

# Annual Comprehensive Financial Report

For the year ending December 31, 2022

The logo for the Texas Municipal Retirement System (TMRS) features the letters "TMRS" in a bold, blue, sans-serif font. A small, white, diamond-shaped icon is positioned between the "M" and "R". A thick red horizontal line is located directly beneath the letters.

*Celebrating 75 Years*

Texas Municipal Retirement System



# THE STATE OF TEXAS

## GOVERNOR



*To all to whom these presents shall come,  
Greetings: Know ye that this official recognition is presented to the*

# Texas Municipal Retirement System

*on the occasion of its*

## 75th Anniversary

*Modern life offers a level of comfort and security that would be unimaginable to previous generations. We often take the cornerstones of contemporary society—such as clean, running water, reliable access to electricity, and safe streets—for granted. To a considerable extent, these important fixtures of our civic landscape are administered at the local level. Collectively, we owe our firefighters, police officers, and civil servants gratitude and support, and to this end, the Texas Legislature created the Texas Municipal Retirement System (TMRS) in 1948. Comfortable, secure retirement is the just reward for a lifetime of honest work, and this system has—for three quarters of a century—ensured that our public servants can attain financial security, even in the event of disabling accidents to employees or their families.*

*In the decades since its inception, TMRS has withstood every test—from the ebb and flow of the national economy to the considerable shifts in both our workforce and our demographics. Although much has changed in the past seventy-five years, TMRS's dedication to municipal employees has not. These hardworking Texans spend their careers serving their communities, and in return, TMRS has long prioritized their well-being. This system has stood the test of time, and its longevity is a testament to the trust Texans have placed in it. As you mark this special milestone, I hope you will take pride in the important service you have provided hardworking Texans and their families, and as you look to the future, I hope you will retain the spirit of community service that has defined TMRS and those whom you have so diligently served. I know that you will continue to be an integral component of our labor force and our society for generations to come.*

*First Lady Cecilia Abbott joins me in sending best wishes.*

*In testimony whereof, I have signed my name and caused the Seal of the State of Texas to be affixed at the City of Austin this the 3rd day of January, 2023*



Greg Abbott  
Governor of Texas





## Happy 75th Birthday TMRS!

75 years ago, in June of 1948, a small group of intrepid Texas cities – Bryson, Denison, Grand Saline, Greenville, Lampasas, Mart, Somerville and Weimer – joined a fledgling retirement system called the Texas Municipal Retirement System. Since that very modest start, TMRS now serves 928 Texas cities and more than 210,000 city employees, retirees, and their beneficiaries.

While we may take TMRS for granted today, other retirement options were under consideration:

- contracting with a private insurance company,
- extending social security to municipal employees “if and when it is made available” (the Social Security Act of 1935 excluded local government employees from coverage until the 1950s), or
- having each municipality establish its own pension plan.

However, each of these options presented problems. Private insurance plans were deemed too rigid, inflexible, and expensive; social security, even if it was available to municipal employees, lacked flexibility; and individual municipal pension plans were too financially risky.

These considerations led to a 1944 amendment to the Texas Constitution to permit the establishment of an official state-wide system to provide retirement benefits to municipal employees. In 1947, the legislature passed the TMRS Act, and, one year later, the intrepid cities joined the System. The rest, as they say, is history.

As you well know, a career in public service is more than just a job. So, too, is working at TMRS where our staff have the privilege to help you who have devoted your career to helping others. Governor Abbott expressed it well in his recognition of TMRS’ 75th anniversary:

*A secure retirement is the just reward for a lifetime of honest work, and this system has – for three quarters of a century – ensured that our public servants can attain financial security... TMRS has withstood every test... although much has changed in the past seventy-five years, TMRS’ dedication to municipal employees has not.*

In 1949, TMRS was called “one of the very best public employee retirement systems in the nation.” It was true then, and we’re proud to say, it’s still true today.

Texas Municipal Retirement System, © 2023.

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Austin, TX 78714-9153

800-924-8677

[tmrs.com](http://tmrs.com)

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*Celebrating 75 Years*

## **Annual Comprehensive Financial Report**

For the Year Ended December 31, 2022

Prepared by:

David Wescoe, Executive Director

Michael Apperley, Chief Financial Officer

Candace Nolte, Director of Finance

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# 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



June 9, 2023

## **To the Trustees, Members, Retirees, Beneficiaries, and Participating Cities of the Texas Municipal Retirement System**

I am pleased to present you with the Texas Municipal Retirement System (TMRS) Annual Comprehensive Financial Report for the year ended December 31, 2022 (Report).

### **TMRS Background**

Beginning in 1948 with eight participating cities, in 2022 TMRS was the retirement system of choice for 919 Texas cities, providing retirement, disability, and death benefits to 150,030 members and 71,265 retirees.

TMRS is a cash-balance retirement plan in which a Member's retirement benefit is calculated based on the sum of their contributions with interest, city monetary credits, the Member's age at retirement, and other actuarial factors. For 75 years, TMRS has provided billions of dollars in lifetime retirement benefits to thousands of Texans. In 2022, TMRS paid \$1.8 billion in benefits, an increase of \$136.2 million, or 8.3%, from \$1.6 billion in benefits paid in 2021.

### **Investments**

TMRS' 2022 net investment return was -7.35%, and Trust Fund investments totaled \$35.5 billion as of December 31, 2022. TMRS' three-year, five-year, and ten-year net investment returns were 4.10%, 4.81% and 5.98%, respectively, for the same periods. The Investment Section summarizes 2022 investment operations and asset class performance.

The TMRS Board of Trustees (Board) adopts an Investment Policy Statement (IPS) that establishes the Trust Fund's asset allocation, portfolio performance objectives, and benchmarks. The Board reviews the IPS and the Trust Fund's asset allocation annually and updates them to reflect prevailing investment and economic circumstances. Compliance with the IPS is monitored by Investment Department staff.

### **Actuarial Valuation Report**

In accordance with the TMRS Act, Gabriel, Roeder, Smith & Company (GRS), the Board's independent actuary, completes an annual actuarial valuation of Trust Fund assets and liabilities. GRS' Actuarial Valuation Report conforms with the Actuarial Standards of Practice issued by the Actuarial Standards Board and complies with the requirements of the TMRS Act, the Internal Revenue Code, and the Statements of the Governmental Accounting Standards Board. The assumptions and methods used in the Valuation Report are summarized in the Actuarial Section.

Each participating city chooses its own plan benefit provisions from various options. Whatever plan benefit options a city chooses, its funding objective is to provide retirement, death, and disability benefits for the city's employees financed by employee and city contributions.

# Executive Director's Letter of Transmittal

CONTINUED

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

While each TMRS participating city has its own funded ratio, TMRS' composite funded ratio was 89.7% as of December 31, 2022, compared to 90.5% as of December 31, 2021.

## 2022 Operational Activities

TMRS' Senior Staff completed each item on its 2022 Action Plan, including:

- Implementing a new city portal contribution system.
- Completing a comprehensive RFP process resulting in the Board's retention of NEPC as TMRS' General Investment Consultant.
- Enhancing Member, participating city, and staff training.
- Improving the website's structure and content.
- Creating TMRS Fact Sheets for participating cities and Members.
- Selling TMRS' former headquarters building.

Each item strengthened the organization and improved service to Members and participating cities.

## Senior Staff Updates

TMRS' Senior Staff is experienced and talented. In 2022, we added David Hunter as Chief Investment Officer, Jac Greene as TMRS' first Chief Information Officer, and Mike Apperley as Director of Internal Audit.

The following Senior Staff were promoted during 2022: Debbie Munoz to Chief Service Officer, Andi Focht-Williams to Director of Benefit Administration, Nick O'Keefe to Deputy Chief Legal Officer, Tom Masthay to Deputy Chief Investment Officer, and Candace Nolte to Director of Finance.

In early 2023, Mike Apperley became TMRS' first Chief Financial Officer, and Nick O'Keefe moved to the Investment Department as Deputy Chief Investment Officer.

## TMRS Accountability, Transparency and Financial Integrity

**Financial Statements.** TMRS management prepared this Report and is responsible for the accuracy of the data contained in it and the completeness and fairness of the presentation of its financial information. 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' independent auditors, CliftonLarsonAllen LLP, performed an audit of the Report's 2022 financial statements. Information regarding the scope of their audit is included in the Independent Auditors' Report in the Financial Section.

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

**Internal Controls.** TMRS management is responsible for establishing and maintaining internal controls designed to ensure that Trust Fund assets are protected from theft or misuse. 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.

# Executive Director's Letter of Transmittal

CONTINUED

## Achievements in Financial Reporting and System Administration

The Government Finance Officers Association of the United States and Canada (GFOA) awarded TMRS' Annual Comprehensive Financial Report for the year ended December 31, 2021 its Certificate of Achievement for Excellence in Financial Reporting. To receive this Certificate, a governmental entity must publish an easily readable and efficiently organized comprehensive annual financial report that satisfies both generally accepted accounting principles and applicable legal requirements. This was the 35th consecutive year that TMRS has achieved this recognition.

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

The GFOA also recognized TMRS' 2021 Popular Annual Financial Report for Outstanding Achievement in Popular Annual Financial Reporting.

TMRS received the Public Pension Coordinating Council's 2022 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 Update

Jesús Garza, the City Manager of the City of Victoria, served as Board Chair in 2022, and Bob Scott, the Executive Director of Administration for the Town of Prosper, served as Vice Chair.

In March 2023, the Texas Senate unanimously confirmed Governor Abbott's reappointment of Trustee David Landis to the Board. Mr. Landis has more than a decade of Board service, and his leadership and experience have been instrumental to TMRS' success.

## Acknowledgements

TMRS had a successful 2022. I want to thank our Trustees for their leadership and support, and my staff colleagues for their passion in serving our members, retirees, beneficiaries, and participating cities.

Sincerely,



David B. Wescoe

Executive Director

# Board of Trustees

AS OF DECEMBER 31, 2022



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



**Bob Scott, Vice Chair**  
Executive Director of  
Administration  
Town of Prosper  
Term expires: February 1, 2025



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



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



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



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



# Board Committees

AS OF DECEMBER 31, 2022

## Advisory Committee on Benefit Design

The Advisory Committee on Benefit Design provides the Board with input on benefit design matters. The Committee has 10 non-Board members: three Individual Representatives consisting of TMRS members, retirees and elected officials and seven Group Representatives from organizations that represent TMRS Members.

**Chair • Jesús Garza**

**Vice Chair • Anali Alanis**

### Individual Representatives

- Allison Heyward, Councilmember, City of Schertz
- Barry Sullivan, City Manager, City of Gainesville
- Retiree representative – vacant

### 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
- Jaime Reyes, Texas State Association of Fire Fighters
- Casey Srader, Government Finance Officers Association of Texas

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## Audit Committee

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

**Chair • Bill Philibert**

**Vice Chair • David Landis**

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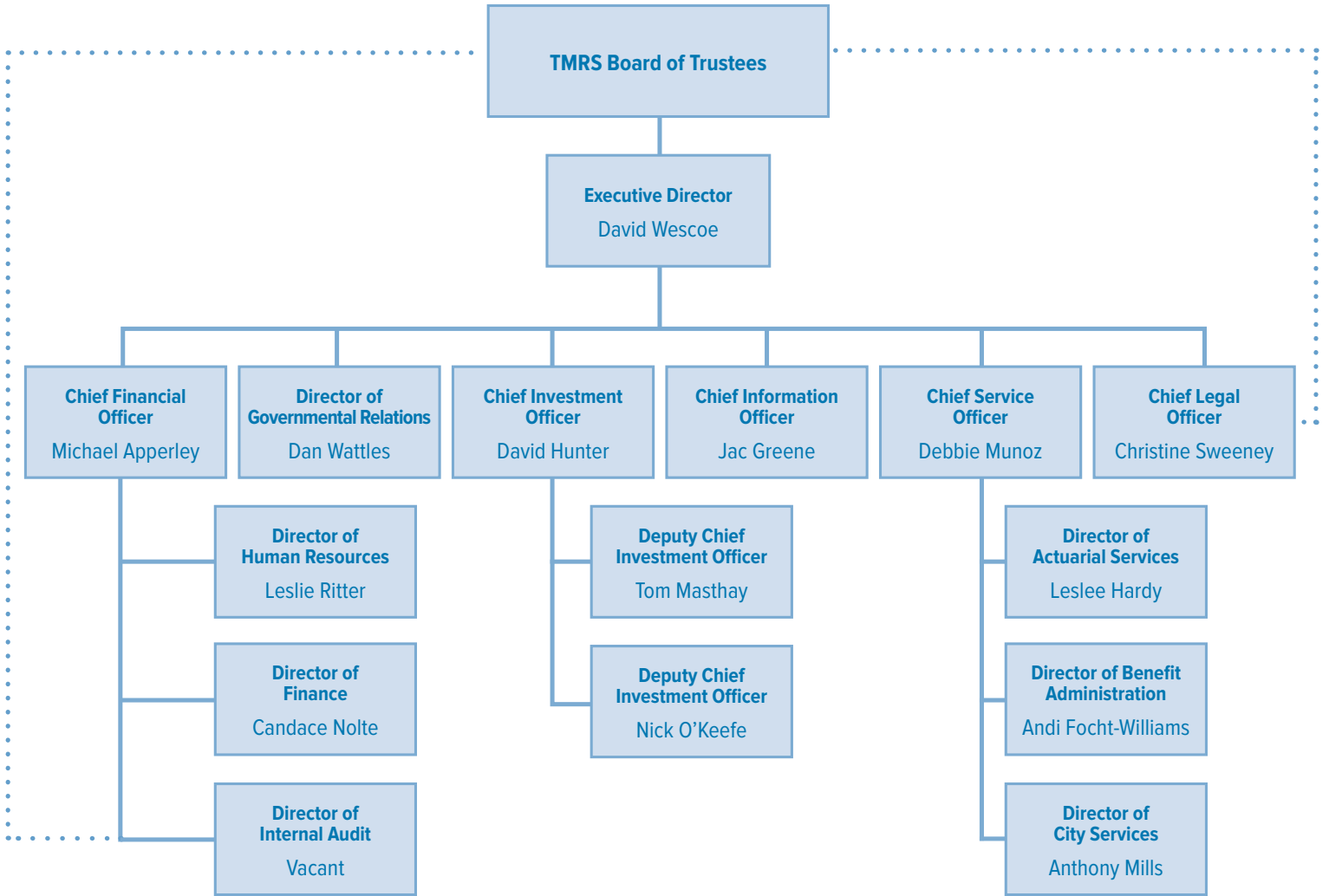
## Budget and Compensation Committee

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

**Chair • Bob Scott**

**Vice Chair • Johnny Huizar**

# Organization Chart



# Professional Advisors

AS OF DECEMBER 31, 2022

## Actuary

Gabriel, Roeder, Smith & Company  
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  
Baltimore, MD

## Investment Consultants

Albourne America LLC  
San Francisco, CA

NEPC, LLC  
Boston, MA

TMRS' investments are managed by TMRS staff and external investment managers. Investment expenses, external investment fees and investment managers are presented in Tables I-6, I-7 and I-8 in the Investment Section.

# 2022 Highlights

Financial Highlights (dollars in millions)		Participating Cities	
City Contributions	\$1,144.8	Total Participating Cities	919
Member Contributions	\$529.9	New Participating Cities	18
Retirement Benefits	\$1,781.5	Number of Cities with:	
Member Account Refunds	\$73.8	City Match – 1:1	168
Administrative Expenses	\$24.4	City Match – 1.5:1	108
Fiduciary Net Position	\$35,600.5	City Match – 2:1	643
System Funded Ratio	89.7 %	Member Contribution Rate – 3%	3
		Member Contribution Rate – 5%	329
		Member Contribution Rate – 6%	99
		Member Contribution Rate – 7%	488
		5-Year Vesting	874
		10-Year Vesting	45
Investments (dollars in millions)			
Investments	\$35,497.4		
Time-Weighted Net Investment Returns:			
1 Year	-7.35 %		
3 Years	4.10 %		
5 Years	4.81 %		
10 Years	5.98 %		
Actuarial Investment Return Assumption	6.75 %		
Membership Statistics			
Active Members	119,528		
Retired Members	71,265		
Inactive, Vested Members	30,502		
Total Members	221,295		

Highlights presented are for the Pension Trust fund.

# 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, 2021

*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, 2021. This is the 35th consecutive year that TMRS has received this prestigious award.





Public Pension Coordinating Council

***Public Pension Standards Award  
For Funding and Administration  
2022***

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 2022. This is the 17th 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

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), as of and for the year ended December 31, 2022, 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, 2022, 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.

# Independent Auditors' Report

CONTINUED

## ***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

## **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, 2023

# 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, 2022.

MD&A is intended to help the reader understand the key components of TMRS' financial statements and provide a summary of its financial condition. MD&A 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 fiduciary 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 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 participating cities that provide supplemental death benefits.

The Basic Financial Statements include:

- The Statement of Fiduciary Net Position that presents the assets available for future payments of benefits to members, retirees and beneficiaries and current liabilities owed as of December 31, 2022.
- The Statement of Changes in Fiduciary Net Position that includes the annual additions (investment income and contributions) and deductions (benefit payments and other expenses) for the year ended December 31, 2022.
- 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 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, 2022.

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 provide a summary of assets, liabilities, and fiduciary net position for the Pension Trust Fund (including the FBAF) as of December 31, 2022 and 2021, and a summary of changes in fiduciary net position for the years then ended. The fiduciary net position of the Pension Trust Fund decreased by \$3.0 billion from 2021 to 2022, or -7.8%, primarily from the net investment loss recognized in 2022.

**Table F-1**

<b>Summary of Fiduciary Net Position – Pension Trust Fund (dollars in millions)</b>				
As of December 31				
	<b>2022</b>	<b>2021</b>	<b>Increase (Decrease)</b>	<b>% Change</b>
<b>ASSETS</b>				
Investments, at fair value	\$ 35,497.4	\$ 38,790.2	\$ (3,292.8)	(8.5) %
Receivables	339.5	524.0	(184.5)	(35.2)
Cash and other assets	10.6	15.7	(5.1)	(32.5)
Capital assets, net	2.9	9.6	(6.7)	(69.8)
Total assets	35,850.5	39,339.5	(3,489.0)	(8.9)
<b>LIABILITIES</b>				
Payables and other liabilities	248.0	741.9	(493.9)	(66.6)
Funds held for SDBF	2.0	4.6	(2.6)	(56.5)
Total liabilities	250.0	746.5	(496.5)	(66.5)
<b>FIDUCIARY NET POSITION</b>	<b>\$ 35,600.5</b>	<b>\$ 38,593.0</b>	<b>\$ (2,992.5)</b>	<b>(7.8) %</b>

Columns may not total due to rounding.

The most significant component of TMRS' fiduciary net position is the fair value of the Trust Fund investments. The change in investments reflects the net decrease in the portfolio's value during 2022. The fluctuation of receivables and payables is due primarily to the timing of investment trade activity at year-end.

# Management's Discussion and Analysis

CONTINUED

Table F-2

<b>Summary of Changes in Fiduciary Net Position – Pension Trust Fund (dollars in millions)</b>				
For the Year Ended December 31				
	<b>2022</b>	<b>2021</b>	<b>Increase (Decrease)</b>	<b>% Change</b>
<b>ADDITIONS</b>				
City contributions	\$ 1,144.8	\$ 1,076.9	\$ 67.9	6.3 %
Member contributions	529.9	492.3	37.6	7.6
Net investment income/(loss)	(2,816.6)	4,469.1	(7,285.7)	(163.0)
Other	29.3	0.5	28.8	5,760.0
Total additions	(1,112.6)	6,038.8	(7,151.4)	(118.4)
<b>DEDUCTIONS</b>				
Retirement benefits	1,781.5	1,645.3	136.2	8.3
Member account refunds	73.8	62.3	11.5	18.5
Administrative expenses	24.4	20.7	3.7	17.9
Income allocated to SDBF	0.2	0.4	(0.2)	(50.0)
Total deductions	1,879.9	1,728.7	151.2	8.7
<b>CHANGE IN FIDUCIARY NET POSITION</b>	<b>(2,992.5)</b>	<b>4,310.1</b>	<b>(7,302.6)</b>	<b>(169.4)</b>
<b>FIDUCIARY NET POSITION</b>				
Beginning of year	38,593.0	34,282.9	4,310.1	12.6
<b>END OF YEAR</b>	<b>\$ 35,600.5</b>	<b>\$ 38,593.0</b>	<b>\$ (2,992.5)</b>	<b>(7.8) %</b>

Net investment income/(loss) includes interest, dividends and net appreciation/(depreciation) in the fair value of investments, less investment expenses. The change from 2021 to 2022 is due to investment performance over the periods. Time-weighted net investment returns were -7.35% in 2022 and 12.86% in 2021.

During 2022, TMRS sold its former headquarters building. Other additions includes the \$29.2 million gain that was recognized on the sale.

The increase in retirement benefits is due to growth in the number of retired members from 68,092 in 2021 to 71,265 in 2022, and the increase in partial lump-sum distributions paid, \$194.7 million in 2021 compared with \$230.4 million in 2022.

# Management's Discussion and Analysis

CONTINUED

## Net Position – Supplemental Death Benefits Fund

Tables F-3 and F-4 provide a summary of fiduciary net position as of December 31, 2022 and 2021 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 by -44.8% due to supplemental death benefit payments exceeding contributions.

**Table F-3**

<b>Summary of Fiduciary Net Position – SDBF (dollars in millions)</b>					
As of December 31					
	2022	2021	Increase (Decrease)	% Change	
<b>TOTAL ASSETS AND FIDUCIARY NET POSITION</b>	\$ 3.2	\$ 5.8	\$ (2.6)	<b>(44.8) %</b>	

**Table F-4**

<b>Summary of Changes in Fiduciary Net Position – SDBF (dollars in millions)</b>					
For the Year Ended December 31					
	2022	2021	Increase (Decrease)	% Change	
<b>ADDITIONS</b>					
City contributions	\$ 11.2	\$ 10.6	\$ 0.6	5.7 %	
Income allocated from Interest Reserve	0.2	0.4	(0.2)	(50.0)	
Total additions	11.4	11.0	0.4	3.6	
<b>DEDUCTIONS</b>					
Supplemental death benefits	14.1	17.8	(3.7)	(20.8)	
Total deductions	14.1	17.8	(3.7)	(20.8)	
<b>CHANGE IN FIDUCIARY NET POSITION</b>	<b>(2.7)</b>	<b>(6.8)</b>	<b>4.1</b>	<b>60.3</b>	
<b>FIDUCIARY NET POSITION</b>					
Beginning of year	5.8	12.6	(6.8)	(54.0)	
<b>END OF YEAR</b>	<b>\$ 3.2</b>	<b>\$ 5.8</b>	<b>\$ (2.6)</b>	<b>(44.8) %</b>	

Columns may not total due to rounding.

Contributions from cities participating in the SDBF are based on the payroll of covered members at actuarially determined rates. The fluctuation in supplemental death benefits over the two-year period is a result of the number and type of claims in those years. The SDBF receives a 5% statutory interest allocation from the Interest Reserve Account based on the SDBF'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](mailto:finance@tmrs.com).

# Statement of Fiduciary Net Position

**Table F-5**

<b>Statement of Fiduciary Net Position</b>			
As of December 31, 2022			
	Pension Trust Fund	Supplemental Death Benefits Fund	Total
<b>ASSETS</b>			
Cash	\$ 5,785,347	\$ —	\$ 5,785,347
Receivables			
Contributions	152,635,528	1,167,274	153,802,802
Interest and dividends	29,374,524	—	29,374,524
Unsettled investment trades	157,486,559	—	157,486,559
Total receivables	339,496,611	1,167,274	340,663,885
Investments, at fair value			
Short term investments	442,247,883	—	442,247,883
Fixed income securities	3,216,585,509	—	3,216,585,509
Public equities	13,368,275,244	—	13,368,275,244
Non-core fixed income funds	5,237,413,983	—	5,237,413,983
Other public & private markets funds	2,515,613,296	—	2,515,613,296
Hedge funds	2,228,970,128	—	2,228,970,128
Private equity funds	3,701,420,555	—	3,701,420,555
Private real estate funds	4,786,880,450	—	4,786,880,450
Total investments	35,497,407,048	—	35,497,407,048
Capital assets, net	2,938,554	—	2,938,554
Other assets	4,853,356	—	4,853,356
Funds held by Interest Reserve Account	—	1,986,715	1,986,715
<b>TOTAL ASSETS</b>	<b>35,850,480,916</b>	<b>3,153,989</b>	<b>35,853,634,905</b>
<b>LIABILITIES</b>			
Accounts payable and other accrued liabilities	22,500,046	—	22,500,046
Unsettled investment trades payable	225,503,368	—	225,503,368
Funds held for Supplemental Death Benefits Fund	1,986,715	—	1,986,715
<b>TOTAL LIABILITIES</b>	<b>249,990,129</b>	<b>—</b>	<b>249,990,129</b>
<b>FIDUCIARY NET POSITION</b>			
Net position restricted for pensions	35,600,490,787	—	35,600,490,787
Fiduciary net position held in trust for other benefits	—	3,153,989	3,153,989
<b>TOTAL FIDUCIARY NET POSITION</b>	<b>\$ 35,600,490,787</b>	<b>\$ 3,153,989</b>	<b>\$ 35,603,644,776</b>

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

# Statement of Changes in Fiduciary Net Position

Table F-6

Statement of Changes in Fiduciary Net Position For the Year Ended December 31, 2022			
	Pension Trust Fund	Supplemental Death Benefits Fund	Total
<b>ADDITIONS</b>			
Contributions			
City	\$ 1,144,820,990	\$ 11,218,958	\$ 1,156,039,948
Member	529,914,380	—	529,914,380
Total contributions	1,674,735,370	11,218,958	1,685,954,328
Net investment loss			
Net depreciation in fair value of investments	(3,256,856,767)	—	(3,256,856,767)
Interest and dividends	469,097,856	—	469,097,856
Total investment loss	(2,787,758,911)	—	(2,787,758,911)
Less investment expense	(28,871,492)	—	(28,871,492)
Net investment loss	(2,816,630,403)	—	(2,816,630,403)
Other	29,274,135	—	29,274,135
Income allocated from Interest Reserve Account	—	183,971	183,971
<b>TOTAL ADDITIONS</b>	(1,112,620,898)	11,402,929	(1,101,217,969)
<b>DEDUCTIONS</b>			
Retirement benefits	1,781,494,589	—	1,781,494,589
Supplemental death benefits	—	14,064,423	14,064,423
Member account refunds	73,846,188	—	73,846,188
Administrative expenses	24,377,951	—	24,377,951
Income allocated to Supplemental Death Benefits Fund	183,971	—	183,971
<b>TOTAL DEDUCTIONS</b>	1,879,902,699	14,064,423	1,893,967,122
<b>CHANGE IN FIDUCIARY NET POSITION</b>	(2,992,523,597)	(2,661,494)	(2,995,185,091)
<b>FIDUCIARY NET POSITION</b>			
Fiduciary net position restricted for pensions			
Beginning of year	38,593,014,384	—	38,593,014,384
End of year	35,600,490,787	—	35,600,490,787
Fiduciary net position held in trust for other benefits			
Beginning of year	—	5,815,483	5,815,483
End of year	—	3,153,989	3,153,989
<b>TOTAL FIDUCIARY NET POSITION</b>	<b>\$ 35,600,490,787</b>	<b>\$ 3,153,989</b>	<b>\$ 35,603,644,776</b>

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, FBAF 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 these 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 (collectively, 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 account 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 to the BAF, allocated to each city in proportion to its BAF balance at January 1 of that year. The BAF received a negative 7.42% interest credit effective December 31, 2022.

**Supplemental Disability Benefits Fund.** Effective January 1, 1988, the TMRS Act was amended to terminate the 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 Fund effective each December 31 based on the average balance in the fund during the year.

**Endowment Fund.** The Endowment Fund includes accumulated 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 the FBAF, which receives contributions from cities and pays benefits from such contributions for any benefits exceeding the Section 415(b) limit. The FBAF is separate from the Pension Trust fund, but is combined in the accompanying financial statements for presentation purposes only.

### 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 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

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## D. Investments

As of December 31, 2022, TMRS' investments included short-term investments, 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.

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 leasehold improvements, furniture, equipment and software, 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. Amortization of leasehold improvements is calculated on a straight-line basis over the lease term.

During 2022, TMRS sold its former headquarters building. A gain of \$29.2 million was recognized on the sale and is included as other additions on the accompanying Statement of Changes in Fiduciary Net Position.

# Notes to Financial Statements

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## 2. Plan Description

### A. Pension Trust Fund

TMRS administers a defined benefit cash-balance plan for the eligible employees of 919 participating cities. Under GASB, TMRS is an agent multiple-employer public employee retirement system.

**Membership.** A participating city employee, working 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.

**Table F-7**

<b>TMRS Member Accounts</b>	
As of December 31, 2022	
Active member accounts:	
Vested	69,068
Non-vested	50,655
<b>TOTAL</b>	<b>119,723</b>
Inactive member accounts entitled to but not yet receiving benefits:	
Vested	38,858
Non-vested	41,748
<b>TOTAL</b>	<b>80,606</b>
Retirees and beneficiaries currently receiving benefits	80,608
<b>TOTAL MEMBER ACCOUNTS</b>	<b><u>280,937</u></b>

**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 in all participating cities.

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, and receive a lifetime monthly retirement benefit.

# Notes to Financial Statements

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**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.

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, 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 with a lifetime monthly benefit after the retiree's death to their beneficiary. At the retiree's death, the beneficiary receives 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 with a monthly benefit to their beneficiary(ies) if the retiree dies before the guaranteed payment term ends. At retirement, the retiree selects 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) receives their benefit for the remainder of that term.

# Notes to Financial Statements

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*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.

**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 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, beliefs, benchmarks, asset allocation and responsibilities and limitations of the Board, TMRS staff, investment managers and consultants.

The objective of TMRS' investment program is to ensure that members, retirees and beneficiaries receive the benefits they have accrued through their work at participating cities, and at a reasonable and predictable cost to those cities. To achieve this objective, the Board is responsible for adopting an Actuarial Return Assumption (ARA), which is currently 6.75%. The Board's asset allocation is intended to produce long-term investment returns that meet or exceed the ARA at a level of risk acceptable to the Board.

**Table F-8**

<b>Strategic Target Allocation</b>			
As of December 31, 2022			
<b>Asset Class</b>	<b>Minimum %</b>	<b>Target %</b>	<b>Maximum %</b>
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, 2022, the annual money-weighted rate of return on Pension Trust Fund assets, net of investment expenses, was -7.36%. The money-weighted rate of return reflects investment performance, net of investment expense, adjusted for assets invested.

# Notes to Financial Statements

CONTINUED

## 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. The SDBF had 800 participating cities as of December 31, 2022.

**Table F-9**

<b>Supplemental Death Benefits Fund Member Accounts</b>	
<b>As of December 31, 2022</b>	
Active member accounts	81,535
Inactive vested member accounts	12,166
Retirees eligible for benefits	37,237
<b>Total</b>	<b><u>130,938</u></b>

**Contributions.** Participating cities contribute to the SDBF monthly based on the payroll of their covered members at an annually 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.

# Notes to Financial Statements

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## 3. TMRS as Employer

### A. Pension Plan

TMRS as an employer 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.

TMRS' net pension liability (NPL) and pension expense were measured as of the December 31, 2021 actuarial valuation, TMRS' measurement date for GASB Statement No. 68. The NPL of \$2,414,463 is included in accounts payable and other accrued liabilities in the accompanying Statement of Fiduciary Net Position. TMRS' pension expense of \$1,028,086 for the fiscal year 2022 is included in administrative expenses in the accompanying Statement of Changes in Fiduciary Net Position.

**Table F-10**

<b>TMRS as Employer — Actuarial Valuation</b>	
<b>As of Measurement Date</b>	
<b>Member Accounts</b>	
Active member accounts	118
Inactive member accounts	51
Retiree accounts	48
Total	217
<b>Net Pension Liability</b>	
Total pension liability	\$ 62,164,360
Fiduciary net position	59,749,897
Net pension liability	\$ 2,414,463
<b>Plan Fiduciary Net Position as a % of Total Pension Liability</b>	96.12 %
<b>Sensitivity of the NPL to changes in discount rate</b>	
1% increase to 7.75%	\$ (4,533,672)
Current rate assumption of 6.75%	\$ 2,414,463
1% decrease to 5.75%	\$ 10,821,696

# Notes to Financial Statements

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## 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 2022, 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, 2022, 2021 and 2020 were \$24,920, \$24,025 and \$25,665, respectively, representing contributions for both employee and retiree coverage.

## 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. 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, 2022, 2021 and 2020 were \$1,227,121, \$1,171,811 and \$1,256,990, respectively, and \$75,291, \$76,233 and \$50,614, 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 of Texas and other entities as specified by the state legislature, including TMRS. 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](http://ers.texas.gov).

## D. Deferred Compensation

TMRS employees can 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.



# Notes to Financial Statements

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## 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 account balances with TMRS' depository bank totaled \$3,688,044, with a book value of \$(1,952,409) as of December 31, 2022. The negative book value represents uncleared checks and is classified as accounts payable and other accrued liabilities on the Statement of Fiduciary Net Position. Cash on deposit with TMRS' custodian bank totaled \$5,785,347 as of December 31, 2022.

### 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. Demand deposits held by the depository bank as of December 31, 2022, 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 \$16,113,900 as of December 31, 2022. The current FDIC coverage limit is \$250,000 for deposits held in non interest-bearing accounts. Deposits denominated in a foreign currency are neither collateralized nor insured as of December 31, 2022. See Table F-15 for more information.

## 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**

<b>Fair Value of Investments</b>		<b>Fair Value Measurements Using</b>			
<b>As of December 31, 2022</b>		<b>Total Fair Value</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<b>Fixed income</b>					
U.S. Treasury bonds/notes	\$ 612,564,000	\$ —	\$ 612,564,000	\$ —	\$ —
U.S. government agency	119,912,479	—	119,912,479	—	—
U.S. government-sponsored enterprise	421,769,411	—	421,769,411	—	—
Municipal bonds	10,847,171	—	10,847,171	—	—
Corporate bonds	961,644,431	—	961,644,431	—	—
Collateralized mortgage obligations	690,698,680	—	690,698,680	—	—
Other asset-backed securities	382,449,503	—	382,449,503	—	—
Foreign government bonds	16,699,834	—	16,699,834	—	—
	<u>3,216,585,509</u>	<u>—</u>	<u>3,216,585,509</u>	<u>—</u>	<u>—</u>
<b>Public equities</b>					
Equity securities, domestic	1,238,562,404	1,238,562,404	—	—	—
Equity securities, international	712,363,127	712,363,127	—	—	—
Global equity REITs	37,123,086	37,123,086	—	—	—
	<u>1,988,048,617</u>	<u>1,988,048,617</u>	<u>—</u>	<u>—</u>	<u>—</u>
<b>Total investments by fair value level</b>	<b>\$ 5,204,634,126</b>	<b>\$ 1,988,048,617</b>	<b>\$ 3,216,585,509</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Investments measured at Net Asset Value (NAV)</b>					
Non-core fixed income funds	\$ 5,237,413,983				
Other public & private markets funds	2,515,613,296				
Equity commingled funds	11,380,226,627				
Hedge funds	2,228,970,128				
Private equity funds	3,701,420,555				
Private real estate funds	4,786,880,450				
<b>Total investments measured at NAV</b>	<b>29,850,525,039</b>				
<b>Short term investments at cost</b>	<b>442,247,883</b>				
<b>Total investments</b>	<b><u>\$ 35,497,407,048</u></b>				

Equity securities classified as Level 1 are valued using prices quoted in active markets for those investments. Fixed income securities classified as Level 2 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, 2022.

Investments measured at Net Asset Value (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

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**Table F-12**

<b>Investments Measured at Net Asset Value (NAV)</b>				
<b>As of December 31, 2022</b>				
	<b>Fair Value</b>	<b>Unfunded Commitments</b>	<b>Redemption Frequency</b>	<b>Redemption Notice Period</b>
<b>Equity commingled funds</b>				
Domestic commingled funds	\$ 5,987,019,299	\$ —	Daily	1 – 2 days
Global commingled funds	5,393,207,328	—	Daily	1 – 2 days
<b>Non-core fixed income funds</b>				
Emerging market debt	1,537,823	—	Weekly	10 days
Global high yield	336,720,960	—	Daily	10 days
Loans	2,841,579,863	609,001,026	Quarterly	Varies: 45 – 60 days
Opportunistic credit	1,948,412,935	819,600,727	Varies: Monthly, Quarterly, Yearly, N/A	Varies: 60 – 90 days, N/A
Structured credit	109,162,402	—	Quarterly	Varies: 45 – 60 days
<b>Other public &amp; private markets funds</b>				
Agriculture	102,521,825	36,966,923	N/A	N/A
Energy	420,715,101	353,570,541	N/A	N/A
Esoterics	239,016,272	1,061,365,446	N/A	N/A
Infrastructure	1,396,430,045	1,140,529,536	Varies: Daily, N/A	Varies: 90 days, N/A
Mining	356,930,053	524,465,123	N/A	N/A
<b>Hedge funds</b>				
Credit	456,958,758	18,708,999	Varies: Quarterly, Yearly, N/A	Varies: 90 – 180 days
Equity hedge	634,204,632	27,857,827	Varies: Monthly, Quarterly, N/A	Varies: 45 – 80 days
Event-driven	979,828	—	Quarterly	90 days
Diversified fund of funds	1,945,589	—	Quarterly	95 days
Global macro	268,854,701	—	Quarterly	Varies: 30 – 90 days
Multi-strategy	441,584,733	39,792,742	Varies: Quarterly, Rolling 3-year	Varies: 60 days, N/A
Relative value	424,441,887	—	Varies: Monthly, Quarterly, 2.5 years	Varies: 25 – 180 days
<b>Private equity funds</b>				
Buy-out	2,052,070,572	2,013,370,297	N/A	N/A
Special situations	183,250,647	255,021,571	N/A	N/A
Venture/growth	1,466,099,336	980,103,967	N/A	N/A
<b>Private real estate funds</b>				
Core	2,703,067,932	312,065,555	Varies: Quarterly, N/A	Varies: 45 – 90 days, N/A
Opportunistic	607,011,820	597,402,164	N/A	N/A
Value-added	1,476,800,698	1,388,005,202	N/A	N/A
<b>Total</b>	<b>\$ 29,850,525,039</b>	<b>\$ 10,177,827,646</b>		

# Notes to Financial Statements

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- **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 in public and private market equity and debt strategies in natural resources, infrastructure, energy and other diversifying sectors with a risk and return profile in between private credit and private equity. TMRS invests in closed-end funds with average duration 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 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 provisions that 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 duration 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 duration 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. As of December 31, 2022, 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 guidelines set minimum credit ratings for the core fixed income portfolio to manage credit default risk. As of December 31, 2022, TMRS' core fixed income portfolio complied with the investment 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

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Table F-13

Fixed Income Securities with Exposure to Credit Default Risk							
As of December 31, 2022							
Bond Rating	Total Fair Value	U.S. Government- Sponsored Enterprise	Municipal Bonds	Corporate Bonds	Collateralized Mortgage Obligations	Other Asset-Backed Securities	Foreign Government Bonds
<b>Securities subject to credit default risk</b>							
AAA	\$ 101,587,626	\$ 6,545,683	\$ 462,563	\$ 2,330,952	\$ 82,653,146	\$ 9,595,282	\$ —
AA	55,385,822	—	4,853,508	12,013,857	27,765,092	10,381,722	371,643
A	250,122,376	—	5,528,698	212,711,519	15,842,855	14,725,136	1,314,168
BBB	331,030,856	—	2,402	251,653,988	45,436,516	18,923,927	15,014,023
BB	253,788,330	—	—	203,718,022	48,916,316	1,153,992	—
B	247,799,991	—	—	212,802,151	31,600,281	3,397,559	—
CCC	121,556,487	—	—	66,395,737	39,471,438	15,689,312	—
CC	42,070,824	—	—	—	22,741,002	19,329,822	—
C	56,229,974	—	—	—	10,382,658	45,847,316	—
D	6,271,456	—	—	—	1,571,273	4,700,183	—
Not Rated	1,018,265,288	415,223,728	—	18,205	364,318,103	238,705,252	—
<b>Total</b>	<b>\$ 2,484,109,030</b>	<b>\$ 421,769,411</b>	<b>\$ 10,847,171</b>	<b>\$ 961,644,431</b>	<b>\$ 690,698,680</b>	<b>\$ 382,449,503</b>	<b>\$ 16,699,834</b>
<b>Securities not subject to credit default risk</b>							
U.S. Treasury bonds/notes	\$ 612,564,000						
U.S. government agency	119,912,479						
<b>Total</b>	<b>\$ 3,216,585,509</b>						

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.

TMRS' investment guidelines 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

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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, 2022, TMRS did not exceed any of the issuer diversification limits in the investment guidelines.

**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.* Interest rate risk of the core fixed income portfolio is controlled through duration management. Duration is a measure of the sensitivity of the price of a fixed income investment to a change in interest rates, and is expressed as a number of years. TMRS' investment guidelines require duration of the core fixed income portfolio remain within +/- 25% of the Bloomberg U.S. Aggregate Bond Index, which was 6.23 years as of December 31, 2022. As of December 31, 2022, TMRS' core fixed income portfolio was in compliance with the investment guidelines 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**

<b>Fixed Income Securities with Exposure to Interest Rate Risk</b>		
As of December 31, 2022		
	Fair Value	Effective Duration
<b>Securities subject to interest rate risk</b>		
U.S. Treasury bonds/notes	\$ 612,564,000	7.00
U.S. government agency	119,912,479	5.64
U.S. government-sponsored enterprise	421,769,411	6.14
Municipal bonds	10,847,171	11.16
Corporate bonds	961,644,431	5.40
Collateralized mortgage obligations	690,698,680	2.96
Other asset-backed securities	382,449,503	2.05
Foreign government bonds	16,699,834	8.49
<b>Total</b>	<b>\$ 3,216,585,509</b>	<b>4.92</b>

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.

# Notes to Financial Statements

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**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.

**Table F-15**

<b>Foreign Currency Exposure (in U.S. dollars)</b>						
<b>As of December 31, 2022</b>						
<b>Currency</b>	<b>Cash Equivalents</b>	<b>Equities</b>	<b>Private Equity Funds</b>	<b>OPPM Funds</b>	<b>Private Real Estate Funds</b>	<b>Total</b>
Australian Dollar	\$ 40	\$ —	\$ —	\$ 55,068,477	\$ —	\$ 55,068,517
Brazilian Real	616,039	43,909,726	—	—	—	44,525,765
Canadian Dollar	42,148	17,139,907	—	—	—	17,182,055
Czech Koruna	—	259,222	—	—	—	259,222
Colombian Peso	1,315	32,280	—	—	—	33,595
Danish Krone	—	4,992,379	—	—	—	4,992,379
Euro Currency	11,214	57,823,636	36,385,061	41,625,510	75,771,636	211,617,057
Hong Kong Dollar	—	133,616,555	—	—	—	133,616,555
Hungarian Forint	—	3,035,726	—	—	—	3,035,726
Indian Rupee	258,707	82,859,946	—	—	—	83,118,653
Indonesian Rupiah	—	30,464,114	—	—	—	30,464,114
Japanese Yen	—	31,538,933	—	—	—	31,538,933
Malaysian Ringgit	42,822	1,215,383	—	—	—	1,258,205
Mexican Peso	105,867	13,455,635	—	—	—	13,561,502
New Taiwan Dollar	97,206	48,780,500	—	—	—	48,877,706
Norwegian Krone	—	5,886,369	—	—	—	5,886,369
Philippine Peso	5,790	205,727	—	—	—	211,517
Polish Zloty	—	4,168,128	—	—	—	4,168,128
Pound Sterling	20	44,506,386	—	—	2,539,221	47,045,627
Qatari Rial	—	1,059,807	—	—	—	1,059,807
Saudi Riyal	77,894	17,332,443	—	—	—	17,410,337
South African Rand	—	15,010,029	—	—	—	15,010,029
South Korean Won	32	43,482,331	—	—	—	43,482,363
Swiss Franc	166,063	23,935,808	—	—	—	24,101,871
Thailand Baht	4,299	28,338,092	—	—	—	28,342,391
Turkish Lira	—	2,432,305	—	—	—	2,432,305
UAE Dirham	3,303	5,286,198	—	—	—	5,289,501
Yuan Renminbi	143,649	51,735,986	—	—	—	51,879,635
<b>Total</b>	<b>\$ 1,576,408</b>	<b>\$ 712,503,551</b>	<b>\$ 36,385,061</b>	<b>\$ 96,693,987</b>	<b>\$ 78,310,857</b>	<b>\$ 925,469,864</b>

# Notes to Financial Statements

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## C. Derivatives

Derivative instruments are financial contracts whose values depend on the values of one or more underlying assets, reference rates or financial indexes. 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. Accumulated gains/(losses) on futures contracts are recorded as unsettled trades on the Statement of Fiduciary Net Position. TMRS could be exposed to risk if the counterparties to the derivatives contracts are unable to meet the terms of the contracts.

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 by TMRS' investment guidelines.

**Table F-16**

<b>Futures Contracts</b>			
<b>As of December 31, 2022</b>			
<b>Futures Contract</b>	<b>Expiration Date</b>	<b>Notional</b>	<b>Accumulated Gain/(Loss)</b>
U.S. 10-Yr Treasury Note Futures	3/22/2023	\$ (54,200,000)	\$ 558,937
U.S. 5-Yr Treasury Note Futures	3/22/2023	(1,700,000)	5,047
U.S. 2-Yr Treasury Note Futures	3/22/2023	(19,600,000)	(12,250)
<b>Total</b>		<b>\$ (75,500,000)</b>	<b>\$ 551,734</b>

Futures contracts classified as Level 1 are valued using prices quoted in the active markets for those contracts.

## 6. Commitments and Contingencies

As of December 31, 2022, TMRS had \$10.2 billion of unfunded commitments to private investment funds.



## Required Supplementary Information

Table F-17 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.

**Table F-17**

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

Year	Rate of Return
2022	(7.36)%
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.

# Supplemental Schedules

Table F-18

## Combined Schedule of Changes in Fiduciary Net Position For the Year Ended December 31, 2022

	Benefit Accumulation Fund	Supplemental Disability Benefits Fund	Endowment Fund	Expense Fund	Full Benefit Arrangement Fund	Total Pension Trust Fund	Supplemental Death Benefits Fund	Total
<b>ADDITIONS</b>								
City contributions	\$ 1,142,761,203	\$ —	\$ —	\$ —	\$ 2,059,787	\$ 1,144,820,990	\$ 11,218,958	\$ 1,156,039,948
Member contributions	529,914,380	—	—	—	—	529,914,380	—	529,914,380
Net investment loss	—	—	(2,806,591,648)	(10,038,755)	—	(2,816,630,403)	—	(2,816,630,403)
Other	—	—	44,512	29,229,623	—	29,274,135	—	29,274,135
<b>Total additions</b>	<b>1,672,675,583</b>	<b>—</b>	<b>(2,806,547,136)</b>	<b>19,190,868</b>	<b>2,059,787</b>	<b>(1,112,620,898)</b>	<b>11,218,958</b>	<b>(1,101,401,940)</b>
<b>DEDUCTIONS</b>								
Retirement benefits	1,779,391,032	43,770	—	—	2,059,787	1,781,494,589	—	1,781,494,589
Supplemental death benefits	—	—	—	—	—	—	14,064,423	14,064,423
Member account refunds	73,846,188	—	—	—	—	73,846,188	—	73,846,188
Administrative expenses	—	—	—	24,377,951	—	24,377,951	—	24,377,951
<b>Total deductions</b>	<b>1,853,237,220</b>	<b>43,770</b>	<b>—</b>	<b>24,377,951</b>	<b>2,059,787</b>	<b>1,879,718,728</b>	<b>14,064,423</b>	<b>1,893,783,151</b>
<b>FUND TRANSFERS</b>								
Operating budget transfer	—	—	(33,100,000)	33,100,000	—	—	—	—
Proceeds from sale of property	—	—	36,019,096	(36,019,096)	—	—	—	—
Allocation from Interest	(2,809,124,785)	12,946	2,808,927,868	—	—	(183,971)	183,971	—
Escheated funds	(2,745,844)	—	2,745,844	—	—	—	—	—
<b>Net fund transfers</b>	<b>(2,811,870,629)</b>	<b>12,946</b>	<b>2,814,592,808</b>	<b>(2,919,096)</b>	<b>—</b>	<b>(183,971)</b>	<b>183,971</b>	<b>—</b>
<b>CHANGE IN FIDUCIARY NET POSITION</b>	<b>(2,992,432,266)</b>	<b>(30,824)</b>	<b>8,045,672</b>	<b>(8,106,179)</b>	<b>—</b>	<b>(2,992,523,597)</b>	<b>(2,661,494)</b>	<b>(2,995,185,091)</b>
<b>FIDUCIARY NET POSITION</b>								
<b>Beginning of year</b>	<b>37,866,310,711</b>	<b>280,897</b>	<b>711,540,705</b>	<b>14,882,071</b>	<b>—</b>	<b>38,593,014,384</b>	<b>5,815,483</b>	<b>38,598,829,867</b>
<b>End of year</b>	<b>\$ 34,873,878,445</b>	<b>\$ 250,073</b>	<b>\$ 719,586,377</b>	<b>\$ 6,775,892</b>	<b>\$ —</b>	<b>\$ 35,600,490,787</b>	<b>\$ 3,153,989</b>	<b>\$ 35,603,644,776</b>

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-19**

## Schedule of Administrative and Investment Expenses

For the Year Ended December 31, 2022

	Administrative Expenses	Investment Expenses
<b>Personnel services</b>		
Staff salaries and payroll taxes	\$ 12,103,211	\$ 3,865,686
Employee benefits	1,578,002	777,296
Contract labor/temporary services	80,089	—
Total personnel services	13,761,302	4,642,982
<b>Professional services</b>		
Actuarial	605,700	—
Audit	176,045	—
Custodial and banking	48,136	1,530,000
Information services consulting	2,645,181	—
Investment consulting	—	1,673,280
Legal	165,654	637,615
Other services	480,278	—
Total professional services	4,120,994	3,840,895
<b>Facilities</b>	2,777,320	—
<b>Information technology</b>		
Cloud services	836,671	1,417,560
Hardware/software and support	769,319	—
Total information technology	1,605,990	1,417,560
<b>Other administrative</b>		
Board of Trustees and Committees	97,751	—
City and member outreach	644,587	—
Depreciation	570,690	—
Professional development	171,459	57,599
Supplies/document storage/miscellaneous	502,054	3,917
Travel	125,804	75,802
Total other administrative	2,112,345	137,318
<b>Investment fees paid from Trust Fund</b>	—	18,832,737
<b>Totals</b>	<b>\$ 24,377,951</b>	<b>\$ 28,871,492</b>

See accompanying Independent Auditors' Report.

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

# Supplemental Schedules

CONTINUED

**Table F-20**

## Schedule of Professional Services

For the Year Ended December 31, 2022

### Actuarial

Gabriel, Roeder, Smith & Company	\$ 605,700
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### Audit

CliftonLarsonAllen LLP	176,045
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### Banking

JPMorgan Chase Bank, N.A.	48,136
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### Information services consulting

Information systems support	181,239
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Network management and security	45,000
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Pension administration system	2,418,942
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Total information services consulting	2,645,181
---------------------------------------	-----------

### Legal

Fiduciary counsel	86,354
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Other legal services	79,300
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Total legal	165,654
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### Other Services

Disability review	34,230
-------------------	--------

Executive recruiting	143,052
----------------------	---------

Governance/strategic planning/other Board consulting	167,216
------------------------------------------------------	---------

Governmental relations support	84,000
--------------------------------	--------

Human resources management	14,250
----------------------------	--------

Insurance risk management	10,900
---------------------------	--------

Member mortality records	21,080
--------------------------	--------

Publicationst	5,550
---------------	-------

Total other services	480,278
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### Total Professional Services

<b>\$ 4,120,994</b>
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See accompanying Independent Auditors' Report.

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# 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



**Samuel Austin, III**  
Partner

May 12, 2023

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

Dear Trustees:

The following is a report on TMRS' Trust Fund performance for the fiscal year ended December 31, 2022, and some background on the underlying capital market environment.

### **Market Review for the Year Ended December 31, 2022**

With the exception of commodities, virtually all major asset classes declined in 2022. The U.S. economy contracted in real terms over the first two quarters of calendar year 2022. In the second half of the year, however, the U.S. economy expanded, and real GDP increased at an annual rate of 2.7% by the end of the fourth quarter.

Although headline CPI has gradually declined since the start of the third quarter, it remains at levels higher than that of 2020. The Federal Reserve, in its efforts to combat inflation, has implemented measures to slow the economy with a series of raises to the Fed Funds Rate. In 2022, the Federal Reserve increased the Fed Funds Rate to a targeted range of 4.25% - 4.50% from 0.25% - 0.50% in early-2022. Similar actions were taken by central banks globally.

Both stocks and bonds declined throughout the year. In the fiscal year ending December 31, 2022, U.S. stocks returned -18.1% as measured by the S&P 500 Index. International stocks fared little better with a return of -14.5% as measured by the MSCI EAFE Index. Emerging markets returned -20.1%, underperforming both U.S. and international-developed markets. Typically considered a safe-haven asset, U.S. high quality fixed income returns were also negative over the year, as interest rate-sensitive assets as represented by the Bloomberg U.S. Aggregate Bond Index posted a decline of 13%.

### **The TMRS Investment Portfolio**

As of December 31, 2022, the market value of the TMRS total investment portfolio totaled \$35.5 billion and its 2022 return, net-of-fees, was -7.35%. In the same period, the median fund in the InvMetrics peer group of Public Defined Benefit plans greater than \$10 billion in assets returned -8.9%. TMRS's five-year annualized return net-of-fees for the period ended December 31, 2022, was 4.81%, outperforming the Actual Allocation Benchmark by 1.3%, but trailing the Board's Actuarial Return Assumption of 6.75%.

All asset class allocations remain in compliance with the targeted ranges as outlined by the Investment Policy Statement. With most global capital markets realizing strong negative returns in the fiscal year ended December 31, 2022, NEPC continues to be supportive of TMRS's chosen asset allocation.

NEPC, LLC serves as TMRS's independent investment consultant, providing TMRS with asset allocation guidance, quarterly economic and investment market updates, and performance reviews, together with investment manager monitoring and selection advice. In preparing our performance analysis for the plan, we rely on the accuracy of financial data and performance provided by TMRS's custodian bank, State Street. Performance is calculated using a time-weighted rate of return methodology based upon market values. The money-weighted rate of return presented in the Financial Section of this Report is calculated using a different methodology. TMRS's goals are measured against stated investment policy objectives, appropriate benchmarks, and comparative universes over multiple time periods. This review process allows TMRS to evaluate whether established goals are being achieved on an absolute, relative, and risk-adjusted basis.

Best Regards,

A handwritten signature in dark ink, appearing to read 'Samuel Austin, III', with a stylized flourish at the end.

Samuel Austin, III, Partner

# Chief Investment Officer's Year in Review



May 15, 2023

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

The U.S. and global equity and fixed income markets were brutal in 2022 due to escalating geopolitical concerns and rising inflation fears leading the Federal Reserve to raise interest rates from 0.25% to 4.50% in nine months. Stocks declined by 18% and bonds declined by 13%. Despite these challenging conditions, TMRS' Trust Fund outperformed most other U.S. public plans in 2022 by implementing the Board's new asset allocation policy, which includes increasing private market investments in equity, infrastructure, and other real assets.

TMRS' 2022 net investment return was -7.35%, exceeding our asset allocation benchmark of -12.36%. TMRS' three-year, five-year, and ten-year net returns were 4.10%, 4.81%, and 5.98%, respectively. These returns exceeded our asset allocation benchmarks but trailed our 6.75% actuarial return assumption. Trust Fund assets totaled \$35.5 billion as of December 31, 2022, and all asset classes are within Investment Policy Statement target ranges.

In 2022, the Trust Fund's Real Estate and Private Equity portfolios were the top performers, returning 12.00% and 1.45%, respectively, exceeding their benchmarks by 5.45% and 19.85%. Global Public Equity and Core Fixed Income posted double digit losses, returning -19.06% and -12.90%, respectively, due to the challenging public markets. Non-Core Fixed Income and Other Public & Private Markets reported net returns of -3.27% and -3.71%, outperforming their benchmarks by 8.42% and 14.69%, respectively. Hedge Funds returned -0.08%. In 2022, TMRS completed \$4.7 billion of new investments, while reducing \$2.7 billion of existing mandates to prudently enhance long-term returns.

TMRS claims compliance with the Global Investment Performance Standards (GIPS®), and that the Trust Fund was examined, and the organization verified for 2022. All valuations are reported in USD. GIPS® is a registered trademark of the 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 2022 GIPS Asset Owner report can be obtained by emailing [invrisk@tmrs.com](mailto:invrisk@tmrs.com).

Detailed performance and asset allocation reports prepared by NEPC, the Board's independent investment consultant, are available at [trms.com](http://trms.com).

Sincerely,

A handwritten signature in blue ink, appearing to read 'D. J. Hunter', is written over a horizontal line.

David J. Hunter  
Chief Investment Officer



# Outline of Investment Policies

The TMRS Board of Trustees (Board) adopts an Investment Policy Statement (IPS) that governs the management of Trust Fund investments. The IPS describes investment objectives, beliefs, benchmarks, asset allocation and responsibilities of the Board, staff, and investment managers and consultants. The Board reviews the IPS annually.

## Investment Program Objective

TMRS' investment program objective is to ensure that members, retirees and beneficiaries receive the benefits they have accrued through their employment with participating cities at a reasonable and predictable cost to those cities. To achieve this objective, the Board, in consultation with its Consulting Actuary, adopts an Actuarial Return Assumption (ARA). Trust Fund assets will be invested to achieve a total return that meets or exceeds the current ARA of 6.75%.

## Standards of Care

**A. Standard of Care.** As fiduciaries, the Board and staff must:

1. 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. Evaluate Investment decisions in the context of the entire Trust Fund portfolio and with appropriate risk and return objectives.

**B. Conflict of Interest Prohibited.** Trustees, staff, and investment managers and consultants must refrain from any activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial recommendations and decisions. These individuals are required to disclose, in writing, any known relationships that could create, or appear to create, a conflict of interest.

**C. Decisions in the Best Interest of TMRS.** Trustees and staff are required to make all investment decisions in the best interest of TMRS and shall comply with applicable TMRS policies on personal investment activities.

## Investment Management

The Board is responsible for the administration of TMRS and its investment program, and Trustees must discharge their duties solely in the interest of providing benefits to members, retirees and beneficiaries.

The Board adopts investment beliefs based on capital market theories and other investment management principles generally accepted by long-term focused institutional investors, with the intent to maximize long-term investment returns consistent with the Board's fiduciary duty and laws of the State of Texas.

# Outline of Investment Policies

CONTINUED

## Asset Allocation

One of the Board's investment beliefs is that the primary determinant of portfolio risk and return is TMRS' strategic, long-term asset allocation. The Board's Asset Allocation includes asset classes, strategic target allocations with minimum and maximum allocation ranges, and benchmarks to measure investment performance. The Asset Allocation is based on an Asset Allocation Study that includes expectations for long-term return and risk, and is intended to produce investment returns equal to or greater than the ARA at a level of risk acceptable to the Board. In adopting the Asset Allocation, the Board considers TMRS' assets and liabilities, risk and return trade-offs, the ability to deliver on promised benefit payments at a reasonable and predictable cost to participating cities, the risk of permanent loss of capital, Trust Fund liquidity, and the ability to maintain a long-term strategy during sustained periods of market volatility.

The Board has adopted the following Asset Allocation and respective benchmarks:

**Table I-1**

<b>Asset Allocation</b>				
<b>Asset Class</b>	<b>Minimum %</b>	<b>Target %</b>	<b>Maximum %</b>	<b>Benchmark</b>
Core fixed income	1%	6%	11%	Bloomberg U.S. Aggregate Bond Index
Non-core fixed income	15%	20%	25%	Bloomberg U.S. Aggregate Bond Index + 1.50%
Global public equity	25%	35%	45%	MSCI All Country World Investable Market Index, Net
Real estate	7%	12%	17%	NCREIF - ODCE Index, Net
Other public & private markets	7%	12%	17%	MSCI All Country World Investable Market Index, Net
Hedge funds	0%	5%	10%	HFRI Asset Weighted Composite Index
Private equity	5%	10%	15%	MSCI All Country World Investable Market Index, Net
Cash equivalents	0%	0%	3%	FTSE 1-Month U.S. T-Bill Index

The Asset Allocation is reviewed annually for reasonableness, taking into consideration current capital markets and economic conditions and the Board's views regarding long-term investment goals and objectives.

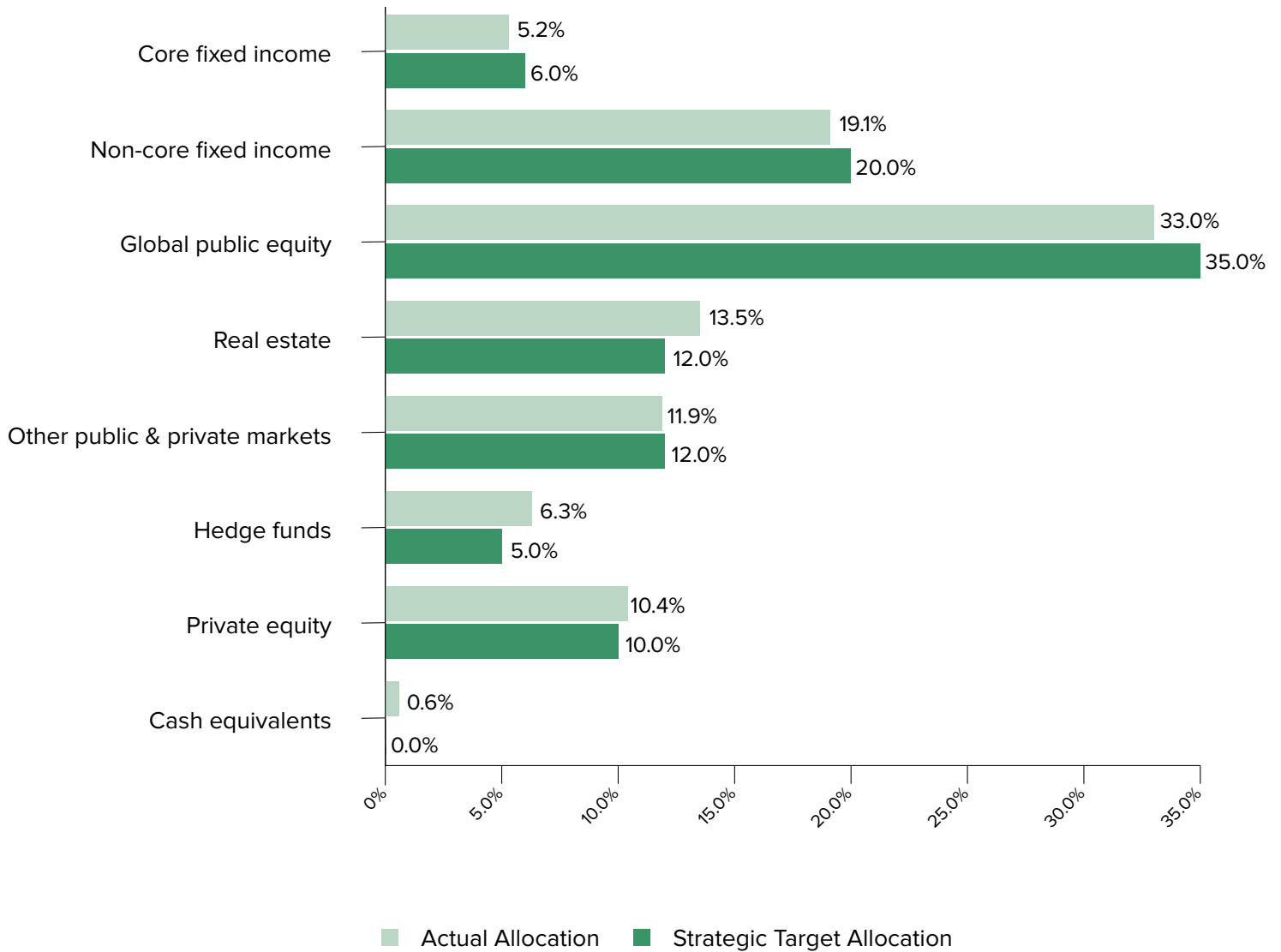
An Asset Allocation Study that comprehensively reviews the Asset Allocation is completed every four years. The Board verifies or amends its Asset Allocation upon review of an Asset Allocation Study.

An Asset-Liability Modeling Study is conducted every four years.

The Board assesses the Asset Allocation's performance over five-year rolling periods compared to the ARA, Trust Fund benchmark, and asset class benchmarks.

# Asset Allocation

**Asset Allocation – Actual compared to Strategic Target**  
As of December 31, 2022



# Investment Summary

**Table I-2 Investment Summary by Asset Class**  
As of December 31, 2022

	Fair Value	Percent of Total
<b>Core fixed income</b>		
Short term investments	\$ 118,952,530	0.3 %
Fixed income securities	1,753,512,331	4.9
Total core fixed income	1,872,464,861	5.2
<b>Non-core fixed income</b>		
Short term investments	87,367,650	0.2
Fixed income securities	1,463,073,178	4.1
Non-core fixed income funds	5,237,413,983	14.8
Total non-core fixed income	6,787,854,811	19.1
<b>Global public equity</b>		
Short term investments	27,631,560	0.1
Domestic public equity securities	1,238,562,404	3.5
International public equity securities	712,363,127	2.0
REITS	37,123,086	0.1
Commingled public equity funds	9,679,413,831	27.3
Total global public equity	11,695,094,008	33.0
<b>Real estate</b>		
Private real estate funds	4,786,880,450	13.5
Total real estate	4,786,880,450	13.5
<b>Other public and private markets</b>		
Commingled public equity funds	1,700,812,796	4.8
Other public and private markets funds	2,515,613,296	7.1
Total other public and private markets	4,216,426,092	11.9
<b>Hedge funds</b>		
Direct hedge funds	2,227,024,539	6.3
Hedge fund of funds	1,945,589	—
Total hedge funds	2,228,970,128	6.3
<b>Private equity</b>		
Private equity funds	3,701,420,555	10.4
Total private equity	3,701,420,555	10.4
<b>Cash equivalents</b>		
Short term investments	208,296,143	0.6
Total cash equivalents	208,296,143	0.6
<b>Total investments</b>	<b>\$ 35,497,407,048</b>	<b>100.0 %</b>
<b>Other investment-related items</b>		
Custodial cash	5,785,347	
Interest and dividends receivable	29,374,524	
Unsettled trades receivable	157,486,559	
Management fees payable	(4,430,396)	
Unsettled trades payable	(225,503,368)	
<b>Trust fund net assets value</b>	<b>\$ 35,460,119,714</b>	

# Largest Holdings

**Table I-3**

<b>Largest Holdings – Fixed Income Securities</b>				
As of December 31, 2022				
Description	Coupon	Maturity	Par Value	Fair Value
U.S. Treasury Note/Bond	4.500%	11/30/2024	\$145,175,000	\$145,265,734
U.S. Treasury Note/Bond	3.875%	11/30/2029	\$52,363,000	\$52,142,094
U.S. Treasury Note/Bond	3.125%	8/31/2027	\$41,995,000	\$40,459,558
U.S. Treasury Note/Bond	3.250%	6/30/2027	\$29,425,000	\$28,500,871
U.S. Treasury Note/Bond	3.875%	11/30/2027	\$23,928,000	\$23,839,205
U.S. Treasury Note/Bond	4.000%	12/15/2025	\$22,858,000	\$22,734,781
FNMA Pool FS2040	1.000%	2/1/2052	\$27,058,195	\$22,124,500
U.S. Treasury Note/Bond	2.750%	7/31/2027	\$23,224,000	\$22,011,090
U.S. Treasury Note/Bond	3.000%	5/15/2047	\$25,675,000	\$21,200,931
U.S. Treasury Note/Bond	4.125%	9/30/2027	\$17,010,000	\$17,102,359

**Table I-4**

<b>Largest Holdings – Public Equities</b>		
As of December 31, 2022		
Description	Shares/Units	Fair Value
Northern Trust Collective U.S. IMI Fund, Non Lending	18,805,933.256	\$5,987,019,300
Northern Trust Collective All Country World Ex-U.S. Fund, Non Lending	21,408,660.720	\$3,692,394,532
Northern Trust Collective All Country World IMI Fund, Non Lending	7,419,224.913	\$1,700,812,796
Apple Inc.	301,999.000	\$39,238,730
Microsoft Corporation	133,080.000	\$31,915,246
Tencent Holdings Ltd.	675,500.000	\$28,906,912
Reliance Industries Ltd.	633,622.000	\$19,507,255
Taiwan Semiconductor Manufacturing Company	1,150,000.000	\$16,781,084
Alibaba Group Holdings Ltd	1,371,952.000	\$15,161,002
Samsung Electronics Co Ltd.	341,156.000	\$14,919,673

A complete portfolio listing will be provided upon request.

# Investment Results

Total Trust Fund and Asset Class returns for the year ended December 31, 2022 are set out in Table I-5.

**Table I-5**

<b>Total Trust Fund and Asset Class Returns</b>				
	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>
<b>Total fund</b>	<b>(7.35)%</b>	<b>4.10%</b>	<b>4.81%</b>	<b>5.98%</b>
Total fund active weighted benchmark	(12.36)%	2.17%	3.51%	5.19%
<b>Core fixed income</b>	<b>(12.90)%</b>	<b>(2.34)%</b>	<b>0.32%</b>	<b>1.25%</b>
Core fixed income benchmark	(13.01)%	(2.71)%	0.02%	1.06%
<b>Non-core fixed income</b>	<b>(3.27)%</b>	<b>2.25%</b>	<b>3.59%</b>	<b>N/A</b>
Non-core fixed income benchmark	(11.69)%	(1.37)%	1.30%	N/A
<b>Global public equity</b>	<b>(19.06)%</b>	<b>2.98%</b>	<b>4.37%</b>	<b>8.08%</b>
Global public equity benchmark	(18.40)%	3.89%	5.06%	8.41%
<b>Real estate</b>	<b>12.00%</b>	<b>10.78%</b>	<b>9.80%</b>	<b>10.87%</b>
Real estate benchmark	6.55%	9.35%	8.34%	9.92%
<b>Other public and private markets</b>	<b>(3.71)%</b>	<b>3.66%</b>	<b>4.02%</b>	<b>2.93%</b>
Other public and private markets benchmark	(18.40)%	(1.27)%	0.82%	1.41%
<b>Hedge funds</b>	<b>(0.08)%</b>	<b>4.02%</b>	<b>4.00%</b>	<b>N/A</b>
Hedge funds benchmark	0.74%	5.52%	4.20%	N/A
<b>Private equity</b>	<b>1.45%</b>	<b>22.89%</b>	<b>20.73%</b>	<b>N/A</b>
Private equity benchmark	(18.40)%	8.59%	12.09%	N/A
<b>Cash equivalents</b>	<b>1.63%</b>	<b>0.70%</b>	<b>1.20%</b>	<b>0.84%</b>
Cash equivalents benchmark	1.48%	0.66%	1.20%	0.71%

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

**Rates of return** are calculated from December 31, 2022 values, net of external investment management fees through December 31, 2020, and net of external and internal investment management fees from January 1, 2021 to December 31, 2022, using time-weighted rate of return.

**Benchmarks** for each asset class 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 FTSE 1-Month U.S. Treasury Bill Index.

# Investment Expenses

**Table I-6**

<b>Schedule of Investment Expenses</b>	
<b>For the Year Ended December 31, 2022</b>	
Staff salaries and payroll taxes	\$ 3,865,686
Employee benefits	777,296
Custodial services	1,530,000
Investment consulting	1,673,280
Legal	637,615
Cloud services	1,417,560
Professional development	57,599
Other administrative	3,917
Travel	75,802
Management fees paid from Trust Fund	18,832,737
<b>Total investment expenses</b>	<b>\$ 28,871,492</b>

**Table I-7**

<b>Schedule of External Investment Fees</b>						
<b>For the Year Ended December 31, 2022</b>						
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	\$ 5,212,641	\$ 41,620,253	\$ 46,832,894	\$ —	\$ 17,703,364	\$ 64,536,258
Public equity	13,620,096	—	13,620,096	2,456,404	—	16,076,500
Real assets	—	47,241,978	47,241,978	—	62,069,479	109,311,457
Alternative/other	—	143,111,991	143,111,991	—	131,497,296	274,609,287
Cash equivalents	—	212,570	212,570	—	—	212,570
<b>Totals</b>	<b>\$ 18,832,737</b>	<b>\$ 232,186,792</b>	<b>\$ 251,019,529</b>	<b>\$ 2,456,404</b>	<b>\$ 211,270,139</b>	<b>\$ 464,746,072</b>

Fees for private investments are not reflected as investment expenses in TMRS' financial statements but are included in the net appreciation/(depreciation) in fair value of investments as reported in the Statement of Changes in Fiduciary Net Position. The alternative/other asset class includes hedge funds, other public and private markets funds, and private equity funds.

# Investment Managers

Pursuant to Texas Government Code 802.103, Table I-8 discloses all investment managers engaged by TMRS.

**Table I-8**

<b>Investment Managers As of December 31, 2022</b>
Acadian Asset Management
BlackRock Financial Management
Champlain Investment Partners
Columbia Management Investment Advisers
Ellington Management Group
Northern Trust Investments
Voya Investment Management
Wellington Management
William Blair Investment Management



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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](http://www.grsconsulting.com)

May 25, 2023

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, 2022.

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, 2023 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 year after the valuation date. For example, the rates determined by the December 31, 2022 actuarial valuation will be applicable for the calendar year beginning January 1, 2024 and ending December 31, 2024.

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, 2023.

TMRS staff supplied data for retired, active and inactive Members as of December 31, 2022. 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, 2022. The amounts of the assets in the actuarial valuations agree with the amounts as reported by TMRS.

# Actuary's Certification Letter (Pension Trust Fund)

CONTINUED

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 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, 2022 ([tmrs.com/actuarial\\_reports.php](https://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%
1:1	0.75	0.80	0.84
1.5:1	0.81	0.86	0.92
2:1	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
12/31/2013	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%
12/31/2022	909	119,723	\$ 7,896,581,238	\$ 66,984	5.1%

As of December 31, 2022, there were eight 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 919 total cities, with 909 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		
12/31/2013	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
12/31/2022	5,464	\$ 170,491,842	1,531	\$ 23,328,304	80,608	\$ 1,647,027,260	9.8%	\$ 20,433

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, 2022, there were 10,465 more retirement accounts than retirees. In addition, this schedule excludes 1,122 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)
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%
2022 ❻	\$ 38,208.7	\$ 42,597.5	89.7%	\$ 4,388.8	\$ 7,896.6	55.6%	\$ 1,144.8	14.5%

- 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%.
- ❻ City contributions in 2022 include \$76.8 million in additional lump sum contributions, of which \$67.3 million was contributed by one city that issued pension obligation bonds. Excluding these additional contributions, the average city rate would have been 13.5%.

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)				
12/31/2013	\$ 4,956.70	\$ 9,861.45	\$ 10,502.55	\$ 21,293.62	100.0%	100.0%	61.7%
12/31/2014	\$ 5,088.20	\$ 10,768.53	\$ 10,790.77	\$ 22,860.98	100.0%	100.0%	64.9%
12/31/2015	\$ 5,312.30	\$ 11,615.49	\$ 11,451.11	\$ 24,347.73	100.0%	100.0%	64.8%
12/31/2016	\$ 5,529.96	\$ 12,478.45	\$ 11,954.89	\$ 25,844.05	100.0%	100.0%	65.5%
12/31/2017	\$ 5,747.30	\$ 13,412.03	\$ 12,652.30	\$ 27,813.57	100.0%	100.0%	68.4%
12/31/2018	\$ 5,986.10	\$ 14,403.10	\$ 13,342.30	\$ 29,385.10	100.0%	100.0%	67.4%
12/31/2019	\$ 6,210.50	\$ 15,467.50	\$ 13,906.90	\$ 31,313.81	100.0%	100.0%	69.3%
12/31/2020	\$ 6,447.73	\$ 16,508.76	\$ 14,579.37	\$ 33,609.58	100.0%	100.0%	73.1%
12/31/2021	\$ 6,691.04	\$ 17,979.79	\$ 15,411.10	\$ 36,281.97	100.0%	100.0%	75.3%
12/31/2022	\$ 6,917.90	\$ 19,694.60	\$ 15,985.00	\$ 38,208.70	100.0%	100.0%	72.5%

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](http://www.grsconsulting.com)

May 25, 2023

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, 2023 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 and 2024 SDB rates as determined in the December 31, 2021 and December 31, 2022 actuarial valuations, respectively. 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, 2022 actuarial valuation will be applicable for the calendar year beginning January 1, 2024 and ending December 31, 2024.

TMRS staff supplied the data for active and retired Members as of December 31, 2022. 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, 2022.

# Actuary's Certification Letter (Supplemental Death Benefits Fund)

CONTINUED

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,



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



Janie Shaw, MAAA, ASA, EA  
Consultant



# 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 and 2024. 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%
12/31/2022	800	81,535	37,237	12,166	130,938	\$ 5,390,625,108	\$ 66,114	4.2%

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%
12/31/2022 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 and December 31, 2022 actuarial valuations include a 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

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

Fiduciary Net Position and Changes in Fiduciary Net Position for the Pension Trust Fund and the Supplemental Death Benefits Fund are presented for the last 10 years. Information reported in these tables is derived from the Basic Financial Statements 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, 2022 and 2013.

# Financial Trends Information

**Table S-1** (1 of 2)

<b>Fiduciary Net Position – Last 10 Years (Pension Trust Fund)</b>					
<b>As of December 31</b>					
	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
<b>Assets</b>					
Cash	\$ 1,499,634	\$ —	\$ 2,177,000	\$ 27,225,142	\$ 9,884,675
Receivables	1,239,996,649	1,602,411,077	1,463,421,640	1,303,373,082	1,044,073,551
Investments, at fair value	23,868,363,416	23,896,100,903	24,289,053,366	25,830,231,450	28,921,028,586
Invested securities lending collateral	1,886,115,119	1,030,835,345	864,114,464	—	—
Capital assets, net	8,449,172	7,889,360	9,909,170	9,766,674	9,732,194
Other assets	253,766	147,844	222,581	368,307	405,087
<b>Total assets</b>	<b>27,004,677,756</b>	<b>26,537,384,529</b>	<b>26,628,898,221</b>	<b>27,170,964,655</b>	<b>29,985,124,093</b>
<b>Liabilities</b>					
Accounts payable and other accrued liabilities	10,857,571	22,217,938	27,656,575	27,587,168	32,623,226
Unsettled investment trades payable	2,611,393,462	1,732,031,882	2,005,738,646	1,890,218,410	1,284,876,114
Securities lending collateral	1,890,371,310	1,033,480,569	866,849,709	—	—
Funds held for Supplemental Death Benefits Fund	23,421,789	22,176,214	20,490,711	19,953,304	18,250,136
<b>Total liabilities</b>	<b>4,536,044,132</b>	<b>2,809,906,603</b>	<b>2,920,735,641</b>	<b>1,937,758,882</b>	<b>1,335,749,476</b>
<b>Fiduciary net position</b>	<b>\$ 22,468,633,624</b>	<b>\$ 23,727,477,926</b>	<b>\$ 23,708,162,580</b>	<b>\$ 25,233,205,773</b>	<b>\$ 28,649,374,617</b>



# Financial Trends Information

CONTINUED

**Table S-1** (2 of 2)

<b>Fiduciary Net Position – Last 10 Years (Pension Trust Fund)</b>					
<b>As of December 31</b>					
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Assets</b>					
Cash	\$ 1,558,193	\$ 193,356	\$ 2,867,326	\$ 9,959,259	\$ 5,785,347
Receivables	776,615,427	478,902,839	832,754,091	523,963,113	339,496,611
Investments, at fair value	27,973,620,811	31,871,201,335	34,522,349,701	38,790,225,854	35,497,407,048
Invested securities lending collateral	—	—	—	—	—
Capital assets, net	9,141,099	8,482,497	7,941,114	9,585,115	2,938,554
Other assets	467,613	470,275	4,910,730	5,748,571	4,853,356
<b>Total assets</b>	<b>28,761,403,143</b>	<b>32,359,250,302</b>	<b>35,370,822,962</b>	<b>39,339,481,912</b>	<b>35,850,480,916</b>
<b>Liabilities</b>					
Accounts payable and other accrued liabilities	125,878,994	30,338,457	31,766,265	21,851,012	22,500,046
Unsettled investment trades payable	935,255,033	501,738,825	1,044,469,796	719,990,711	225,503,368
Securities lending collateral	—	—	—	—	—
Funds held for Supplemental Death Benefits Fund	16,639,677	13,361,745	11,693,867	4,625,805	1,986,715
<b>Total liabilities</b>	<b>1,077,773,704</b>	<b>545,439,027</b>	<b>1,087,929,928</b>	<b>746,467,528</b>	<b>249,990,129</b>
<b>Fiduciary net position</b>	<b>\$ 27,683,629,439</b>	<b>\$ 31,813,811,275</b>	<b>\$ 34,282,893,034</b>	<b>\$ 38,593,014,384</b>	<b>\$ 35,600,490,787</b>

# Financial Trends Information

CONTINUED

**Table S-2** (1 of 2)

<b>Changes in Fiduciary Net Position – Last 10 Years (Pension Trust Fund)</b>					
For the Year Ended December 31					
	2013	2014	2015	2016	2017
<b>Additions to net position by source</b>					
City contributions	\$ 681,469,222	\$ 719,904,310	\$ 751,708,718	\$ 768,252,338	\$ 838,363,116
Member contributions	339,906,924	355,413,935	376,103,505	389,919,391	410,527,770
Net investment income (loss)	1,974,888,477	1,285,344,179	35,011,429	1,602,187,418	3,497,133,077
Other	17,961	29,491	3,900	25,956	47,105
<b>Total additions to net position</b>	<b>2,996,282,584</b>	<b>2,360,691,915</b>	<b>1,162,827,552</b>	<b>2,760,385,103</b>	<b>4,746,071,068</b>
<b>Deductions from net position by type</b>					
Retirement benefits					
Service retirements	794,458,670	861,959,010	937,848,878	1,005,485,139	1,077,485,262
Disability retirements	16,469,149	16,873,699	16,775,098	17,019,188	17,005,751
Partial lump sum distributions	135,568,703	149,739,411	148,161,053	139,559,781	156,915,521
<b>Total retirement benefits</b>	<b>946,496,522</b>	<b>1,028,572,120</b>	<b>1,102,785,029</b>	<b>1,162,064,108</b>	<b>1,251,406,534</b>
Member account refunds					
Withdrawal/Ineligibility	56,856,706	58,174,242	55,742,784	52,935,465	58,344,609
Death	870,968	548,881	1,232,485	1,246,130	1,061,303
<b>Total member account refunds</b>	<b>57,727,674</b>	<b>58,723,123</b>	<b>56,975,269</b>	<b>54,181,595</b>	<b>59,405,912</b>
Administrative expenses	12,821,721	13,419,567	21,325,422	18,095,315	18,124,164
Income allocated to SDBF	1,202,065	1,132,803	1,057,178	1,000,892	965,614
<b>Total deductions from net position</b>	<b>1,018,247,982</b>	<b>1,101,847,613</b>	<b>1,182,142,898</b>	<b>1,235,341,910</b>	<b>1,329,902,224</b>
<b>Change in fiduciary net position</b>	<b>1,978,034,602</b>	<b>1,258,844,302</b>	<b>(19,315,346)</b>	<b>1,525,043,193</b>	<b>3,416,168,844</b>
Fiduciary net position, beginning of year	20,490,599,022	22,468,633,624	23,727,477,926	23,708,162,580	25,233,205,773
<b>Fiduciary net position, end of year</b>	<b>\$ 22,468,633,624</b>	<b>\$ 23,727,477,926</b>	<b>\$ 23,708,162,580</b>	<b>\$ 25,233,205,773</b>	<b>\$ 28,649,374,617</b>

# Financial Trends Information

CONTINUED

**Table S-2** (2 of 2)

<b>Changes in Fiduciary Net Position – Last 10 Years (Pension Trust Fund)</b>					
For the Year Ended December 31					
	2018	2019	2020	2021	2022
<b>Additions to net position by source</b>					
City contributions	\$ 881,531,535	\$ 930,236,155	\$ 1,191,723,159	\$ 1,076,907,798	\$ 1,144,820,990
Member contributions	427,808,238	453,608,174	479,187,524	492,319,722	529,914,380
Net investment income (loss)	(858,122,961)	4,279,485,297	2,414,460,057	4,469,101,837	(2,816,630,403)
Other	18,501	32,880	47,400	560,172	29,274,135
Total additions to net position	451,235,313	5,663,362,506	4,085,418,140	6,038,889,529	(1,112,620,898)
<b>Deductions from net position by type</b>					
Retirement benefits					
Service retirements	1,159,702,957	1,247,542,653	1,335,234,201	1,433,417,512	1,533,860,921
Disability retirements	17,060,303	17,080,384	17,178,149	17,238,392	17,206,656
Partial lump sum distributions	158,490,461	180,929,339	191,627,456	194,678,511	230,427,012
Total retirement benefits	1,335,253,721	1,445,552,376	1,544,039,806	1,645,334,415	1,781,494,589
Member account refunds					
Withdrawal/Ineligibility	63,195,632	61,089,736	54,413,400	60,352,469	72,229,111
Death	1,060,228	1,596,204	1,600,143	1,983,618	1,617,077
Total member account refunds	64,255,860	62,685,940	56,013,543	62,336,087	73,846,188
Administrative expenses	16,585,866	24,183,038	15,625,982	20,679,140	24,377,951
Income allocated to SDBF	885,044	759,316	657,050	418,537	183,971
Total deductions from net position	1,416,980,491	1,533,180,670	1,616,336,381	1,728,768,179	1,879,902,699
<b>Change in fiduciary net position</b>	<b>(965,745,178)</b>	<b>4,130,181,836</b>	<b>2,469,081,759</b>	<b>4,310,121,350</b>	<b>(2,992,523,597)</b>
Fiduciary net position, beginning of year	28,649,374,617	27,683,629,439	31,813,811,275	34,282,893,034	38,593,014,384
<b>Fiduciary net position, end of year</b>	<b>\$ 27,683,629,439</b>	<b>\$ 31,813,811,275</b>	<b>\$ 34,282,893,034</b>	<b>\$ 38,593,014,384</b>	<b>\$ 35,600,490,787</b>

# Financial Trends Information

CONTINUED

**Table S-3** (1 of 2)

<b>Fiduciary Net Position – Last 10 Years (Supplemental Death Benefits Fund)</b>					
<b>As of December 31</b>					
	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
<b>Assets</b>					
Contributions receivable	\$ 488,688	\$ 543,842	\$ 639,119	\$ 674,746	\$ 680,620
Funds held by Interest Reserve Account	23,421,789	22,176,214	20,490,711	19,953,304	18,250,136
Total assets	23,910,477	22,720,056	21,129,830	20,628,050	18,930,756
<b>Fiduciary net position</b>	<b>\$ 23,910,477</b>	<b>\$ 22,720,056</b>	<b>\$ 21,129,830</b>	<b>\$ 20,628,050</b>	<b>\$ 18,930,756</b>

**Table S-3** (2 of 2)

<b>Fiduciary Net Position – Last 10 Years (Supplemental Death Benefits Fund)</b>					
<b>As of December 31</b>					
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Assets</b>					
Contributions receivable	\$ 666,823	\$ 711,366	\$ 897,510	\$ 1,189,678	\$ 1,167,274
Funds held by Interest Reserve Account	16,639,677	13,361,745	11,693,867	4,625,805	1,986,715
Total assets	17,306,500	14,073,111	12,591,377	5,815,483	3,153,989
<b>Fiduciary net position</b>	<b>\$ 17,306,500</b>	<b>\$ 14,073,111</b>	<b>\$ 12,591,377</b>	<b>\$ 5,815,483</b>	<b>\$ 3,153,989</b>

# Financial Trends Information

CONTINUED

**Table S-4** (1 of 2)

<b>Changes in Fiduciary Net Position – Last 10 Years (Supplemental Death Benefits Fund)</b>					
<b>For the Year Ended December 31</b>					
	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
<b>Additions to net position by source</b>					
City contributions	\$ 5,673,095	\$ 6,126,769	\$ 6,507,371	\$ 6,983,501	\$ 7,286,154
Income allocated from Interest Reserve Account	1,202,065	1,132,803	1,057,178	1,000,892	965,614
Total additions to net position	6,875,160	7,259,572	7,564,549	7,984,393	8,251,768
<b>Deductions from net position by type</b>					
Supplemental death benefits – active	4,462,634	4,164,899	4,964,631	3,759,923	5,177,812
Supplemental death benefits – retiree	4,187,500	4,285,094	4,190,144	4,726,250	4,771,250
Total deductions from net position	8,650,134	8,449,993	9,154,775	8,486,173	9,949,602
<b>Change in fiduciary net position</b>	<b>(1,774,974)</b>	<b>(1,190,421)</b>	<b>(1,590,226)</b>	<b>(501,780)</b>	<b>(1,697,294)</b>
Fiduciary net position, beginning of year	25,685,451	23,910,477	22,720,056	21,129,830	20,628,050
<b>Fiduciary net position, end of year</b>	<b>\$ 23,910,477</b>	<b>\$ 22,720,056</b>	<b>\$ 21,129,830</b>	<b>\$ 20,628,050</b>	<b>\$ 18,930,756</b>

# Financial Trends Information

CONTINUED

**Table S-4** (2 of 2)

<b>Changes in Fiduciary Net Position – Last 10 Years (Supplemental Death Benefits Fund)</b>					
<b>For the Year Ended December 31</b>					
	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Additions to net position by source</b>					
City contributions	\$ 7,758,059	\$ 8,321,181	\$ 8,945,812	\$ 10,655,161	\$ 11,218,958
Income allocated from Interest Reserve Account	885,044	759,316	657,050	418,537	183,971
Total additions to net position	8,643,103	9,080,497	9,602,862	11,073,698	11,402,929
<b>Deductions from net position by type</b>					
Supplemental death benefits – active	4,912,215	6,812,283	5,346,471	11,608,967	7,096,911
Supplemental death benefits – retiree	5,355,144	5,501,603	5,738,125	6,240,625	6,967,512
Total deductions from net position	10,267,359	12,313,886	11,084,596	17,849,592	14,064,423
<b>Change in fiduciary net position</b>	<b>(1,624,256)</b>	<b>(3,233,389)</b>	<b>(1,481,734)</b>	<b>(6,775,894)</b>	<b>(2,661,494)</b>
Fiduciary net position, beginning of year	18,930,756	17,306,500	14,073,111	12,591,377	5,815,483
<b>Fiduciary net position, end of year</b>	<b>\$ 17,306,500</b>	<b>\$ 14,073,111</b>	<b>\$ 12,591,377</b>	<b>\$ 5,815,483</b>	<b>\$ 3,153,989</b>

# Demographic Information

**Table S-5**

<b>Schedule of Average Benefit Payments for New Retirements – Last 10 Years</b>							
<b>For Year Ended December 31</b>	<b>Years Credited Service</b>						
	<b>0 – 5</b>	<b>&gt;5 – 10</b>	<b>&gt;10 – 15</b>	<b>&gt;15 – 20</b>	<b>&gt;20 – 25</b>	<b>&gt;25 – 30</b>	<b>&gt;30</b>
<b>2013</b>							
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
<b>2014</b>							
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
<b>2015</b>							
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
<b>2016</b>							
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
<b>2017</b>							
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
<b>2018</b>							
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
<b>2019</b>							
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
<b>2020</b>							
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
<b>2021</b>							
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
<b>2022</b>							
Average Monthly Benefit	\$234.17	\$509.68	\$1,146.81	\$1,509.75	\$1,885.68	\$2,881.10	\$4,792.22
Number of Active Retirees	182	585	500	556	1,012	648	867

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 2022 excludes 73 retirees that received a single payment in lieu of a monthly benefit.

# Demographic Information

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**Table S-6**

Schedule of Retirement Benefit Recipients by Type of Benefit														
As of December 31, 2022														
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	927	161	1,038	50	253	186	443	34	85	6	25	12	44	
\$ 101 – 500	9,619	2,093	11,226	486	3,440	968	4,119	416	1,264	123	342	301	739	
\$ 501 – 1,000	10,779	2,272	12,605	446	3,660	535	4,366	683	1,868	165	502	394	878	
\$ 1,001 – 1,500	9,684	1,569	11,046	207	3,100	234	3,835	703	1,707	199	450	306	719	
\$ 1,501 – 2,000	7,355	978	8,232	101	2,387	105	2,634	599	1,338	186	346	240	498	
\$ 2,001 – 2,500	5,477	620	6,055	42	1,750	62	1,847	460	1,020	148	263	180	367	
\$ 2,501 – 3,000	4,083	418	4,486	15	1,311	28	1,329	327	800	108	252	106	240	
\$ 3,001 – 3,500	3,085	276	3,359	2	965	18	963	295	644	73	180	77	146	
\$ 3,501 – 4,000	2,344	196	2,535	5	734	7	685	245	506	58	126	68	111	
\$ 4,001 & Over	7,806	401	8,206	1	2,434	18	1,880	1,096	1,736	118	360	226	339	
Subtotals	61,159	8,984	68,788	1,355	20,034	2,161	22,101	4,858	10,968	1,184	2,846	1,910	4,081	
<b>Totals</b>	<b>70,143</b>		<b>70,143</b>											<b>70,143</b>

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 1,122 retirees who received a single payment in lieu of a monthly retirement benefit and who remain eligible for the 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-7**

<b>Schedule of Principal Participating Cities (Pension Trust Fund)</b>						
Current Year and Nine Years Ago						
Participating City	2022			2013		
	Rank	Current Member Accounts	Percentage of Total	Rank	Current Member Accounts	Percentage of Total
San Antonio	1	7,605	6.4%	1	6,146	6.0%
Corpus Christi	2	2,763	2.3%	3	2,251	2.2%
Arlington	3	2,632	2.2%	2	2,430	2.4%
Laredo	4	2,415	2.0%	5	1,974	1.9%
Plano	5	2,407	2.0%	4	2,144	2.1%
Garland	6	2,062	1.7%	6	1,953	1.9%
Lubbock	7	1,850	1.5%	8	1,697	1.6%
Amarillo	8	1,741	1.5%	7	1,764	1.7%
San Antonio Water System	9	1,722	1.4%	9	1,617	1.6%
McAllen	10	1,666	1.4%	11	1,485	1.4%
All others		92,860	77.6%		79,409	77.2%
<b>Total</b>		119,723	100.0%		102,870	100.0%

**Table S-8**

<b>Schedule of Principal Participating Cities (Supplemental Death Benefits Fund)</b>										
Current Year and Nine Years Ago										
Participating City	2022					2013				
	Rank	Current Member Accounts	Retiree Accounts	Total Accounts	Percentage of Total	Rank	Current Member Accounts	Retiree Accounts	Total Accounts	Percentage of Total
Arlington	1	2,632	1,724	4,356	3.7%	1	2,430	1,132	3,562	3.9%
Laredo	2	2,415	1,078	3,493	2.9%	3	1,974	624	2,598	2.8%
Garland	3	2,062	1,294	3,356	2.8%	2	1,953	887	2,840	3.1%
Irving	4	1,527	941	2,468	2.1%	4	1,367	615	1,982	2.2%
Grand Prairie	5	1,408	695	2,103	1.8%	5	1,168	430	1,598	1.8%
Denton	6	1,355	675	2,030	1.7%	9	1,111	336	1,447	1.6%
Abilene	7	1,049	761	1,810	1.5%	6	1,002	570	1,572	1.7%
Brownsville	8	1,078	619	1,697	1.4%	8	1,117	360	1,477	1.6%
Pasadena	9	983	636	1,619	1.4%	7	967	550	1,517	1.7%
McKinney	10	1,250	300	1,550	1.3%	15	845	133	978	1.1%
All others		65,776	28,514	94,290	79.4%		54,319	17,349	71,668	78.5%
<b>Total</b>		81,535	37,237	118,772	100.0%		68,253	22,986	91,239	100.0%