

Financial Section

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Independent Auditors' Report



CliftonLarsonAllen LLP
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INDEPENDENT AUDITORS' REPORT

The Board of Trustees
Texas Municipal Retirement System
Austin, Texas

Report on the Financial Statements

We have audited the accompanying financial statements of the Texas Municipal Retirement System (TMRS), which comprise the statement of fiduciary net position and the related statement of changes in fiduciary net position as of and for the year ended December 31, 2020, and the related notes to the financial statements, which collectively comprise the TMRS' basic financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes 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.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements 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 entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

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, 2020, 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.



Independent Auditors' Report

CONTINUED

Board of Trustees
Texas Municipal Retirement System

Other Matters

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, 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 auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary and Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise TMRS' basic financial statements. The combined statements of changes in fiduciary net position and schedules of administrative expenses, professional services, and investment expenses (supplementary information) and the introductory, investment, actuarial and statistical sections, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The supplementary 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. Such 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 auditing standards generally accepted in the United States of America. In our opinion, the supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory, investment, actuarial and statistical sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.



CliftonLarsonAllen LLP

Baltimore, Maryland
June 4, 2021

Management's Discussion and Analysis

Management's Discussion and Analysis (MD&A) provides an overview and analysis of the financial activities of the Texas Municipal Retirement System (TMRS) for the fiscal year ended December 31, 2020.

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

Overview of the Financial Statements

TMRS administers two trust funds, the Pension Trust Fund and the Supplemental Death Benefits Fund (SDBF). The Pension Trust Fund accounts for the resources available for service and disability retirement benefits to TMRS Members and their beneficiaries. The SDBF provides a lump sum death benefit for active Members, and, if elected, the retirees, of those cities that provide supplemental death benefits. Separate discussion and analysis is provided for each fund.

- The Basic Financial Statements:
 - The Statement of Fiduciary Net Position includes TMRS' assets and liabilities for the Pension Trust Fund and the SDBF. It presents the assets available for future payments of benefits to retirees and beneficiaries and the current liabilities owed as of December 31, 2020.
 - The Statement of Changes in Fiduciary Net Position includes the annual additions to and deductions from the Pension Trust Fund and the SDBF for the year ended December 31, 2020.
- The Notes to the Basic 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 Pension Trust Fund investments.
- The Supplemental Schedules include additional information regarding changes in fiduciary net position by fund and schedules of administrative expenses, professional services and investment expenses for the year ended December 31, 2020.

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

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Financial Highlights

Net Position Restricted for Pensions – Pension Trust Fund

The following tables display a summary of assets, liabilities and fiduciary net position for the Pension Trust Fund at December 31, 2020 and 2019, and a summary of changes in fiduciary net position for the years then ended. The fiduciary net position of the Pension Trust Fund increased by \$2.47 billion from 2019 to 2020 (or 7.8%), primarily from investment returns in 2020.

Table F-1

Summary of Fiduciary Net Position – Pension Trust Fund (dollars in millions)				
As of December 31				
	2020	2019	Increase (Decrease)	% Change
ASSETS				
Investments, at fair value	\$ 34,522.3	\$ 31,871.2	\$ 2,651.1	8.3 %
Receivables	832.8	478.9	353.9	73.9
Cash and other assets	7.8	0.6	7.2	1,200.0
Capital assets, net	7.9	8.5	(0.6)	(7.1)
Total assets	35,370.8	32,359.2	3,011.6	9.3
LIABILITIES				
Payables and other liabilities	1,068.7	526.5	542.2	103.0
Due to depository bank	7.5	5.5	2.0	36.4
Funds held for SDBF	11.7	13.4	(1.7)	(12.7)
Total liabilities	1,087.9	545.4	542.5	99.5
NET POSITION RESTRICTED FOR PENSIONS	\$ 34,282.9	\$ 31,813.8	\$ 2,469.1	7.8 %

The most significant component of TMRS' fiduciary net position is the fair value of its investment portfolio. The change in investments reflects the appreciation in the investment portfolio during 2020. The fluctuation of receivables and payables is due primarily to the change in unsettled, or open, trades from year to year (i.e., timing of trade activity near year-end). The increase in other assets is due to deferred outflows of \$4.3 million reported in accordance with GASB Statement No. 68.

Management's Discussion and Analysis

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Table F-2

Summary of Changes in Fiduciary Net Position – Pension Trust Fund (dollars in millions)				
For the Year Ended December 31				
	2020	2019	Increase (Decrease)	% Change
ADDITIONS				
City contributions	\$ 1,191.7	\$ 930.2	\$ 261.5	28.1 %
Member contributions	479.2	453.6	25.6	5.6
Net investment income	2,414.5	4,279.5	(1,865.0)	(43.6)
Total additions	4,085.4	5,663.3	(1,577.9)	(27.9)
DEDUCTIONS				
Retirement benefit payments	1,544.0	1,445.5	98.5	6.8
Inactive member refunds	56.0	62.7	(6.7)	(10.7)
Administrative expenses	15.6	24.2	(8.6)	(35.5)
Income allocation to SDBF	0.7	0.7	—	—
Total deductions	1,616.3	1,533.1	83.2	5.4
CHANGE IN NET POSITION	2,469.1	4,130.2	(1,661.1)	(40.2)
NET POSITION				
Beginning of year	31,813.8	27,683.6	4,130.2	14.9
END OF YEAR	\$ 34,282.9	\$ 31,813.8	\$ 2,469.1	7.8 %

The increase in city contributions from 2019 to 2020 is primarily due to the additional lump sum contributions made by cities (\$214.4 million in 2020 compared with \$3.6 million in 2019). In addition, covered payroll increased from \$6.79 billion in 2019 to \$7.16 billion in 2020, impacting the amounts of both city and Member contributions.

Net investment income is presented after deduction of investment expenses and includes interest, dividends and appreciation in the fair value of investments. The decrease in net investment income from 2019 to 2020 is due to the market volatility experienced over the periods, primarily in the public equities asset class. The time-weighted net investment returns were 7.65% in 2020 and 14.71% in 2019.

The increase in retirement benefit payments is due to growth in the number of retirees each year (from 61,266 in 2019 to 64,121 in 2020), as well as any cost of living adjustments (COLA) that were applied in each year.

Management's Discussion and Analysis

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Net Position – Supplemental Death Benefits Fund

The following tables display a summary of fiduciary net position at December 31, 2020 and 2019 for the SDBF and a summary of changes in fiduciary net position for the years then ended. The net position of the SDBF decreased over the two-year period by 10.6% due to supplemental death benefit payments exceeding contributions made to the SDBF.

Table F-3

Summary of Fiduciary Net Position – SDBF (dollars in millions)						
As of December 31						
	2020		2019		Increase (Decrease)	% Change
TOTAL ASSETS AND NET POSITION	\$	12.6	\$	14.1	\$ (1.5)	(10.6) %

Table F-4

Summary of Changes in Fiduciary Net Position – SDBF (dollars in millions)						
For the Year Ended December 31						
	2020		2019		Increase (Decrease)	% Change
ADDITIONS						
City contributions	\$	8.9	\$	8.3	\$ 0.6	7.2 %
Income allocation from Pension Trust Fund		0.7		0.8	(0.1)	(12.5)
Total additions		9.6		9.1	0.5	5.5
DEDUCTIONS						
Supplemental death benefits		11.1		12.3	(1.2)	(9.8)
Total deductions		11.1		12.3	(1.2)	(9.8)
CHANGE IN NET POSITION		(1.5)		(3.2)	1.7	53.1
NET POSITION						
Beginning of year		14.1		17.3	(3.2)	(18.5)
END OF YEAR	\$	12.6	\$	14.1	\$ (1.5)	(10.6)%

Contributions from cities participating in the SDBF are based on the payroll of covered Members at actuarially determined rates. The increase in contributions from 2019 to 2020 is due to the increase in the payroll of covered Members of the cities participating in the SDBF. The fluctuation in supplemental death benefits over the two-year period is a result of the change in total numbers of claims as well as the type of claims in those years (active or retired). The SDBF receives a 5% statutory interest allocation based on the fund's average balance during the year.

Requests for Information

This MD&A is designed to provide a general overview of TMRS' finances. Questions and requests for additional information should be addressed to TMRS' Finance Department at P.O. Box 149153, Austin, TX 78714-9153.

Basic Financial Statements

Table F-5

Statement of Fiduciary Net Position			
As of December 31, 2020			
	Pension Trust Fund	Supplemental Death Benefits Fund	Total
ASSETS			
Cash	\$ 2,867,326	\$ —	\$ 2,867,326
Receivables			
Contributions	128,296,510	897,510	129,194,020
Interest and dividends	40,576,338	—	40,576,338
Unsettled investment trades	663,881,243	—	663,881,243
Total receivables	832,754,091	897,510	833,651,601
Investments, at fair value			
Short term investments	1,922,521,232	—	1,922,521,232
Fixed income securities	6,151,970,215	—	6,151,970,215
Public equities	11,671,039,963	—	11,671,039,963
Non-core fixed income funds	4,747,661,737	—	4,747,661,737
Real return funds	2,221,319,526	—	2,221,319,526
Absolute return funds	3,267,288,761	—	3,267,288,761
Private equity funds	1,523,504,987	—	1,523,504,987
Real estate funds	3,017,043,280	—	3,017,043,280
Total investments	34,522,349,701	—	34,522,349,701
Capital assets, net	7,941,114	—	7,941,114
Funds held by Pension Trust Fund	—	11,693,867	11,693,867
Other assets	4,910,730	—	4,910,730
TOTAL ASSETS	35,370,822,962	12,591,377	35,383,414,339
LIABILITIES			
Due to depository bank	7,566,779	—	7,566,779
Accounts payable and other accrued liabilities	24,199,486	—	24,199,486
Funds held for Supplemental Death Benefits Fund	11,693,867	—	11,693,867
Unsettled investment trades payable	1,044,469,796	—	1,044,469,796
TOTAL LIABILITIES	1,087,929,928	—	1,087,929,928
FIDUCIARY NET POSITION			
Net position restricted for pensions	34,282,893,034	—	34,282,893,034
Fiduciary net position held in trust for other benefits	—	12,591,377	12,591,377
TOTAL FIDUCIARY NET POSITION	\$ 34,282,893,034	\$ 12,591,377	\$ 34,295,484,411

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

Basic Financial Statements

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Table F-6

Statement of Changes in Fiduciary Net Position			
For the Year Ended December 31, 2020			
	Pension Trust Fund	Supplemental Death Benefits Fund	Total
ADDITIONS			
Contributions			
City	\$ 1,191,723,159	\$ 8,945,812	\$ 1,200,668,971
Member	479,187,524	—	479,187,524
Total contributions	1,670,910,683	8,945,812	1,679,856,495
Net investment income			
Net appreciation in fair value of investments	2,011,287,939	—	2,011,287,939
Interest and dividends	446,821,348	—	446,821,348
Total investment income	2,458,109,287	—	2,458,109,287
Less investment expense	(43,649,230)	—	(43,649,230)
Net investment income	2,414,460,057	—	2,414,460,057
Other miscellaneous	47,400	—	47,400
Income allocation from Pension Trust Fund	—	657,050	657,050
TOTAL ADDITIONS	4,085,418,140	9,602,862	4,095,021,002
DEDUCTIONS			
Retirement benefit payments	1,544,039,806	—	1,544,039,806
Supplemental death benefits	—	11,084,596	11,084,596
Inactive member refunds	56,013,543	—	56,013,543
Administrative expenses	15,625,982	—	15,625,982
Income allocation to Supplemental Death Benefits Fund	657,050	—	657,050
TOTAL DEDUCTIONS	1,616,336,381	11,084,596	1,627,420,977
CHANGE IN NET POSITION	2,469,081,759	(1,481,734)	2,467,600,025
FIDUCIARY NET POSITION			
Fiduciary net position restricted for pensions			
Beginning of year	31,813,811,275	—	31,813,811,275
End of year	34,282,893,034	—	34,282,893,034
Fiduciary net position held in trust for other benefits			
Beginning of year	—	14,073,111	14,073,111
End of year	—	12,591,377	12,591,377
TOTAL FIDUCIARY NET POSITION	\$ 34,282,893,034	\$ 12,591,377	\$ 34,295,484,411

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 the Texas Municipal Retirement System Act, Subtitle G, Title 8, Texas Government Code (TMRS Act) for the benefit of the employees of Texas participating cities. The TMRS Act places the general administration and management of TMRS with a six-member, Governor-appointed Board of Trustees (Board); however, TMRS is not fiscally dependent on the State of Texas.

TMRS has no component units and is not a component unit of any other entity. The accompanying financial statements include only the operations of TMRS, which is composed of two fiduciary trust funds: the Pension Trust Fund and the Supplemental Death Benefit Fund.

B. Basis of Accounting

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

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

TMRS invests in a diversified portfolio of assets. Investments, in general, are exposed to various risks, such as interest rate risk, credit risk and overall market volatility. Due to the level of risk associated with certain investments, it is reasonably possible that changes in the fair values of investments will occur in the near term and that 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.

C. Basis of Presentation

TMRS maintains separate funds and accounts, segregated for the purpose of carrying out specific activities or attaining certain objectives in accordance with applicable statutory guidelines or restrictions. Each TMRS fund is considered a fiduciary fund. The following is a brief description of each fund category.

Fiduciary Fund — Pension Trust Fund

The Pension Trust Fund reports the resources held in trust for TMRS Members. The TMRS Act does not create legally required reserves, but establishes the following accounts:

Benefit Accumulation Fund (BAF). The activity affecting each participating city's reserve fund is recorded in the BAF. The BAF is increased by contributions from participating cities and Members and decreased by benefit payments and refunds. Effective each December 31, the Board of Trustees approves an interest credit or debit to the BAF, allocated to each city in proportion to its BAF balance at January 1 of that year. The fund received an approximate 7.45% interest credit on December 31, 2020.

Notes to Financial Statements

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

Supplemental Disability Benefits Fund. Effective January 1, 1988, the TMRS Act was amended to terminate the Supplemental Disability Benefits Fund and closed participation to new Members. There have been no contributions to this Fund since 1987, but remaining supplemental disability benefit payments continue to be paid. Each December 31, the Supplemental Disability Benefits Fund receives a 5% interest credit on the average balance of the Fund during the year. This Fund experiences fluctuations in funding from year to year, as this is a small closed group. TMRS management will continue to monitor the balances and obligations of this Fund annually.

Endowment Fund. The Endowment Fund accumulates unallocated investment income (Interest Reserve Account) and escheated accounts.

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

Fiduciary Fund — Supplemental Death Benefits Fund

The Supplemental Death Benefits Fund (SDBF) reports the resources available to pay supplemental death benefit claims for covered Members. Participating cities may elect, by ordinance, to provide a supplemental death benefit for their active Members, including or not including retired Members. The SDBF is a separate trust administered by the Board. The TMRS Act requires that a 5% interest credit be allocated to the SDBF each December 31 based on the average balance in the SDBF during the year. Supplemental death benefit payments are payable only from the SDBF and are not an obligation of, or a claim against, other TMRS Funds.

D. Investments

Investments at December 31, 2020 include short-term custodian-managed funds, repurchase agreements, domestic and international fixed income securities, domestic and international public equity securities, commingled public equity funds, non-core fixed income funds, real return funds, absolute return 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 investment funds and repurchase agreements 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 the TMRS custodian using the last trade date "quoted market price" supplied by various pricing data vendors. Fair values of the commingled public equity funds are determined based on the funds' net asset values at the date of valuation. Fair values of private fund investments (non-core fixed income funds, real return funds, absolute return funds, private equity funds and private real estate funds) are reported at the net asset values as provided by the private fund's investment manager, which are based on audited financial statements of the respective funds. Withdrawal from private fund investments prior to the fund's liquidation may be allowable, subject to certain constraints as set forth in such private funds documents.

Forward currency contracts and futures contracts are considered derivative financial instruments and are reported at fair value, with valuation changes reported as investment income. The accumulated gain/

Notes to Financial Statements

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(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 private investment funds are not reported separately but are instead included in the net appreciation/(depreciation) in fair value of investments.

E. Capital Assets

Capital Assets, which include land, building and improvements, furniture, software and equipment, are reported at cost less accumulated depreciation. It is TMRS' policy to capitalize items that individually exceed \$10,000. Depreciation of furniture, equipment and software is calculated on a straight-line basis over estimated useful lives, which range from three to ten years; depreciation of building and improvements is calculated on a straight-line basis over forty years. Land is not depreciated.

2. Plan Description

A. Pension Trust Fund

TMRS is a statewide public retirement plan created by the TMRS Act that Texas cities (participating cities) can choose to join for the benefit of their employees. For GASB purposes, TMRS is considered an agent multiple-employer public employee retirement system. TMRS administers a defined benefit cash-balance plan for the eligible employees of 895 participating cities. TMRS is governed by a six-member Board of Trustees who are appointed by the Governor of Texas and confirmed by the Texas Senate.

Membership. A participating city employee in a position that normally requires at least 1,000 hours of work in a year, as determined by the participating city, is a TMRS eligible employee and must be a Member of TMRS (Member). Membership terminates upon a Member's refund, death or absence from service with a participating city for more than 60 consecutive months.

Table F-7

TMRS Member Accounts	
As of December 31, 2020	
Active Member accounts	114,497
Inactive Member accounts entitled to but not yet receiving benefits	68,679
Retirees and beneficiaries currently receiving benefits	73,102
Total	256,278

Service Credit. A Member receives credit for each month during which they are employed in an eligible position by a participating city and for which TMRS receives the required Member contribution. Because TMRS is a statewide retirement system, credit may be a combination of service with several participating cities. Credit may also include military service credit, credit for repurchased previously refunded TMRS service credit, prior service credit and other types of credit allowed under the TMRS Act.

Vesting and Retirement Eligibility. A Member vests after either 5 or 10 years of service, based on their city's plan benefit design. Effective January 1, 2002, Members are vested after 5 years, unless a city opted to retain 10-year vesting. Members may work for more than one participating city during their career. If an

Notes to Financial Statements

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individual has become vested in one participating city, they are vested upon employment with another participating city.

A Member reaches retirement eligibility in most participating cities at age 60 and above with 5 or more years of service, or with 20 years of service regardless of age. Some cities have elected retirement eligibility with 25 years of service regardless of age. If a vested Member leaves employment before reaching retirement eligibility, the Member may leave their deposits with TMRS, earn interest on the deposits and, upon reaching the age requirement for retirement eligibility, apply for and receive a monthly retirement benefit payment. Once a Member has met the eligibility requirements for retirement in a participating city, he or she is eligible in other participating cities as well.

Contributions. TMRS provides mandatory and optional plan benefit design features that participating cities adopt by ordinance, which may be amended by a city on a prospective basis. Member contribution rates, adopted by a participating city, 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 deposits them with the Pension Trust Fund monthly.

A participating city must pay its required city contribution rate, which is determined annually by TMRS' external actuary using the Entry Age Normal actuarial cost method. The city's contribution rate is based on the liabilities created from the benefit plan options selected by the city and any changes in benefits or actual experience over time. This rate consists of the normal cost contribution rate and the prior service contribution rate, which is calculated to be a level percent of payroll from year to year. The normal cost contribution rate for a city is the percentage of total gross payroll which, 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 costs of the projected impact of annually repeating benefits adopted by a city, such as Updated Service Credit and Cost of Living Adjustments (defined below). City contributions are required to be deposited with TMRS monthly by the participating cities. 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. Participating cities may make contributions in excess of their actuarially determined contributions to the Pension Trust Fund as additional monthly contributions or lump sum contributions.

Benefits. At retirement, the Member's retirement benefits are calculated based on the sum of the Member's contributions, with interest, and the city-financed monetary credits, with interest. City-financed monetary credits are composed of three sources: Prior Service Credit, Current Service Credit and Updated Service Credit.

- Prior Service Credit is granted by most cities when joining TMRS. It includes a monetary credit equal to the accumulated value of the percentage of prior service credit selected by the city (from 10% to 100%), multiplied by a Member's contributions that would have been made, based on the average salary prior to TMRS participation, for the number of months the employee was employed by that city before joining TMRS, accruing 3% annual interest and including the matching ratio adopted by the city.
- Current Service Credit is a monetary credit for service performed by a Member after a city joins TMRS and is based on a percent (100%, 150% or 200%) of the Member's total contributions and interest credits (commonly referred to as the Cities' Matching Ratio). Each participating city designates the rate of their Member contributions (5%, 6% or 7% of gross compensation) and interest is credited on contribution balances annually at a guaranteed minimum 5% rate. A change in a city's matching ratio is applied prospectively.

Notes to Financial Statements

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- Updated Service Credit (USC) is an optional monetary credit that a participating city may grant annually on an ad hoc or repeating basis, and it may increase a Member's monthly retirement benefit. In calculating USC, TMRS looks at the changes in the Member's salary over their career and any changes the city has made to its TMRS plan, such as the Member contribution rate or the city's matching ratio. Although USC may increase the Member's retirement benefit, USC does not affect the amount of contributions in a Member's account or the amount a Member will receive if they refund.

Benefit Payment Options. A retiring Member may select one of seven monthly benefit payment options: the retiree life only option; one of three survivor lifetime options; or one of three guaranteed term options. Members may also choose to receive a portion of their benefit as a lump sum distribution in an amount equal to 12, 24 or 36 monthly payments calculated using the retiree life only option, but this lump sum cannot exceed 75% of the total Member contributions and interest.

Cost of Living Adjustment (COLA). A participating city may elect to increase the monthly benefit payment of its retirees annually, either on an ad hoc or a repeating basis, effective January 1. Cities may adopt benefit payment increases 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 increases.

Inactive Member Refunds. If a Member terminates employment and refunds their account, the Member will receive their total contributions, plus credited interest. The Member will not receive any of the city-financed monetary credits.

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

The Board's strategic target allocation is intended to reflect, and be consistent with, the investment return objective expressed in the IPS. It is designed to meet or exceed the Board's objectives at a controlled level of risk and liquidity that is acceptable to the Board.

In February 2020, the Board adopted amendments to the IPS to decrease the strategic target allocation to global public equity by 5%, increase the strategic target allocation to private equity by 5% and delegate limited authority to the Chief Investment Officer, through the Executive Director, to retain and terminate investment managers within each asset class.

Table F-8

Strategic Asset Allocation Policy			
As of December 31, 2020			
Asset Class	Minimum %	Target %	Maximum %
Core fixed income	5%	10%	15%
Non-core fixed income	15%	20%	25%
Global public equity	20%	30%	40%
Real estate	5%	10%	15%
Real return	5%	10%	15%
Absolute return	5%	10%	15%
Private equity	5%	10%	15%
Cash equivalents	0%	0%	10%

Notes to Financial Statements

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For the year ended December 31, 2020, the money-weighted rate of return on Pension Trust Fund investments, net of investment expenses, was 7.55%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

B. Supplemental Death Benefits Fund

TMRS also administers an optional death benefit plan, the Supplemental Death Benefits Fund (SDBF), which operates like a group-term life insurance plan. This voluntary program allows participating cities to provide supplemental death benefits for their active Members, with optional coverage for their retirees. A city may terminate coverage in the SDBF by adopting an ordinance before November 1 of any year to be effective the following January 1. The SDBF had 777 participating cities on December 31, 2020.

Table F-9

Supplemental Death Benefits Fund Member Accounts	
As of December 31, 2020	
Active Member accounts	77,880
Inactive vested Member accounts	10,409
Retirees eligible for benefits	33,723
Total	122,012

Benefits. Benefits payable from the SDBF become due after the death of a covered active Member or retiree and are paid to the designated beneficiaries upon the receipt of an approved application for payment. The death benefit for active Members provides a lump-sum payment approximately equal to the Member's annual salary (calculated based on the Member's actual earnings for the 12-month period preceding the month of death). The death benefit for retirees is an "other post-employment benefit" and is a fixed amount of \$7,500. The obligations of this plan are payable only from the SDBF and are not an obligation of the Pension Trust Fund.

Contributions. Contributions to the SDBF are made monthly based on the payroll of covered Members of the cities participating in the SDBF. The required contribution rate is actuarially determined annually for each city participating in the SDBF. The rate is based on the mortality and service experience of all employees covered by the SDBF and the demographics specific to the workforce of the city. 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. The contributions to the SDBF are pooled for investment purposes with those of the Pension Trust Fund. The TMRS Act requires allocation from the Interest Reserve Account to the SDBF on an annual basis (see Note 1-C). The funding policy of this supplemental death benefit plan is to assure that adequate resources are available to meet all death benefit payments for the upcoming year. As such, contributions fund the covered active Member and retiree deaths on a pay-as-you-go basis; any excess contributions and investment income over payments then become net position available for benefits.

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3. TMRS as Employer

A. Pension Plan

TMRS, as an employer, participates as one of the 895 plans in the pension plan it administers, providing pension benefits for all of its eligible employees. Eligible employees may retire at age 60 and above with 5 or more years of service, or with 20 years of service regardless of age. The contribution rate for TMRS employees is 7% and, at retirement, TMRS' matching ratio is 200% (2 to 1). TMRS has repeating 100% Updated Service Credit and a repeating COLA, at 70% of the change in the CPI. Employees are vested after 5 years of service. See Note 2-A for a full description of the pension plan benefits.

TMRS' net pension liability (NPL) and pension expense were measured as of the December 31, 2019 actuarial valuation, which is considered the employer's measurement date for purposes of GASB Statement No. 68. The NPL of \$6,407,291 is included in accounts payable and other accrued liabilities in the accompanying Statement of Fiduciary Net Position. TMRS' pension expense for the fiscal year 2020 of \$2,268,454 is included in administrative expenses in the accompanying Statement of Changes in Fiduciary Net Position.

Table F-10

TMRS as Employer — Actuarial Valuation	
As of December 31, 2019 (Measurement Date)	
Member Accounts	
Active Member accounts	118
Inactive Member accounts	34
Retiree accounts	36
Total	188
Net Pension Liability	
Total pension liability	\$ 53,193,509
Fiduciary net position	46,786,218
Net pension liability	\$ 6,407,291
Plan Fiduciary Net Position as a % of Total Pension Liability	87.95 %
Sensitivity of the NPL to changes in discount rate	
1% increase	\$ 354,638
Current rate assumption of 6.75%	\$ 6,407,291
1% decrease	\$ 13,693,776

B. Supplemental Death Benefits

As an employer, TMRS provides a supplemental death benefit to its active employees and retirees. TMRS contributes to the SDBF at the statutorily required contribution rate, which was 0.19% for 2020, of which 0.02% represented the retiree-only (other post-employment benefit) portion, as a percentage of payroll of covered Members. As an employer, TMRS' contributions to the SDBF for the years ended December 31, 2020, 2019 and 2018 were \$25,665, \$21,140 and \$18,615, respectively, representing contributions for both active and retiree coverage, which equaled the required contributions each year.

See Note 2-B for a full description of the SDBF.

Notes to Financial Statements

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C. TMRS Insurance Benefits

TMRS provides health, life, disability and dental insurance benefits through the Employees Retirement System of Texas (ERS) Group Benefits Program (GBP). The GBP is administered through a trust which is governed and managed by the ERS Board of Trustees. The State Retiree Health Plan (SRHP) is a cost sharing multiple-employer defined benefit post-employment healthcare plan that covers retired employees of the State and other entities as specified by the state legislature, including TMRS. The plan assets are legally protected from creditors of the State of Texas and ERS. ERS issues a publicly available financial report that includes financial statements and required supplementary information for SRHP. The ERS Comprehensive Annual Financial Report is available online at ers.texas.gov, by writing to ERS, P.O. Box 13207, Austin, TX 78711-3207, or by calling 877-275-4377.

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 or “premiums” are established and may be amended by the Texas Legislature. TMRS remits monthly premium contributions to ERS to cover both active employees and retirees that are covered under the plan. TMRS’ contributions to ERS for the years ended December 31, 2020, 2019 and 2018 were \$1,256,990, \$1,236,717 and \$1,212,586, respectively, for active employees and \$50,614, \$48,674 and \$45,016, respectively, for TMRS retirees, which equaled the required contributions each year.

TMRS provides a portion of the premium for health coverage to TMRS retirees based on a tenure schedule approved by the TMRS Board through the annual budget process. The retiree, at his/her own expense, may elect spouse health, dental and life insurance.

D. Deferred Compensation

TMRS employees may participate in a deferred compensation plan created in accordance with Internal Revenue Code Section 457. This plan, available to all employees of TMRS, permits the deferral of a participant’s salary until termination or retirement.

4. Deposits and Investments

A. Cash in Bank and Deposits

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

Demand deposit balances with TMRS’ depository bank totaled \$191,399, with a book value of \$(7,566,779) at December 31, 2020. The negative balance reflects uncleared checks and is classified as “due to depository bank” on the Statement of Fiduciary Net Position.

Cash on deposit with TMRS’ custodian totaled \$2,867,326 at December 31, 2020.

B. Fair Value of Investments

TMRS categorizes its fair value measurements within the hierarchy as established by GAAP. These principles recognize 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.

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Table F-11

Fair Value of Investments		Fair Value Measurements Using			
As of December 31, 2020		Total Fair Value	Level 1	Level 2	Level 3
Fixed income					
U.S. Treasury bonds/notes	\$ 1,435,064,545	\$ —	\$ 1,435,064,545	\$ —	—
U.S. government agency	229,109,215	—	229,109,215	—	—
U.S. government-sponsored enterprise	767,790,596	—	767,790,596	—	—
Municipal	86,211,657	—	86,211,657	—	—
Corporate	2,016,238,036	—	2,016,238,036	—	—
Collateralized mortgage obligation	820,051,907	—	820,051,907	—	—
Other asset-backed	277,534,879	—	277,534,879	—	—
Foreign government	215,096,708	—	215,096,708	—	—
Foreign government inflation-linked	304,872,672	—	304,872,672	—	—
	<u>6,151,970,215</u>	<u>—</u>	<u>6,151,970,215</u>	<u>—</u>	<u>—</u>
Public equities					
Equity securities – domestic	1,288,593,946	1,288,593,946	—	—	—
Equity securities – international	1,325,708,820	1,325,708,820	—	—	—
Global equity REITs	325,265,931	325,265,931	—	—	—
	<u>2,939,568,697</u>	<u>2,939,568,697</u>	<u>—</u>	<u>—</u>	<u>—</u>
Total investments by fair value level	9,091,538,912	2,939,568,697	6,151,970,215	—	—
Investments measured at the net asset value (NAV)					
Non-core fixed income funds	4,747,661,737				
Real return funds	2,221,319,526				
Equity commingled funds	8,731,471,266				
Absolute return funds	3,267,288,761				
Private equity funds	1,523,504,987				
Private real estate funds	3,017,043,280				
Total investments measured at the NAV	23,508,289,557				
Short-term investments at amortized cost	<u>1,922,521,232</u>				
Total investments	<u>\$ 34,522,349,701</u>				

Notes to Financial Statements

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Equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those investments. Fixed income securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Certain short-term investments classified in Level 2 of the fair value hierarchy are priced using published prices received from investment managers, based on the fair values of underlying investments. TMRS did not hold any investments classified in Level 3 of the fair value hierarchy as of December 31, 2020.

Investments measured at the 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 on the following page presents the unfunded commitments, redemption frequency (if currently eligible), and the redemption notice period for TMRS' investments measured at NAV.

One investment, valued at \$105 million at December 31, 2020, will be liquidated. TMRS' interest in this investment has been valued using the most current available information, including recent capital statements and discussions with the investment manager.

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Table F-12

Investments Measured at the Net Asset Value (NAV)				
As of December 31, 2020				
	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Equity commingled funds				
US commingled funds	\$ 5,858,026,245	\$ —	Daily	1-2 days
International commingled funds	2,873,445,021	—	Daily	1-2 days
Non-core fixed income funds				
Structured credit	230,819,853	—	Quarterly	Varies: 45-60 days
Loans	2,126,551,271	387,034,651	Quarterly	Varies: 45-60 days
Opportunistic credit	1,145,745,965	748,373,408	Varies: Monthly, Quarterly, Yearly, N/A	Varies: 60-90 days, N/A
Emerging market debt	880,418,358	—	Weekly	10 days
High yield	364,126,290	—	Daily	10 days
Real return funds				
Agriculture	124,876,983	269,592,549	N/A	N/A
Energy	186,104,475	172,238,780	N/A	N/A
Healthcare	4,964,090	105,686,465	N/A	N/A
Infrastructure	748,378,227	1,067,500,579	Varies: Daily, N/A	Varies: 90 days, N/A
Mining	277,621,479	183,061,831	N/A	N/A
Public markets	879,374,272	—	Daily	5 days
Absolute return funds				
Fund of hedge funds	7,643,957	—	Quarterly	95 days
Equity	695,130,953	—	Varies: Monthly, Quarterly, Yearly, N/A	Varies: 45-80 days
Global macro	737,907,619	—	Quarterly	Varies: 30-90 days
Multi-strategy opportunistic	533,070,238	138,783,452	Varies: Quarterly, Rolling 3-year	Varies: 60 days, N/A
Credit	578,348,317	11,217,941	Varies: Quarterly, Yearly, N/A	Varies: 90-180 days
Relative value	714,202,855	—	Varies: Monthly, Quarterly, Yearly, 2.5 years	Varies: 25-180 days
Event-driven	984,822	—	Quarterly	90 days
Private equity funds				
Buy-out	687,064,114	1,978,056,179	N/A	N/A
Venture/growth	612,862,161	485,513,943	N/A	N/A
Special situations	223,578,712	408,142,759	N/A	N/A
Private real estate funds				
Core	1,961,154,339	364,127,148	Varies: Quarterly, N/A	Varies: 45-90 days, N/A
Opportunistic	358,577,497	455,152,365	N/A	N/A
Value-added	697,311,444	950,176,569	N/A	N/A
Total	\$ 23,508,289,557	\$ 7,724,658,619		

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.
- **Real return funds.** Real return funds invest primarily in global hard assets such as infrastructure, minerals, agriculture, energy and timber. TMRS invests in closed end funds with average term lengths of 6 – 14 years, over which the funds will purchase and dispose of assets. Distributions from each fund will be received as the underlying assets are liquidated.
- **Absolute return funds:**
 - *Fund of hedge funds.* The custom fund of hedge funds pursues capital appreciation by allocating assets among a variety of alternative investment strategies. These funds seek to decrease portfolio risk by providing risk-adjusted returns with low correlation to traditional asset classes. Leverage may be used by some managers.
 - *Equity hedge funds.* These funds can hold both long and short positions. Managers may make use of non-equity instruments such as CDs, swaps, currency overlay and derivatives as needed. Leverage may be used by some managers. Funds in this group are typically subject to gating provisions, which may limit withdrawals.
 - *Global macro hedge funds.* These funds may take directional positions in currencies, bonds, equities and commodities, which may be based on the relative valuations within or between asset classes. Leverage may be used by some managers. Funds in this group are typically subject to gating provisions, which may limit withdrawals.
 - *Multi-strategy opportunistic hedge funds.* These hedge funds allow the manager to shift hedge fund investment styles based on their market outlook.
 - *Credit hedge funds.* These funds may invest in a variety of fixed income strategies, such as municipal bonds, corporate bonds and global fixed income securities. Some funds invest in multiple strategies, while others focus on a single strategy. Leverage may be used by some managers. Funds in this group are typically subject to gating provisions, which may limit withdrawals.
 - *Relative value hedge funds.* These funds attempt to take advantage of relative pricing discrepancies between instruments, including equities, debt, options and futures. Arbitrage strategies may include dividend arbitrage, pairs trading, options arbitrage and yield curve trading. Funds in this group are typically subject to gating provisions, which may limit withdrawals.
 - *Event-driven hedge funds.* Event-driven hedge funds invest in opportunities created by significant transactional events, such as spin-offs, mergers and acquisitions, bankruptcy, reorganizations, recapitalizations and share buybacks. Leverage may be used by some managers. Funds in this group are typically subject to gating provisions, which may limit withdrawals.
- **Private equity funds.** Private equity funds primarily invest in non-publicly traded equity and debt securities in the U.S. and internationally. These investments are typically closed end funds with an average term length of 10 – 14 years, over which the funds will purchase and dispose of assets. Distributions from each fund will be received as the underlying assets are liquidated.
- **Private real estate funds.** Private real estate funds invest in global commercial real estate, equity or debt collateralized by commercial real estate. TMRS invests in these closed end funds with average term length of 8 – 12 years, over which the funds will purchase and dispose of assets. Distributions from each fund are received as quarterly income or as the underlying investments of the funds are liquidated.

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C. Deposit and Investment Risk

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

Custodial Credit Risk — Deposits

Custodial depository credit risk describes the risk that, in the event of a bank failure, TMRS' deposits might not be recovered. TMRS does not have a formal deposit policy for custodial credit risk of its deposits. Demand deposits held by the depository bank as of December 31, 2020, to the extent not insured by the Federal Deposit Insurance Corporation, 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 \$11,485,043 at December 31, 2020. The current FDIC coverage limit is \$250,000 for deposits held in noninterest-bearing accounts. Deposits denominated in a foreign currency are neither collateralized nor insured as of December 31, 2020.

Custodial Credit Risk — Investments

Custodial investment credit risk is the risk that, in the event of failure of the counterparty, TMRS will not be able to recover the value of its investments or collateral securities that are in the possession of the counterparty. TMRS' assets may be held in the name of agents, nominees, depository trust companies or other entities designated by the Board. At December 31, 2020, all investment securities were registered in TMRS' name or in the name of its custodian, which was established through a master trust custodial agreement, and are held by the custodian in the name of TMRS.

TMRS' investments in repurchase agreements of \$321,300,000 at December 31, 2020 were collateralized by U.S. Treasury bonds/notes, held in TMRS' name, with a total fair value of \$318,206,600.

Credit Default Risk — Investments

Credit default risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The IPS sets minimum credit ratings for the core fixed income portfolio to manage credit default risk. As of December 31, 2020, TMRS' core fixed income portfolio complied with the IPS guidelines on credit default risk. Investment guidelines established with the individual investment managers address the management of credit default risk for the non-core fixed income and real return portfolios.

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Table F-13

Fixed Income Securities with Exposure to Credit Default Risk									
As of December 31, 2020									
Bond Rating	Total Fair Value	U.S. Government- Sponsored Enterprise	Municipal	Corporate	Collateralized Mortgage Obligation	Other Asset-Backed	Foreign Government	Foreign Government Inflation- Linked	
Securities subject to credit default risk:									
AAA	\$ 254,755,714	\$ 5,654,897	\$ 7,519,369	\$ 8,294,697	\$ 111,690,862	\$ 23,744,247	\$ 52,442,678	\$ 45,408,964	
AA	392,254,711	—	35,641,330	51,250,845	38,979,012	29,020,958	20,782,178	216,580,388	
A	728,311,403	—	32,753,845	600,625,801	21,125,380	12,688,457	53,419,373	7,698,547	
BBB	918,816,661	—	10,297,113	766,371,388	35,826,390	21,268,039	49,868,958	35,184,773	
BB	336,506,825	—	—	311,930,602	24,438,164	138,059	—	—	
B	253,588,114	—	—	199,443,018	42,145,948	11,999,148	—	—	
CCC	189,890,280	—	—	68,600,764	102,071,052	19,218,464	—	—	
CC	78,083,973	—	—	170,021	46,465,460	31,448,492	—	—	
C	44,953,353	—	—	—	12,269,992	32,683,361	—	—	
D	2,988,051	—	—	—	1,019,008	1,969,043	—	—	
Not Rated	1,287,647,370	762,135,699	—	9,550,900	384,020,639	93,356,611	38,583,521	—	
Total	4,487,796,455	767,790,596	86,211,657	2,016,238,036	820,051,907	277,534,879	215,096,708	304,872,672	
Securities not subject to credit default risk:									
U.S. Treasury bonds/notes	1,435,064,545								
U.S. government agency	229,109,215								
Total	\$ 6,151,970,215								

Note: Excluded from the table above are investments in non-core fixed income funds. While the underlying investments of the non-core fixed income funds are exposed to credit default risk, credit ratings for the funds themselves are not available.

Concentration of Credit Risk — Investments

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

The IPS sets forth investment guidelines to address the management of concentration of credit risk for the public securities held in the global public equities, core fixed income, non-core fixed income and real return portfolios. As of December 31, 2020, TMRS did not exceed any of the issuer diversification limits in the IPS, and did not hold greater than 5% of the investment portfolio in a single non-government issuer.

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Interest Rate Risk — Investments

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. The IPS states that interest rate risk of the core fixed income portfolio will be controlled through duration management. Duration is a measure of the sensitivity of the price (the value of principal) of a fixed income investment to a change in interest rates, and is expressed as a number of years. The IPS requires duration of the core fixed income portfolio remain within +/- 25% of the Barclay's U.S. Aggregate Bond Index, which was 6.14 as of December 31, 2020. As of December 31, 2020, TMRS' core fixed income portfolio was in compliance with its policy on interest rate risk.

Investment guidelines established with the individual investment managers address the management of interest rate risk for the non-core fixed income and real return portfolios.

Table F-14

Fixed Income Securities with Exposure to Interest Rate Risk		
As of December 31, 2020		
	Fair Value	Effective Duration
Securities subject to interest rate risk:		
U.S. Treasury bonds/notes	\$ 1,435,064,545	8.12
U.S. government agency	229,109,215	2.44
U.S. government-sponsored enterprise	767,790,596	2.75
Municipal	86,211,657	8.13
Corporate	2,016,238,036	5.35
Collateralized mortgage obligation	820,051,907	3.55
Other asset-backed	277,534,879	5.19
Foreign government	215,096,708	6.35
Foreign government inflation-linked	304,872,672	13.32
Total	\$ 6,151,970,215	5.79

Note: Excluded from the table above are investments in non-core fixed income funds. While such investments are exposed to interest rate risk, duration information for these funds is not available.

Foreign Currency Risk — Investments

Foreign currency risk is the risk that changes in currency exchange rates will adversely affect the fair value of an investment or a deposit. Currency risk is generally considered a diversification benefit of foreign investments; therefore, it is not expected to be hedged except as specifically authorized, requested or required by TMRS and according to the relevant asset class mandate.

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Table F-15

Foreign Currency Exposure (in US dollars)							
As of December 31, 2020							
Currency	Cash Equivalents	Foreign Currency Contracts	Fixed Income Securities	Equities	Real Return Funds	Private Real Estate Funds	Total
Australian Dollar	\$ 11	\$ (842,621)	\$ 19,751,939	\$ 66,887,701	\$ 54,773,979	\$ —	\$ 140,571,009
Brazilian Real	201,618	—	1,586,097	41,834,771	—	—	43,622,486
Canadian Dollar	93,279	(2,004)	18,561,968	100,500,025	—	—	119,153,268
Chilean Peso	8,145	—	—	1,314,773	—	—	1,322,918
Czech Koruna	—	—	—	959,470	—	—	959,470
Colombian Peso	—	—	10,359,277	—	—	—	10,359,277
Danish Krone	—	—	—	13,199,044	—	—	13,199,044
Egyptian Pound	2,268	—	—	24,229	—	—	26,497
Euro Currency	60,198	(2,037)	34,691,741	200,181,250	—	46,298,767	281,229,919
Hong Kong Dollar	741,355	—	—	202,315,554	—	—	203,056,909
Hungarian Forint	—	—	—	3,515,232	—	—	3,515,232
Indian Rupee	118,018	—	—	99,946,965	—	—	100,064,983
Indonesian Rupiah	—	(107,743)	11,186,104	13,964,713	—	—	25,043,074
Japanese Yen	17,135	—	34,714,866	137,898,444	—	—	172,630,445
Malaysian Ringgit	31,496	—	19,796,024	946,387	—	—	20,773,907
Mexican Peso	44,429	—	26,844,238	22,463,789	—	—	49,352,456
New Israeli Shequel	—	—	—	1,926,103	—	—	1,926,103
New Taiwan Dollar	119,213	—	—	90,441,764	—	—	90,560,977
New Zealand Dollar	—	(798,153)	22,232,547	2,482,780	—	—	23,917,174
Norwegian Krone	—	—	32,836,417	4,327,248	—	—	37,163,665
Philippine Peso	7,150	—	—	166,109	—	—	173,259
Polish Zloty	—	—	—	4,973,381	—	—	4,973,381
Pound Sterling	98,272	(464)	218,967,082	147,839,426	—	35,217,488	402,121,804
Qatari Rial	5,790	—	—	—	—	—	5,790
Saudi Riyal	—	—	—	1,211,610	—	—	1,211,610
Singapore Dollar	—	3	1,637,954	28,600,860	—	—	30,238,817
South African Rand	2,605	—	—	26,145,099	—	—	26,147,704
South Korean Won	78,806	—	—	100,713,136	—	—	100,791,942
Swedish Krona	—	—	23,176,418	20,094,407	—	—	43,270,825
Swiss Franc	115,535	—	—	18,626,430	—	—	18,741,965
Thailand Baht	3,828	—	—	10,319,936	—	—	10,323,764
Turkish Lira	8,797	—	—	11,878,549	—	—	11,887,346
UAE Dirham	—	—	—	82,297	—	—	82,297
Yuan Renminbi	379,938	1,120	—	63,488,756	—	—	63,869,814
Total	\$ 2,137,886	\$ (1,751,899)	\$ 476,342,672	\$ 1,439,270,238	\$ 54,773,979	\$ 81,516,255	\$ 2,052,289,131

Notes to Financial Statements

CONTINUED

Derivatives

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

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

Table F-16

Foreign Currency Contracts		
As of December 31, 2020		
Currency	Net Notional Long/(Short)	Exposure
Australian Dollar	\$ (17,354,133)	\$ (842,621)
Canadian Dollar	1,494,598	(2,004)
Euro Currency	460,590	(2,037)
Indonesian Rupiah	(9,579,136)	(107,743)
New Zealand Dollar	(15,621,047)	(798,153)
Pound Sterling	(98,392)	(464)
Singapore Dollar	(3,806)	3
Yuan Renminbi	(304,489)	1,120
U.S. Dollar	39,253,916	—
Total	\$ (1,751,899)	\$ (1,751,899)

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

Notes to Financial Statements

CONTINUED

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

Table F-17

Futures Contracts					
As of December 31, 2020					
Futures Contracts	Expiration Date	Notional Value	Notional Cost	Accumulated Gain/(Loss)	
U.S. Ultra Treasury Bond Futures	3/22/2021	\$ 1,281,375	\$ 1,285,922	\$ (4,547)	
U.S. 10-Yr Ultra Futures	3/22/2021	17,824,969	17,896,219	(71,250)	
U.S. Long Bond Futures	3/22/2021	(3,636,938)	(3,673,540)	36,602	
U.S. Ultra Treasury Bond Futures	3/22/2021	(4,911,938)	(4,986,622)	74,684	
U.S. 10-Yr Ultra Futures	3/22/2021	(5,159,859)	(5,180,169)	20,310	
U.S. 10-Yr Treasury Note Futures	3/22/2021	(37,557,250)	(37,506,250)	(51,000)	
Total		\$ (32,159,641)	\$ (32,164,440)	\$ 4,799	

5. Capital Assets

Table F-18

Capital Assets					
As of December 31, 2020					
	Land	Buildings and Improvements	Furniture, Software, and Equipment	Total	
Capital assets	\$ 254,388	\$ 13,897,216	\$ 13,156,264	\$ 27,307,868	
Less: accumulated depreciation	—	(6,861,211)	(12,505,543)	(19,366,754)	
Capital assets, net	\$ 254,388	\$ 7,036,005	\$ 650,721	\$ 7,941,114	

6. Commitments and Contingencies

As of December 31, 2020, TMRS had \$7.7 billion of unfunded commitments to private investment funds.

Required Supplementary Information

Table F-19

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

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

Note: This schedule is intended to show information for 10 years, and additional years will be disclosed as they become available.

See accompanying Independent Auditors' Report.

Supplemental Schedules

Table F-20

Combined Statements of Changes in Fiduciary Net Position For the Year Ended December 31, 2020

	Benefit Accumulation Fund	Full Benefit Arrangement	Supplemental Disability Benefits Fund	Endowment Fund	Expense Fund	Total Pension Trust Fund	Supplemental Death Benefits Fund	Total
ADDITIONS:								
City contributions	\$ 1,190,110,045	\$ 1,613,114	\$ —	\$ —	\$ —	\$ 1,191,723,159	\$ 8,945,812	\$ 1,200,668,971
Member contributions	479,187,524	—	—	—	—	479,187,524	—	479,187,524
Net investment income	—	—	—	2,425,475,685	(11,015,628)	2,414,460,057	—	2,414,460,057
Other	—	—	—	46,913	487	47,400	—	47,400
Total additions	1,669,297,569	1,613,114	—	2,425,522,598	(11,015,141)	4,085,418,140	8,945,812	4,094,363,952
DEDUCTIONS:								
Retirement benefits	1,542,373,028	1,613,114	53,664	—	—	1,544,039,806	—	1,544,039,806
Supplemental death benefits	—	—	—	—	—	—	11,084,596	11,084,596
Inactive member refunds	56,013,543	—	—	—	—	56,013,543	—	56,013,543
Administrative expenses	—	—	—	—	15,625,982	15,625,982	—	15,625,982
Total deductions	1,598,386,571	1,613,114	53,664	—	15,625,982	1,615,679,331	11,084,596	1,626,763,927
FUND TRANSFERS:								
Operating budget transfer	—	—	—	(34,176,000)	34,176,000	—	—	—
Income allocation	2,343,163,412	—	16,031	(2,343,836,493)	—	(657,050)	657,050	—
Escheated funds	(2,341,995)	—	—	2,341,995	—	—	—	—
Net fund transfers	2,340,821,417	—	16,031	(2,375,670,498)	34,176,000	(657,050)	657,050	—
Total Change in Fiduciary Net Position	2,411,732,415	—	(37,633)	49,852,100	7,534,877	2,469,081,759	(1,481,734)	2,467,600,025
FIDUCIARY NET POSITION:								
Beginning of year	31,446,282,500	—	348,960	362,027,417	5,152,398	31,813,811,275	14,073,111	31,827,884,386
End of year	\$ 33,858,014,915	\$ —	\$ 311,327	\$ 411,879,517	\$ 12,687,275	\$ 34,282,893,034	\$ 12,591,377	\$ 34,295,484,411

See accompanying Independent Auditors' Report.

Supplemental Schedules

CONTINUED

Table F-21

Schedule of Administrative Expenses	
For the Year Ended December 31, 2020	
Personnel services	
Staff salaries and benefits	\$ 8,610,232
Payroll taxes	683,522
Contract/temporary services	76,139
Total personnel services	9,369,893
Professional services	
Consulting	1,072,063
Actuarial	571,392
Banking	49,387
Legal	249,282
Medical Board	34,230
Audit	223,075
Total professional services	2,199,429
Communication	
Printing and postage	299,843
Travel	49,962
Telephone	91,399
Member outreach	230,883
Total communication	672,087
Information services	
Data processing	631,012
Online services	634,285
Office equipment/service	113,471
Offsite and record storage	137,968
Total information services	1,516,736
Miscellaneous	
Board and Advisory Committee	53,950
Insurance and risk management	173,294
Dues, subscriptions and training	276,922
Utilities	174,544
Supplies	209,355
Building/grounds maintenance & security	292,837
Depreciation	630,664
Other administrative expenses	56,271
Total miscellaneous	1,867,837
Total administrative expenses	\$ 15,625,982

See accompanying Independent Auditors' Report.

Supplemental Schedules

CONTINUED

Table F-22

Schedule of Professional Services

For the Year Ended December 31, 2020

CONSULTING

Information systems support	\$ 304,750
Pension Administration System	117,888
Executive recruiting	111,862
Governmental relations support	82,750
Network management and security	80,852
Governance/strategic planning	76,610
Human resources management	70,812
Business continuity planning	66,928
Phone system replacement implementation	41,450
Economic advisory	35,000
Annuity mortality records and address research	28,077
Website accessibility	17,160
Administrative hearings	15,844
Architectural services	9,600
Insurance risk management	12,480
Total consulting	1,072,063

ACTUARIAL

Gabriel, Roeder, Smith & Company	571,392
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BANKING

JPMorgan Chase Bank, N.A.	49,387
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LEGAL

Fiduciary counsel	106,157
Other legal services	143,125
Total legal	249,282

MEDICAL BOARD

Ace Alsup, III, M.D.; William J. Deaton, M.D.; William P. Taylor, M.D.	34,230
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AUDIT

CliftonLarsonAllen LLP	181,075
Colmore, Inc.	42,000
Total audit	223,075

TOTAL PROFESSIONAL SERVICES	\$ 2,199,429
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Supplemental Schedules

CONTINUED

Table F-23

Schedule of Investment Expenses	
For the Year Ended December 31, 2020	
Internal operating expenses	
Staff salaries and benefits	\$ 4,645,216
Payroll taxes	224,156
Online investment services	1,501,806
Travel	39,692
Dues, subscriptions and training	95,657
Other administrative expenses	2,884
Total	6,509,411
Investment management and other external expenses	
Investment management fees	30,103,591
Investment transaction costs	2,530,011
Custodial services	2,027,596
Consulting	1,705,784
Legal	772,837
Total	37,139,819
Total investment expenses	\$ 43,649,230

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

See accompanying Independent Auditors' Report.