,275
U.S. Treasury N/B	0.75	12/31/2023	\$48,600,000	\$48,618,984
U.S. Treasury N/B	1.38	11/15/2031	\$38,174,000	\$37,741,560
U.S. Treasury N/B	0.25	6/15/2024	\$35,506,000	\$34,994,214
U.S. Treasury N/B	0.25	6/30/2025	\$31,911,000	\$31,020,982
GAM Resecuritization Trust	5.25	12/30/2026	\$29,029,790	\$29,066,077
GNMA II TBA 30 YR	2.00	1/21/2052	\$28,607,000	\$28,881,896
FNMA TBA 15 YR	2.00	1/16/2036	\$23,811,000	\$24,393,253

Table I-5

Largest Holdings – Public Equities		
As of December 31, 2021		
Description	Shares/Units	Fair Value
Northern Trust Collective U.S. IMI Fund, Non-Lending	18,639,117.566	\$7,341,836,575
Northern Trust Collective All Country World Ex-U.S. Fund, Non-Lending	19,971,033.950	\$4,102,869,186
Northern Trust Collective All Country World IMI Fund, Non-Lending	8,352,631.563	\$2,333,240,806
Tencent Holdings Ltd.	567,300.000	\$33,239,183
Taiwan Semiconductor SP ADR	236,022.000	\$28,395,807
Mediatek Inc.	565,931.000	\$24,341,558
Reliance Industries Ltd.	633,622.000	\$20,188,614
Fortive Corp.	255,000.000	\$19,453,950
Ametek Inc.	127,500.000	\$18,747,600
Samsung Electronics Co Ltd.	283,180.000	\$18,652,361

A complete portfolio listing will be provided upon request.

Investment Results

Total fund and asset class returns for the year ended December 31, 2021 are set out below.

Table I-6

Total Fund and Asset Class Returns				
	1 Year	3 Years	5 Years	10 Years
Total fund	12.86%	12.08%	9.28%	7.82%
Total fund active weighted benchmark	12.23%	11.85%	8.98%	7.56%
Core fixed income	-1.39%	5.27%	3.91%	3.15%
Core fixed income benchmark	-1.54%	4.79%	3.57%	2.90%
Non-core fixed income	5.85%	6.83%	5.93%	N/A%
Non-core fixed income benchmark	4.36%	6.14%	4.99%	N/A%
Global public equity	17.87%	19.48%	13.66%	12.12%
Global public equity benchmark	18.22%	20.20%	14.21%	12.36%
Real estate	22.23%	9.12%	9.46%	10.63%
Real estate benchmark	21.28%	8.93%	8.55%	10.37%
Other public and private markets	12.02%	10.19%	6.77%	4.37%
Other public and private markets benchmark	14.75%	9.73%	7.02%	4.19%
Hedge funds	1.60%	6.40%	6.27%	N/A%
Hedge funds benchmark	5.43%	8.03%	5.44%	N/A%
Private equity	45.79%	28.90%	24.13%	N/A%
Private equity benchmark	24.16%	22.19%	20.21%	N/A%
Cash equivalents	0.05%	0.91%	1.02%	0.69%
Cash equivalents benchmark	0.04%	0.89%	1.06%	0.56%

N/A means TMRS was not invested in the asset class for 10 years.

Rates of return presented for all available time periods are calculated from actual December 31, 2021 values, net of external investment management fees, using a time-weighted rate of return methodology. One-year total fund performance is calculated after deducting internal investment management fees.

Benchmarks for each asset class as of December 31, 2021 are as follows:

Total fund active weighted benchmark return is the weighted-average of the asset class composite benchmarks associated with each fund.

Core fixed income benchmark return is calculated monthly using the Bloomberg U.S. Aggregate Bond Index.

Non-core fixed income benchmark return is calculated monthly using the Bloomberg U.S. Aggregate Bond Index + 1.5%.

Global public equity benchmark return is calculated monthly using the MSCI All Country World Investable Market Index, Net.

Real estate benchmark return is calculated quarterly using the National Council of Real Estate Fiduciaries — Open-End Diversified Core Equity Index, Net.

Other public and private markets (OPPM) benchmark return is calculated monthly using the MSCI All Country World Investable Market Index, Net.

Hedge funds benchmark return is calculated monthly using the HFRI Asset Weighted Composite Index.

Private equity benchmark return is calculated quarterly using the MSCI All Country World Investable Market Index, Net.

Cash equivalent benchmark return is the 30 Day U.S. Treasury Bill.

Investment Expenses

Table I-7

Schedule of Investment Expenses	
For the Year Ended December 31, 2021	
Staff salaries and benefits	\$ 4,832,682
Payroll taxes	243,753
Custodial services	2,331,000
Consulting	1,423,604
Legal	977,075
Cloud services	1,480,303
Professional development	61,859
Other administrative	3,726
Management fees paid from Trust Fund	28,787,810
Transaction costs	1,869,035
Total investment expenses	\$ 42,010,847

Table I-8

Schedule of External Investment Fees						
For the Year Ended December 31, 2021						
Asset Class	Management Fees Paid From Trust Fund	Management Fees Netted From NAV	Total Investment Management Fees	Brokerage Fees / Commissions	Performance Fees / Carried Interest Netted from NAV	Total Direct / Indirect Fees and Commissions
	(1)	(2)	(3) = (1)+(2)	(4)	(5)	(6) = (3)+(4)+(5)
Fixed income	\$ 7,502,076	\$ 34,891,779	\$ 42,393,855	\$ —	\$ 71,147,808	\$ 113,541,663
Public equity	21,285,734	—	21,285,734	2,456,404	—	23,742,138
Real assets	—	42,744,312	42,744,312	—	84,932,666	127,676,978
Alternative/other	—	128,321,756	128,321,756	—	287,391,447	415,713,203
Cash equivalents	—	72,548	72,548	—	—	72,548
Totals	\$ 28,787,810	\$ 206,030,395	\$ 234,818,205	\$ 2,456,404	\$ 443,471,921	\$ 680,746,530

Fees for private investments are not reflected as investment expenses in TMRS' financial statements but are included in the net appreciation in fair value of investments as reported in the Statement of Changes in Fiduciary Net Position.

List of Alternative/Other Investments

Hedge funds

Other public and private markets funds

Private equity funds

Investment Managers

Table I-9

Investment Managers As of December 31, 2021			
Abacus Capital Group, LLC	Capital Partners, LLC	Insight Venture Management, LLC	Red Cliff Asset Management Limited
Actis GP LLP	CapVest Partners LLP	InstarAGF Asset Management Inc.	Redmile Group, LLC
Activate Management, LP	Carlyle Investment Management LLC	Invesco Advisers, Inc.	Resource Capital Investment Corporation
Adams Street Credit Advisors LP	Cerberus Capital Management, LP	Kainos Capital LP	Redmile Group, LLC
AHL Partners LLP	D.E. Shaw & Co., LP	Kildare Management, Ltd	Resource Capital Investment Corporation
AIMPERA Capital Partners LLC	Diameter Capital Partners LP	Lightbay Management LLC	Reverence Capital Partners, LP
Alcion Ventures, Limited Partnership	DIVCO West Real Estate Services, LLC	Lubert-Adler Management Company, LP	River Birch Partners, LP
AllianceBernstein LP	Dragoneer Investment Group, LLC	Madison Realty Capital	Roystone Capital Management LP
Altaris Capital Partners, LLC	DSAM Partners LLP	Magnetar Financial LLC	Rubenstein Partners, LP
Altimeter Capital Management, LP	Dunes Point Capital, LP	Main Post Partners, LP	SDC Capital Partners, LLC
Alyeska Investment Group LP	East Lodge Capital Partners LLP	Marathon Asset Management, LP	Searchlight Capital Partners, LP
Amerra Capital Management, LLC	Flagship Pioneering, Inc.	Marlin Management Company, LLC	Silver Hill Energy Partners, LP
Angelo, Gordon & Co., LP	Foundry Group	Marshall Wace LLP	Sixth Street Advisers, LLC
Appian Capital Advisory LLP	Foundry Group Next, LLC	Mercato Management, LLC	Sixth Street TAO Management, LLC
Ara Advisers LLC	Foundry Group, LLC	Miller Global Properties, LLC	Southern Ridges Capital Pte. Ltd
Arcline Investment Management LP	FTV Management Company, LP	Moorfield Investment Management Limited	Southpoint Capital Advisors LP
Argyle Agri Partners Pty Ltd	GC Advisors, LLC	Myriad Asset Management (Cayman) LTD	Sprott Private Resource Lending Partnership
Ascentris, LLC	Global Infrastructure Management, LLC	Neuberger Berman Trust Company National Assn.	Stellex Capital Management LP
Bain Capital Credit, LP	GoldenTree Asset Management LP	NGP Energy Capital Management, LLC	Stockbridge Core and Value Partners LLC
Bayside Capital, Inc.	Grain Management, LLC	Northlane Capital Partners, LLC	Stonepeak Partners LP
Bayview Asset Management, LLC	Grandview Property Partners, LLC	Oak Street Real Estate Capital, LLC	Symmetry Investments LP
BentallGreenOak (U.S) LP	Graticule Asia Macro Advisors LLC	Oberland Capital Management LLC	TCW Asset Management Company LLC
Berkeley Partners Management LLC	Greenfield Partners, LLC	Octagon Credit Investors, LLC	Techstars Central, LLC
Black Chamber Partners, LLC	Greenoaks Capital Partners LLC	One Rock Capital Partners, LLC	Torchlight Investors, LLC
BlackRock Financial Management, Inc.	GTCR Management XII LP	Orion Resource Partners (USA) LP	TPG Real Estate Advisors, LLC
Blackstone Alternative Asset Management LP	GTCR Management XIII LP	Pacific Investment Management Company LLC	Transwestern Investment Management, LLC
Blackstone Alternative Credit Advisors LP	GTCR Strategic Growth Management I LP	PCP Managers, LP	Tribe Capital Management, LLC
Blackstone Alternative Solutions LLC	H.I.G. Capital, LLC	PDT Partners LLC	Tristan Capital Partners
Blackstone Liquid Credit Advisors I LLC	HarbourVest Partners LP	Pemberton Asset Management S.A.	Tritium Partners LLC
Blackstone Property Advisors, LP	Harrison Street Advisors, LLC	Pennybacker Capital Management, LLC	Udata Management, LLC
Blackstone Strategic Capital Advisors LLC	Harvest Partners, LP	Pharo Management Inc.	USAA Real Estate Company
Bluebay Asset Management LLP	Heartwood Manager IV, LP	Pioneer Point Partners LLP	Varde Management LP
Boussard and Gavaudan Investment Management LP	Hull Street Energy, LLC	Platform Investments, LLC	Virtus Real Estate LLC
Brookfield Asset Mgmt. Private Inst. Capital Adviser (Canada), LP	I Squared Capital Advisors (US) LLC	PPC Enterprises LLC	Walton Street Capital, LLC
Butterfly Equity, LP	Incline Management Corp.	Providence Equity Partners LLC	Waterfall Asset Management, LLC
	Infinity Q Capital Management LLC	Providence Strategic Growth Capital Partners LLC	White Oak Global Advisors, LLC

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Actuarial Section

Pension Trust Fund
Supplemental Death Benefits Fund

Actuary's Certification Letter (Pension Trust Fund)



P: 469.524.0000 | www.grsconsulting.com

May 26, 2022

Board of Trustees
Texas Municipal Retirement System
Austin, Texas 78731

Dear Trustees:

In accordance with the Texas Municipal Retirement System (TMRS) Act, the annual actuarial valuation of the assets and liabilities of the TMRS Pension Trust Fund was completed as of December 31, 2021.

The financing objective for each TMRS participating city plan is to provide retirement, death and disability benefits for the city's employees financed by an employer contribution rate. This rate is determined annually and is expected to remain approximately level as a percentage of the city's covered payroll. In TMRS, a city's actuarially determined employer contribution rate consists of two components: the employer normal cost contribution rate and the prior service contribution rate. Both rates are determined as a level percentage of payroll. The normal cost contribution rate finances the portion of an active Member's projected retirement benefit allocated annually. The prior service contribution rate amortizes the unfunded actuarial accrued liability ("UAAL") over the applicable period for that city. Both the normal cost and prior service contribution rates include recognition of the projected impact of annually repeating updated service credits and cost of living adjustments.

The participating cities' contribution rates are certified annually by the Board of Trustees which is responsible for establishing and maintaining the funding policy. These rates are actuarially determined and are based upon the plan provisions in effect as of April 1, 2022 and the actuarial assumptions and methodology adopted by the Board. The Board's current policy is that the contribution rates determined by a given actuarial valuation become effective one (1) year after the valuation date. For example, the rates determined by the December 31, 2021 actuarial valuation will be applicable for the calendar year beginning January 1, 2023 and ending December 31, 2023.

To test how well the financing objective for each city plan is being achieved, annual actuarial valuations are made. These actuarial valuations recognize differences in the past year between the actuarial assumptions and the actual experience, and any benefit changes for each plan. A separate actuarial valuation for each participating city was made based upon the plan of benefits in effect as of April 1, 2022.

TMRS staff supplied data for retired, active and inactive Members as of December 31, 2021. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. TMRS staff also supplied the asset data and financial information as of December 31, 2021. The amounts of the assets in the actuarial valuations agree with the amounts as reported by TMRS.

5605 North MacArthur Boulevard | Suite 870 | Irving, Texas 75038-2631

Actuary's Certification Letter (Pension Trust Fund)

CONTINUED

Board of Trustees
May 26, 2022
Page 2

The current actuarial assumptions were developed from the actuarial investigation of the experience of TMRS over the four-year period from December 31, 2014 to December 31, 2018. These assumptions were adopted by the Board in 2019 and were first used in the December 31, 2019 valuation. The Actuarial Experience Investigation Study report, dated October 15, 2019, details the analysis and changes to assumptions. The assumptions and methods used in this valuation are summarized in the Actuarial Section of the Annual Comprehensive Financial Report. There were no changes in the actuarial assumptions or methods since the prior valuation.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods.

It is our opinion that the recommended assumptions and methods are internally consistent and are reasonably based on TMRS' past and anticipated future experience and comply with the parameters for disclosure as set forth in Governmental Accounting Standards Board Statement No. 67. GRS prepared the following schedules in the Actuarial Section:

Participating Cities and Active Members
Retiree and Beneficiary Data
Summary of Actuarial Liabilities and Funding Progress
Funded Portion of Actuarial Liabilities by Type

All of our work and all of the actuarial assumptions and methods used for funding purposes conform with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of the TMRS Act and, where applicable, the Internal Revenue Code and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries and consultants. Both are Members of the American Academy of Actuaries, both meet all of the Qualification Standards of the American Academy of Actuaries, and both are experienced in performing valuations for large public retirement systems.

Respectfully Submitted,



Joseph P. Newton, MAAA, FSA, EA
Pension Market Leader



Janie Shaw, MAAA, ASA, EA
Consultant



Summary of Actuarial Assumptions (Pension Trust Fund)

These actuarial assumptions were developed primarily from the 2019 Actuarial Experience Investigation Study that looked at the four-year period from December 31, 2014 to December 31, 2018. They were adopted by the Board of Trustees (Board) in 2019 and first used in the December 31, 2019 actuarial valuation. A summary of the meaningful actuarial assumptions is described below. A full description of all actuarial assumptions and methods can be found in the Actuarial Valuation Report as of December 31, 2021 (tmrs.com/actuarial_reports.php).

I. Economic Assumptions

A. General Inflation

2.50% per year.

B. Discount/Crediting Rates

1. Investment Return Assumption: 6.75% per year.
2. Supplemental Disability Benefits Fund and individual employee accounts: 5.00% per year.

C. Overall Payroll Growth

2.75% per year, adjusted lower for cities with population declines over the last 10 years.

D. Individual Salary Increases

Salaries are assumed to increase by the following graduated service-based scale.

Years of Service	Salary Increase Rate
1	11.50%
2	7.25%
3	6.75%
4	6.25%
5	6.00%
6	5.75%
7	5.50%
8	5.25%
9	5.00%
10	4.75%
11 – 12	4.50%
13 – 15	4.25%
16 – 20	4.00%
21 – 24	3.75%
25+	3.50%

E. Cost of Living Adjustments (COLAs)

The Consumer Price Index (CPI) is assumed to be 2.50% per year prospectively. COLAs, when applicable, are 30%, 50% or 70% of CPI, according to the provisions adopted by each city. The actual future COLA assumptions are as follows: 0.87% per year for the 30% CPI provision, 1.38% per year for the 50% CPI provision and 1.86% per year for the 70% CPI provision.

F. Load for Updated Service Credit

The USC calculation includes a load on final average earnings.

Summary of Actuarial Assumptions (Pension Trust Fund)

CONTINUED

II. Demographic Assumptions

A. Termination Rates

- For the first 10 years of service, the base table rates vary by gender, entry age and length of service. For each city, the base table is then multiplied by a factor from 75% to 125% based on the experience of the individual city. A further multiplier is applied depending on an employee's classification: 1) Firefighter = 68%, 2) Police = 86%, or 3) Other = 108%. A sample of the base rates follows:

Males		Years of Service									
Age	0	1	2	3	4	5	6	7	8	9	
20	0.3079	0.2766	0.2305	0.2037	0.1951	0.1764	0.1612	0.1311	0.1078	0.0860	
25	0.2798	0.2393	0.1911	0.1638	0.1507	0.1336	0.1210	0.1060	0.0976	0.0798	
30	0.2585	0.2163	0.1697	0.1395	0.1138	0.1052	0.0945	0.0817	0.0785	0.0655	
35	0.2642	0.2183	0.1663	0.1334	0.1107	0.1048	0.0894	0.0758	0.0655	0.0598	
40	0.2602	0.2172	0.1647	0.1279	0.1103	0.0994	0.0849	0.0749	0.0633	0.0608	
45	0.2392	0.2040	0.1640	0.1287	0.1110	0.0976	0.0857	0.0750	0.0638	0.0607	
50	0.2191	0.1825	0.1489	0.1211	0.1072	0.0935	0.0851	0.0755	0.0636	0.0609	
55	0.2112	0.1759	0.1334	0.1132	0.0908	0.0911	0.0813	0.0719	0.0643	0.0591	
60	0.2108	0.1626	0.1298	0.1118	0.0833	0.0915	0.0794	0.0721	0.0602	0.0579	
65	0.2109	0.1542	0.1305	0.1121	0.0847	0.0914	0.0798	0.0738	0.0577	0.0581	
70	0.2109	0.1557	0.1304	0.1121	0.0845	0.0914	0.0797	0.0735	0.0581	0.0581	

Females		Years of Service									
Age	0	1	2	3	4	5	6	7	8	9	
20	0.3080	0.2836	0.2258	0.2132	0.2030	0.2054	0.1561	0.1565	0.1590	0.1600	
25	0.2828	0.2449	0.2101	0.1995	0.1739	0.1690	0.1392	0.1375	0.1206	0.1144	
30	0.2617	0.2224	0.1981	0.1791	0.1369	0.1370	0.1297	0.1145	0.0989	0.0817	
35	0.2464	0.2153	0.1834	0.1462	0.1294	0.1258	0.1130	0.1103	0.1016	0.0782	
40	0.2281	0.2026	0.1641	0.1365	0.1316	0.1115	0.1040	0.0940	0.0847	0.0745	
45	0.2227	0.1884	0.1450	0.1359	0.1072	0.1034	0.0909	0.0797	0.0717	0.0737	
50	0.2238	0.1823	0.1369	0.1249	0.0901	0.0896	0.0837	0.0735	0.0686	0.0628	
55	0.2236	0.1766	0.1372	0.1218	0.0848	0.0819	0.0725	0.0717	0.0696	0.0560	
60	0.2236	0.1548	0.1372	0.1191	0.0811	0.0856	0.0656	0.0649	0.0436	0.0386	
65	0.2236	0.1454	0.1372	0.1169	0.0813	0.0871	0.0678	0.0603	0.0281	0.0285	
70	0.2236	0.1471	0.1372	0.1173	0.0813	0.0868	0.0675	0.0611	0.0308	0.0303	

Summary of Actuarial Assumptions (Pension Trust Fund)

CONTINUED

2. After 10 years of service, base termination rates vary by gender and by the number of years remaining until first retirement eligibility. For each city, the base table is then multiplied by a factor from 75% to 125% based on the experience of the individual city (same factor as above). A further multiplier is applied depending on an employee's classification: 1) Firefighter = 54%, 2) Police = 83%, or 3) Other = 113%. A sample of the base rates follows:

Years From Retirement	Males	Females
1	0.0182	0.0234
2	0.0243	0.0315
3	0.0287	0.0375
4	0.0324	0.0425
5	0.0355	0.0467
6	0.0383	0.0506
7	0.0408	0.0540
8	0.0432	0.0572
9	0.0453	0.0602
10	0.0474	0.0630
11	0.0493	0.0657
12	0.0511	0.0682
13	0.0528	0.0706
14	0.0545	0.0728
15	0.0560	0.0750

Termination rates end at first eligibility for retirement.

B. Forfeiture Rates (withdrawal of member contributions after termination)

Rates for vested members vary by age and employer match, and they are expressed as a percentage of the termination rates shown in Section II. A. The withdrawal rates for cities with a 2:1 match are shown below; 4% is added to the rates for 1.5:1 cities, and 8% is added for 1:1 cities.

Age	Percent of Terminating Employees Choosing to Take a Refund
25	40.2%
30	40.2%
35	40.2%
40	37.0%
45	31.6%
50	26.1%
55	20.7%

Forfeiture rates end at first eligibility for retirement.

Summary of Actuarial Assumptions (Pension Trust Fund)

CONTINUED

C. Mortality Rates

1. Service Retirees and Beneficiary.

The gender-distinct 2019 Municipal Retirees of Texas mortality table is used for calculating the actuarial liability and the retirement contribution rates. The rates are projected on a fully generational basis by a mortality improvement scale (Scale UMP).

2. Disabled Retiree Mortality Rates.

For calculating the actuarial liability and the retirement contribution rates, the mortality tables for healthy retirees are used with a four-year set-forward for males and a three-year set-forward for females. In addition, a 3.5% and 3% minimum mortality rate is applied to reflect the impairment for younger male and female members, respectively, who become disabled. The rates are projected on a fully generational basis by Scale UMP to account for future mortality improvements subject to the floor.

3. Pre-Retirement Mortality Rates.

TMRS uses the PUB(1) mortality tables, with the Public Safety table used for males and the General Employee table used for females. The rates are projected on a fully generational basis by Scale UMP to account for future mortality improvements.

D. Annuity Purchase Rates

The post-retirement mortality assumption for Annuity Purchase Rates (APRs) is based on the Mortality Experience Investigation Study covering 2009 through 2011 and dated December 31, 2013. For determining the amount of the monthly benefit at the time of retirement for both healthy and disabled retirees, the APRs until 2027 are being phased-in based on a unisex blend of the RP-2000 Combined Healthy Mortality Tables with Blue Collar Adjustment for males and females, with both rates multiplied by 107.5% and projected on a fully generational basis with scale BB. The current table of APRs is explicitly valued through 2032, and then it is assumed the APRs and the valuation mortality assumptions will be consistent over time. For retirees, a unisex blend of 70% of the male table and 30% of the female table is used, while 30% of the male table and 70% of the female table is used for beneficiaries.

E. Disability Rates

Age	Males and Females
20	0.000003
25	0.000019
30	0.000074
35	0.000194
40	0.000371
45	0.000603
50	0.000891
55	0.001235
60	0.001635
65	0.002090

Summary of Actuarial Assumptions (Pension Trust Fund)

CONTINUED

F. Service Retirement Rates (applied to both active and inactive Members)

The base table rates vary by age. For members under the age of 62, these rates are then multiplied by two factors (below) based on 1) employee contribution rate and city match and 2) if the city has a recurring COLA. For cities without a 20-year/any age retirement provision, the rates are loaded by 50% for ages 60 and below with 25 or more years of service.

Age	Rate
<50	0.05
50 – 51	0.07
52 – 54	0.08
55 – 59	0.13
60	0.16
61	0.17
62	0.25
63 – 64	0.20
65 – 74	0.30
75 and over	1.00

Plan design factors applied to base retirement rates are as follows:

Employer Match	Employee Contribution Rate		
	5%	6%	7%
1 to 1	0.75	0.80	0.84
1.5 to 1	0.81	0.86	0.92
2 to 1	0.86	0.93	1.00

Recurring COLA: 100%

No recurring COLA: 95%

Summary of Actuarial Assumptions (Pension Trust Fund)

CONTINUED

III. Methods and Assumptions

A. Valuation of Assets

The actuarial value of assets is based on the market value of assets with a ten-year phase-in of actual investment return in excess of (less than) expected investment income. The actuarial value of assets is further adjusted by 33% of any difference between the initial value and a 12% corridor around the market value of assets, if necessary.

B. Actuarial Cost Method

Entry Age Normal.

C. Amortization Policy

For underfunded cities, the amortization as of the valuation date is a level percentage of payroll over individual closed, laddered periods of not more than 20 years.

Once a city becomes overfunded, all prior amortization ladders, or bases, are erased and an amount of the surplus is credited against the contribution rate to keep the funded ratio constant year-over-year.

Ad hoc USC and COLA benefit enhancements are amortized over individual periods of not more than 12 years using a level dollar policy.

D. Small City Methodology

For cities with fewer than 20 employees, more conservative methods and assumptions are used, including lower termination rates, longer life expectancies and shorter amortization periods.

Definitions (Pension Trust Fund)

- 1. Actuarial gain (loss).** A measure of the difference between actual and expected experience based on the actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with the actuarial cost method used.
- 2. Actuarial accrued liability.** The actuarial present value of benefits attributable to all periods prior to the valuation date.
- 3. Actuarial present value.** The value of an amount or series of amounts payable or receivable at various times, determined as of the valuation date by the application of the actuarial assumptions.
- 4. Actuarial value of assets.** The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an actuarial valuation.
- 5. Amortization period.** The period over which the existing unfunded or overfunded actuarial accrued liability is projected to be paid off, as a level percentage of payroll.
- 6. Actuarially Determined Employer Contribution (ADEC).** The city's periodic required contributions to the defined benefit pension plan, calculated in accordance with current TMRS funding policy.
- 7. Average age of contributing members.** The average attained age as of the valuation date.
- 8. Average length of service of contributing members.** The average length of total credited service in TMRS as of the valuation date.
- 9. Current service benefits.** Benefits attributable to the member's accumulated deposits and an amount provided by the participating city at retirement to match the accumulated deposits at the matching ratio in effect when the deposits were made.
- 10. Entry Age Normal actuarial cost method.** The Entry Age Normal actuarial cost method develops the annual cost of the plan in two parts: that attributable to benefits accruing in the current year, known as the normal cost, and that due to service earned prior to the current year, known as the amortization of the unfunded actuarial accrued liability. The normal cost and the actuarial accrued liability are calculated individually for each member. 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, would be sufficient to meet all benefits payable on their behalf. The salary-weighted average of these rates is the total normal cost rate. The actuarial accrued liability is based on the portion of benefits attributable to service credited prior to the valuation date. Actuarial gains (losses), as they occur, reduce (increase) the unfunded actuarial accrued liability.
- 11. Funded ratio.** The actuarial value of assets expressed as a percentage of the actuarial accrued liability.
- 12. Funding policy.** The program for the amounts and timing of contributions to be made by plan members and participating cities to provide the benefits specified by a pension plan.
- 13. Normal cost contribution rate.** The actuarial present value of benefits allocated to a valuation year by the actuarial cost method, expressed as a percentage of the covered payroll. It is equal to the sum of the actuarial present value of benefits allocated to the year following the valuation date, divided by the compensation expected to be received during the next year for the closed group of members, as of the valuation date.
- 14. Overfunded actuarial accrued liability.** The excess of the actuarial value of assets over the actuarial accrued liability.

Definitions (Pension Trust Fund)

CONTINUED

- 15. Phase-in rate.** The minimum required contribution rate to TMRS, which reflects the portion of the full rate being phased-in due to the changes in actuarial assumptions and methods.
- 16. Prior service benefits.** Benefits other than current service benefits. These include all benefits arising from prior service credits, special prior service credits, antecedent service credits, updated service credits and cost-of-living adjustments.
- 17. Prior service contribution rate.** The level percentage of payroll required to amortize the unfunded or overfunded actuarial liability over a specified amortization period. If the rate is negative, it is offset against the normal cost contribution rate, with the limitation that the sum of the two rates cannot be negative.
- 18. Projected Unit Credit actuarial cost method.** A method under which the benefits of each member included in the valuation are allocated by a consistent formula to valuation years based on years of service. Benefits are allocated equally to each year of service over the member's career from hire to retirement. Normal costs are based on the portion of the benefit allocated to the year following the valuation year. Accrued liabilities are based on benefits allocated to the time preceding the date of the actuarial valuation. Under this method, actuarial gains (losses), as they occur, reduce (increase) the unfunded actuarial liability.
- 19. Retirement contribution rate.** The sum of the normal cost contribution rate and the prior service contribution rate.
- 20. Unfunded actuarial accrued liability.** The excess of the actuarial accrued liability over the actuarial value of assets.

Participating Cities and Active Members (Pension Trust Fund)

Table A-1

Participating Cities and Active Members					
Valuation Date	Number of Active Cities	Active Members			
		Number	Annual Payroll	Average Annual Pay	Percent Increase in Average
12/31/2012	844	101,827	\$ 4,961,671,305	\$ 48,889	1.9%
12/31/2013	844	102,870	\$ 5,142,446,602	\$ 50,244	2.8%
12/31/2014	853	104,019	\$ 5,374,536,634	\$ 51,956	3.4%
12/31/2015	859	106,894	\$ 5,683,846,845	\$ 53,898	3.7%
12/31/2016	864	108,891	\$ 5,884,788,962	\$ 54,543	1.2%
12/31/2017	875	110,208	\$ 6,188,490,343	\$ 56,490	3.6%
12/31/2018	879	111,851	\$ 6,444,177,866	\$ 58,040	2.7%
12/31/2019	878	114,384	\$ 6,790,788,227	\$ 60,033	3.4%
12/31/2020	886	114,497	\$ 7,161,381,734	\$ 62,577	4.2%
12/31/2021	892	116,053	\$ 7,345,701,461	\$ 63,723	1.8%

As of December 31, 2021, there were seven cities with no active contributing members and no city contributions due. In addition, one city and a privatized hospital had no contributing members but paid a dollar contribution amount to TMRS that is calculated annually by the actuary. Thus, there were 901 total cities, with 892 of them active.

The average annual pay was calculated by dividing the annual payroll by the average of the number of contributing members at the beginning and the end of the year.

Retiree and Beneficiary Data (Pension Trust Fund)

Table A-2

Retiree and Beneficiary Data								
Year Ended	Added to Rolls		Removed from Rolls		End of Year		% Increase in Annual Benefit	Average Annual Benefit
	Number of Accounts	Annual Benefit	Number of Accounts	Annual Benefit	Number of Accounts	Annual Benefit		
12/31/2012	3,545	\$ 72,731,553	710	\$ 8,898,201	46,902	\$ 783,234,690	8.9%	\$ 16,699
12/31/2013	3,890	\$ 72,535,316	823	\$ 11,113,993	49,969	\$ 844,656,013	7.8%	\$ 16,904
12/31/2014	4,319	\$ 92,940,036	833	\$ 11,533,222	53,455	\$ 926,062,827	9.6%	\$ 17,324
12/31/2015	3,916	\$ 76,796,719	890	\$ 12,357,106	56,481	\$ 990,502,440	7.0%	\$ 17,537
12/31/2016	4,073	\$ 82,664,225	943	\$ 13,821,624	59,611	\$ 1,059,345,041	7.0%	\$ 17,771
12/31/2017	4,198	\$ 95,727,539	1,033	\$ 14,068,157	62,776	\$ 1,141,004,423	7.7%	\$ 18,176
12/31/2018	4,448	\$ 98,030,847	1,173	\$ 16,549,004	66,051	\$ 1,222,486,266	7.1%	\$ 18,508
12/31/2019	4,758	\$ 107,229,230	1,184	\$ 18,442,625	69,625	\$ 1,311,272,871	7.3%	\$ 18,833
12/31/2020	4,871	\$ 117,495,300	1,394	\$ 20,566,206	73,102	\$ 1,408,201,965	7.4%	\$ 19,264
12/31/2021	5,115	\$ 115,206,771	1,542	\$ 23,545,014	76,675	\$ 1,499,863,722	6.5%	\$ 19,561

The number of retirement accounts is greater than the number of people who retired because some retirees worked for more than one participating city in TMRS and retired with a separate benefit from each participating city. As of December 31, 2021, there were 9,659 more retirement accounts than retirees. In addition, this schedule excludes 1,076 retirees who received a single payment in lieu of a monthly benefit. Upon their death, these retirees are still entitled to supplemental death benefits for their beneficiaries, if their city provides this benefit.

The average annual benefit in Table A-2 is 12 times the amount payable in January following the valuation date, including any retirement benefit increase, if applicable.

Summary of Actuarial Liabilities and Funding Progress (Pension Trust Fund)

Table A-3

Summary of Actuarial Liabilities and Funding Progress (dollars in millions)								
Annual Report Year	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Funded Ratio (1) / (2)	Unfunded AAL (UAAL) (2) - (1)	Covered Payroll	UAAL as a % of Covered Payroll (4) / (5)	City Contributions	Average City Rate (7) / (5)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2012	\$ 19,784.8	\$ 22,683.8	87.2%	\$ 2,899.0	\$ 4,961.7	58.4%	\$ 664.4	13.4%
2013 ❶	\$ 21,293.6	\$ 25,320.7	84.1%	\$ 4,027.1	\$ 5,142.4	78.3%	\$ 680.8	13.2%
2014	\$ 22,861.0	\$ 26,647.5	85.8%	\$ 3,786.5	\$ 5,374.5	70.5%	\$ 719.2	13.4%
2015 ❷	\$ 24,347.7	\$ 28,378.9	85.8%	\$ 4,031.2	\$ 5,683.9	70.9%	\$ 750.8	13.2%
2016	\$ 25,844.0	\$ 29,963.3	86.3%	\$ 4,119.2	\$ 5,884.8	70.0%	\$ 767.1	13.0%
2017	\$ 27,813.6	\$ 31,811.6	87.4%	\$ 3,998.0	\$ 6,188.5	64.6%	\$ 837.1	13.5%
2018	\$ 29,385.1	\$ 33,731.5	87.1%	\$ 4,346.4	\$ 6,444.2	67.4%	\$ 880.1	13.7%
2019 ❸	\$ 31,313.8	\$ 35,584.9	88.0%	\$ 4,271.1	\$ 6,790.8	62.9%	\$ 928.7	13.7%
2020 ❹	\$ 33,609.6	\$ 37,535.9	89.5%	\$ 3,926.3	\$ 7,161.4	54.8%	\$ 1,191.7	16.6%
2021 ❺	\$ 36,282.0	\$ 40,081.9	90.5%	\$ 3,799.9	\$ 7,345.7	51.7%	\$ 1,076.9	14.7%

- ❶ Actuarial assumptions were modified as of the December 31, 2013 valuation, along with a change in the actuarial cost method from Projected Unit Credit to Entry Age Normal.
- ❷ Actuarial assumptions were modified as of the December 31, 2015 valuation.
- ❸ Actuarial assumptions were modified as of the December 31, 2019 valuation.
- ❹ The increase in city contributions in 2020 is primarily due to \$210.3 million in additional lump sum contributions by two cities that issued pension obligation bonds. Excluding these additional contributions, the average city rate would have been 13.7%.
- ❺ City contributions in 2021 include \$62.3 million in additional lump sum contributions, of which \$57.7 million was contributed by one city that issued pension obligation bonds. Excluding these additional contributions, the average city rate would have been 13.8%.

Each TMRS participating city is financially responsible for its own plan. Therefore, the aggregate numbers shown in the above table reflect only the aggregate condition of TMRS and do not indicate the status of any city's plan.

Columns (1) and (2) of the table also include the assets and liabilities of the Supplemental Disability Benefits Fund.

Funded Portion of Actuarial Liabilities by Type (Pension Trust Fund)

Table A-4

Funded Portion of Actuarial Liabilities by Type (dollars in millions)							
Valuation Date	Actuarial Liabilities for			Net Assets Available for Benefits	Portion of Actuarial Liabilities Covered by Net Assets		
	Current Member Contributions	Retirees and Beneficiaries	Current Members (Employer-Financed Portion)		(1)	(2)	(3)
	(1)	(2)	(3)				
12/31/2012	\$ 4,775.2	\$ 8,832.0	\$ 9,076.6	\$ 19,784.8	100.0%	100.0%	68.1%
12/31/2013	\$ 4,956.7	\$ 9,861.5	\$ 10,502.5	\$ 21,293.6	100.0%	100.0%	61.7%
12/31/2014	\$ 5,088.2	\$ 10,768.5	\$ 10,790.8	\$ 22,861.0	100.0%	100.0%	64.9%
12/31/2015	\$ 5,312.3	\$ 11,615.5	\$ 11,451.1	\$ 24,347.7	100.0%	100.0%	64.8%
12/31/2016	\$ 5,530.0	\$ 12,478.4	\$ 11,954.9	\$ 25,844.0	100.0%	100.0%	65.5%
12/31/2017	\$ 5,747.3	\$ 13,412.0	\$ 12,652.3	\$ 27,813.6	100.0%	100.0%	68.4%
12/31/2018	\$ 5,986.1	\$ 14,403.1	\$ 13,342.3	\$ 29,385.1	100.0%	100.0%	67.4%
12/31/2019	\$ 6,210.5	\$ 15,467.5	\$ 13,906.9	\$ 31,313.8	100.0%	100.0%	69.3%
12/31/2020	\$ 6,447.7	\$ 16,508.8	\$ 14,579.4	\$ 33,609.6	100.0%	100.0%	73.1%
12/31/2021	\$ 6,691.0	\$ 17,979.8	\$ 15,411.1	\$ 36,282.0	100.0%	100.0%	75.3%

The financing objective for each TMRS participating city's plan is to finance long-term benefit liabilities through contributions that remain approximately level from year to year as a percentage of the city's payroll. If the contributions to each plan are level over the long term and soundly executed, each plan will pay all benefits when due — the ultimate test of financial soundness.

The table above shows one short-term means of checking a system's funding progress. The present assets are compared with: (1) current member contributions on deposit, (2) liabilities for future benefits to present retirees and (3) the employer-financed portion of the liabilities for service already rendered by current members. In a system that has been following the discipline of level percentage of payroll financing, the liabilities for current member contributions on deposit (liability 1) and the liabilities for future benefits to present retirees (liability 2) will be fully covered by present assets, except in rare circumstances. In addition, the employer-financed portion of liabilities for service already rendered by current members (liability 3) will be at least partially covered by the remainder of present assets. Generally, if a system has been using level cost financing, and if there are no changes in benefits, actuarial assumptions, or methods, the funded portion of liability 3 will increase over time, although it is uncommon for it to be fully funded.

Each TMRS participating city is financially responsible for its own plan. Therefore, the aggregate numbers shown above reflect only the aggregate condition of TMRS and do not indicate the status of any one plan.

Actuary's Certification Letter (Supplemental Death Benefits Fund)



P: 469.524.0000 | www.grsconsulting.com

May 26, 2022

Board of Trustees
Texas Municipal Retirement System
Austin, Texas 78731

Dear Trustees:

The TMRS Supplemental Death Benefits Fund (SDBF) is an optional cost-sharing multiple-employer defined benefit group life insurance plan. It provides death benefits to both active and retired members, and each participating city can elect to cover just active members, or active and retired members. A supplemental death contribution rate is determined annually for each participating city as a percentage of that city's covered payroll. The contribution rate finances the expected benefit payments each year on a pay-as-you-go basis.

The death benefit for active employees provides a lump sum payment approximately equal to the employee's annual salary (calculated based on the employee's actual earnings for the 12-month period preceding the month of death). The death benefit for retirees is a fixed amount of \$7,500.

Benefits are paid to both actives and retirees from the SDBF. Therefore, it is our understanding that reporting under the Governmental Accounting Standards Board ("GASB") Statement No. 74 is not required, since the SDBF is not an OPEB trust as described in paragraph 3 of the statement. GRS will provide information to each participating city for their reporting under GASB Statement No 75.

The contribution rates for the cities participating in the SDBF are certified annually by the Board of Trustees which is responsible for establishing and maintaining the funding policy. These rates are determined actuarially, based on the plan provisions in effect as of April 1, 2022 and the actuarial assumptions and methodology adopted by the Board. These are based on the results of the actuarial investigation of the experience of TMRS over the four-year period from December 31, 2014 to December 31, 2018 and were first used in the December 31, 2019 valuation. Due to the higher mortality rates associated with the global pandemic, the Board adopted changes to the assumptions and methodology used for calculating 2023 SDB rates as determined in the December 31, 2021 actuarial valuation. The Board's current policy is that the contribution rates determined by a given actuarial valuation become effective one (1) year after the valuation date. For example, the rates determined by the December 31, 2021 actuarial valuation will be applicable for the calendar year beginning January 1, 2023 and ending December 31, 2023.

TMRS staff supplied the data for active and retired Members as of December 31, 2021. We did not audit this data, but we did apply a number of tests to the data and we concluded that it was reasonable and consistent with the prior year's data. TMRS staff also supplied the asset data and financial information as of December 31, 2021.

5605 North MacArthur Boulevard | Suite 870 | Irving, Texas 75038-2631

Actuary's Certification Letter (Supplemental Death Benefits Fund)

CONTINUED

Board of Trustees
May 26, 2022
Page 2

GRS prepared the following schedules in the Actuarial Section:

Participating Employers and Covered Members
Average Contribution Rates

All of our work and all of the actuarial assumptions and methods conform with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of the TMRS Act and, where applicable, the Internal Revenue Code and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries and consultants. Both are Members of the American Academy of Actuaries, both meet all of the Qualification Standards of the American Academy of Actuaries, and both are experienced in performing valuations for large public retirement systems.

Respectfully Submitted,



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Summary of Actuarial Assumptions (Supplemental Death Benefits Fund)

The actuarial assumptions used in the calculation of the funding valuation for the Supplemental Death Benefits Fund (SDBF) are based on the 2019 Actuarial Experience Investigation Study that looked at the four-year period from December 31, 2014 to December 31, 2018. The assumptions were adopted in 2019 and first used in the December 31, 2019 actuarial valuation. No other demographic assumptions are applicable for purposes of developing the SDBF contribution rates.

I. Assumptions

A. Mortality Rates

Same as for the Pension Trust Fund.

B. Investment Return

A statutory interest credit of 5% is allocated annually and is not dependent on investment earnings.

C. Actuarial Cost Method

To calculate a city's actuarially determined contribution rate, the one-year term cost is used.

D. Valuation of Assets

Assets in the SDBF are valued at fund value (or fund balance). However, since the contribution rates are based just on the one-year term cost, assets are not included in developing the rate.

E. Changes in Actuarial Assumptions and Methods

A load equal to 2.0 and 1.1, respectively, is applied to the term cost for active coverage and retiree coverage in 2023 only. Additionally, the credit previously applied to the supplemental death benefit rate for active coverage equal to 2% of the fund balance was eliminated.

II. Benefit Provisions

A. Participation in SDBF

Participation in the SDBF is optional and may be rescinded. Each city that chooses to participate can elect to cover just active members, or both active members and retirees.

B. Benefit Eligibility

Benefits are payable if the death occurs during the period in which a city has elected to participate in the SDBF. For retirees who have service with multiple TMRS cities, benefits are payable only if the city from which the member retired participates in the SDBF when the death occurs.

C. Benefit Amount

The death benefit for active members provides a lump sum payment approximately equal to the employee's annual salary (calculated based on the employee's actual earnings for the 12-month period preceding the month of death). The death benefit for retirees is a fixed amount of \$7,500.

Membership and Contribution Rate Data (Supplemental Death Benefits Fund)

Table A-5

Participating Cities and Covered Members								
Actuarial Valuation Date	Number of Participating Cities	Active Members	Retired Members	Inactive Members	Total Members	Annual Payroll	Average Annual Pay	Percent Increase in Average Annual Pay
12/31/2014	743	69,391	24,569	7,672	101,632	\$ 3,526,108,551	\$ 50,815	3.7%
12/31/2015	753	71,287	25,819	7,921	105,027	\$ 3,707,706,923	\$ 52,011	2.4%
12/31/2016	753	72,742	26,884	8,513	108,139	\$ 3,887,244,457	\$ 53,439	2.7%
12/31/2017	764	73,757	28,947	8,989	111,693	\$ 4,096,626,695	\$ 55,542	3.9%
12/31/2018	768	75,035	30,453	9,555	115,043	\$ 4,279,380,674	\$ 57,032	2.7%
12/31/2019	766	76,953	32,039	9,957	118,949	\$ 4,559,480,007	\$ 59,250	3.9%
12/31/2020	777	77,880	33,723	10,409	122,012	\$ 4,886,294,497	\$ 62,741	5.9%
12/31/2021	783	79,205	35,323	11,284	125,812	\$ 5,023,116,464	\$ 63,419	1.1%

Table A-6

Average Contribution Rates		
Actuarial Valuation Date	Active Coverage	Retiree Coverage
12/31/2014	0.17%	0.05%
12/31/2015	0.16%	0.05%
12/31/2016	0.17%	0.05%
12/31/2017	0.17%	0.06%
12/31/2018	0.17%	0.06%
12/31/2019 ^①	0.12%	0.16%
12/31/2020	0.12%	0.16%
12/31/2021 ^②	0.25%	0.17%

^① Mortality assumptions and premium calculation methods were modified as of the December 31, 2019 valuation.

^② Premium calculations determined by the December 31, 2021 actuarial valuation include a one-time load for adverse experience of 2.0 and 1.1 for active and retiree coverage, respectively.

Contribution rates are effective beginning one year from the actuarial valuation date.

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Statistical Section

Statistical Section Overview
Financial Trends Information
Demographic Information

Statistical Section Overview

The Statistical Section provides historical context for understanding what the Basic Financial Statements and Required Supplementary Information say about TMRS' overall financial condition. This section presents information consistent with GASB Statement No. 44, *Economic Condition Reporting: The Statistical Section*.

Changes in Fiduciary Net Position for the Pension Trust Fund and the Supplemental Death Benefits Fund are presented for the last 10 years. Information presented in these tables is derived from the Statement of Changes in Fiduciary Net Position located in the Financial Section of this and prior years' annual reports.

The Schedule of Average Benefit Payments for New Retirements provides information on the average monthly benefit and number of retirees over the last 10 years, categorized in five-year increments of credited service.

The Schedule of Retirement Benefit Recipients by Type of Benefit presents the benefit options selected by current retirees in ranges of monthly benefit levels.

The Schedules of Principal Participating Cities show the top 10 participating cities based on membership size for the Pension Trust Fund and the Supplemental Death Benefits Fund as of December 31, 2021 and 2012.

Financial Trends Information

Table S-1 (1 of 2)

Changes in Fiduciary Net Position – Last 10 Years (Pension Trust Fund)					
For the Year Ended December 31					
	2012	2013	2014	2015	2016
Additions to net position by source					
City contributions	\$ 664,852,429	\$ 681,469,222	\$ 719,904,310	\$ 751,708,718	\$ 768,252,338
Member contributions	327,363,043	339,906,924	355,413,935	376,103,505	389,919,391
Net investment income (loss)	1,863,280,541	1,974,888,477	1,285,344,179	35,011,429	1,602,187,418
Other	13,962	17,961	29,491	3,900	25,956
Total additions to net position	2,855,509,975	2,996,282,584	2,360,691,915	1,162,827,552	2,760,385,103
Deductions from net position by type					
Retirement benefits					
Service retirements	729,636,554	794,458,670	861,959,010	937,848,878	1,005,485,139
Disability retirements	16,049,912	16,469,149	16,873,699	16,775,098	17,019,188
Partial lump sum distributions	119,250,573	135,568,703	149,739,411	148,161,053	139,559,781
Total retirement benefits	864,937,039	946,496,522	1,028,572,120	1,102,785,029	1,162,064,108
Member account refunds					
Withdrawal/Ineligibility	56,756,327	56,856,706	58,174,242	55,742,784	52,935,465
Death	1,086,396	870,968	548,881	1,232,485	1,246,130
Total member account refunds	57,842,723	57,727,674	58,723,123	56,975,269	54,181,595
Administrative expenses	12,114,375	12,821,721	13,419,567	21,325,422	18,095,315
Income allocated to SDBF	1,310,740	1,202,065	1,132,803	1,057,178	1,000,892
Total deductions from net position	936,204,877	1,018,247,982	1,101,847,613	1,182,142,898	1,235,341,910
Change in fiduciary net position	1,919,305,098	1,978,034,602	1,258,844,302	(19,315,346)	1,525,043,193
Fiduciary net position, beginning of year	18,571,293,924	20,490,599,022	22,468,633,624	23,727,477,926	23,708,162,580
Fiduciary net position, end of year	\$ 20,490,599,022	\$ 22,468,633,624	\$ 23,727,477,926	\$ 23,708,162,580	\$ 25,233,205,773

Financial Trends Information

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Table S-1 (2 of 2)

Changes in Fiduciary Net Position – Last 10 Years (Pension Trust Fund)					
For the Year Ended December 31					
	2017	2018	2019	2020	2021
Additions to net position by source					
City contributions	\$ 838,363,116	\$ 881,531,535	\$ 930,236,155	\$ 1,191,723,159	\$ 1,076,907,798
Member contributions	410,527,770	427,808,238	453,608,174	479,187,524	492,319,722
Net investment income (loss)	3,497,133,077	(858,122,961)	4,279,485,297	2,414,460,057	4,469,101,837
Other	47,105	18,501	32,880	47,400	560,172
Total additions to net position	4,746,071,068	451,235,313	5,663,362,506	4,085,418,140	6,038,889,529
Deductions from net position by type					
Retirement benefits					
Service retirements	1,077,485,262	1,159,702,957	1,247,542,653	1,335,234,201	1,433,417,512
Disability retirements	17,005,751	17,060,303	17,080,384	17,178,149	17,238,392
Partial lump sum distributions	156,915,521	158,490,461	180,929,339	191,627,456	194,678,511
Total retirement benefits	1,251,406,534	1,335,253,721	1,445,552,376	1,544,039,806	1,645,334,415
Member account refunds					
Withdrawal/Ineligibility	58,344,609	63,195,632	61,089,736	54,413,400	60,352,469
Death	1,061,303	1,060,228	1,596,204	1,600,143	1,983,618
Total member account refunds	59,405,912	64,255,860	62,685,940	56,013,543	62,336,087
Administrative expenses	18,124,164	16,585,866	24,183,038	15,625,982	20,679,140
Income allocated to SDBF	965,614	885,044	759,316	657,050	418,537
Total deductions from net position	1,329,902,224	1,416,980,491	1,533,180,670	1,616,336,381	1,728,768,179
Change in fiduciary net position	3,416,168,844	(965,745,178)	4,130,181,836	2,469,081,759	4,310,121,350
Fiduciary net position, beginning of year	25,233,205,773	28,649,374,617	27,683,629,439	31,813,811,275	34,282,893,034
Fiduciary net position, end of year	\$ 28,649,374,617	\$ 27,683,629,439	\$ 31,813,811,275	\$ 34,282,893,034	\$ 38,593,014,384

Financial Trends Information

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Table S-2 (1 of 2)

Changes in Fiduciary Net Position – Last 10 Years (Supplemental Death Benefits Fund)					
For the Year Ended December 31					
	2012	2013	2014	2015	2016
Additions to net position by source					
City contributions	\$ 5,248,375	\$ 5,673,095	\$ 6,126,769	\$ 6,507,371	\$ 6,983,501
Income allocated from Interest Reserve Account	1,310,740	1,202,065	1,132,803	1,057,178	1,000,892
Total additions to net position	6,559,115	6,875,160	7,259,572	7,564,549	7,984,393
Deductions from net position by type					
Supplemental death benefits – active	5,001,559	4,462,634	4,164,899	4,964,631	3,759,923
Supplemental death benefits – retiree	3,618,125	4,187,500	4,285,094	4,190,144	4,726,250
Total deductions from net position	8,619,684	8,650,134	8,449,993	9,154,775	8,486,173
Change in fiduciary net position	(2,060,569)	(1,774,974)	(1,190,421)	(1,590,226)	(501,780)
Fiduciary net position, beginning of year	27,746,020	25,685,451	23,910,477	22,720,056	21,129,830
Fiduciary net position, end of year	\$ 25,685,451	\$ 23,910,477	\$ 22,720,056	\$ 21,129,830	\$ 20,628,050

Financial Trends Information

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Table S-2 (2 of 2)

Changes in Fiduciary Net Position – Last 10 Years (Supplemental Death Benefits Fund)					
For the Year Ended December 31					
	2017	2018	2019	2020	2021
Additions to net position by source					
City contributions	\$ 7,286,154	\$ 7,758,059	\$ 8,321,181	\$ 8,945,812	\$ 10,655,161
Income allocated from Interest Reserve Account	965,614	885,044	759,316	657,050	418,537
Total additions to net position	8,251,768	8,643,103	9,080,497	9,602,862	11,073,698
Deductions from net position by type					
Supplemental death benefits – active	5,177,812	4,912,215	6,812,283	5,346,471	11,608,967
Supplemental death benefits – retiree	4,771,250	5,355,144	5,501,603	5,738,125	6,240,625
Total deductions from net position	9,949,062	10,267,359	12,313,886	11,084,596	17,849,592
Change in fiduciary net position	(1,697,294)	(1,624,256)	(3,233,389)	(1,481,734)	(6,775,894)
Fiduciary net position, beginning of year	20,628,050	18,930,756	17,306,500	14,073,111	12,591,377
Fiduciary net position, end of year	\$ 18,930,756	\$ 17,306,500	\$ 14,073,111	\$ 12,591,377	\$ 5,815,483

Demographic Information

Table S-3

Schedule of Average Benefit Payments for New Retirements – Last 10 Years							
For Year Ended December 31	Years Credited Service						
	0 – 5	>5 – 10	>10 – 15	>15 – 20	>20 – 25	>25 – 30	>30
2012							
Average Monthly Benefit	\$209.76	\$370.74	\$837.42	\$1,253.33	\$1,525.77	\$2,267.20	\$3,598.25
Number of Active Retirees	102	353	406	319	641	488	634
2013							
Average Monthly Benefit	\$218.94	\$402.34	\$837.41	\$1,226.22	\$1,535.92	\$2,246.41	\$3,463.35
Number of Active Retirees	88	426	455	370	675	577	656
2014							
Average Monthly Benefit	\$223.90	\$429.36	\$860.37	\$1,340.43	\$1,597.50	\$2,386.99	\$3,940.89
Number of Active Retirees	111	427	471	385	770	619	812
2015							
Average Monthly Benefit	\$198.34	\$427.51	\$979.05	\$1,231.53	\$1,531.45	\$2,411.38	\$4,030.21
Number of Active Retirees	104	407	425	430	646	541	672
2016							
Average Monthly Benefit	\$203.35	\$444.09	\$1,005.40	\$1,298.39	\$1,628.25	\$2,482.32	\$4,124.83
Number of Active Retirees	103	443	460	442	680	528	717
2017							
Average Monthly Benefit	\$238.17	\$465.54	\$892.55	\$1,368.13	\$1,668.07	\$2,572.89	\$4,340.74
Number of Active Retirees	135	450	473	443	708	518	756
2018							
Average Monthly Benefit	\$259.99	\$491.85	\$985.34	\$1,388.46	\$1,666.64	\$2,545.11	\$4,205.29
Number of Active Retirees	129	416	511	506	765	505	752
2019							
Average Monthly Benefit	\$226.15	\$481.63	\$999.41	\$1,375.40	\$1,687.76	\$2,554.41	\$4,510.90
Number of Active Retirees	134	426	495	481	875	546	832
2020							
Average Monthly Benefit	\$216.72	\$485.03	\$1,032.59	\$1,450.21	\$1,843.08	\$2,763.42	\$4,570.67
Number of Active Retirees	137	555	507	539	869	565	849
2021							
Average Monthly Benefit	\$207.11	\$498.40	\$1,035.12	\$1,469.68	\$1,860.82	\$2,729.39	\$4,664.14
Number of Active Retirees	155	554	490	562	974	565	806

This schedule does not provide the average final average salary that is reported for a traditional defined benefit plan because TMRS' cash-balance retirement benefit is not based on an individual's final salary.

The number of active retirees in 2021 excludes 77 retirees that received a single payment in lieu of a monthly benefit.

Demographic Information

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Table S-4

Schedule of Retirement Benefit Recipients by Type of Benefit														
As of December 31, 2021														
Amount of Monthly Benefit	Benefit Recipients		Type of Benefit		Benefit Payment Options									
	Retirees	Beneficiary	Service	Disability	Life Only		Survivor Lifetime Options				Guaranteed Term Options			
					Retiree	Alternate	100%	75%	50%	2/3	5 yrs	10 yrs	15 yrs	
\$ 0 – 100	934	163	1,039	58	252	192	437	36	87	7	25	16	45	
\$ 101 – 500	9,548	2,142	11,172	518	3,404	962	4,049	417	1,275	136	376	310	761	
\$ 501 – 1,000	10,760	2,191	12,511	440	3,583	501	4,350	690	1,825	182	539	410	871	
\$ 1,001 – 1,500	9,504	1,517	10,808	213	3,043	214	3,704	652	1,693	219	470	313	713	
\$ 1,501 – 2,000	7,008	918	7,836	90	2,201	91	2,453	579	1,274	198	386	244	500	
\$ 2,001 – 2,500	5,188	583	5,734	37	1,656	54	1,747	421	952	160	281	165	335	
\$ 2,501 – 3,000	3,713	382	4,085	10	1,132	22	1,231	308	743	106	239	106	208	
\$ 3,001 – 3,500	2,890	249	3,137	2	915	18	864	279	606	74	165	82	136	
\$ 3,501 – 4,000	2,139	155	2,289	5	652	5	590	212	472	53	126	74	110	
\$ 4,001 & Over	6,703	329	7,030	2	2,074	13	1,546	974	1,507	116	321	188	293	
Subtotals	58,387	8,629	65,641	1,375	18,912	2,072	20,971	4,568	10,434	1,251	2,928	1,908	3,972	
Totals	67,016		67,016											67,016

The schedule above categorizes the amount of monthly benefits and retirement benefit recipients by type of benefit and payment option selected.

For benefit recipients who die before receiving benefits at least equal to the member's account balance (member contributions and interest only) on the date of retirement, the remaining balance is paid to their estate or beneficiary(ies).

The schedule does not include 1,076 retirees who received a single payment in lieu of a monthly retirement benefit and who remain eligible for retiree supplemental death benefit.

Benefit Payment Options. When a member applies for retirement, they have three options to determine how their lifetime monthly benefit will be paid.

- **Retiree Life Only** provides the largest monthly retirement benefit. A retiree will receive a lifetime monthly retirement benefit with no survivor benefits. At their death, all TMRS payments will cease.
- **Retiree Life and Survivor** provides a reduced lifetime monthly retirement benefit, but it provides a lifetime monthly benefit after the retiree's death to their beneficiary. At the retiree's death, their beneficiary will receive a percentage (50%, 75% or 100%) of the retiree's monthly benefit each month for the rest of the beneficiary's life. A Retiree Life and 2/3 Survivor benefit is no longer an option for new retirees.
- **Retiree Life and Guaranteed Term** provides a reduced lifetime monthly retirement benefit, but it provides a monthly benefit to their beneficiary(ies) if the retiree dies before the guaranteed payment term ends. At retirement, the retiree will select a guaranteed payment term of 5, 10 or 15 years that begins at their retirement date. Then, if the retiree dies before their selected term ends, their beneficiary(ies) will receive their benefit for the remainder of that term.

Demographic Information

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Table S-5

Schedule of Principal Participating Cities (Pension Trust Fund)						
Current Year and Nine Years Ago						
Participating City	2021			2012		
	Rank	Current Member Accounts	Percentage of Total	Rank	Current Member Accounts	Percentage of Total
San Antonio	1	7,057	6.1%	1	6,091	6.0%
Corpus Christi	2	2,571	2.2%	3	2,263	2.2%
Arlington	3	2,546	2.2%	2	2,442	2.4%
Plano	4	2,358	2.0%	4	2,098	2.1%
Laredo	5	2,305	2.0%	5	1,969	1.9%
Garland	6	2,082	1.8%	6	1,968	1.9%
Lubbock	7	1,808	1.6%	8	1,713	1.7%
Amarillo	8	1,721	1.5%	7	1,768	1.7%
San Antonio Water System	9	1,680	1.4%	9	1,660	1.6%
McAllen	10	1,621	1.4%	11	1,472	1.4%
All others		90,304	77.8%		78,383	77.1%
Total		116,053	100.0%		101,827	100.0%

Table S-6

Schedule of Principal Participating Cities (Supplemental Death Benefits Fund)										
Current Year and Nine Years Ago										
Participating City	2021					2012				
	Rank	Current Member Accounts	Retiree Accounts	Total Accounts	Percentage of Total	Rank	Current Member Accounts	Retiree Accounts	Total Accounts	Percentage of Total
Arlington	1	2,546	1,639	4,185	3.7%	1	2,442	1,068	3,510	4.0%
Laredo	2	2,305	1,017	3,322	2.9%	3	1,969	595	2,564	2.9%
Garland	3	2,082	1,236	3,318	2.9%	2	1,968	854	2,822	3.2%
Irving	4	1,532	885	2,417	2.1%	4	1,353	579	1,932	2.2%
Grand Prairie	5	1,380	684	2,064	1.8%	6	1,099	397	1,496	1.7%
Denton	6	1,323	647	1,970	1.7%	9	1,065	318	1,383	1.6%
Abilene	7	1,024	736	1,760	1.5%	5	978	556	1,534	1.7%
Brownsville	8	1,097	563	1,660	1.4%	8	1,096	341	1,437	1.6%
Pasadena	9	1,005	620	1,625	1.4%	7	933	538	1,471	1.7%
McKinney	10	1,213	279	1,492	1.3%	17	795	112	907	1.0%
All others		63,698	27,017	90,715	79.3%		53,305	15,297	68,602	78.4%
Total		79,205	35,323	114,528	100.0%		67,003	20,655	87,658	100.0%