

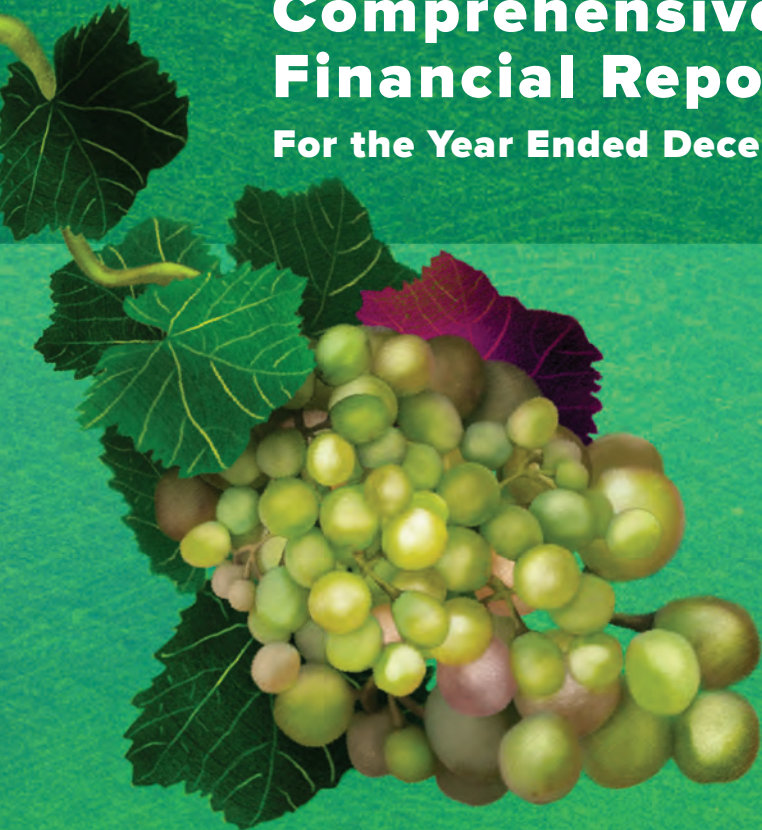
**TEXAS MUNICIPAL RETIREMENT SYSTEM**



# 2018

## **Comprehensive Annual Financial Report**

**For the Year Ended December 31, 2018**





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**TEXAS MUNICIPAL RETIREMENT SYSTEM**



# 2018

## **Comprehensive Annual Financial Report**

**For the Year Ended December 31, 2018**

Prepared by:

The Finance Department of the Texas Municipal Retirement System



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# Introductory





Government Finance Officers Association

## Certificate of Achievement for Excellence in Financial Reporting

Presented to

**Texas Municipal Retirement System**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**December 31, 2017**

*Christopher P. Morill*

Executive Director/CEO



Public Pension Coordinating Council

## ***Public Pension Standards Award For Funding and Administration 2018***

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)

*Alan H. Winkle*

Alan H. Winkle  
Program Administrator





June 7, 2019

To: The Participants and Employers of the Texas Municipal Retirement System  
and the Readers of the *Comprehensive Annual Financial Report*

We are pleased to present the *Comprehensive Annual Financial Report* (CAFR) of the Texas Municipal Retirement System (TMRS®, or the System) for the year ended December 31, 2018. We hope you will find this report informative.

The CAFR is prepared by TMRS staff under the direction of the Board of Trustees. Management of TMRS assumes full responsibility for both the accuracy of the data and the completeness and fairness of its presentation, based on a comprehensive framework of internal control that it has established for this purpose. Because the cost of internal control should not exceed anticipated benefits, the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatement. This report complies with generally accepted accounting principles as established by the Governmental Accounting Standards Board (GASB).

The TMRS Act requires that independent auditors perform an annual audit on the financial statements contained in this report. The Board selected CliftonLarsonAllen LLP (CLA) to perform the audit for the 2018 fiscal year. For information regarding the scope of the audit, please see the Independent Auditors' Report in the Financial Section. Management's Discussion and Analysis (MD&A) is found in the Financial Section immediately after the Independent Auditors' Report and provides an analysis of condensed financial information for the current and prior fiscal year. MD&A should be read in conjunction with this transmittal letter.

## **About TMRS**

TMRS is a statewide agent multiple-employer public employee retirement system created by law in 1947 to provide retirement, disability, and death benefits to employees of participating cities. As a hybrid defined benefit plan, TMRS members contribute at a designated rate toward their own retirement benefit. At retirement, the member's account balance (including credited interest) plus employer matching contributions is used to calculate the member's retirement benefit. As of December 31, 2018, TMRS had 887 member cities, 111,851 active employee accounts, and 66,051 retirement accounts. TMRS paid \$1.34 billion in benefits in 2018, up from \$1.26 billion in 2017.

## Activity in 2018

In March 2019, the TMRS Board approved an approximate -3.08% interest (debit) to city accounts as of December 31, 2018, based on account balances as of January 1, 2018. The System's asset smoothing policy and partial recognition of investment losses resulted in an actuarial return of 6.06%. The actuarially assumed annual return for the TMRS fund is 6.75%. Member accounts were credited with 5% based on account balances as of January 1, 2018.

TMRS is a long-term investor, and losses in some years are expected. Portfolio diversification helps mitigate losses over time, and actuarial smoothing of assets reduces the contribution rate volatility that would otherwise be associated with gains and losses based on a single year's investment performance. For more information, see the Investment section.

Building on previous years' initiatives to provide straight-through processing for members (MyTMRS®) and cities (the City Portal), TMRS continued to encourage our customers to adopt the applications. MyTMRS accounts (members and retirees) increased to 112,000 in 2018 (13% increase), and the number of cities using the City Portal increased to 776 (6% increase). In 2018, online enrollment of members exceeded paper enrollments. City administrators enrolled more than 4,688 members electronically by the end of 2018. Online estimates requested via MyTMRS grew to over 245,000, and those requested by cities through the City Portal on behalf of members totaled approximately 7,400. By comparison, estimates run by Member Services representatives for all purposes, not exclusively at members' request, totaled 13,761.

A strong demand for member and retirement services continues. Five new cities joined the System in 2018. Staff answered over 85,000 phone calls and 8,000 emails requesting assistance. Staff processed 3,669 new retirements in 2018, representing a 3% increase over the previous year. Development of online direct deposit capability and retirement processing is in progress.

During the interim legislative period in 2018, in preparation for the 2019 Legislative Session, the TMRS Board of Trustees, with input from the Advisory Committee on Benefit Design, considered changes to the TMRS Act. In its December 2018 meeting, the Board unanimously decided to propose nine administrative and operational statutory changes for the 86th Session of the Texas Legislature. Following the Board's request, Senator Joan Huffman filed SB 1337 and Representative Dan Flynn filed HB 2821, both containing amendments recommended by the Board. SB 1337 passed on May 21, 2019. The statutory changes do not significantly affect benefits but will improve the administration and operations of TMRS.

In the area of employer services, staff provided a high level of support to TMRS cities that wanted to examine contribution rates or consider changing their plan options. In support of cities and members, the Travel Team made 306 trips to cities and visited with approximately 37,474 members and city officials. The Travel Team also answered more than 7,724 emails and provided individual counseling for more than 1,569 TMRS members. For group training sessions, the Communications department prepared and presented 15 Regional Pre-Retirement Seminars, 4 two-day City Correspondent Certification Courses plus several one-day courses, 1 Retiree Luncheon, 6 Executive Workshops, and a successful three-day Annual Seminar in Lakeway.

In addition to preparing publications for members, retirees, and cities, TMRS also expanded its outreach through increased presence on social media (Facebook, Instagram, and LinkedIn), training videos (hosted on the TMRS website and YouTube), e-newsletters, and topic flyers (including Spanish-language flyers). In addition, the Board approved the TMRS Risk Assessment and Audit Plan for 2019 to 2020 provided by the Internal Audit department, as well as a revision of the System's strategic plan. Staff also developed a Business Continuity Plan, expanded the GASB materials provided on the website to include both GASB 68 and GASB 75 resources, and developed a proposal for a comprehensive review of TMRS' pension administration system to be performed in 2019.

## Investments

TMRS administered \$28.0 billion in assets as of December 31, 2018. The Investment department at TMRS follows these Total Portfolio Performance Objectives:

- Achieve a Total Rate of Return, over rolling five-year periods, consistent with the assumed long-term rate of return on TMRS assets adopted by the Board (currently 6.75%)
- Exceed an appropriate benchmark reflective of asset class participation over rolling five-year periods (i.e., Policy Index)

Diversification has been, and continues to be, implemented through a deliberate multi-year process. The current asset allocation strategy is expected to meet the long-term total return objective of 6.75%, consistent with the actuarial interest rate assumption for the plan.

As described in the Investment Section of this CAFR, the overall one-year gross rate of return for 2018 on the investment portfolio was -2.11%. The Investment Section of this CAFR contains a detailed summary of investment operations during 2018, including performance of different asset classes and diversification progress.

## Funding and Actuarial Overview

As required by statute, TMRS obtains an annual actuarial valuation for each participating municipality. The actuarial results for the System as a whole are presented in the Actuarial Section of this CAFR. After the completion of the annual actuarial valuation, TMRS provides a Rate Letter to each participating municipality, reconciling the city's rate from the prior valuation to the current valuation and explaining the components of the reconciling items. TMRS makes these Rate Letters available on our website.

The TMRS Board of Trustees has been working with the actuarial firm of GRS Retirement Consulting (GRS) since June 2008, and GRS completed its eleventh actuarial valuation for the System for the fiscal year ended December 31, 2018. As certified by GRS, the calculations for funding are prepared in accordance with Actuarial Standards of Practice, GASB principles, and state law.

Each city has its own retirement program within the options offered by the plan. Each city's plan objective is to accumulate sufficient assets to pay benefits when they become due and to finance its long-term benefits through a contribution rate that is annually determined by the consulting actuary. During 2018, TMRS' internal actuarial staff spent much of the year communicating with cities on methods cities can use to reduce the volatility of their contribution rates.

A member city's retirement contribution rate consists of the normal cost contribution rate and the prior service contribution rate, both of which are calculated to be a level percentage of payroll from year to year. The normal cost contribution rate finances the portion of an active member's projected benefit allocated to the year immediately following the valuation date; the prior service contribution rate amortizes the unfunded (overfunded) actuarial liability (asset) 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 benefits if adopted by a city — such as Updated Service Credit (USC) and Cost of Living Adjustments (COLAs) — as well as future increases in salary.

Conservative features of TMRS' plan include the 6.75% investment return assumption, and that each city's unfunded liability is amortized over a closed period of 25 or 30 years. As of December 31, 2018, TMRS as a whole was 87.1% funded, a slight decrease from 87.4% at December 31, 2017. Historical information relating to progress in meeting the actuarial funding objective is presented in the Summary of Actuarial Liabilities and Funding Progress, included in the Actuarial Section of this CAFR. TMRS' Actuarial Funding Policy, is posted on the TMRS website.

# Letter of Transmittal

Continued

## Professional Services

The Board of Trustees appoints consultants to perform services that are essential to the effective and efficient operation of TMRS. The Supplemental Schedules of the Financial Section contain information on professional services.

## Awards and Acknowledgments

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to TMRS for its *Comprehensive Annual Financial Report for the Years Ended December 31, 2017 and 2016*. This was the 31st consecutive year that TMRS has achieved this prestigious award. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized Comprehensive Annual Financial Report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. TMRS believes that our current Comprehensive Annual Financial Report continues to meet the Certificate of Achievement Program's requirements, and is submitting it to the GFOA to determine its eligibility for another certificate.

TMRS also received the 2018 Public Pension Standards Award for Funding and Administration from the Public Pension Coordinating Council (PPCC) in recognition of meeting professional standards for plan design and administration as set forth in the Public Pension Standards.

This CAFR is made available to all participating TMRS cities; their combined cooperation contributes significantly to the success of TMRS.

We would like to express our gratitude to the staff, advisors, and all who have contributed to the preparation of this report and to the continued success of the System.

Respectfully submitted,



Jim Parrish  
Chair, Board of Trustees



David Gavia  
Executive Director



Rhonda H. Covarrubias  
Director of Finance

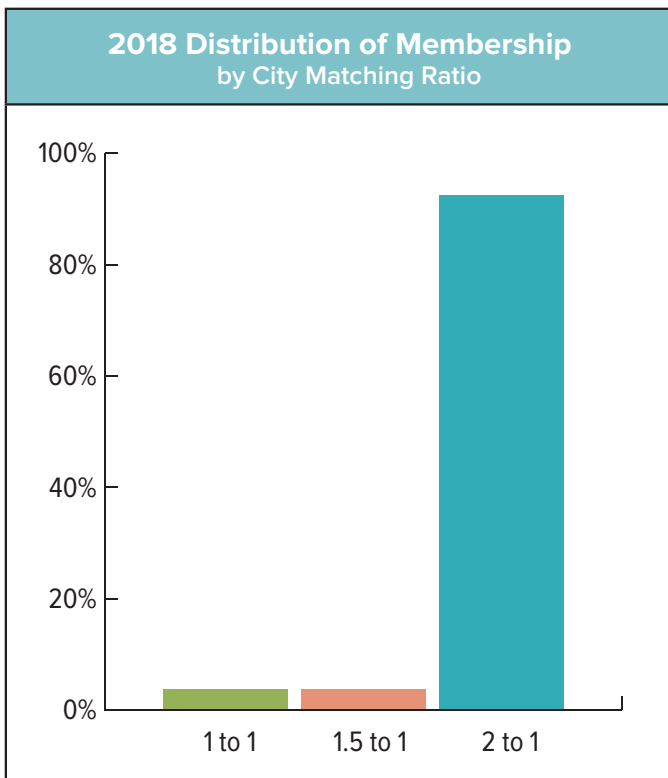
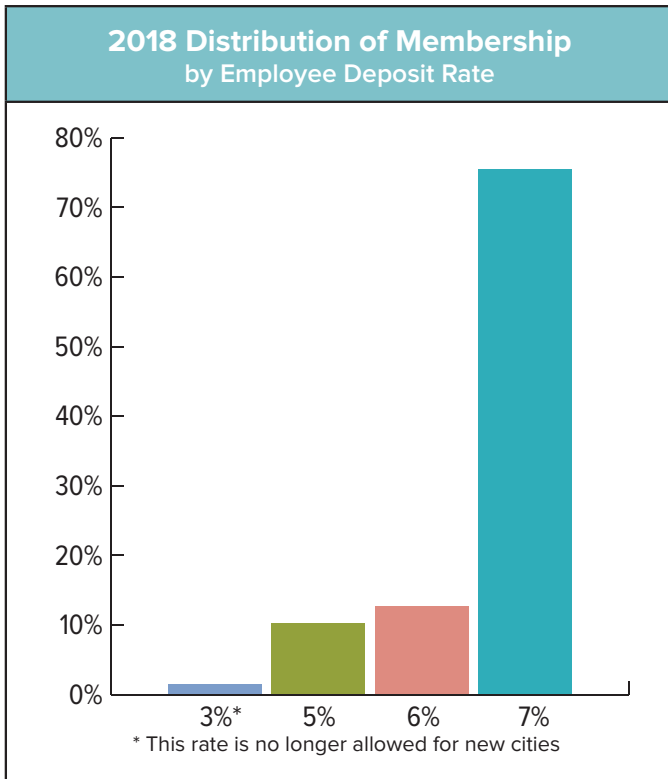
# TMRS Highlights

	2016	2017	2018
Employer Contributions	\$768.3 mil	\$838.4 mil	\$881.5 mil
Employee Contributions	\$389.9 mil	\$410.5 mil	\$427.8 mil
Retirement Benefits	\$1.2 bil	\$1.3 bil	\$1.3 bil
Terminated Member Refunds	\$54.2 mil	\$59.4 mil	\$64.3 mil
Administrative Expenses	\$18.1 mil	\$18.1 mil	\$16.6 mil
Investment Expenses*	\$61.2 mil	\$86.7 mil	\$48.0 mil
Member Municipalities	872	883	887
New Member Municipalities	6	11	5
Retired Member Accounts	59,611	62,776	66,051
Active Plan Member Accounts	108,891	110,208	111,851
Inactive Plan Member Accounts	53,721	57,369	62,465
New Retirements	3,456	3,550	3,669
New Employee Members	15,094	15,771	17,117
Refunded Members	6,971	7,337	7,963
Investments, at Fair Value	\$25.8 bil	\$28.9 bil	\$28.0 bil
Annual Total Return, Gross	7.42%	14.27%	-2.11%
Interest Rate on Employee Deposits	5.0%	5.0%	5.0%
Interest Rate on Municipality Deposits	6.73%	13.05%	-3.08%
Cities that:			
Adopted Updated Service Credit (USC)	596	596	598
Reduced percentage or rescinded USC	1	4	2
Adopted Annuity Increases to Retirees (AI)	475	472	471
Reduced or Rescinded AI	-	2	3
Increased Employee Contribution Rate	11	10	33
Increased City Matching Ratio	6	13	7
Reduced City Matching Ratio	-	1	-
Adopted 5-Year Vesting	2	1	3
Adopted 20-Year, Any Age Retirement	10	8	11

\*Investment expenses do not include management and incentive fees that are paid directly out of the operations of the private investment funds.

# TMRS Highlights

Continued



# TMRS Board of Trustees



**Jim Parrish, 2018 Chair**  
Deputy City Manager – Administrative Services  
*Plano*  
Term expires: February 1, 2023



**James "Jim" Paul Jeffers**  
City Manager  
*Nacogdoches*  
Term expires: February 1, 2021



**Bill Philibert, 2018 Vice Chair**  
Director of Human Resources  
and Risk Management  
*Deer Park*  
Term expires: February 1, 2019



**David Landis**  
City Manager  
*Perryton*  
Term expires: February 1, 2021



**Jesús A. Garza**  
City Manager  
*Victoria*  
Term expires: February 1, 2023



**Julie Oakley, CPA**  
Assistant City Manager  
*Lakeway*  
Term expires: February 1, 2019

The TMRS Act provides that the administration of TMRS is entrusted to a six-member Board of Trustees, appointed by the Governor with the advice and consent of the Senate. Three Trustees are "Executive Trustees" (Landis, Philibert, and Garza) who are the chief executive officer, chief finance officer, or other officer, executive, or department head of a participating municipality. Three Trustees are "Employee Trustees" (Jeffers, Oakley, and Parrish) who are employees of a participating municipality. Per the Texas Constitution, Trustees continue to perform the duties of their office until a successor has been duly qualified.

## TMRS Professional Advisors

### Actuary

GRS Retirement Consulting

### Economic Advisor

A. Gary Shilling & Co.

### Investment Consultants

Albourne America LLC  
Courtland Partners Ltd.  
RVK, Inc.  
StepStone Group LP

### Custodian

State Street Bank and Trust Company

### Fiduciary Counsel

Robert D. Klausner

### Depository Bank

JPMorgan Chase Bank

### Independent Auditor

CliftonLarsonAllen LLP

### Medical Board

Ace H. Alsup III, M.D.  
William J. Deaton, M.D.  
William P. Taylor, M.D.

**Note:**

A Schedule of External Investment Fees, by asset class, is provided on page 69 in the Investment Section of this report.

# TMRS Advisory Committee

The **TMRS Advisory Committee on Benefit Design** (“Advisory Committee”) is appointed by the TMRS Board of Trustees and serves at the pleasure of the Board. The Advisory Committee provides valuable assistance to the Board in considering benefit changes and improvements to the System, and acts as a voice for member, retiree, and city issues.

The Advisory Committee is a 10-member body composed of three “Individual Representatives” representing TMRS members, retirees, and elected officials; and seven members representing associations and groups with an interest in the TMRS program, called “Group Representatives.” Group Representatives are chosen by their respective associations and approved by the Board. The following members were on the Committee as of December 31, 2018.

## Individual Representatives

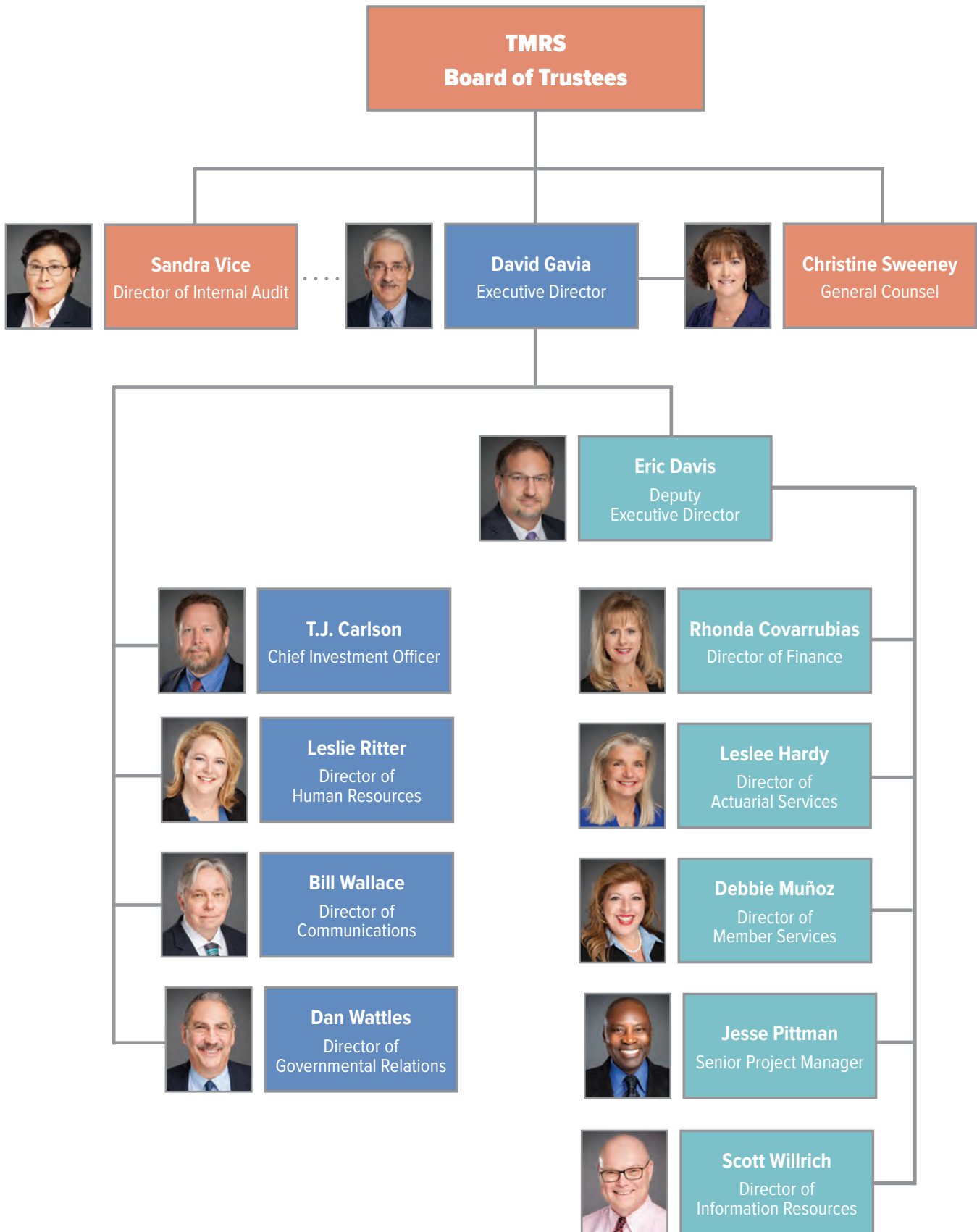
- George Kauffman, TMRS Retiree
- Bryan Langley, Assistant City Manager/Chief Financial Officer, Denton
- Julie Masters, Mayor, Dickinson

## Group Representatives

- Bonita Hall, Texas Municipal Human Resources Association
- Paulette Hartman, Texas City Management Association
- Mitch Landry, Texas Municipal Police Association
- David Riggs, Texas State Association of Fire Fighters
- J.J. Rocha, Texas Municipal League
- Scott Leeton, Combined Law Enforcement Associations of Texas
- Casey Srader, Government Finance Officers Association of Texas



# TMRS Administrative Organization



# Summary of Plan Provisions

## Purpose

The Texas Municipal Retirement System (TMRS, or the System) is an entity created by the State of Texas and administered in accordance with the TMRS Act, Subtitle G, Title 8, Texas Government Code, as a retirement system for municipal employees in the State of Texas. TMRS is a public trust fund governed by a Board of Trustees with a professional staff responsible for administering the System in accordance with the TMRS Act. The System bears a fiduciary obligation to its members and their beneficiaries.

## Administration

The TMRS Act entrusts the administration of TMRS to a six-member Board of Trustees, appointed by the Governor with the advice and consent of the Senate. Three trustees are Executive Trustees, who must be a chief executive officer, chief finance officer, or other officer, executive, or department head of a participating municipality. Three trustees are Employee Trustees, who must be employees of a participating municipality.

The TMRS Act requires regular Board meetings in March, June, September, and December of each year. The Board of Trustees employs actuarial, legal, medical, and other experts for the efficient administration of the System. The Board also forms committees to serve in an advisory role as needed.

The Board appoints an Executive Director to manage TMRS under its supervision and direction.

## Membership

Cities choose to participate in TMRS. When a city joins TMRS, all of its eligible employees become members of the System. An employee in a position that normally requires at least 1,000 hours of work in a year, as determined by the city, is an eligible employee and is required to be a member of TMRS.

A person who leaves employment with all TMRS cities may withdraw all member deposits and interest from TMRS and cancel service credit with the System. A member may not refund his/her TMRS account unless there is a “bona fide” separation, and the employing city must certify that the member has terminated employment.

## Service Credit

TMRS members earn a month of service credit for each month they are employed in an eligible position by a participating TMRS city and make the required contribution to the System. Members may also receive Prior Service Credit for periods of city employment before the employing city joined TMRS. Because TMRS is a statewide retirement system, service credit may be a combination of service with several member cities. Service credit may also include Military Service Credit, credit for previously refunded TMRS service that has been purchased, and other types of service credit allowed under the TMRS Act.

If adopted by ordinance, a participating municipality can also grant Restricted Prior Service Credit to an employee for service performed as a full-time paid employee of:

- Any public authority or agency created by the United States
- Any state or territory of the U.S.
- Any political subdivision of any state in the U.S.
- Any public agency or authority created by a state or territory of the U.S.
- A Texas institution of higher education, if employment was as a commissioned law enforcement officer serving as a college campus security employee

Restricted Prior Service Credit also can be granted for credit previously forfeited under one of the following systems:

- Texas Municipal Retirement System
- Teacher Retirement System of Texas
- Employees Retirement System of Texas
- Texas County and District Retirement System
- Judicial Retirement System of Texas (Plan 1 or 2)
- City of Austin Employees Retirement System

This restricted credit may only be used to satisfy length-of-service requirements for retirement eligibility, and has no monetary value under TMRS.

## Member Contributions

TMRS member cities designate, by ordinance, the rate of member contributions for their employees. This rate is 5%, 6%, or 7% of an employee's gross compensation. Three cities have a 3% rate, no longer available to cities under the TMRS Act. Compensation for retirement contribution purposes includes overtime pay, car allowances, uniform allowances, sick leave, vacation pay, and other payments if they are taxable to the employee.

All member contributions since 1984 are tax-deferred under the Internal Revenue Code, pursuant to Sections 401(a) and 414(h)(2). The member contribution rate may be increased by ordinance. However, the member contribution rate may only be reduced if the members in the city, by a 2/3 vote, consent to a reduction, and the city, by ordinance, provides for the reduction.

Interest is credited to member accounts annually on December 31 at a 5% rate, based on the balance in the account on January 1 of that year. In the year of retirement, interest will be prorated for the months of service in that year.

## Vesting and Retirement Eligibility

TMRS members vest after either 5 or 10 years of service, based on their city's plan. If a vested member leaves covered employment before reaching retirement eligibility, the member may leave his or her deposits with TMRS, earn interest on the deposits, and, upon reaching age 60, apply for and receive a monthly retirement payment.

A member becomes eligible for service retirement based on various combinations of age and service, depending on which provisions have been adopted by the employing municipality, including:

- Age 60 with 5 years of service
- Age 60 with 10 years of service
- Any age with 20 years of service
- Any age with 25 years of service

Before a city adopts the 20-year, any-age provision, the System must prepare an actuarial study to determine the provision's effect on the city's contribution rate, and the city must conduct a public hearing on the adoption.

Effective January 1, 2002, TMRS law was changed to give cities the option to choose 5-year vesting. Cities that did not opt out of that vesting provision before December 31, 2001, automatically changed from 10-year to 5-year vesting. Cities that chose to retain 10-year vesting may change to 5-year vesting at any time.

# Summary of Plan Provisions

Continued

## City Contributions

Upon an employee's retirement, the employing city matches the accumulated employee contributions plus interest earned. Each city chooses a matching ratio: 1 to 1 (100%); 1.5 to 1 (150%); or 2 to 1 (200%). This match is funded with monthly contributions by the participating municipality at an annual, actuarially determined rate. A municipality may elect to increase or reduce its matching ratio effective January 1 of a calendar year.

## Updated Service Credit

Member cities, at their option, may elect to adopt Updated Service Credit, either annually or on an annually repeating basis, effective January 1 of a calendar year. Updated Service Credit improves retirement benefits by using a member's average monthly salary over a recent three-year period to recalculate the member's retirement credit as if the member had always earned that salary and made deposits to the System, matched by the city, on the basis of that average monthly salary. Updated Service Credit also takes into account any changes in the city's TMRS plan provisions that have been adopted, such as an increase in the member contribution rate or the city's matching ratio. If there is a difference between the recalculated amount and the actual account balances, a percentage (50%, 75%, or 100%) of this difference is granted to the employee, funded by the participating municipality, as the Updated Service Credit. A member must have at least 36 months of service credit as of the study date in the adopting city before becoming eligible to receive this credit. Interest on Updated Service Credit is prorated in the year of retirement.

## Retirement Payment Options

After applying for retirement, a TMRS member may choose one of seven optional monthly benefit payments. The member makes this choice before receipt of the first benefit payment, and the choice is irrevocable after the date the first payment becomes due. All options pay a monthly annuity for the life of the retiree. The options include:

- A benefit for the retiree's lifetime only ("Retiree Life Only" option)
- Three guaranteed-term benefits that pay a benefit for the lifetime of the member and to a beneficiary for the balance of 5, 10, or 15 years if the member dies before the term is reached ("Guaranteed Term" options)
- Three options that pay a lifetime benefit to the member and, upon the member's death, a survivor lifetime benefit equal to 50%, 75%, or 100% of the member's benefit ("Survivor Lifetime" options)

As a minimum benefit, TMRS guarantees that an amount equal to at least the member's contributions and interest will be returned, either through payment of a monthly benefit or through a lump-sum refund.

Each of the three survivor lifetime retirement options includes a "pop-up" feature. The "pop-up" feature provides that if the designated beneficiary dies before the retiree, the retiree's benefit will "pop up" to the Retiree Life Only amount. Retirees who marry or remarry after retirement and who meet specific conditions also have a one-time option to change from a Retiree Life Only benefit to one that provides a survivor benefit.

Members who are eligible for service retirement may choose to receive a Partial Lump Sum Distribution, a portion of the member's deposits and interest in cash, at the time of retirement. The Partial Lump Sum Distribution is equal to 12, 24, or 36 times the amount of the Retiree Life Only monthly benefit, but cannot exceed 75% of the member's deposits and interest. The remaining member deposits are combined with the city's funds to pay a lifetime benefit under the selected retirement option.

The Partial Lump Sum Distribution may be chosen with any of the retirement options and is paid in a lump sum with the first retirement payment. This amount may be subject to federal income tax and an additional 10% IRS tax penalty if not rolled over into a qualified plan.

Section 415(b) of the Internal Revenue Code limits the amount of an annual benefit that may be paid by a pension plan's trust to a retiree. This provision is known as the Section 415 limit, which is set by Congress and can be periodically adjusted by the IRS. Any portion of a retiree's annual benefit that exceeds the Section 415 limit cannot be paid from the TMRS trust fund. However, Internal Revenue Code Section 415(m) allows pension plans to create a separate fund, known as a qualified governmental excess benefit arrangement, to pay the benefits above the Section 415 limit. Accordingly, the TMRS Act established such an arrangement, which is referred to as the "Full Benefit Arrangement." Additional details are made available to affected retirees if they will reach the Section 415 limit in any given year.

## Annuity Increases (COLAs)

A member city may elect to increase the annuities of its retirees (grant a cost-of-living adjustment, or COLA), either annually or on an annually repeating basis, effective January 1 of a calendar year. For cities that adopted annuity increases since January 1, 2000, the adjustment is either 30%, 50%, or 70% of the increase (if any) in the Consumer Price Index – All Urban Consumers (CPI-U) between the December preceding the member's retirement date and the December 13 months before the effective date of the increase, applied to the original monthly annuity.

## Survivor Benefits

If a member dies before vesting, the member's designated beneficiary is eligible to receive a lump-sum refund of the member's deposits and interest. For a vested member, a beneficiary who is the member's spouse may select a monthly benefit payable immediately; withdraw the member's deposits and interest in a lump sum; or leave the member's deposits with TMRS, where they will earn interest until the date the member would have reached age 60, and then the beneficiary may receive a lifetime benefit. A beneficiary who is not the member's spouse may select a monthly benefit payable immediately or withdraw the member's deposits and interest in a lump sum.

## Disability Retirement

All active TMRS cities have adopted an Occupational Disability Retirement benefit. If a member is judged by the TMRS Medical Board to be disabled to the extent that the member cannot perform his or her occupation, and the disability is likely to be permanent, the member may retire with a lifetime benefit based on the total reserves as of the effective date of retirement. The Occupational Disability annuity will be reduced if the combined total of the Occupational Disability annuity and any wages earned exceeds the member's average monthly compensation for the highest 12 consecutive months during the three calendar years immediately before the year of retirement (indexed to the CPI-U). As the minimum disability benefit, the member's deposits and interest are guaranteed to be returned, either through payment of the monthly benefit, or upon termination of the annuity through a lump-sum refund.

# Summary of Plan Provisions

Continued

## Supplemental Death Benefits

Member cities may elect, by ordinance, to provide Supplemental Death Benefits for active members, including or not including retirees. 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 on which TMRS deposits are made, for the 12-month period preceding the month of death. The death benefit amount for retirees is \$7,500. This benefit is paid in addition to any other TMRS benefits the beneficiary might be entitled to receive. If an individual has multiple retirements, his/her beneficiary will receive only one Supplemental Death Benefit; the last employing city with this provision pays the benefit.

## Buyback of Service Credit

When a member terminates employment and chooses to take a refund of his or her deposits and interest, the member forfeits all service credit. If the member is reemployed by a TMRS member city, and if the employing city adopts the buyback provision by ordinance, the member may repay the amount of the refund plus a 5% per year withdrawal charge, in a lump sum, to reinstate the previously forfeited credit. A member must have 24 consecutive months of service with the reemploying city, and must be an employee of that city on the date the buyback ordinance is adopted to be eligible to buy back service credit.

## Military Service Credit

Members who leave employment with a TMRS city, serve in the military, and then return to city employment may establish credit for the time they spend in the military, up to 60 months. Members who meet the requirements of the federal Uniformed Services Employment and Reemployment Rights Act (USERRA) may make member contributions to TMRS as though they had been employed by the city for the period of their military service.

In cities that have adopted Military Service Credit, members who are not eligible for USERRA credit, or who choose not to make contributions, may establish service credit for up to 60 months of military time. A member must have five years of TMRS service credit to establish non-USERRA Military Service Credit.

Members with five years of TMRS service credit who were employed on December 31, 2003, by a city that had previously adopted Military Service Credit, may choose to purchase this credit at a cost of \$15 per month of credit sought (purchase amount would increase the member's account balance), or may use the no-cost time-only provision. ■

This discussion is an informal presentation of the TMRS Act. If any specific questions of fact or law should arise, the statutes will govern.

# Financical





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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, 2018, 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 Texas Municipal Retirement System as of December 31, 2018, and the respective changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.





Board of Trustees  
Texas Municipal Retirement System

## **Other Matters**

### *Required Supplementary Information*

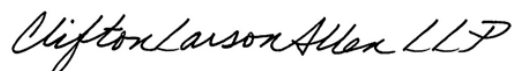
Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and schedule of investment returns, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the 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 schedules of changes in fiduciary net position – by fund, 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 7, 2019

# Management's Discussion and Analysis

**M**anagement's Discussion and Analysis (MD&A) of the Texas Municipal Retirement System (TMRS, or the System) for the year ended December 31, 2018 provides a summary of the financial position and performance of TMRS, including highlights and comparisons. The MD&A is presented as a narrative overview and analysis in conjunction with the Letter of Transmittal, which is included in the Introductory Section of the TMRS *Comprehensive Annual Financial Report (CAFR)*. For more detailed information regarding TMRS financial activities, the reader should also review the actual financial statements, including the notes and supplementary schedules.

## Overview of the Financial Statements

This MD&A is intended to serve as an introduction to the TMRS basic financial statements, which comprise the following components:

- Fund Financial Statements
- Notes to Financial Statements

This report also contains Required Supplementary Information and other supplemental information in addition to the basic financial statements. Collectively, this information presents the fiduciary net position and the changes in fiduciary net position of TMRS as of December 31, 2018. The information contained in each of these fiduciary components is summarized as follows:

**Fund Financial Statements.** Two statements, both containing financial information for the Pension Trust Fund and the Supplemental Death Benefits Fund (SDBF), are provided. These funds are presented as fiduciary funds of the System and reflect the resources available for benefits to members, retirees, and their beneficiaries (Pension Trust Fund) and other benefits (SDBF). The Statement of Fiduciary Net Position as of December 31, 2018 reflects the financial position of TMRS at a point in time. The Statement of Changes in Fiduciary Net Position for the year ended December 31, 2018 presents the activities that occurred during the respective period.

**Notes to Financial Statements.** The financial statement notes provide additional information that is essential to a full understanding of the data provided in the fund financial statements.

**Required Supplementary Information.** Required supplementary information includes the historical investment returns on pension plan investments presented for each of the five years ending December 31, 2018.

**Other Supplemental Schedules.** Supplemental schedules include additional information regarding fund activity, administrative expenses, professional services, and investment expenses.

## Financial Highlights

### Net Position Restricted for Pensions – Pension Trust Fund

The following table displays a summary of assets, liabilities, and net position for the TMRS Pension Trust Fund at December 31, 2018 and 2017 (in millions). The overall financial condition of the Pension Trust Fund reflects a decrease in net position from 2017 to 2018, primarily as a result of market declines experienced in 2018.

	As of 12/31/2018	As of 12/31/2017	\$ Change	% Change
Investments, at fair value	\$ 27,973.6	\$ 28,921.0	\$ (947.4)	(3.3) %
Cash, receivables and other	778.6	1,054.4	(275.8)	(26.2)
Capital assets, net	9.1	9.7	(0.6)	(6.2)
<b>Total assets</b>	<b>28,761.3</b>	<b>29,985.1</b>	<b>(1,223.8)</b>	<b>(4.1)</b>
Due to custodial/depository banks	103.2	6.3	96.9	1,538.1
Other liabilities	974.6	1,329.4	(354.8)	(26.7)
<b>Total liabilities</b>	<b>1,077.8</b>	<b>1,335.7</b>	<b>(257.9)</b>	<b>(19.3)</b>
<b>Net Position Restricted for Pensions</b>	<b>\$ 27,683.6</b>	<b>\$ 28,649.4</b>	<b>\$ (965.8)</b>	<b>(3.4) %</b>

The most significant component of the System's net position is the fair value of its investments portfolio. The change in investments reflects the investment return in 2018 (one-year time-weighted returns of -2.11% gross and -2.43% net). The fluctuation of cash, receivables and other assets, as well as other liabilities, is due primarily to the change in open trades receivable and payable from year-to-year (i.e., timing of trade activity near year-end). The increase in "due to custodial/depository banks" from 2017 to 2018 is due to a custodial overdraft balance at December 31, 2018.

# Management's Discussion and Analysis

Continued

A summary of the change in net position of the Pension Trust Fund for the years ended December 31, 2018 and 2017 is as follows (in millions):

	2018	2017	\$ Change	% Change
<b>Additions:</b>				
Employer contributions	\$ 881.5	\$ 838.4	\$ 43.1	5.1 %
Plan member contributions	427.8	410.5	17.3	4.2
Net investment income/(loss)	(858.1)	3,497.2	(4,355.3)	(124.5)
<b>Total additions</b>	<b>451.2</b>	<b>4,746.1</b>	<b>(4,294.9)</b>	<b>(90.5)</b>
<b>Deductions:</b>				
Retirement benefits	1,335.2	1,251.4	83.8	6.7
Refunds	64.3	59.4	4.9	8.2
Administrative & other costs	17.5	19.1	(1.6)	(8.4)
<b>Total deductions</b>	<b>1,417.0</b>	<b>1,329.9</b>	<b>87.1</b>	<b>6.5</b>
Net increase/(decrease) in net position	(965.8)	3,416.2	(4,382.0)	(128.3)
Net position - beginning of year	28,649.4	25,233.2	3,416.2	13.5
<b>Net position - end of year</b>	<b>\$ 27,683.6</b>	<b>\$ 28,649.4</b>	<b>\$ (965.8)</b>	<b>(3.4) %</b>

The increase in employer and plan member contributions from 2017 to 2018 is due to the increase in covered payroll (\$6.44 billion in 2018 and \$6.19 billion in 2017). City membership also increased over the period, totaling 887 and 883 at December 31, 2018 and 2017, respectively.

Net investment income/(loss) is presented after deduction of investment expenses and comprises interest and dividends and net appreciation/(depreciation) in fair value of investments. The change in net investment income/(loss) from 2017 to 2018 primarily results from the change in the net appreciation/(depreciation) in the fair value of investments during the periods (\$1.4 billion depreciation and \$3.1 billion appreciation during the years ended 2018 and 2017, respectively). During the two years ending 2018, TMRS' investment portfolio was impacted by the market volatility experienced during that period, primarily in the public equities asset class.

The increase in retirement benefits is due primarily to growth in the number of retirement accounts each year (66,051 and 62,776 in 2018 and 2017, respectively), as well as annuity increases (COLAs) that may be applied each year.

## Net Position – Supplemental Death Benefits Fund

The following table displays a summary of net position and changes in net position for the Supplemental Death Benefits Fund at December 31, 2018 and 2017. The overall financial condition of the Supplemental Death Benefits Fund reflects a decrease in net position over the two-year period.

	2018	2017
Total assets and net position	\$ 17,306,500	\$ 18,930,756

A summary of the change in net position of the Supplemental Death Benefits Fund for the years ended December 31, 2018 and 2017 is as follows (in thousands):

	2018	2017	\$ Change	% Change
<b>Additions:</b>				
Employer contributions	\$ 7,758.1	\$ 7,286.2	\$ 471.9	6.5 %
Income allocation	885.0	965.6	(80.6)	(8.3)
<b>Total additions</b>	<b>8,643.1</b>	<b>8,251.8</b>	<b>391.3</b>	<b>4.7</b>
<b>Deductions:</b>				
Supplemental death benefits	10,267.3	9,949.1	318.2	3.2
<b>Total deductions</b>	<b>10,267.3</b>	<b>9,949.1</b>	<b>318.2</b>	<b>3.2</b>
Change in net position	(1,624.2)	(1,697.3)	73.1	4.3
Net position - beginning of year	18,930.7	20,628.0	(1,697.3)	(8.2)
<b>Net position - end of year</b>	<b>\$ 17,306.5</b>	<b>\$ 18,930.7</b>	<b>\$ (1,624.2)</b>	<b>(8.6) %</b>

Employer contributions are based on the covered payroll of the participating municipalities at actuarially determined rates. The increase in contributions from 2017 to 2018 is due to the increase in covered payroll as well as increased rates of the aging population. 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 type of claims in those years (active vs. retired). The Supplemental Death Benefits Fund receives a 5% statutory interest allocation from the Pension Trust Fund based on the fund's average balance during the year.

## Requests for Information

This financial report is designed to provide a general overview of the Texas Municipal Retirement System's finances. Questions and requests for additional information should be addressed to the Finance Department of the Texas Municipal Retirement System, P.O. Box 149153, Austin, TX 78714-9153. ■

# Statement of Fiduciary Net Position

Statement of Fiduciary Net Position As of December 31, 2018	2018		
	Pension Trust Fund	Supplemental Death Benefits Fund	Total
<b>ASSETS</b>			
Cash	\$ 1,558,193	\$ —	\$ 1,558,193
Receivables			
Contributions	103,346,260	666,823	104,013,083
Interest and dividends	51,668,231	—	51,668,231
Unsettled investment trades	84,778,389	—	84,778,389
Securities sold on a when-issued basis	536,822,547	—	536,822,547
Total Receivables	776,615,427	666,823	777,282,250
Investments, at fair value			
Short-term investments	923,835,072	—	923,835,072
Fixed income securities	6,067,633,407	—	6,067,633,407
Equities	10,001,024,470	—	10,001,024,470
Non-core fixed income funds	3,906,852,163	—	3,906,852,163
Real return funds	1,264,028,867	—	1,264,028,867
Absolute return funds	2,538,353,843	—	2,538,353,843
Private equity funds	573,494,754	—	573,494,754
Real estate funds	2,698,398,235	—	2,698,398,235
Total investments	27,973,620,811	—	27,973,620,811
Property and equipment, at cost, net of accumulated depreciation of \$19,811,449 at December 31, 2018	9,141,099	—	9,141,099
Funds held by Pension Trust Fund	—	16,639,677	16,639,677
Other assets	467,613	—	467,613
<b>TOTAL ASSETS</b>	<b>28,761,403,143</b>	<b>17,306,500</b>	<b>28,778,709,643</b>
<b>LIABILITIES</b>			
Due to custodial and depository banks	103,183,654	—	103,183,654
Accounts payable and other accrued liabilities	22,695,340	—	22,695,340
Funds held for Supplemental Death Benefits Fund	16,639,677	—	16,639,677
Unsettled investment trades payable	339,658,696	—	339,658,696
Securities purchased on a when-issued basis	595,596,337	—	595,596,337
<b>TOTAL LIABILITIES</b>	<b>1,077,773,704</b>	<b>—</b>	<b>1,077,773,704</b>
<b>FIDUCIARY NET POSITION</b>			
Net position restricted for pensions	27,683,629,439	—	27,683,629,439
Fiduciary net position held in trust for other benefits	—	17,306,500	17,306,500
<b>TOTAL FIDUCIARY NET POSITION</b>	<b>\$ 27,683,629,439</b>	<b>\$ 17,306,500</b>	<b>\$ 27,700,935,939</b>

See accompanying notes to financial statements.

# Statement of Changes in Fiduciary Net Position

Statement of Changes in Fiduciary Net Position For the Year Ended December 31, 2018	2018		
	Pension Trust Fund	Supplemental Death Benefits Fund	Total
<b>ADDITIONS</b>			
Contributions			
Employer	\$ 881,531,535	\$ 7,758,059	\$ 889,289,594
Plan member	427,808,238	—	427,808,238
Total contributions	1,309,339,773	7,758,059	1,317,097,832
Net investment loss			
Net depreciation in fair value of investments	(1,370,878,016)	—	(1,370,878,016)
Interest and dividends	560,741,408	—	560,741,408
Total investment loss	(810,136,608)	—	(810,136,608)
Less investment expense	(47,986,353)	—	(47,986,353)
Net investment loss	(858,122,961)	—	(858,122,961)
Other miscellaneous	18,501	—	18,501
Income allocation from Pension Trust Fund	—	885,044	885,044
<b>TOTAL ADDITIONS</b>	<b>451,235,313</b>	<b>8,643,103</b>	<b>459,878,416</b>
<b>DEDUCTIONS</b>			
Benefit payments			
Service retirement	1,159,702,957	—	1,159,702,957
Disability retirement	17,060,303	—	17,060,303
Partial lump sum distributions	158,490,461	—	158,490,461
Supplemental death benefits	—	10,267,359	10,267,359
Total benefit payments	1,335,253,721	10,267,359	1,345,521,080
Refunds of contributions	64,255,860	—	64,255,860
Administrative expenses	16,585,866	—	16,585,866
Income allocation to Supplemental Death Benefits Fund	885,044	—	885,044
<b>TOTAL DEDUCTIONS</b>	<b>1,416,980,491</b>	<b>10,267,359</b>	<b>1,427,247,850</b>
<b>NET DECREASE IN NET POSITION</b>	<b>(965,745,178)</b>	<b>(1,624,256)</b>	<b>(967,369,434)</b>
<b>FIDUCIARY NET POSITION</b>			
Fiduciary net position restricted for pensions			
Beginning of year	28,649,374,617	—	28,649,374,617
End of year	27,683,629,439	—	27,683,629,439
Fiduciary net position held in trust for other benefits			
Beginning of year	—	18,930,756	18,930,756
End of year	—	17,306,500	17,306,500
<b>TOTAL FIDUCIARY NET POSITION</b>	<b>\$ 27,683,629,439</b>	<b>\$ 17,306,500</b>	<b>\$ 27,700,935,939</b>

See accompanying notes to financial statements.

# Notes to Financial Statements

## 1. Summary of Significant Accounting Policies

### A. Background and Reporting Entity

The Texas Municipal Retirement System (TMRS, or the System) is an agency created by the State of Texas and administered in accordance with the Texas Municipal Retirement System Act, Subtitle G, Title 8, Texas Government Code (the TMRS Act) as an agent multiple-employer retirement and disability pension system for municipal employees in the State of Texas. As such, TMRS is a public trust fund that has the responsibility of administering the System in accordance with the TMRS Act and bears a fiduciary obligation to its members and their beneficiaries.

The System's financial statements have been prepared in accordance with generally accepted accounting principles (GAAP) as prescribed by the Governmental Accounting Standards Board (GASB). TMRS has no component units and is not a component unit of any other entity. The accompanying financial statements include only the operations of the System, which comprises two fiduciary trust funds — the Pension Trust Fund and the Supplemental Death Benefits Fund. The TMRS Act places the general administration and management of the System with a six-member Board of Trustees (the Board). Three Trustees are "Executive Trustees" who are either the chief executive officer, chief finance officer, or other officer, executive, or department head of a participating municipality. Three Trustees are "Employee Trustees" who are employees of a participating municipality. Although the Governor, with the advice and consent of the Senate, appoints the Board, TMRS is not fiscally dependent on the State of Texas.

### B. New Accounting Pronouncements

In January 2017, the GASB issued Statement No. 84, *Fiduciary Activities*. The objective of this Statement is to improve guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported. This Statement establishes criteria for identifying fiduciary activities of all state and local governments. Statement No. 84 is effective for the System's 2019 fiscal year, implementation of which is currently being evaluated.

### C. Basis of Accounting

The Pension Trust Fund and the Supplemental Death Benefits Fund are maintained on the accrual basis of accounting. Revenue is recorded when earned and expenses are recorded when incurred, regardless of when payment is made. Employer and employee contributions are recognized in the period that the employer reports compensation for the employee, which is when contributions are legally due. Participant benefits are recorded when payable in accordance with the System's plan terms. Refunds are recorded and paid upon receipt of an approved application for refund.

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America 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. The System utilizes various investment instruments. Investment securities, in general, are exposed to various risks, such as interest rate, credit, and overall market volatility. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities 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.



## D. Basis of Presentation

The financial statements are organized on the basis of funds, as required by the TMRS Act, each of which is considered to be a separate accounting entity. The operations of each fund are accounted for with a separate set of self-balancing accounts. These accounts are segregated for the purpose of carrying out specific activities or attaining certain objectives in accordance with applicable statutory guidelines or restrictions.

Each of the System's funds 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 and beneficiaries. The TMRS Act does not create legally required reserves, but establishes accounts that comprise the net position restricted for pensions as follows:

**Benefit Accumulation Fund** — The purpose of the Benefit Accumulation Fund (BAF) is to accumulate the activity impacting the balance of each municipality's reserve fund. The fund is increased by contributions made by employers and employee members, and decreased by benefit payments and refunds due to withdrawals and death. Effective each December 31, the Board of Trustees approves an interest credit to the BAF, allocated to each municipality in proportion to its BAF balance at January 1 of that year. The fund received an approximate -3.08% interest credit on December 31, 2018.

**Full Benefit Arrangement Fund** — Section 415(b) of the Internal Revenue Code limits the amount of an annual benefit that may be paid by a tax-qualified pension plan trust to its retirees. This provision is known as the Section 415 limit, which is set by Congress and can be periodically adjusted by the IRS. Any portion of a retiree's annual benefit that exceeds the Section 415 limit cannot be paid from the TMRS Pension Trust Fund. However, Internal Revenue Code Section 415(m) allows pension plans to create a separate fund, known as a qualified governmental excess benefit arrangement, to pay the benefits above the Section 415 limit. Accordingly, the TMRS Act established such an arrangement, which is referred to as the "Full Benefit Arrangement." The purpose of the fund is to record the contributions from employers as well as the benefits paid from such contributions.

**Supplemental Disability Benefits Fund** — The TMRS Board of Trustees initiated legislation to amend the TMRS Act in 1987, which terminated all cities' participation in the Supplemental Disability Benefits Fund effective January 1, 1988. Consequently, there have been no contributions to this Fund since 1987. The fund continues to pay the remaining benefit payments that are obligations of the fund. Each December 31, the Supplemental Disability Benefits Fund receives a 5% interest credit on the mean balance of the fund during the year.

This fund will likely experience fluctuations in funding from year to year, as this is a small closed group; TMRS management will continue to annually monitor the balances and obligations of this fund.

**Endowment Fund** — The purpose of the Endowment Fund is to accumulate unallocated investment income (Interest Reserve Account), escheated accounts, and funds and assets accruing to the System that are not specifically required by the other funds.

**Expense Fund** — The purpose of the Expense Fund is to record the expenses incurred for the administration and maintenance of the System. The Board, as evidenced by a resolution of the Board and recorded in its minutes, may transfer from the Interest Reserve Account of the Endowment Fund to the Expense Fund the amount estimated to cover the System's administrative costs for the year.

## Fiduciary Fund — Supplemental Death Benefits Fund

The Supplemental Death Benefits Fund (SDBF) reports the resources available to pay supplemental death claims for covered participants. Member cities may elect, by ordinance, to provide a Supplemental Death Benefit for their active members, including or not including retirees. The SDBF is a separate trust administered by the TMRS Board of Trustees. The TMRS Act requires that the Pension Trust Fund allocate a 5% interest credit to the SDBF each December 31 based on the mean balance in the SDBF during the year. Death benefit payments are payable only from this fund and are not an obligation of, or a claim against, the other funds of the System.

## E. Investments

Investments at December 31, 2018 include investments in short-term custodian-managed funds, repurchase agreements, domestic and international fixed income securities, domestic and international equity securities, commingled equity funds, non-core fixed income funds, real return funds, absolute return funds, private equity funds, and private real estate funds. Investments are reported at fair value, and securities transactions are reported on a trade-date basis. Short-term investment funds and repurchase agreements are reported at cost, which approximates market value. Fixed income securities, including TBA, or “to be announced,” securities, are valued by pricing vendors that utilize quoted market prices, broker prices, or other valuation methodologies. Equity securities are valued by the custodian using the last trade date “quoted market price” supplied by various pricing data vendors. Fair values of the commingled equity funds are determined based on the funds’ net asset values at the date of valuation. Fair values of the investments in 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 respective General Partner, which are based on audited financial statements of the fund. Withdrawal from the non-core fixed income funds, real return funds, absolute return funds, private equity funds, and private real estate funds prior to liquidation is allowable, but is subject to certain constraints as defined in the respective Limited Partnership Agreement.

Forward currency contracts and futures contracts are considered derivative financial instruments and are reported at fair value, with valuation changes reported as investment income and the accumulated gain/(loss) included in unsettled investment trades receivable/(payable) in the accompanying statement of fiduciary net position.

The TBA securities market is a forward, or delayed delivery market for 30-year and 15-year fixed-rate single-family mortgage-backed securities (MBS), issued by Fannie Mae, Freddie Mac, and Ginnie Mae. A TBA trade represents a purchase or sale of single-family mortgage-backed securities to be delivered on a specified future date; however, the specific pools of mortgages that will be delivered are unknown at the time of the trade. Parties to a TBA trade agree upon the issuer, coupon, price, product type, amount of securities, and settlement date for delivery. Settlement for TBA trades is standardized to occur on one specific day each month. Notification date occurs 48 hours prior to settlement date, where the seller communicates to the buyer the exact details of the MBS pools that will be delivered. Securities must meet “good delivery guidelines.” Good delivery guidelines, notification, and settlement dates are established by the Securities Industry and Financial Markets Association (SIFMA). TBAs are an eligible security per the TMRS Investment Policy Statement. The policy requires purchases of TBAs to be backed by cash until settlement, and sales of TBAs to be backed by a deliverable security. The receivables and payables associated with the sale and purchase of TBAs are reflected in the accompanying statements of fiduciary net position as securities sold and purchased on a when-issued basis.

## F. Property and Equipment

Property and equipment consisting of building and improvements, furniture, software, equipment, and land are recorded at cost. It is the System’s policy to capitalize items that individually exceed \$10,000. Depreciation on furniture, equipment, and software is calculated on a straight-line basis over estimated useful lives, which range from three to ten years; depreciation for building and improvements is calculated on a straight-line basis over forty years.

## 2. Plan Description

### A. Pension Trust Fund

TMRS is a statewide agent multiple-employer public employee retirement system that administers 887 nontraditional, joint contributory, hybrid defined benefit plans covering all eligible employees of member cities in Texas. Membership in TMRS is summarized below as of December 31, 2018:

	2018
<b>Inactive plan member accounts (or beneficiaries) currently receiving benefits</b>	66,051
<b>Inactive plan member accounts entitled to but not yet receiving benefits</b>	
Vested	31,374
Non-vested	31,091
<b>Total</b>	62,465
<b>Active plan member accounts</b>	
Vested	66,976
Non-vested	44,875
<b>Total</b>	111,851
<b>Total member municipalities</b>	887

**Benefits** — Upon retirement, benefits depend on the sum of the employee’s contributions, with interest, and the city-financed monetary credits, with interest. City-financed monetary credits are composed of three sources: prior service credits, current service credits, and updated service credits. Prior Service Credit, granted by each city joining TMRS, is a monetary credit equal to the accumulated value of the percentage of prior service credit adopted times an employee’s deposits that would have been made, based on the average salary prior to participation, for the number of months the employee has been employed, accruing 3% annual interest, and including the matching ratio adopted by the city. Current service credits are monetary credits for service since each plan began and are a percent (100%, 150%, or 200%) of the employee’s accumulated contributions. In addition, each city can grant, either annually or on an annually repeating basis, another type of monetary credit referred to as Updated Service Credit. This monetary credit is determined by hypothetically recomputing the member’s account balance by assuming that the current member deposit rate of the currently employing city (3%, 5%, 6%, or 7%) has always been in effect. The computation also assumes that the member’s salary has always been the member’s average salary — using a salary calculation based on the 36-month period ending a year before the effective date of calculation. This hypothetical account balance is increased by 3% each year (not the actual interest credited to the member’s account in previous years), and increased by the city match currently in effect (100%, 150%, or 200%). The resulting sum is then compared to the member’s actual account balance increased by the actual city match and actual interest credited. If the hypothetical calculation exceeds the actual calculation, the member is granted a monetary

# Notes to Financial Statements

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credit (or Updated Service Credit) equal to the difference between the hypothetical calculation and the actual calculation times the percentage adopted.

At retirement, the benefit is calculated as if the sum of the employee's contributions with interest and the city-financed monetary credits with interest were used to purchase an annuity. Members may choose to receive their retirement benefit in one of seven payment options: retiree life only; 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 Partial Lump Sum Distribution (PLSD) in an amount equal to 12, 24, or 36 monthly payments under the retiree life only option, which cannot exceed 75% of the total member deposits and interest. A member city may elect to increase the annuities of its retirees, either annually or on an annually repeating basis, effective January 1 of a calendar year. Cities may adopt annuity increases at a rate equal to either 30%, 50%, or 70% of the increase (if any) in the Consumer Price Index – all Urban Consumers (CPI-U) between the December preceding the member's retirement date and the December one year before the effective date of the increase, minus any previously granted increases.

The plan provisions are adopted by the governing body of each city, within the options available in the state statutes governing TMRS. Members in most cities can retire 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. Most plans also provide death benefits, and all provide disability benefits. Effective January 1, 2002, members are vested after 5 years, unless a city opted to maintain 10-year vesting. Members may work for more than one TMRS city during their career. If an individual has become vested in one TMRS city, he or she is immediately vested upon employment with another TMRS city. Similarly, once a member has met the eligibility requirements for retirement in a TMRS city, he or she is eligible in other TMRS cities as well.

**Contributions** — The contribution rates for employees are either 5%, 6%, or 7% of employee gross earnings (three cities have a 3% rate, which is no longer allowed for new cities under the Act), and the city matching percentages are either 100%, 150%, or 200%, both as adopted by the governing body of each city. Under the state law governing TMRS, the contribution rate for each city is determined annually by the actuary, using the Entry Age Normal (EAN) actuarial cost method. This rate consists of the normal cost contribution rate and the prior service cost contribution rate, which is calculated to be a level percent of payroll from year to year. The normal cost contribution rate for an employee is the contribution rate which, if applied to a member's compensation throughout their period of anticipated covered service with the municipality, would be sufficient to meet all benefits payable on their behalf. The salary-weighted average of the individual rates is the total normal cost rate. The prior service contribution rate amortizes the unfunded (overfunded) actuarial liability (asset) 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 benefits, such as Updated Service Credits and Annuity Increases. The employer contribution rate cannot exceed a statutory maximum rate unless the city elects a higher maximum or removes the maximum rate. The statutory maximum rate is based on the employee contribution rate combined with the city matching percentage.

Contributions are made monthly by both the employees and the member cities. Since each member city must know its contribution rate in advance for budgetary purposes, there is a one-year delay between the actuarial valuation that serves as the basis for the contribution rate and the calendar year when the rate goes into effect. Member cities are allowed to make contributions in excess of their actuarially determined contributions to the Pension Trust Fund. Contributions totaling \$880.1 million were made in 2018 by the member cities based on the December 31, 2016 actuarial valuation. If affected, a city may also pay contributions for the Full Benefit Arrangement

(FBA). Such contributions totaled \$1.4 million in 2018. Employees of the cities contributed \$427.8 million in 2018 in accordance with the city-adopted employee contribution rate for each city.

**Investment Policy** — The pension plan’s policy in regard to the allocation of invested assets is established and may be amended by the TMRS Board of Trustees. Plan assets are managed on a total return basis with an emphasis on both capital appreciation as well as the production of income, in order to satisfy the short-term and long-term funding needs of TMRS. The Board’s adopted strategic asset allocation policy in effect as of December 31, 2018 is as follows:

Asset Class	Minimum %	Target %	Maximum %
U.S. Equities	12.5%	17.5%	22.5%
International Equities	12.5%	17.5%	22.5%
Core Fixed Income	5.0%	10.0%	15.0%
Non-Core Fixed Income	15.0%	20.0%	25.0%
Real Estate	5.0%	10.0%	15.0%
Real Return	5.0%	10.0%	15.0%
Absolute Return	5.0%	10.0%	15.0%
Private Equity	0.0%	5.0%	10.0%
Cash Equivalents	0.0%	0.0%	10.0%

For the year ended December 31, 2018 the annual money-weighted rate of return on pension plan investments, net of pension plan investment expenses, was -2.38%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

# Notes to Financial Statements

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## B. Supplemental Death Benefits Fund

TMRS also administers a defined benefit group-term life insurance plan known as the Supplemental Death Benefits Fund (SDBF). This is a voluntary program in which participating member cities may elect, by ordinance, to provide group-term life insurance coverage (Supplemental Death Benefits) for their active members, including or not including retirees. Employers may terminate coverage under and discontinue participation in the SDBF by adopting an ordinance before November 1 of any year to be effective the following January 1.

Participation in the SDBF as of December 31, 2018 is summarized below:

	2018
<b>Annuitants eligible for benefits</b>	30,453
<b>Terminated vested employees</b>	9,555
<b>Current employee accounts</b>	
Vested	44,675
Non-vested	30,360
<b>Total</b>	75,035
<b>Number of municipalities providing retiree coverage</b>	768

**Benefits** — Payments from this fund are similar to group-term life insurance benefits, and are paid to the designated beneficiaries upon the receipt of an approved application for payment. 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 considered an other 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, or a claim against, the Pension Trust Fund.

**Contributions** — Contributions are made monthly based on the covered payroll of employee members of the participating member city. The contractually required contribution rate is determined annually for each city. 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 employer 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 the Pension Trust Fund to allocate investment income to the SDBF on an annual basis (see note 1-D). The funding policy of this plan is to assure that adequate resources are available to meet all death benefit payments for the upcoming year; the intent is not to prefund retiree term life insurance during employees' entire careers. As such, contributions are utilized to fund active member deaths on a pay-as-you-go basis; any excess contributions and investment income over payments then become net position available for benefits.

## C. TMRS as Employer

**Pension Trust Fund** — TMRS, as an employer, participates as one of the 887 plans in the statewide agent multiple-employer plan administered by the System, providing pension benefits for all of its eligible employees. The plan provisions that have been adopted by the TMRS Board of Trustees are within the options available in the TMRS Act. Employees can 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 employees is 7% and the matching percentage for TMRS is 200%. TMRS, as an employer, has also adopted 100% Updated Service Credit (USC) on a repeating basis and Annuity Increases (AI) on a repeating basis, at 70% of the change in the CPI. Employees are vested after 5 years of service, but

their accumulated deposits and interest must remain in the plan to receive any employer-financed benefits. At retirement, death, or disability, the benefit is calculated by converting the sum of the employee's personal account balance and the employer-financed monetary credits to a monthly annuity using annuity purchase rates prescribed by the TMRS Act. Members may choose to receive their retirement benefit in one of seven payment options. Members may also choose to receive a portion of their benefit as a PLSD (see section A of this note for a full description of the pension benefits).

TMRS' Net Pension Liability (NPL) of \$6,245,186 at December 31, 2018 was measured as of the December 31, 2017 actuarial valuation and is reported as "accounts payable and other accrued liabilities" in the accompanying Statement of Fiduciary Net Position.

**Supplemental Death Benefits Fund** — TMRS, as an employer, participates in the defined benefit group-term life insurance plan it operates known as the Supplemental Death Benefits Fund (SDBF). TMRS elected to provide group-term life insurance coverage to both current and retired employees. 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). Retired employees are insured for \$7,500.

TMRS contributes to the SDBF at a contractually required rate as determined by an annual actuarial valuation, which was 0.16% for 2018, of which 0.02% represented the retiree-only portion, as a percentage of annual covered payroll. The rate is equal to the cost of providing one-year term life insurance. The funding policy for the SDBF program is to assure that adequate resources are available to meet all death benefit payments for the upcoming year; the intent is not to prefund retiree term life insurance during employees' entire careers. As an employer, TMRS' contributions to the SDBF for the years ended December 31, 2018, 2017, and 2016 were \$18,615, \$17,133, and \$15,678, respectively, representing contributions for both active and retiree coverage, which equaled the required contributions each year.

See section B of this note for a full description of the SDBF.

**TMRS Insurance Plan** — TMRS, as an employer, also participates in the Employees Retirement System of Texas (ERS) Group Benefits Program (GBP). ERS provides health, life, disability, and dental insurance benefits through the GBP; the GBP is administered through a trust (irrevocable per statute – Texas Insurance Code, Section 1551.401), which is governed and managed by a Board of Trustees. The State Retiree Health Plan (SRHP) is a cost sharing multiple-employer defined benefit postemployment 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. The 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 <https://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 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 TMRS retirees that are covered under the plan. TMRS' contributions to ERS for the years ended December 31, 2018, 2017, and 2016 were \$1,212,586, \$1,088,947, and \$986,167, respectively, for active employees and \$45,016, \$44,556, and \$42,815, respectively, for TMRS retirees, which equaled the required contributions each year.

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

# Notes to Financial Statements

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## 3. Deposits and Investments

### A. Cash in Bank and Deposits

Cash balances represent both demand deposit accounts, held by a local banking institution under terms of a written depository contract, and cash on deposit with the custodian.

Demand deposits with the System's depository bank totaled \$9,820,195, with a carrying value of \$1,558,193 at December 31, 2018. Securities pledged had a market value of \$16,672,433 at December 31, 2018. Cash on deposit with the custodian totaled (\$103,183,654) at December 31, 2018 and is classified as "due to custodial and depository banks" on the Statement of Fiduciary Net Position.

### B. Fair Value of Investments

The Plan categorizes its fair value measurements within the fair value hierarchy as established by generally accepted accounting principles. 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.



# Notes to Financial Statements

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At December 31, 2018 the Plan has the following recurring fair value measurements:

	Fair Value at 12/31/2018	Fair Value Measurements Using		
		Level 1	Level 2	Level 3
<b>Investments by fair value level:</b>				
<b>Short-term investments</b>				
Short-term investment funds	\$ 510,763,734	\$ —	\$ 510,763,734	\$ —
Repurchase agreements	417,600,000	—	417,600,000	—
	928,363,734	—	928,363,734	—
<b>Fixed-income</b>				
U.S. Treasury bonds/notes	772,008,280	—	772,008,280	—
U.S. Treasury inflation-protected	312,345,343	—	312,345,343	—
U.S. government agency	21,847,836	—	21,847,836	—
Municipal	114,530,445	—	114,530,445	—
Corporate	2,113,465,199	—	2,113,465,199	—
Residential mortgage-backed	1,287,663,366	—	1,287,663,366	—
Commercial mortgage-backed	719,855,269	—	719,855,269	—
Other asset-backed	184,627,477	—	184,627,477	—
Foreign government	89,832,231	—	89,832,231	—
Foreign government inflation-linked	451,457,961	—	451,457,961	—
	6,067,633,407	—	6,067,633,407	—
<b>Equities</b>				
Equity securities – domestic	1,287,045,087	1,287,045,087	—	—
Equity securities – international	1,305,503,577	1,305,503,577	—	—
	2,592,548,664	2,592,548,664	—	—
<b>Total investments by fair value level</b>	<b>\$ 9,588,545,805</b>	<b>\$ 2,592,548,664</b>	<b>\$ 6,995,997,141</b>	<b>\$ —</b>
<b>Investments measured at the net asset value (NAV):</b>				
Non-core fixed-income funds	3,906,852,163			
Real return funds	1,264,028,867			
Equity commingled funds	7,408,475,806			
Absolute return funds	2,538,353,843			
Private equity funds	573,494,754			
Private real estate funds	2,698,398,235			
<b>Total investments measured at the NAV</b>	<b>\$ 18,389,603,668</b>			
<b>Other investments not at fair value level:</b>				
Short-term investments – broker collateral	(4,528,662)			
<b>Total Investments</b>	<b>\$27,973,620,811</b>			
<b>Other investment-related items not included above:</b>				
Interest and dividends receivable	51,668,231			
Unsettled investment trades receivable/payable, net	(254,880,307)			
Securities sold on a when-issued basis, net	(58,773,790)			
<b>Total</b>	<b>\$ (261,985,866)</b>			

# 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 does not hold any investments classified in Level 3 of the fair value hierarchy as of December 31, 2018.

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

# Notes to Financial Statements

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Investments Measured at the Net Asset Value (NAV)	Fair Value at 12/31/2018	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
<b>Equities</b>				
U.S. commingled funds	\$ 4,421,410,040	\$ —	Daily	1 - 2 days
International commingled funds	2,987,065,766	—	Daily	1 - 2 days
<b>Non-core fixed-income funds</b>				
Bank loan/collateralized loan obligation	876,991,605	—	Quarterly	Varies: 45 - 60 days
Direct lending	807,978,213	760,623,609	Varies: Quarterly, N/A	Varies: 30 - 90 days, N/A
Opportunistic credit	1,204,785,800	580,925,270	Varies: Monthly, Quarterly, Yearly, N/A	Varies: 60 - 90 days, N/A
Emerging market debt	716,218,775	—	Weekly	10 days
High yield	300,877,770	—	Daily	10 days
<b>Real return funds</b>				
Agriculture	151,663,080	61,221,352	N/A	N/A
Energy	132,517,078	171,947,037	N/A	N/A
Infrastructure	148,017,728	301,488,681	N/A	N/A
Mining	81,667,874	48,502,649	N/A	N/A
Public markets	750,163,107	—	Daily	5 days
<b>Absolute return funds</b>				
Fund of hedge funds	126,745,295	—	Quarterly	95 days
Equity	337,360,670	—	Varies: Monthly, Quarterly	Varies: 45 - 80 days
Global macro	545,138,474	—	Quarterly	Varies: 30 - 90 days
Multi strategy – opportunistic	263,412,058	195,386,178	Varies: Quarterly, Rolling 3-year	Varies: 60 days, N/A
Credit	503,315,559	61,906,576	Varies: Quarterly, Annually, N/A	90 days
Relative value	703,951,479	—	Varies: Monthly, Quarterly, 2.5 years	Varies: 25 - 90 days
Event-driven	58,430,308	—	Quarterly	90 days
<b>Private equity funds</b>				
Buy-out	192,743,206	308,261,608	N/A	N/A
Venture/growth	234,867,494	214,378,994	N/A	N/A
Special situations	145,884,054	453,839,242	N/A	N/A
<b>Private real estate funds</b>				
Core	1,830,658,707	183,196,574	Varies: Quarterly, N/A	Varies: 45 - 90 days, N/A
Opportunistic	404,487,011	369,145,726	N/A	N/A
Value-added	463,252,517	280,883,442	N/A	N/A
<b>Total Investments Measured at the NAV</b>	<b>\$ 18,389,603,668</b>	<b>\$ 3,991,706,938</b>		

# Notes to Financial Statements

Continued

- **Equity commingled funds.** TMRS invests in six passively managed commingled fund structures that offer daily liquidity. TMRS' commingled funds essentially have the same objective – to provide similar return and risk characteristics that approximate the overall performance of domestic and international securities included in the underlying index.
- **Non-core fixed income funds.** Non-core fixed income includes a wide variety of fixed income strategies, including emerging market debt, high yield, bank loans, collateralized loan obligations, direct lending, mortgage-backed securities, and asset-backed securities, among others. These investments are research-intensive based on fundamental bottom-up analysis. Generally, non-core fixed income seeks to capture both 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 the capital structures of U.S. and other global hard assets such as infrastructure, minerals, agriculture, energy, and timber. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. TMRS' real return fund investments may be classified into two structural categories: i) open end vehicles and ii) closed end funds. TMRS invests in one open end vehicle, a commingled investment trust which invests in publicly tradable assets. TMRS has daily liquidity in this vehicle. TMRS invests in 11 closed end funds with average contractual vehicle lives of 6 - 14 years over which the funds will first purchase and subsequently dispose of assets. Distributions from each fund will be received as the underlying investments of the funds are liquidated. TMRS has invested in closed end real return vehicles since calendar year 2015. Accordingly, given the recent vintage profile, net capital call activity (i.e., capital is being funded into these vehicles) is currently occurring.
- **Absolute return funds:**
  - **Fund of hedge funds.** TMRS invests in a custom fund of hedge funds with the objective of pursuing capital appreciation by allocating assets among a variety of alternative investment strategies. The mandate seeks to decrease portfolio risk by providing attractive, risk-adjusted returns with low correlation to traditional asset classes. The fund allows for quarterly redemptions, with a notice period of 95 days.
  - **Equity hedge funds.** TMRS invests in three equity hedge funds. These funds hold positions in equities on both the long and short side. Typically, managers will rely on fundamental bottom-up research in order to select stocks to go long or short, but managers may also incorporate technical analysis. Often managers will use a top-down approach looking at macro themes and trends to direct research and portfolio construction. Some managers will add a macro overlay in order to guide regional or country allocations. On occasion, managers may make use of non-equity instruments such as CDs, swaps, currency overlay, or even credit positions if valuations are compelling. Managers may define their regional exposure based on the domicile of the company that they are investing in or the operating markets of the company. A fund in this group is subject to gate provisions, limiting withdrawals.
  - **Global macro hedge funds.** TMRS invests in five global macro hedge funds. These funds take directional positions in currencies, bonds, equities, and commodities. Investment decisions are based on a manager's top-down view of the world: analysis of the economy, interest rates, inflation, government policy, and geopolitical factors. The relative valuations of financial instruments within or between asset classes can also play a role in investment decisions. Some funds in this group are subject to gate provisions, limiting withdrawals.
  - **Multi-strategy-opportunistic hedge funds.** TMRS invests in three multi-strategy hedge funds, which include hedge funds where capital is shifted on an opportunistic basis between a small number of hedge fund styles. Some funds in this group are subject to gate provisions, limiting withdrawals.

- **Credit hedge funds.** TMRS invests in six credit hedge funds, which may invest in a variety of fixed income strategies. While many invest in multiple strategies, others may focus on a single strategy less followed by most fixed income hedge funds. Areas of focus include municipal bonds, corporate bonds, and global fixed income securities. Some funds in this group are subject to gate provisions, limiting withdrawals.
- **Relative value hedge funds.** TMRS invests in six relative value hedge funds. These funds attempt to take advantage of relative pricing discrepancies between instruments, including equities, debt, options, and futures. Managers may use mathematical, fundamental, or technical analysis to determine misvaluation. Securities may be mispriced relative to the underlying security, related securities, groups of securities, or the overall market. Many funds use leverage and seek opportunities globally. Arbitrage strategies include dividend arbitrage, pairs trading, options arbitrage, and yield curve trading. Some funds in this group are subject to gate provisions, limiting withdrawals.
- **Event-driven hedge funds.** TMRS invests in an event-driven hedge fund, which involves investing in opportunities created by significant transactional events, such as spin-offs, mergers and acquisitions, bankruptcy, reorganizations, recapitalizations, and share buybacks. The portfolio of some event-driven managers may shift in majority weighting between risk arbitrage and distressed securities, while others may take a broader scope. Instruments include long and short common and preferred stocks, as well as debt securities and options. Leverage may be used by some managers. Fund managers may hedge against market risk by purchasing S&P put options or put option spreads. A fund in this group is subject to gate provisions, limiting withdrawals.
- **Private equity funds.** Private equity funds generally invest primarily in non-publicly traded equity and debt securities in U.S. and other global companies. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. TMRS invests in 27 closed end funds with average contractual vehicle lives of 10 - 14 years over which the funds will first purchase and subsequently dispose of assets. Distributions from each fund will be received as the underlying investments of the funds are liquidated. TMRS has invested in closed end private equity funds since calendar year 2015. Accordingly, given the recent vintage profile, net capital call activity (i.e., capital is being funded into these vehicles) is currently occurring.
- **Private real estate funds.** Real estate funds generally invest primarily in U.S. and other global commercial real estate or similarly debt collateralized by commercial real estate. The fair values of the investments in this type have been determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partners' capital. TMRS classifies its real estate investments into three fund strategies — Core, Value-Added, and Opportunistic — and are held in two structural categories: i) open end funds and ii) closed end funds. TMRS invests in 7 open end funds, 5 of which TMRS may redeem capital on a quarterly basis with 45-90 days notice, 2 of which TMRS may redeem on an annual basis with 90 days notice, 1 which is subject to initial lock-out periods, and all of which have provisions for administering limited liquidity and/or gated liquidity in any given period. TMRS invests in 23 closed end funds with average contractual vehicle lives of 8 - 12 years over which the funds will first purchase and subsequently dispose of assets. Distributions from each fund will be received as the underlying investments of the funds are liquidated. TMRS has invested in closed end real estate vehicles since calendar year 2012 and accordingly is receiving distributions from earlier vintage funds (i.e., capital is being returned to TMRS). TMRS has continued to invest in closed end funds in each calendar year since that time, resulting in net capital call activity (i.e., capital is being funded into these vehicles) for later vintage funds.

## C. Deposit and Investment Risk

State and local governments have deposits and investments that are subject to various risks. GASB Statement No. 40, *Deposit and Investment Risk Disclosures – an amendment of GASB Statement No. 3*, provides disclosure requirements related to deposit and investment risks: custodial credit risk, credit risk, concentrations of credit risk, interest rate risk, and foreign currency risk.

### **Custodial Credit Risk — Deposits**

Custodial credit risk is the risk that, in the event of a bank failure, the System's 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, 2018, to the extent not insured by the Federal Deposit Insurance Corporation, were collateralized by securities held by a third party independent custodian, in the System's name, under a joint custody agreement giving the System unconditional rights and claims to collateral. 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, 2018.

### **Custodial Credit Risk — Investments**

Custodial credit risk is the risk that, in the event of failure of the counterparty, the System will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The assets of the System may be held in the name of agents, nominees, depository trust companies, or other entities designated by the Board of Trustees. At December 31, 2018, all investment securities were registered in the System's name or in the name of the System's custodian, which was established through a master trust custodial agreement, and are held by the custodian in the name of the System.

The System's investments in repurchase agreements of \$417,600,000 at December 31, 2018 were collateralized by U.S. Treasury notes, held in the System's name, with a total market value of \$439,137,000.

### **Credit Risk — Investments**

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. According to TMRS investment policy as adopted by the TMRS Board of Trustees, credit risk of the core fixed income portfolio is managed by requiring minimum credit ratings by sector and mandate as outlined below:

(1) All securities must be rated at least B- by S&P or Fitch, or B3 by Moody's. (2) The portfolio shall maintain a minimum weighted average credit quality of A+. (3) Global U.S. dollar denominated – issue and national government of the country where the issuer's primary operations are located (if the issuer is not the national government itself) must be rated investment grade, at least BBB- by S&P or Fitch, or Baa3 by Moody's. (4) Securitized – the weighted average credit quality of securitized product must be AA. (5) Municipal – Municipal issues must be rated investment grade, at least BBB- by S&P or Fitch, or Baa3 by Moody's. (6) Non U.S. dollar denominated bonds – both the issue and issuer's national government (if the issuer is not the national government itself) must be rated at least A- by S&P or Fitch, or A3 by Moody's.

As of December 31, 2018, TMRS' Core Fixed Income Portfolio was in compliance with its policy 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.

The System's long-term fixed income investments with exposure to credit risk as of December 31, 2018 are presented by quality category:

# Notes to Financial Statements

Continued

	Fair Value at 12/31/2018	Rating
U.S. government agency	\$ 11,447,051	AAA
U.S. government agency	10,400,785	NR
Municipal	11,064,600	AAA
Municipal	45,547,240	AA
Municipal	48,680,090	A
Municipal	9,238,515	BBB
Residential mortgage-backed	5,884,134	B
Residential mortgage-backed	1,281,779,232	NR
Corporate	10,354,768	AAA
Corporate	135,276,622	AA
Corporate	516,223,442	A
Corporate	880,484,828	BBB
Corporate	287,787,690	BB
Corporate	207,365,957	B
Corporate	55,404,756	CCC
Corporate	20,567,136	NR
Other asset-backed	13,951,709	AAA
Other asset-backed	5,987,243	AA
Other asset-backed	24,082,798	A
Other asset-backed	19,596,256	BBB
Other asset-backed	16,362,588	B
Other asset-backed	12,066,669	CCC
Other asset-backed	13,107,287	CC
Other asset-backed	9,360,157	C
Other asset-backed	1,665,592	D
Other asset-backed	68,447,178	NR
Commercial mortgage-backed	90,040,276	AAA
Commercial mortgage-backed	19,793,512	AA
Commercial mortgage-backed	21,369,918	A
Commercial mortgage-backed	33,431,802	BBB
Commercial mortgage-backed	24,688,784	BB
Commercial mortgage-backed	27,431,047	B
Commercial mortgage-backed	122,536,937	CCC
Commercial mortgage-backed	35,175,215	CC
Commercial mortgage-backed	10,483,163	C
Commercial mortgage-backed	1,760,120	D
Commercial mortgage-backed	333,144,495	NR
Foreign government	24,623,727	AAA
Foreign government	19,495,982	AA
Foreign government	27,569,494	A
Foreign government	18,007,049	BBB
Foreign government	135,979	NR
Foreign government inflation-linked	84,925,833	AAA
Foreign government inflation-linked	96,215,228	A
Foreign government inflation-linked	270,316,900	NR
<b>Total</b>	<b>\$ 4,983,279,784</b>	

Note:  
Excluded from the table at left are investments in U.S. Treasury bonds/notes and inflation-protected securities, and non-core fixed income funds. While the underlying investments of the non-core fixed income funds are exposed to credit risk, credit rating information of the funds themselves is not available.

# Notes to Financial Statements

Continued

## Concentration of Credit Risk — Investments

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. The System's investment policy requires that issuer diversification limits be applied separately to investment mandates as follows:

1. 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 and Manager mandates;
2. Investments in a single corporate issuer will not exceed 2% of the total market value of the Core Fixed Income and Manager mandates; and
3. 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 shall not exceed 1.5% of the total market value of the Core Fixed Income and Manager mandates.

Investment guidelines established with the individual investment managers address the management of concentration of credit risk for the public securities held in the Equities, Non-Core Fixed Income, and Real Return portfolios. As of December 31, 2018, the System did not exceed any of the issuer diversification limits.

## 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 System's investment policy 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. TMRS' Investment Policy requires duration of the Core Fixed Income Portfolio be maintained within +/- 25% of the Barclay's U.S. Aggregate Bond Index, which was 6.19% as of December 31, 2018. As of December 31, 2018, the System's 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. The following table displays the fair value and weighted-average effective duration as of December 31, 2018 for TMRS' long-term fixed income securities.

	Fair Value at 12/31/2018	Effective Duration
U.S. Treasury bonds/notes	\$ 772,008,280	9.21
U.S. Treasury inflation-protected	312,345,343	10.59
U.S. government agency	21,847,836	6.79
Municipal	114,530,445	7.84
Corporate	2,113,465,199	4.92
Residential mortgage-backed	1,287,663,366	5.16
Commercial mortgage-backed	719,855,269	3.08
Other asset-backed	184,627,477	3.74
Foreign government	89,832,231	5.78
Foreign government inflation-linked	451,457,961	9.24
<b>Total</b>	<b>\$ 6,067,633,407</b>	<b>5.95</b>

Note 1: Mortgage-backed securities are sensitive to changes in prepayment rates, which impact duration.

Note 2: 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 exchange rates will adversely affect the fair value of an investment or a deposit. Currency risk is generally considered in the diversification benefits of foreign investments and so is not expected to be hedged except as specifically authorized by TMRS and according to the relevant asset class mandate guidelines. Otherwise, foreign securities managers may engage in forward currency transactions only to eliminate foreign risk in the settlement of trades. Foreign currency exposure of the Core Fixed Income asset class is addressed in the Investment Policy Statement (IPS), which allows foreign currency be held for the purposes of settling a transaction and foreign currency forward contracts for purposes of hedging or settling a transaction. TMRS may invest in non-dollar denominated securities on a currency hedged or unhedged basis. TMRS' exposure to foreign currency risk (in U.S. dollars) as of December 31, 2018, follows:

# Notes to Financial Statements

Continued

## Foreign Currency Exposure at December 31, 2018

Currency	Cash Equivalents	Foreign Currency Contracts	Fixed Income Securities	Equities	Private Real Estate	Total
Australian Dollar	\$ —	\$ 853,304	\$ 35,738,999	\$ 79,478,348	\$ 41,476,334	\$ 157,546,985
Brazilian Real	165,511	(413)	1,878,357	42,742,271	—	44,785,726
Canadian Dollar	97,730	108	—	58,444,028	—	58,541,866
Chilean Peso	12,278	—	—	4,264,527	—	4,276,805
Colombian Peso	7,504	20,972	8,641,089	74,518	—	8,744,083
Danish Krone	—	—	—	7,242,668	—	7,242,668
Egyptian Pound	6,505	—	—	602,372	—	608,877
Euro Currency	915,971	16,656	51,484,429	238,541,355	23,822,697	314,781,108
Hong Kong Dollar	3,288	13	—	126,565,356	—	126,568,657
Hungarian Forint	145	—	—	7,087,261	—	7,087,406
Indian Rupee	653	—	135,978	60,669,443	—	60,806,074
Indonesian Rupiah	—	216	—	17,618,021	—	17,618,237
Japanese Yen	26,298	19,175	22,705,057	217,698,269	—	240,448,799
Malaysian Ringgit	16,944	—	22,309,213	10,829,655	—	33,155,812
Mexican Peso	15,767	—	33,200,526	13,889,340	—	47,105,633
New Israeli Shequel	—	—	—	1,229,741	—	1,229,741
New Taiwan Dollar	3,643	—	—	27,042,301	—	27,045,944
New Zealand Dollar	—	(215,690)	53,314,046	13,245,283	—	66,343,639
Norwegian Krone	—	—	—	13,321,019	—	13,321,019
Philippine Peso	2,814	—	—	50,967	—	53,781
Polish Zloty	—	(41,555)	19,045,408	6,918,620	—	25,922,473
Pound Sterling	(18,445)	60,838	220,169,291	148,619,348	49,514,746	418,345,778
Qatari Rial	—	—	—	1,259,548	—	1,259,548
Singapore Dollar	40	(260)	2,810,091	40,783,363	—	43,593,234
South African Rand	—	—	—	25,899,151	—	25,899,151
South Korean Won	2	—	—	60,429,739	—	60,429,741
Swedish Krona	26,306	163	6,477,741	27,083,190	—	33,587,400
Swiss Franc	—	—	—	41,700,519	—	41,700,519
Thailand Baht	—	—	—	23,089,619	—	23,089,619
Turkish Lira	1,199	—	—	9,276,775	—	9,277,974
UAE Dirham	(334)	—	—	1,788,391	—	1,788,057
Yuan Renminbi	71,868	—	—	16,390,629	—	16,462,497
<b>Total</b>	<b>\$ 1,355,687</b>	<b>\$ 713,527</b>	<b>\$ 477,910,225</b>	<b>\$ 1,343,875,635</b>	<b>\$ 114,813,777</b>	<b>\$ 1,938,668,851</b>

## 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 generally not recorded on the financial statements; however, the exposure to forward currency contracts is recorded as unsettled trades receivable or payable in the Statement of Fiduciary Net Position. The change in unrealized appreciation on futures contracts for the year of \$643,792 is included as investment income in the accompanying Statement of Changes in Fiduciary Net Position.

Foreign currency managers may engage in forward currency transactions to eliminate foreign currency risk in the settlement of trades. The following table summarizes the foreign currency contracts in the portfolio as of December 31, 2018 (in U.S. dollars).

Forward Currency Contracts at December 31, 2018		
Currency	Net Notional Long/(Short)	Exposure
Australian Dollar	\$ 34,989,839	\$ 853,304
Brazilian Real	200,775	(413)
Canadian Dollar	(1,107,960)	108
Colombian Peso	5,708,308	20,972
Euro Currency	5,746,990	16,656
Hong Kong Dollar	32,437	13
Indonesian Rupiah	20,866	216
Japanese Yen	2,273,604	19,175
New Zealand Dollar	49,295,791	(215,690)
Polish Zloty	3,880,355	(41,555)
Pound Sterling	2,447,694	60,838
Singapore Dollar	(119,439)	(260)
Swedish Krona	9,695	163
U.S. Dollar	(102,665,428)	—
<b>Total</b>	<b>\$ 713,527</b>	<b>\$ 713,527</b>

TMRS could be exposed to risk if the counterparties to the 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 maturity of the contract being no greater than 360 days. U.S. Treasury futures contracts that are used to gain nominal exposure in a portfolio must be fully backed by cash equivalents equaling the notional contract value. U.S. Treasury futures contracts used solely for risk management purposes do not need to be backed by cash equivalents. The following table lists the open futures contracts at December 31, 2018.

<b>Futures Contracts at December 31, 2018</b>				
<b>Futures Contract</b>	<b>Expiration Date</b>	<b>Notional Value</b>	<b>Notional Cost</b>	<b>Accumulated Gain/(Loss)</b>
U.S. 10-Yr Treasury Note Futures	3/20/2019	\$ 12,811,641	\$ 12,500,989	\$ 310,652
U.S. 10-Yr Treasury Note Futures	3/20/2019	(3,660,469)	(3,570,896)	(89,573)
U.S. 10-Yr Treasury Note Futures	3/20/2019	(15,495,984)	(15,129,020)	(366,964)
U.S. Long Bond Futures	3/20/2019	(1,606,000)	(1,531,062)	(74,938)
U.S. Ultra Treasury Bond Futures	3/20/2019	(4,659,031)	(4,414,117)	(244,914)
U.S. Ultra Treasury Bond Futures	3/20/2019	(16,386,938)	(15,514,024)	(872,914)
<b>Total</b>		\$ (28,996,781)	\$ (27,658,130)	\$ (1,338,651)

## 4. Property and Equipment

The following is a schedule of property and equipment balances as of December 31, 2018, and changes to those account balances during the year then ended:

	Land	Buildings and Improvements	Furniture, Software, and Equipment	Total
<b>Property and Equipment</b>				
Balance, December 31, 2017	\$ 254,388	\$ 13,856,982	\$ 14,538,527	\$ 28,649,897
Additions	—	40,234	262,417	302,651
Retirements	—	—	—	—
Balance, December 31, 2018	254,388	13,897,216	14,800,944	28,952,548
<b>Accumulated depreciation</b>				
Balance, December 31, 2017	—	5,800,235	13,117,468	18,917,703
Additions	—	449,150	444,596	893,746
Retirements	—	—	—	—
Balance, December 31, 2018	—	6,249,385	13,562,064	19,811,449
<b>Net balances, December 31, 2018</b>	<b>\$ 254,388</b>	<b>\$ 7,647,831</b>	<b>\$ 1,238,880</b>	<b>\$ 9,141,099</b>

## 5. Commitments and Contingencies

As of December 31, 2018, TMRS had outstanding commitments to private investment funds of \$4.0 billion.

## 6. Risk Management

The System is exposed to various risks of loss related to torts; errors and omissions; violation of civil rights; theft of, damage to, and destruction of assets; and natural disasters. These risks, (with the exception of pension and welfare fund fiduciary responsibility insurance, which is covered by a commercial carrier), are covered by the System's participation in the Texas Municipal League Intergovernmental Risk Pool. This is a pooled arrangement whereby the participants pay experience-rated annual premiums that are designed to pay claims and build sufficient reserves so that the pool will be able to protect the participating entities with its own capital. The pool reinsures excess losses to preserve the capital base. Claims for unemployment compensation are funded by the System on a pay-as-you-go basis.

No significant reductions in insurance coverage occurred in the past year, and settled claims have not exceeded insurance coverage in any of the past three fiscal years.

# Required Supplementary Information

## Pension Trust Fund

### Schedule of Investment Returns Last 10 Fiscal Years\*

Annual money-weighted rate of return, net of investment expense	
2018	-2.38%
2017	13.82%
2016	7.55%
2015	0.08%
2014	5.85%

\* Schedule is intended to show information for 10 years. Additional years will be displayed as they become available. See accompanying Independent Auditors' Report.

# Supplemental Schedules

Changes in Fiduciary Net Position — by Fund • Year Ended December 31, 2018								
	Benefit Accumulation Fund	Full Benefit Arrangement	Supplemental Disability Benefits Fund	Endowment Fund	Expense Fund	Total Pension Trust Fund	Supplemental Death Benefits Fund	Total
<b>ADDITIONS:</b>								
Employer contributions	\$ 880,137,297	\$ 1,394,238	\$ —	\$ —	\$ —	\$ 881,531,535	\$ 7,758,059	\$ 889,289,594
Plan member contributions	427,808,238	—	—	—	—	427,808,238	—	427,808,238
Net investment loss	—	—	—	(848,355,973)	(9,766,988)	(858,122,961)	—	(858,122,961)
Other miscellaneous	—	—	—	18,501	—	18,501	—	18,501
<b>Total additions</b>	<b>1,307,945,535</b>	<b>1,394,238</b>	<b>—</b>	<b>(848,337,472)</b>	<b>(9,766,988)</b>	<b>451,235,313</b>	<b>7,758,059</b>	<b>458,993,372</b>
<b>DEDUCTIONS:</b>								
Service retirement benefits	1,158,308,719	1,394,238	—	—	—	1,159,702,957	—	1,159,702,957
Disability retirement benefits	16,997,009	—	63,294	—	—	17,060,303	—	17,060,303
Partial lump sum distributions	158,490,461	—	—	—	—	158,490,461	—	158,490,461
Supplemental death benefits	—	—	—	—	—	—	10,267,359	10,267,359
Refunds of contributions	64,255,860	—	—	—	—	64,255,860	—	64,255,860
Administrative expenses	—	—	—	—	16,585,866	16,585,866	—	16,585,866
<b>Total deductions</b>	<b>1,398,052,049</b>	<b>1,394,238</b>	<b>63,294</b>	<b>—</b>	<b>16,585,866</b>	<b>1,416,095,447</b>	<b>10,267,359</b>	<b>1,426,362,806</b>
<b>FUND TRANSFERS:</b>								
Operating budget transfer	—	—	—	(26,588,000)	26,588,000	—	—	—
Income allocation	(871,307,850)	—	20,086	870,402,720	—	(885,044)	885,044	—
Escheated funds	(1,606,797)	—	—	1,606,797	—	—	—	—
<b>Net Fund Transfers</b>	<b>(872,914,647)</b>	<b>—</b>	<b>20,086</b>	<b>845,421,517</b>	<b>26,588,000</b>	<b>(885,044)</b>	<b>885,044</b>	<b>—</b>
<b>Total Change in Fiduciary Net Position</b>	<b>(963,021,161)</b>	<b>—</b>	<b>(43,208)</b>	<b>(2,915,955)</b>	<b>235,146</b>	<b>(965,745,178)</b>	<b>(1,624,256)</b>	<b>(967,369,434)</b>
<b>Net Position, beginning of year</b>	<b>28,317,525,591</b>	<b>—</b>	<b>433,979</b>	<b>321,766,156</b>	<b>9,648,891</b>	<b>28,649,374,617</b>	<b>18,930,756</b>	<b>28,668,305,373</b>
<b>Net Position, end of year</b>	<b>\$ 27,354,504,430</b>	<b>\$ —</b>	<b>\$ 390,771</b>	<b>\$ 318,850,201</b>	<b>\$ 9,884,037</b>	<b>\$27,683,629,439</b>	<b>\$ 17,306,500</b>	<b>\$27,700,935,939</b>

See accompanying Independent Auditors' Report.

# Supplemental Schedules

Continued

<b>Schedule of Administrative Expenses</b>	
<b>Year ended December 31, 2018</b>	
<b>Personnel services</b>	
Staff salaries	\$ 9,231,335
Contract labor	28,617
Payroll taxes	599,065
Employee benefits	430,841
<b>Total personnel services</b>	<b>10,289,858</b>
<b>Professional services</b>	
Consulting	779,861
Actuarial	554,699
Banking	35,702
Legal	346,349
Medical	31,500
Audit	299,700
Online services	204,846
<b>Total professional services</b>	<b>2,252,657</b>
<b>Communication</b>	
Printing	16,660
Postage	232,869
Travel	303,117
Telephone	89,069
Member education and mailings	374,665
<b>Total communication</b>	<b>1,016,380</b>
<b>Rentals/equipment maintenance</b>	
Data processing	640,840
Office equipment	112,137
Offsite record storage	120,821
<b>Total rentals/equipment maintenance</b>	<b>873,798</b>
<b>Miscellaneous</b>	
Dues	32,076
Subscriptions/publications	184,566
Training	111,510
Utilities	185,266
Supplies	140,848
Building/grounds maintenance	174,685
Building security	143,717
Bonds and insurance	108,349
Board and Advisory Committee expenses	112,942
Depreciation	893,746
Other administrative expenses	65,468
<b>Total miscellaneous</b>	<b>2,153,173</b>
<b>Total administrative expenses</b>	<b>\$ 16,585,866</b>

See accompanying Independent Auditors' Report.



<b>Schedule of Professional Services • Year ended December 31, 2018</b>	
<b>Consulting</b>	
Human resources management	\$ 137,792
Records management	110,714
Governance/strategic planning	96,312
Legislative	82,500
Information systems support	69,515
Network security	63,257
Business continuity planning	50,000
Crisis management	47,740
Disaster recovery	40,512
Economic advisory	35,000
Annuity mortality records and address research	22,186
Retirement process workflow	12,333
Insurance risk management	12,000
<b>Total Consulting</b>	<b>779,861</b>
<b>Actuarial</b>	
GRS Retirement Consulting	554,699
<b>Banking</b>	
JPMorgan Chase Bank	35,702
<b>Legal</b>	
Klausner, Kaufman, Jensen & Levinson	240,134
Groom Law Group	80,588
Michael Best & Friedrich LLP	13,702
Jackson Walker LLP	9,038
Cornell Smith Mierl Brutocao Burton, LLP	1,655
Graves, Dougherty, Hearon & Moody	1,232
<b>Total Legal</b>	<b>346,349</b>
<b>Medical</b>	
Ace Alsup, III, M.D.	11,970
William P. Taylor, M.D.	11,970
William J. Deaton, M.D.	7,560
<b>Total Medical</b>	<b>31,500</b>
<b>Audit</b>	
KPMG LLP - annual financial audit	108,000
KPMG LLP - System and Organization Controls Report	86,500
Ernst & Young, LLP - co-source internal audits	70,000
CliftonLarsonAllen LLP - System and Organization Controls Report	35,200
<b>Total Audit</b>	<b>299,700</b>
<b>Online Services</b>	
Bloomberg	44,882
Paycom - payroll processing services	41,980
Alert Logic - log monitoring services	34,170
Workiva - Wdesk platform	26,153
Lexis Nexis - online tracking services	20,897
Gorilla Expense - online expense reporting	16,000
MimeCast email security	15,354
Other miscellaneous online services	5,410
<b>Total Online Services</b>	<b>204,846</b>
<b>Total Professional Services</b>	<b>\$ 2,252,657</b>

Note:  
The members of the Board of Trustees serve without compensation; they are reimbursed for actual expenses incurred.

See accompanying Independent Auditors' Report.

# Supplemental Schedules

Continued

## Schedule of Investment Expenses Year ended December 31, 2018

<b>Internal operating expenses</b>	
Staff salaries	\$ 2,877,834
Payroll taxes	172,289
Employee benefits	746,245
Electronic investment services	1,402,395
Travel	169,350
Dues	5,915
Subscriptions/publications	28,500
Training	19,284
Other administrative expenses	6,526
<b>Total</b>	<b>5,428,338</b>
<b>Investment management and other external expenses</b>	
Investment management	38,219,365
Custodial services	1,953,797
Consulting	1,752,280
Legal	632,573
<b>Total</b>	<b>42,558,015</b>
<b>Total investment expenses</b>	<b>\$ 47,986,353</b>

Note: Fees for private investments are not reflected in the System's financial statements, but are instead netted from the assets' fair values.

See accompanying Independent Auditors' Report.

# Investment



# Report on Investment Activity

May 9, 2019



Board of Trustees  
Texas Municipal Retirement System  
c/o Mr. David Gavia  
Executive Director  
P.O. Box 149153  
Austin, Texas 78714-9153

Dear Trustees:

This letter serves to provide an overview of the capital markets and the Texas Municipal Retirement System (the "System") portfolio's positioning for the fiscal year ended December 31, 2018.

The 2018 fiscal year was characterized by a continued U.S. equity rally through the first three quarters of 2018, followed by a sharp selloff in the fourth quarter. U.S. equity markets were driven by expectations of continued, but slowing, economic growth coupled with generally accommodative central bank policy. While markets remained stable for most of the year, a spike in market volatility was experienced late in the year as investors reacted negatively to the expected path of monetary policy and potential global trade conflicts.

The U.S. equity markets, as measured by the S&P 500 Index, returned -4.4% in 2018 amidst generally weakening U.S. economic data, rising interest rates, and heightened fears of trade war escalations between the U.S. and China. International equity markets significantly lagged their U.S. counterparts as future growth expectations weakened across most emerging and developed economies.

A stronger U.S. dollar and geopolitical risks including newly imposed trade tariffs, and uncertainty over the U.K.'s decision to leave the EU, were also cited as factors contributing to the slowdown. Developed non-U.S. equity markets, as measured by the MSCI EAFE Index, declined 13.8% in 2018, while emerging markets, as measured by the MSCI EM Index, declined 14.6%.

Jerome Powell assumed the role of Chairman of the Federal Open Market Committee ("FOMC") in February 2018, sharing a favorable assessment of the economy with the prior Chair. Through the first three quarters of the year, continued improvement in U.S. economic fundamentals resulted in the FOMC raising the federal funds rate three times, from a range of 1.25%-1.50% to 2.00%-2.25%. Despite economic and corporate earnings data suggesting a slowdown in U.S. growth, the FOMC voted to raise U.S. interest rates for a fourth time in 2018 at the December meeting, bringing the target range to 2.25%-2.50% by year-end.

The European Central Bank ("ECB") projected slowing economic growth from 2.5% in 2017 to 1.7% by 2020. Despite signs of slowing growth in Europe, the ECB maintained guidance that it would continue to reduce the pace of asset purchases and likely end its quantitative easing program by 2019. Collectively, global central banks continue to pivot away from the use of

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extraordinary measures to stimulate economic activity.

Higher interest rates provided strong headwinds for the U.S. bond market during the fiscal year as the Bloomberg U.S. Aggregate Bond Index returned 0.0%. Internationally, the strengthening of the U.S. dollar, turmoil in Turkey and Argentina, and escalating trade wars in the final months of the year negatively impacted international markets, as the Bloomberg Global Aggregate Index lost 1.2%. The price of oil plummeted from \$73 a barrel to \$45 a barrel during the fourth quarter, leading the Bloomberg Commodity Index to return -11.2%. While private real estate assets measured by the NCREIF ODCE Index (Gross) returned 8.3% in 2018, public US REITs as measured by the Wilshire U.S. REIT Index returned -4.8%, driven by a sharp selloff in the fourth quarter.

The market value of the System's investments decreased from \$28.43 billion to \$27.59 billion in the year ended December 31, 2018. The System's current actuarial assumed rate of return is 6.75%, which represents the System's long-term return goal. The System's overall gross of fees investment return over the past year was -2.1% while the System's three-year annualized return was 6.3%. The five-year annualized return for the System was 5.0% and the System's ten-year annualized return was 6.6%.

At the end of the fiscal year 2018, all asset classes were within their target ranges.

During the fiscal year, Staff, the Board, and RVK, Inc. ("RVK") conducted an asset allocation study and made several changes to the current and proposed manager lineup. Staff, the Board, and RVK will continue to monitor the portfolio, recommending enhancements that can improve potential return and/or diversification as deemed necessary.

The System's investment policies, goals, and objectives, as well as the performance of its assets and transaction costs are regularly monitored by Staff, the Board, and by RVK. These evaluations include analysis of the investment management firms and the custodial bank that serve the System.

The System's publicly traded assets managed through separate accounts are held in custody at State Street Bank, with the majority of equity investments held at Northern Trust through commingled vehicles. Absolute return, private real estate, and private equity fund assets are held by their respective general partners. Market values and returns referenced above are based upon statements prepared by State Street Bank. Their statements are, to the best of our knowledge, reliable and accurate. Investment performance is calculated using a time-weighted rate of return methodology (gross of fees) based upon market values and cash flows.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Rebecca Gratsinger", is written over a light blue circular stamp.

Rebecca Gratsinger  
Chief Executive Officer  
RVK, Inc.

# Outline of Investment Policies

**T**he TMRS Board of Trustees approves the 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. It sets forth the Board's investment objectives and tolerance for investment risk. The IPS outlines objectives, benchmarks, restrictions, and responsibilities so that members of the Board, TMRS staff, investment managers, consultants, and TMRS stakeholders clearly understand the policies, goals and objectives, and risks connected with the TMRS investment program.

## Investment Objectives

The overall objective of TMRS' investment program is to ensure that members, retirees, and beneficiaries are provided with the benefits they have been promised by their employers at a reasonable and predictable cost to the employers. Assets will be invested for total return with appropriate consideration for portfolio volatility (risk) and liquidity. Emphasis is on both capital appreciation as well as the production of income in order to satisfy the short-term and long-term funding needs of TMRS. Total return includes dividends, interest, and realized and unrealized capital appreciation.

## General Investment Policies

- A. Standard of Prudence Applicable.** All participants in the investment process will act responsibly. The standard of prudence to be applied by the Board and investment staff is as follows:
1. In satisfying this standard, the Board and staff shall exercise the degree of judgment and care, under the circumstances that persons of prudence, discretion, and intelligence exercise in the management of their own affairs, considering the probable income from the securities and probable safety of their capital and in consideration of the purposes, terms, distribution requirements, and other circumstances of the trust.
  2. Investment and management decisions respecting individual assets will be evaluated not in isolation but in the context of the trust portfolio as a whole and as a part of an overall investment strategy having risk and return objectives reasonably suited to the trust.
- B. Conflict of Interest Prohibited.** Members of the Board of Trustees, investment staff, investment managers, and consultants involved in the investment of TMRS assets will refrain from personal business activity that could conflict with the proper execution and management of the TMRS investment program, or that could impair their ability to make impartial recommendations and decisions. These parties are required to reveal all relationships that could create or appear to create a conflict of interest in their unbiased involvement in the investment process.

## Portfolio Management

The Board of Trustees recognizes that the most important determinant of long-term return and risk is the asset allocation decision. The Board's strategic target allocation is intended to reflect, and be consistent with, the return objective and risk tolerance 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 establishing its risk tolerance, the Board considers its ability to withstand short and intermediate-term volatility in investment performance and fluctuations in the financial condition of the fund.

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

**Asset Allocation Table • Strategic Targets**

Asset Class	Minimum %	Target %	Maximum %
U.S Equities	12.5%	17.5%	22.5%
International Equities	12.5%	17.5%	22.5%
Core Fixed Income	5.0%	10.0%	15.0%
Non-Core Fixed Income	15.0%	20.0%	25.0%
Real Estate	5.0%	10.0%	15.0%
Real Return	5.0%	10.0%	15.0%
Absolute Return	5.0%	10.0%	15.0%
Private Equity	0.0%	5.0%	10.0%
Cash Equivalents	0.0%	0.0%	10.0%

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

The Board has chosen to adopt a rebalancing policy that is governed by allocation ranges rather than time periods. The ranges, specified in the table above, are a function of the volatility of each asset class and the proportion of the total fund allocated to the asset class. The goal of the rebalancing policy is to ensure that the integrity of the Strategic Target Allocation is preserved through a disciplined process that allows investment staff the flexibility to rebalance the portfolio between managers within an asset class and between asset classes, within the Board-approved ranges, to adjust for market movements and consider current market conditions, or valuations, in portfolio allocations.

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

- a. Achieve a total rate of return over rolling 5-year periods meeting or exceeding the Actuarial Return Assumption.
- b. Exceed an appropriate benchmark reflective of asset class participation over rolling 5-year periods (i.e., actual allocation index during the implementation period and policy index once fully implemented).

# Outline of Investment Policies

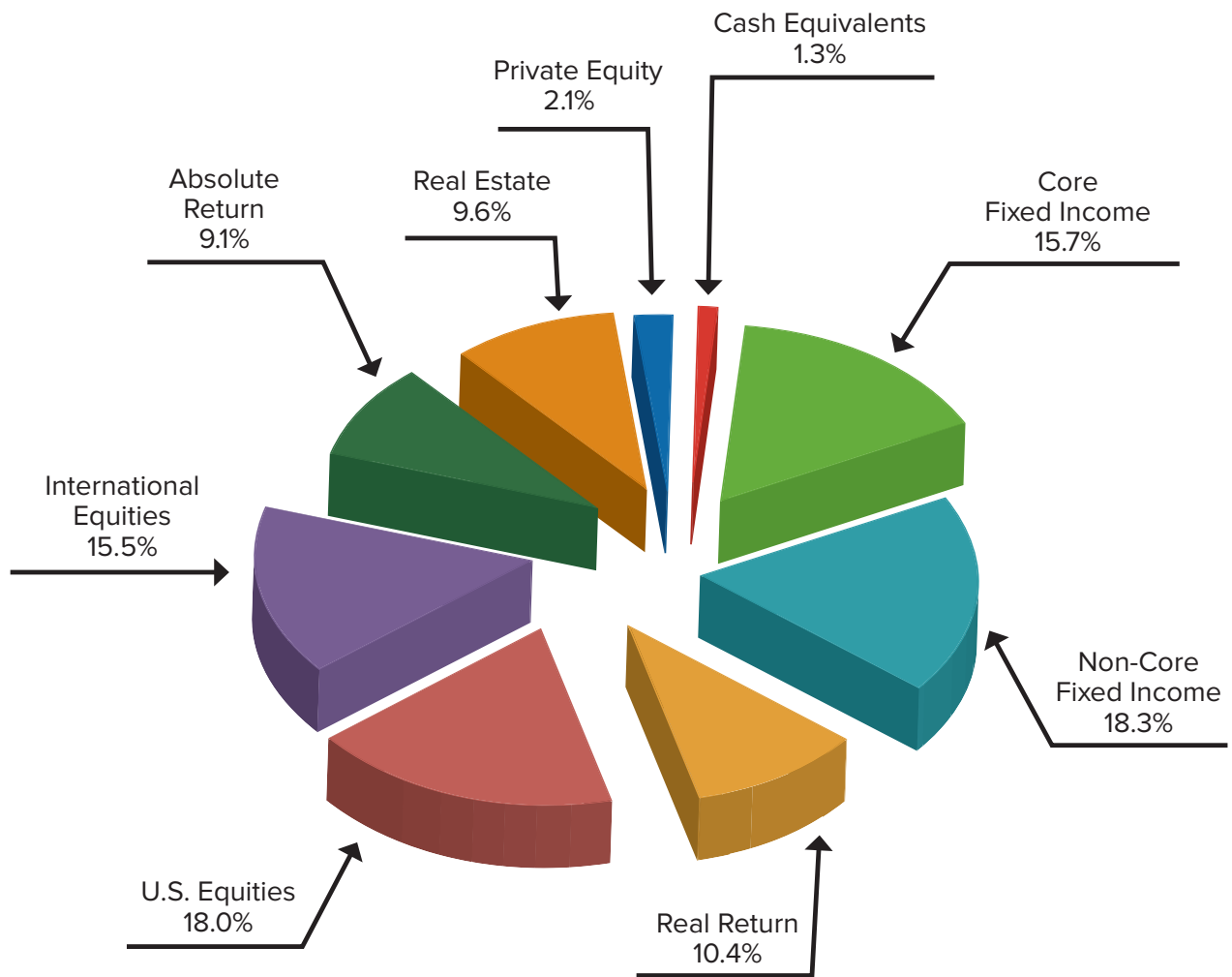
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The Board selected the following Policy Benchmark and Policy Index, by asset class:

Asset Class	Policy Benchmark	Asset Class Goal	Policy Index
U.S. Equities	Russell 3000 Index	Benchmark	17.5%
International Equities	MSCI ACW-ex US IMI (USD), net	Benchmark	17.5%
Core Fixed Income	Bloomberg Barclays US Aggregate Bond Index	Benchmark	10.0%
Non-Core Fixed Income	Rollup of Underlying Manager Benchmarks	50% Bank of America Merrill Lynch US High Yield Constrained Index; 50% Credit Suisse Levered Loan Index	20.0%
Real Estate	NCREIF- ODCE Index	CPI + 5%	10.0%
Real Return	Rollup of Underlying Manager Benchmarks	CPI + 4%	10.0%
Absolute Return	HFRI Fund of Funds: Diversified Index	Cash (3-month Libor) + 5%	10.0%
Private Equity	Rollup of Underlying Manager Benchmarks	Russell 3000 + 3%	5.0%
Cash Equivalents	30 Day T-Bill	Benchmark	0.0%



# December 31, 2018 Asset Allocation



# Summary of Investments

As of December 31, 2018		
	Fair Value	Percent of Total Fair Value
<b>Cash Equivalents</b>		
Short-term investment funds	\$ 367,097,340	1.3 %
Total cash equivalents	367,097,340	1.3
<b>Core Fixed Income</b>		
Short-term investments:		
Short-term investment funds	27,606,182	0.1
Repurchase agreements	417,600,000	1.5
Broker collateral	(4,528,662)	—
Fixed-income securities:		
U.S. Treasury bonds/notes	772,008,280	2.7
U.S. Treasury inflation-protected	107,338,218	0.4
U.S. government agency	21,847,836	0.1
Municipal	114,530,445	0.4
Corporate	1,538,024,380	5.5
Residential mortgage-backed	1,241,406,900	4.4
Commercial mortgage-backed	62,956,331	0.2
Other asset-backed	17,917,464	0.1
Foreign government	79,091,299	0.3
Total core fixed income	4,395,798,673	15.7
<b>Non-Core Fixed Income</b>		
Short-term investment funds	38,222,102	0.1
Fixed-income securities:		
Corporate	292,597,534	1.1
Residential mortgage-backed	46,256,466	0.2
Commercial mortgage-backed	656,898,938	2.3
Other asset-backed	166,710,013	0.6
Non-core fixed income funds	3,906,852,163	14.0
Total non-core fixed income	5,107,537,216	18.3

# Summary of Investments

<b>Real Return</b>			
Short-term investment funds	38,222,463		0.1
Fixed-income securities:			
U.S. Treasury inflation-protected	205,007,125		0.7
Corporate	282,843,285		1.0
Foreign government	10,740,932		—
Foreign government inflation-linked	451,457,961		1.6
Equity securities	679,968,760		2.5
Real return funds	1,264,028,867		4.5
<b>Total real return</b>	<b>2,932,269,393</b>		<b>10.4</b>
<b>U.S. Equities</b>			
Short-term investment funds	4,941,435		—
Equity securities	607,076,327		2.2
Domestic commingled funds	4,421,410,040		15.8
<b>Total U.S. equities</b>	<b>5,033,427,802</b>		<b>18.0</b>
<b>International Equities</b>			
Short-term investment funds	34,674,212		0.1
Equity securities	1,305,503,577		4.7
International commingled funds	2,987,065,766		10.7
<b>Total international equities</b>	<b>4,327,243,555</b>		<b>15.5</b>
<b>Absolute Return</b>			
Direct hedge funds	2,411,608,549		8.6
Hedge fund-of-funds	126,745,294		0.5
<b>Total absolute return</b>	<b>2,538,353,843</b>		<b>9.1</b>
<b>Private Equity</b>			
Private equity funds	573,494,754		2.1
<b>Total private equity</b>	<b>573,494,754</b>		<b>2.1</b>
<b>Real Estate</b>			
Real estate funds	2,698,398,235		9.6
Total real estate	2,698,398,235		9.6
<b>TOTAL INVESTMENTS</b>	<b>\$ 27,973,620,811</b>		<b>100.0 %</b>

## Largest Holdings (by Fair Value)

Fixed Income Securities • As of December 31, 2018		
Par Value	Description	Fair Value
\$ 116,870,197	FNMA TBA 30 YR: 3.0%, due 01/49	\$ 113,923,005
101,733,000	US Treasury N/B: 2.625%, due 07/21	102,110,525
56,684,867	Treasury Inflation Linked GILT: 1.875%, due 11/22	84,336,117
69,090,000	US Treasury N/B: 3.125%, due 11/28	71,676,827
69,703,500	GNMA II TBA 30 YR: 4.0%, due 01/49	71,375,295
78,369,873	US Treasury Inflation Index: 0.75%, due 02/42	71,276,787
41,271,512	Treasury Inflation Linked GILT: 1.25%; due 11/27	69,312,450
43,315,712	US Treasury Inflation Index: 3.875%, due 04/29	55,182,412
40,630,000	US Treasury N/B: 4.625%; due 02/40	51,515,190
51,703,355	FHLMC TBA 30 YR: 3.0%, due 01/49	50,386,949

Equities • As of December 31, 2018		
Shares/Units	Description	Fair Value
85,570,889.630	NTGI - QM Collective Daily Russell 3000 Index Fund - Non Lending	\$ 3,168,091,047
17,536,383.970	NTGI - QM Collective Daily All Country World Ex US IMI Index Fund - Non Lending	2,441,888,859
4,365,833.090	UBS U.S. Equity Minimum Volatility Index Collective Fund	894,629,490
19,973,800.180	SSGA Russell Fundamental US Index Fund	358,689,504
1,996,607.750	UBS World (Ex-U.S.) Equity Minimum Volatility Index Collective Fund	296,311,165
19,973,173.530	SSGA Russell Fundamental Global Ex-US Index Fund	248,865,742
2,866,251.770	Lazard Emerging Markets Equity	46,032,003
2,028,760.000	Energy Transfer LP	26,799,920
902,156.000	Enterprise Products Partners	22,184,016
623,256.000	Samsung Electronics Co. Ltd.	21,616,784

Note: Space and cost restrictions make it impractical to print a detailed listing of the investment portfolio in this report; however, a portfolio listing is available and will be mailed upon request.

# 2018 Investment Results

	1 Year	3 Years	5 Years	10 Years
<b>TMRS Total Fund Return</b>	-2.11%	6.31%	5.03%	6.63%
Total Fund Active Weighted Benchmark	-2.46%	5.69%	4.43%	5.65%
<b>TMRS Core Fixed Income Return</b>	0.11%	2.33%	2.70%	3.73%
Fixed Income Benchmark	0.01%	2.06%	2.52%	2.91%
<b>TMRS Non-Core Fixed Income Return (1)</b>	2.55%	6.16%	—	—
Non-Core Fixed Income Benchmark (1)	2.65%	5.09%	—	—
<b>TMRS Real Return (2)</b>	-4.04%	3.61%	1.87%	—
Barclay's World Government Inflation-Linked Bond Index (2)	-3.81%	4.36%	2.43%	—
<b>TMRS Domestic Equity Return</b>	-6.22%	8.61%	7.54%	12.95%
Russell 3000 Daily Index	-5.24%	8.97%	7.91%	13.18%
<b>TMRS International Equity Return</b>	-14.54%	4.68%	1.45%	6.16%
International Equity Active Weighted Daily Index	-14.76%	4.39%	0.85%	5.71%
<b>TMRS Absolute Return (3)</b>	1.51%	5.01%	—	—
HFRI Fund of Funds Diversified Index (Month Lag) (3)	-0.99%	1.52%	—	—
<b>TMRS Real Estate Return (4)</b>	10.59%	12.41%	14.53%	—
NCREIF-ODCE 1 Quarter Lag (4)	8.67%	8.76%	10.71%	—
<b>TMRS Private Equity (5)</b>	39.18%	19.2%	—	—
Private Equity Benchmark (5)	39.18%	19.2%	—	—

(1) The inception date of this portfolio is 10/1/2014; therefore, five-year and ten-year returns are not provided. As of 12/31/2018, inception-to-date returns were 4.77% and 3.53% for TMRS' return and the benchmark, respectively.

(2) The inception date of this portfolio is 2/1/2011; therefore, ten-year returns are not provided. As of 12/31/2018, inception-to-date returns were 2.85% and 2.98% for TMRS' Real Return and the Barclays World Government Inflation-Linked Index, respectively. The policy benchmark for the Real Return asset class is the CPI + 4%; however, until further diversification within the asset class occurs, the portfolio benchmark for global inflation-linked bonds is used.

(3) The inception date of this portfolio is 8/1/2014; therefore, five-year and ten-year returns are not provided. As of 12/31/2018, inception-to-date returns were 4.43% and 1.47% for TMRS' return and the benchmark, respectively. Absolute return fund returns are one-month lagged.

(4) The inception date of this portfolio is 11/1/2011; therefore, ten-year returns are not provided. As of 12/31/2018, inception-to-date returns were 12.66% and 11.43% for TMRS' return and the benchmark, respectively. Privately held real estate fund returns are one-quarter lagged.

(5) The inception date of this portfolio is 12/1/2015; therefore, five-year and ten-year returns are not provided. As of 12/31/2018, inception-to-date returns were 18.63% for TMRS' return and the benchmark. Private equity fund returns are one-quarter lagged.

Note: Rates of return presented are calculated using a time-weighted rate of return methodology based upon market values, and are presented gross of investment management fees to the extent such information is available. Therefore, in some instances, a combination of gross and net returns is presented.

# 2018 Investment Results

Continued

**Barclays Capital U.S. Aggregate Bond Index** – This index covers the U.S. investment-grade fixed rate bond market, including government and corporate securities, agency mortgage pass-through securities, and asset-backed securities. To be included in the index, these securities must meet certain criteria. Major sectors are subdivided into more specific indices that are calculated and reported on a regular basis.

**Barclays Capital U.S. Long Government/Credit Index** – This index measures the investment return of all medium and larger public issues of U.S. Treasury, agency, investment-grade corporate, and investment-grade international dollar-denominated bonds with maturities longer than 10 years.

**Barclay’s World Government Inflation-Linked Bond Index** – This index includes only government issuers of inflation-linked bonds in the following major markets: Australia, Canada, France, Germany, Italy, Japan, Sweden, U.K., and the U.S.

**CPI** – The Consumer Price Index (CPI) is a measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food and medical care. The CPI is calculated by taking price changes for each item in the predetermined basket of goods and averaging them; the goods are weighted according to their importance. Changes in CPI are used to assess price changes associated with the cost of living.

**Fixed Income Benchmark** – The Fixed Income Benchmark is weighted by the average balance of fixed income funds and comprises 100% Barclays Capital U.S. Aggregate Bond Index beginning July 1, 2009, and 100% Barclays Capital Long Government/Credit Index prior to July 1, 2009.

**HFRI Fund of Funds Diversified Index** – The HFRI Monthly Indices (“HFRI”) are a series of benchmarks designed to reflect hedge fund industry performance by constructing equally weighted composites of constituent funds, as reported by the hedge fund managers listed within the HFR Database. The Diversified Fund of Funds Composite Index is composed of Fund of Funds which exhibit one or more of the following characteristics: invests in a variety of strategies among multiple managers; historical annual return and/or a standard deviation generally similar to the HFRI Fund of Fund Composite index; and demonstrates generally close performance and returns distribution correlation to the HFRI Fund of Fund Composite Index.

**International Equity Active Weighted Index** – The International Equity Active Weighted Index is weighted by the average balance of international equity funds applied to each corresponding benchmark (MSCI EAFE and MSCI All Country World - ex U.S. Investable market Index) return.

**MSCI EAFE Index** – This is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets, excluding the U.S. and Canada.

**MSCI All Country World – ex U.S. Investable Market Index** – This is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets, excluding the U.S.

**NCREIF-ODCE** – The National Council of Real Estate Fiduciaries - Open End Diversified Core Equity (NCREIF-ODCE) is a capitalization-weighted index of investment returns reporting on both a historical and current basis the results of 28 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s.

**Non-Core Fixed Income Benchmark** – This index is comprised of 50% Barclays Corporate High Yield Index, 25% JPM GBI-EM Global Diversified Index, and 25% JPM CEMBI Broad Diversified Index.

**Private Equity Benchmark** – This index is a weighted-average rollup of the underlying Manager benchmarks. For periods less than five years, or a full market cycle, the underlying Manager benchmark is equal to the actual return, net of all investment management fees. For periods five years and greater, the underlying Manager benchmark is the Russell 3000 + 300 basis points, net of all investment management fees.

**Russell 3000 Index** – This index measures the performance of 3,000 publicly held U.S. companies based on total market capitalization, which represents approximately 98% of the investable U.S. market.

**Total Fund Active Weighted Benchmark** – The Total Fund Active Weighted Benchmark is weighted by the average balance of all funds and comprises asset class composite benchmarks associated with each fund.

Presented below is the 5-Year Risk-Adjusted Return of the TMRS Total Return in comparison to that of the Total Fund Active Weighted Benchmark. The Sharpe Ratio is used, which measures excess return per unit of total risk. It is calculated by taking the excess return over the risk-free rate, divided by the standard deviation of the excess return; the higher the value, the better the historical risk-adjusted performance.

As of December 31, 2018	TMRS	Total Fund Active Weighted Benchmark
5-Year Risk-Adjusted Return	0.96	0.87

# Schedule of Investment Expenses

Schedule of Investment Expenses Year ended December 31, 2018	
<b>Internal operating expenses</b>	
Staff salaries	\$ 2,877,834
Payroll taxes	172,289
Employee benefits	746,245
Electronic investment services	1,402,395
Travel	169,350
Dues	5,915
Subscriptions/publications	28,500
Training	19,284
Other administrative expenses	6,526
<b>Total</b>	<b>5,428,338</b>
<b>Investment management and other external expenses</b>	
Investment management	38,219,365
Custodial services	1,953,797
Consulting	1,752,280
Legal	632,573
<b>Total</b>	<b>42,558,015</b>
<b>Total investment expenses</b>	<b>\$ 47,986,353</b>

Schedule of External Investment Fees For the Year Ended December 31, 2018					
Asset Class	Management Fees Paid From Trust	Management Fees Netted from NAV	Incentive Fees Netted from NAV	Total Fees	Fair Value at Dec. 31, 2018
Cash Equivalents	\$ —	\$ —	\$ —	\$ —	\$ 367,097,340
Core Fixed Income	3,945,017	—	—	3,945,017	4,395,798,673
Non-Core Fixed Income	4,074,220	22,832,404	13,293,151	40,199,775	5,107,537,216
Real Return	7,927,679	17,428,551	3,782,438	29,138,668	2,932,269,393
U.S. Equities	11,018,903	—	—	11,018,903	5,033,427,802
International Equities	11,253,546	—	—	11,253,546	4,327,243,555
Absolute Return	—	38,417,625	14,424,864	52,842,489	2,538,353,843
Private Equity	—	15,692,521	10,812,556	26,505,077	573,494,754
Real Estate	—	32,140,242	19,739,594	51,879,836	2,698,398,235
<b>Totals</b>	<b>\$ 38,219,365</b>	<b>\$ 126,511,343</b>	<b>\$ 62,052,603</b>	<b>\$ 226,783,311</b>	<b>\$ 27,973,620,811</b>

Note: Fees for private investments are not reflected in the System's financial statements, but are instead netted from the assets' fair values.





# Actuarial



# Actuary's Certification Letter (Pension Trust Fund)



P: 469.524.0000 | F: 469.524.0003 | [www.grsconsulting.com](http://www.grsconsulting.com)

May 30, 2019

Board of Trustees  
Texas Municipal Retirement System ("TMRS" or the "System")  
Austin, Texas

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, 2018.

Except for healthy post-retirement mortality and the mortality assumption used to develop the Annuity Purchase Rates (APRs), the current actuarial assumptions were developed from the actuarial investigation of the experience of TMRS over the four year period from December 31, 2010 to December 31, 2014. These assumptions were adopted in 2015 and were first used in the December 31, 2015 valuation. Healthy post-retirement mortality rates and the APRs used to annuitize members' account balances at retirement were updated based on the mortality experience investigation study dated December 31, 2013. In addition, in conjunction with these changes made for the December 31, 2013 valuation, the Board adopted a change in the actuarial cost method from Projected Unit Credit (PUC) to Entry Age Normal (EAN) and a one-time change to the amortization policy. The change to EAN was made to decrease the rate volatility compared to PUC and to align the assumptions and methods used for funding purposes and financial reporting. The assumptions and methods used in this valuation are summarized in the Actuarial Section of the Comprehensive Annual Financial Report (CAFR). 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 past and anticipated future experience of the System and comply with the parameters for disclosure as set forth in Governmental Accounting Standards Board Statement No. 67. We prepared all of the supporting schedules in the Actuarial Section.

The financing objective for each TMRS plan is to provide retirement, death and disability benefits for a member 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 employer's covered payroll. In TMRS, a city's actuarially determined contribution rate consists of two components: the employer normal cost contribution rate and the prior service contribution rate. Both rates are determined as a

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

Board of Trustees  
May 30, 2019  
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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 annuity increases.

The employer contribution rates for the municipalities participating in TMRS 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, 2019 and the actuarial assumptions and methodology adopted by the Board. The Board's current policy is that the contribution rates determined by a given actuarial valuation become effective one (1) year after the valuation date. For example, the rates determined by the December 31, 2018 actuarial valuation will be applicable for the calendar year beginning January 1, 2020 and ending December 31, 2020.

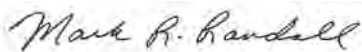
To test how well the financing objective for each plan is being achieved, annual actuarial valuations are made. These actuarial valuations recognize differences in the past year between the actuarial assumptions and the actual experience, and any benefit changes for each plan. A separate actuarial valuation for each participating municipality was made based upon the plan of benefits in effect as of April 1, 2019.

The TMRS staff supplied all of the data for retired, active and inactive members as of December 31, 2018. 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. The TMRS staff also supplied all of the asset data and financial information as of December 31, 2018. The amounts of the assets in the actuarial valuations agree with the amounts as reported by TMRS.

All of our work conforms with generally accepted actuarial principles and practices, and 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,



Mark R. Randall, MAAA, FCA, EA  
Chief Executive Officer



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



# Summary of Actuarial Assumptions (Pension Trust Fund)

**T**hese actuarial assumptions were developed primarily from the actuarial investigation of the experience of TMRS over the five-year period from January 1, 2010 to December 31, 2014. They were adopted in 2015 and first used in the December 31, 2015 actuarial valuation. The post-retirement mortality assumption for healthy annuitants and Annuity Purchase Rate (APRs) are based on the Mortality Experience Investigation Study covering 2009 through 2011 and dated December 31, 2013. In conjunction with these changes first used in the December 31, 2013 valuation, the System adopted the Entry Age Normal actuarial cost method and a one-time change to the amortization policy.

## I. Economic Assumptions

**A. General Inflation** — General inflation is assumed to be 2.50% per year.

**B. Discount/Crediting Rates**

1. System-wide Investment Return Assumption: 6.75% per year, compounded annually, composed of an assumed 2.50% inflation rate and a 4.25% net real rate of return. This rate represents the assumed return, net of all investment and administrative expenses. This is the discount rate used to value the liabilities of the individual employers.
2. Assumed discount/crediting rate for Supplemental Disability Benefits Fund and individual employee accounts: an annual rate of 5.00% for (1) accumulating prior service credit and updated service credit after the valuation date, (2) accumulating the employee current service balances, (3) determining the amount of the monthly benefit at future dates of retirement or disability, and (4) calculating the actuarial liability of the System-wide Supplemental Disability Benefits Fund.

**C. Overall Payroll Growth** — 3.00% per year, which is used to calculate the contribution rates for the retirement plan of each participating city as a level percentage of payroll. This represents the expected increase in total payroll. This increase rate is solely due to the effect of wage inflation on salaries, with no allowance for future membership growth. However, for cities with a decrease in the number of contributing members from 2005 to 2014, the payroll growth is decreased by half the annual percentage decrease in the count capped at a 1.0% decrease per year and rounded down to the nearest 0.1%.

# Summary of Actuarial Assumptions (Pension Trust Fund)

Continued

- D. Individual Salary Increases** — Salary increases are assumed to occur once a year, on January 1. Therefore, the pay used for the period year following the valuation date is equal to the reported pay for the prior year, increased by the salary increase assumption. Salaries are assumed to increase by the following graduated service-based scale.

Years of Service	Rate(%)
1	10.50%
2	7.50%
3	7.00%
4	6.50%
5	6.00%
6	5.50%
7	5.25%
8 - 10	4.75%
11	4.50%
12 - 13	4.25%
14 - 16	4.00%
17 - 24	3.75%
25+	3.50%

- E. Annuity Increases** — The Consumer Price Index (CPI) is assumed to be 2.50% per year prospectively. Annuity Increases, 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.

# 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 in comparison to the group as a whole. A further multiplier is applied depending on an employee's classification: 1) Fire – 63%, 2) Police – 88%, 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	0.2920	0.2623	0.2186	0.1932	0.1850	0.1673	0.1529	0.1243	0.1022	0.0816	
25	0.2653	0.2269	0.1812	0.1554	0.1429	0.1267	0.1148	0.1006	0.0926	0.0757	
30	0.2451	0.2052	0.1610	0.1322	0.1079	0.0998	0.0896	0.0774	0.0744	0.0621	
35	0.2505	0.2070	0.1577	0.1265	0.1050	0.0994	0.0848	0.0719	0.0621	0.0567	
40	0.2467	0.2060	0.1561	0.1213	0.1046	0.0943	0.0805	0.0710	0.0621	0.0577	
45	0.2268	0.1934	0.1556	0.1220	0.1053	0.0926	0.0813	0.0711	0.0605	0.0575	
50	0.2078	0.1731	0.1412	0.1149	0.1016	0.0887	0.0807	0.0716	0.0604	0.0578	
55	0.2003	0.1668	0.1265	0.1074	0.0861	0.0864	0.0771	0.0682	0.0609	0.0560	
60	0.1999	0.1542	0.1231	0.1060	0.0790	0.0868	0.0753	0.0683	0.0571	0.0549	
65	0.2000	0.1463	0.1238	0.1063	0.0803	0.0867	0.0757	0.0700	0.0547	0.0551	
70	0.2000	0.1477	0.1237	0.1063	0.0802	0.0867	0.0756	0.0697	0.0551	0.0551	

Females		Years of Service									
Age	0	1	2	3	4	5	6	7	8	9	
20	0.3030	0.2790	0.2221	0.2098	0.1997	0.2021	0.1536	0.1539	0.1564	0.1574	
25	0.2782	0.2409	0.2067	0.1962	0.1710	0.1663	0.1369	0.1352	0.1186	0.1125	
30	0.2574	0.2188	0.1949	0.1762	0.1347	0.1348	0.1276	0.1126	0.0973	0.0804	
35	0.2424	0.2118	0.1805	0.1438	0.1273	0.1238	0.1112	0.1085	0.1000	0.0769	
40	0.2244	0.1993	0.1614	0.1342	0.1295	0.1097	0.1023	0.0924	0.0834	0.0733	
45	0.2191	0.1853	0.1427	0.1337	0.1054	0.1017	0.0894	0.0784	0.0705	0.0725	
50	0.2201	0.1793	0.1347	0.1229	0.0886	0.0881	0.0823	0.0723	0.0675	0.0617	
55	0.2200	0.1738	0.1350	0.1199	0.0834	0.0806	0.0713	0.0705	0.0685	0.0551	
60	0.2200	0.1523	0.1350	0.1172	0.0798	0.0843	0.0646	0.0639	0.0429	0.0379	
65	0.2200	0.1431	0.1350	0.1150	0.0800	0.0857	0.0667	0.0593	0.0276	0.0280	
70	0.2200	0.1447	0.1350	0.1154	0.0800	0.0854	0.0664	0.0601	0.0303	0.0298	

# 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 in comparison to the group as a whole (same factor as above). A further multiplier is applied depending on an employee's classification: 1) Fire – 52%, 2) Police – 79%, or 3) Other – 115%. A sample of the base rates follows:

Years From Retirement	Males	Females
1	.0172	.0220
2	.0229	.0297
3	.0271	.0354
4	.0306	.0401
5	.0335	.0441
6	.0361	.0477
7	.0385	.0510
8	.0407	.0540
9	.0428	.0568
10	.0447	.0594
11	.0465	.0619
12	.0482	.0643
13	.0498	.0666
14	.0514	.0687
15	.0529	.0708

Termination rates end at first eligibility for retirement.

## B. Forfeiture Rates (withdrawal of member deposits from TMRS)

Rates for vested members vary by age and employer match, and they are expressed as a percentage of the termination rates shown in II(A). The withdrawal rates for cities with a 2-to-1 match are shown below. 4% is added to the rates for 1½-to-1 cities, and 8% is added for 1-to-1 cities.

Age	Percent of Terminating Employees Choosing to Take a Refund
25	41.2%
30	41.2%
35	41.2%
40	38.0%
45	32.6%
50	27.1%
55	21.7%

Forfeiture rates end at first eligibility for retirement.

# Summary of Actuarial Assumptions (Pension Trust Fund)

Continued

## C. Service Retirees and Beneficiary Mortality Rates

For calculating the actuarial liability and the retirement contribution rates, the Gender-distinct RP2000 Combined Healthy Mortality Tables with Blue Collar Adjustment are used with male rates multiplied by 109% and female rates multiplied by 103%. The rates are projected on a fully generational basis by scale BB to account for future mortality improvements.

## D. Disabled Annuitant Mortality Rates

For calculating the actuarial liability and the retirement contribution rates, the Gender-distinct RP2000 Combined Healthy Mortality Tables with Blue Collar Adjustment are used with male rates multiplied by 109% and female rates multiplied by 103% with a three-year set-forward for both males and females. In addition, a 3% minimum mortality rate will be applied to reflect the impairment for younger members who become disabled. The rates are projected on a fully generational basis by scale BB to account for future mortality improvements subject to the 3% floor.

## E. Annuity Purchase Rates

For determining the amount of the monthly benefit at the time of retirement for both healthy and disabled annuitants, the annuity purchase rates (APRs) for 2014 were based on the UP-1984 Table with an age setback of two years for retirees and eight years for beneficiaries. Beginning in 2027 the APRs will be based on a unisex blend of the RP-2000 Combined Healthy Mortality Tables with Blue Collar Adjustment for males and females with both male and female rates multiplied by 107.5% and projected on a fully generational basis with Scale BB. For members, a unisex blend of 70% of the males 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. From 2015 through 2026, the fully generational APRs will be phased in.

## F. Pre-Retirement Mortality Rates

For calculating the actuarial liability and the retirement contribution rates, the Gender-distinct RP2000 Combined Healthy Mortality Tables with Blue Collar Adjustment are used with male rates multiplied by 54.5% and female rates multiplied by 51.5%. The rates are projected on a fully generational basis by scale BB to account for future mortality improvements.

## G. Disability Rates

Age	Males & Females
20	0.000004
25	0.000025
30	0.000099
35	0.000259
40	0.000494
45	0.000804
50	0.001188
55	0.001647
60	0.002180
65	0.002787



# Summary of Actuarial Assumptions (Pension Trust Fund)

Continued

## H. Service Retirement Rates (applied to both active and inactive members)

The base table rates vary by gender, entry age group, and age. For retirees under the age of 62, the rates for active members are then multiplied by 2 factors based on 1) employee contribution rate and employer match and 2) if the city has a recurring COLA.

Age	Males			Females		
	Entry Age Groups			Entry Age Groups		
	Ages 32 and under	Ages 33-47	Ages 48 and over	Ages 32 and under	Ages 33-47	Ages 48 and over
40-44	0.06	-	-	0.06	-	-
45-49	0.06	-	-	0.06	-	-
50-52	0.08	-	-	0.08	-	-
53	0.08	0.10	-	0.08	0.10	-
54	0.08	0.10	-	0.11	0.10	-
55-59	0.14	0.10	-	0.11	0.10	-
60	0.20	0.15	0.10	0.14	0.15	0.10
61	0.25	0.30	0.20	0.28	0.26	0.20
62	0.32	0.25	0.12	0.28	0.17	0.12
63	0.32	0.23	0.12	0.28	0.17	0.12
64	0.32	0.35	0.20	0.28	0.22	0.20
65	0.32	0.32	0.20	0.28	0.27	0.20
66-69	0.22	0.22	0.17	0.22	0.22	0.17
70-74	0.20	0.22	0.25	0.22	0.22	0.25
75 and over	1.00	1.00	1.00	1.00	1.00	1.00

Note: For cities without a 20-year/any age retirement provision, the active employee rates for entry ages 32 and under are loaded by 20% for ages below 60.

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: 1.00

# Summary of Actuarial Assumptions (Pension Trust Fund)

Continued

No Recurring COLA: 0.90

## 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. Offsetting unrecognized gains and losses are immediately recognized, with the shortest remaining bases recognized first and the net remaining bases continue to be recognized on their original timeframe. The actuarial value of assets is further adjusted by 33% of any difference between the initial value and a 15% corridor around the market value of assets, if necessary.
- B. Actuarial Cost Method** — The actuarial cost method being used is known as the 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 an employee is the contribution rate which, if applied to a member's compensation throughout their period of anticipated covered service with the municipality, would be sufficient to meet all benefits payable on their behalf. The normal cost is calculated using an entry age based on benefit service with the current city. If a member has additional time-only vesting service through service with other TMRS cities or other public agencies, they retain this for determination of benefit eligibility and decrement rates. The salary-weighted average of these rates is the total normal cost rate. The unfunded actuarial accrued liability reflects the difference between the portion of projected benefits attributable to service credited prior to the valuation date and assets already accumulated. The unfunded actuarial accrued liability is paid off in accordance with a specified amortization procedure outlined in C below.
- C. Amortization Policy** — For “underfunded” cities with twenty or more employees, the amortization as of the valuation date is a level percentage of payroll over a closed period using the process of “laddering.” Bases that existed prior to this valuation continue to be amortized on their original schedule. Beginning January 1, 2016, all new experience losses are amortized over individual periods of not more than 25 years. Previously, some cities amortized their losses over a 30-year period. New gains (including lump sum contributions) are offset against and amortized over the same period as the current largest outstanding loss base for the specific city, which in turn decreases contribution rate volatility.

Once a city reaches an overfunded status, all prior non-ad hoc bases are erased and the surplus for overfunded cities is amortized over a 25-year open period.

Ad hoc benefit enhancements are amortized over individual periods using a level dollar policy. The period will be based on the minimum of 15 years or the current life expectancy of the covered group.

For the December 31, 2013 actuarial valuation, there was a one-time change in the amortization policy for underfunded cities implemented in conjunction with the changes to the assumptions and cost method to minimize rate volatility associated with these changes. An initial ARC was developed using the methodology described above. For cities with a decrease in the rate compared to the rate calculated prior to changes, the amortization period for all non-ad hoc bases was shortened enough to keep the rates stable (if possible). Cities with an increase of more than 0.50% were allowed to extend the amortization periods for non-ad hoc bases up to 30 years to keep the full contribution rate from increasing. For cities with an increase of 0.50% or less, the amortization periods for all non-ad hoc bases could be extended to 25 years to keep the rate

from increasing. The amortization period calculated in the prior steps was then rounded up to the nearest integer to calculate the final full contribution rate.

- D. Small City Methodology** — For cities with fewer than twenty employees, more conservative methods and assumptions are used. First, lower termination rates are used for smaller cities, with maximum multipliers of 75% for employers with less than 6 members, 85% for employers with 6 to 10 members, 100% for employers with 11 to 15 members, and 115% for employers with less than 100 members.

There is also a load on the life expectancy for employers with less than 15 active members. The life expectancy will be loaded by decreasing the mortality rates by 1% for every active member less than 15. For example, an employer with 5 active members will have the baseline mortality tables multiplied by 90% (10 active members times 1%).

For underfunded plans, the maximum amortization period for amortizing gains and losses is decreased from current levels by one year for each active member less than the 20-member threshold. For example, an employer with 8 active members and a current maximum amortization period of 25 will use  $(25 - (20 - 8)) = 13$  year amortization period for the gain or loss in that year's valuation. Under this policy, the lowest amortization period will be  $25 - (20 - 1) = 6$  years. Once the plan is overfunded, the amortization period will revert back to the standard 25 years.

## IV. Other Assumptions

1. Valuation payroll (used for determining the amortization contribution rate): An exponential average of the actual salaries paid during the prior fiscal years, with 33% weight given to the most recent year and 67% weight given to the expected payroll for the previous fiscal year, moved forward with one year's payroll growth rate and adjusted for changes in population.
2. Individual salaries used to project benefits: For members with more than three years of service, actual salaries from the past three fiscal years are used to determine the USC final average salary as of the valuation date. For future salaries, this three-year average is projected forward with two years of salary scale to create the salary for the year following the valuation. This value is then projected with normal salary scales.
3. Timing of benefit payments: Benefit payments are assumed to be made in the middle of the month. Although TMRS benefits are paid at the end of the month, eligibility for that payment is determined at the beginning of the month. A middle of month payment approximates the impact of the combination of eligibility determination and actual payment timing.
4. Percent married: 100% of the employees are assumed to be married.
5. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
6. Optional Forms: Healthy members are assumed to choose a life only benefit when they retire. Disabled members are assumed to select a 50% Joint and Survivor option when they retire.
7. Percent electing annuity on death (when eligible): For vested members not eligible for retirement, 75% of the spouses of male members and 70% of the spouses of female members are assumed to commence an immediate benefit in lieu of a deferred annuity or a refund. Those not electing an immediate benefit are assumed to take a refund. All of the spouses of married participants who die after becoming eligible for a retirement benefit are assumed to elect an annuity that commences immediately.

# Summary of Actuarial Assumptions (Pension Trust Fund)

Continued

8. Partial Lump Sum utilization: It is assumed that each member at retirement will withdraw 40% of his/her eligible account balance.
9. Inactive Population: All non-vested members of a city are assumed to take an immediate refund if they are not contributing members in another city. Vested members not contributing in another city are assumed to take a deferred retirement benefit, except for those who have terminated in the past 12 months for whom one year of forfeiture probability is assumed. The forfeiture rates for inactive members of a city who are contributing members in another city are equal to the probability of termination multiplied by the forfeiture rates shown in II(A) and II(B) respectively. These rates are applied each year until retirement eligibility. Once a member is retirement eligible, he or she is assumed to commence benefits based on the service retirement rates shown in II(H).
10. There will be no recoveries once disabled.
11. No surviving spouse will remarry and there will be no children's benefit.
12. Decrement timing: Decrements of all types are assumed to occur mid-year.
13. Eligibility testing: Eligibility for benefits is determined based upon the age at nearest birthday and service at nearest whole year on the date the decrement is assumed to occur.
14. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
15. Incidence of contributions: Contributions are assumed to be received continuously throughout the year based on the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
16. Benefit service: All members are assumed to accrue one year of eligibility service each year.
17. The decrement rates for service-related decrements are based on total TMRS eligibility service.

## Definitions (Pension Trust Fund)

- 1. Actuarial gain (loss)** — A measure of the difference between actual experience and that expected based upon 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 a given date (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 employer'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 municipality 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 an employee 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 employers 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.
- 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.

## Definitions (Pension Trust Fund)

Continued

- 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 increases in monthly benefit payments to annuitants — also referred to as Annuity Increases (AI) or cost-of-living adjustments (COLAs).
- 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 individual 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 individual'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 Employers and Active Members (Pension Trust Fund)

		Contributing Members			
Valuation Date	Number of Active Cities	Number	Annual Payroll	Average Annual Pay	Percent Increase In Average
12/31/2009	833	102,419	\$ 4,769,041,587	\$ 47,014	3.2 %
12/31/2010	837	101,240	4,797,903,131	47,117	0.2
12/31/2011	842	101,151	4,853,135,055	47,958	1.8
12/31/2012	844	101,827	4,961,671,305	48,889	1.9
12/31/2013	844	102,870	5,142,446,602	50,244	2.8
12/31/2014	853	104,019	5,374,536,634	51,956	3.4
12/31/2015	859	106,894	5,683,846,845	53,898	3.7
12/31/2016	864	108,891	5,884,788,962	54,543	1.2
12/31/2017	875	110,208	6,188,490,343	56,490	3.6
12/31/2018	879	111,851	6,444,177,866	58,040	2.7

As of December 31, 2018, there were seven cities with no contributing members and no employer contributions due. In addition, one privatized hospital had no contributing members, but paid a dollar contribution amount to TMRS that is calculated annually by the actuary. Thus there were 887 total cities, with 879 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)

Year Ended	Added to Rolls		Removed from Rolls		End of Year			
	Number of Accounts	Annual Benefit	Number of Accounts	Annual Benefit	Number of Accounts	Annual Benefit	% Increase in Annual Benefit	Average Annual Benefit
12/31/2009	2,750	\$ 43,466,305	633	\$ 7,356,347	38,980	\$ 613,433,543	6.3 %	\$ 15,737
12/31/2010	3,193	61,116,748	714	8,750,654	41,459	665,799,637	8.5	16,059
12/31/2011	3,390	58,001,287	782	4,399,586	44,067	719,401,338	8.1	16,325
12/31/2012	3,545	72,731,553	710	8,898,201	46,902	783,234,690	8.9	16,699
12/31/2013	3,890	72,535,316	823	11,113,993	49,969	844,656,013	7.8	16,904
12/31/2014	4,319	92,940,036	833	11,533,222	53,455	926,062,827	9.6	17,324
12/31/2015	3,916	76,796,719	890	12,357,106	56,481	990,502,440	7.0	17,537
12/31/2016	4,073	82,664,225	943	13,821,624	59,611	1,059,345,041	7.0	17,771
12/31/2017	4,198	95,727,539	1,033	14,068,157	62,776	1,141,004,423	7.7	18,176
12/31/2018	4,448	98,030,847	1,173	16,549,004	66,051	1,222,486,266	7.1	18,508

The number of retirement accounts is greater than the number of people who retired, as some retirees worked for more than one city in TMRS and retired with a separate benefit from each city. As of December 31, 2018, there were 7,704 more retirement accounts than people who retired. In addition, this schedule excludes 929 retirees with a “cash-out” in lieu of a monthly benefit. These individuals are still entitled to supplemental death benefits.

The annual benefit is 12 times the amount payable in January following the valuation date, including any annuity increase, if applicable.



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

**(Amounts in Millions of Dollars)**

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 Percentage of Covered Payroll (4) / (5)	City Contributions	Average City Rate (7) / (5)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2009	\$ 16,305.7	\$ 21,525.1	75.8 %	\$ 5,219.4	\$ 4,769.0	109.4 %	\$ 641.7	13.5 %
2010*	16,986.0	20,481.5	82.9	3,495.5	4,797.9	72.9	679.3	14.2
2011	18,347.0	21,563.3	85.1	3,216.4	4,853.3	66.3	703.8	14.5
2012	19,784.8	22,683.8	87.2	2,899.0	4,961.7	58.4	664.4	13.4
2013**	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***	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	4,119.3	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

\* Actuarial assumptions were modified with the December 31, 2010 valuation, along with a change in the funding structure of TMRS that resulted from the passage of Senate Bill 350 (combined separate employee, employer, and annuity funds into one Benefit Accumulation Fund). This more efficient funding structure reduced year-to-year volatility in city contribution rates, resulted in lower contribution rates for most cities, and improved actuarial funding ratios for most cities. The most significant assumption changes from the prior valuation involved altering the structure of the retirement assumption to reflect a city's plan provisions and generally decreasing the turnover and forfeiture assumptions.

\*\* The healthy annuitant mortality assumption and Annuity Purchase Rates were modified with the December 31, 2013 valuation, along with a change in the actuarial cost method from Projected Unit Credit to Entry Age Normal.

\*\*\* Actuarial assumptions were modified as of the December 31, 2015 valuation.

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

Columns (1) and (2) on the chart also include the assets and liabilities of the Supplemental Disability Benefits Fund, and for the year 2009, also include the assets and liabilities of the former Current Service Annuity Reserve Fund.

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

(Amounts in Millions of Dollars)							
Valuation Date	Actuarial Liabilities for			Net Assets Available for Benefits	Portion of Actuarial Liabilities Covered by Net Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
	Current Member Contributions	Retirees and Beneficiaries	Current Members (Employer-Financed Portion)				
12/31/2009	\$ 4,203.9	\$ 7,941.6	\$ 9,379.6	\$ 16,305.7	100.0 %	100.0 %	44.4 %
12/31/2010	4,403.9	7,598.6	8,479.0	16,986.0	100.0	100.0	58.8
12/31/2011	4,589.5	8,188.0	8,785.9	18,347.0	100.0	100.0	63.4
12/31/2012	4,775.2	8,832.0	9,076.6	19,784.8	100.0	100.0	68.1
12/31/2013	4,956.7	9,861.5	10,502.5	21,293.6	100.0	100.0	61.7
12/31/2014	5,088.2	10,768.5	10,790.8	22,861.0	100.0	100.0	64.9
12/31/2015	5,312.3	11,615.5	11,451.1	24,347.7	100.0	100.0	64.8
12/31/2016	5,530.0	12,478.4	11,954.9	25,844.0	100.0	100.0	65.5
12/31/2017	5,747.3	13,412.0	12,652.3	27,813.6	100.0	100.0	68.4
12/31/2018	5,986.1	14,403.1	13,342.3	29,385.1	100.0	100.0	67.4

The financing objective for each TMRS plan is to finance long-term benefit promises 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 in concept and soundly executed, each plan will pay all promised benefits when due — the ultimate test of financial soundness. Testing for level contribution rates is the long-term test.

Presented above is one short-term means of checking a system's progress under its funding program. The present assets are compared with: (1) current member contributions on deposit; (2) the liabilities for future benefits to present retired lives; 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 retired lives (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 the plans of 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 city participating in TMRS 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 | F: 469.524.0003 | [www.grsconsulting.com](http://www.grsconsulting.com)

May 30, 2019

Board of Trustees  
Texas Municipal Retirement System ("TMRS" or the "System")  
Austin, Texas

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 municipality can elect to cover just active members, or active and retired members. A supplemental death contribution rate is determined annually for each participating municipality 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 employer for their reporting under GASB Statement No 75.

The employer contribution rates for the municipalities 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, 2019 and the actuarial assumptions and methodology adopted by the Board. The Board's current policy is that the contribution rates determined by a given actuarial valuation become effective one (1) year after the valuation date. For example, the rates determined by the December 31, 2018 actuarial valuation will be applicable for the calendar year beginning January 1, 2020 and ending December 31, 2020.

The TMRS staff supplied all of the member data and annuitant data for active and retired members as of December 31, 2018. 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.

We prepared all of the supporting schedules in the Actuarial Section. All of our work conforms with generally accepted actuarial principles and practices, and 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.

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

Board of Trustees  
May 30, 2019  
Page 2

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,



Mark R. Randall, MAAA, FCA, EA  
Chief Executive Officer



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



# Summary of Actuarial Assumptions (Supplemental Death Benefits Fund)

**T**he actuarial assumptions used in the calculation of the funding valuation for the Supplemental Death Benefits Fund (SDBF) are based on the Mortality Experience Investigation Study covering 2009 through 2011, and dated December 31, 2013. These assumptions were first used in the December 31, 2013 valuation. For purposes of developing the SDBF contribution rates, no other demographic assumptions are applicable.

## 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** — For the purpose of calculating an employer'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** — There were no changes since the prior valuation.

## II. Benefit Provisions

- A. Participation in SDBF** — Participation in the SDBF is optional and may be rescinded. Each municipality that chooses to participate can elect to cover just active members, or both active and retired members.
- B. Benefit Eligibility** — Benefits are payable if the death occurs during the period in which a municipality has elected to participate in the SDBF. For retirees who had service with multiple TMRS employers, benefits are payable only if the municipality from which the member retired participates in the SDBF when the death occurs.
- C. Benefit Amount** — 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.

# Summary of Actuarial Assumptions (Supplemental Death Benefits Fund)

Continued

Actuarial Valuation Date	Number of Member Municipalities	Active Members	Retiree Members	Inactive Members	Total Members	Annual Payroll	Average Annual Pay	Percent Increase in Average Annual Pay
12/31/2013	734	68,669	22,986	7,233	98,888	\$ 3,363,325,456	\$ 48,979	2.1 %
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

Actuarial Valuation Date	Average Contribution Rates	
	Active Coverage	Retiree Coverage
12/31/2013	0.16	0.05
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

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





# Statistical



# Statistical Section Overview

Information in this section is presented consistent with the provisions of GASB Statement No. 44, *Economic Condition Reporting: The Statistical Section*. The objective of the Statistical Section is to provide CAFR users with additional historical perspective, context, and detail to assist in using the information in the Financial Statements, Notes to Financial Statements, and Required Supplementary Information to understand and assess a government's economic condition.

The Schedule of Changes in Fiduciary Net Position is presented for the ten-year period ending December 31, 2018. Trend information presented in this schedule is extracted from the Statement of Changes in Fiduciary Net Position located in the Financial Section of this report.

The Schedule of Average Benefit Payments over the last ten years provides information on the average monthly benefit and number of retired members categorized in five-year increments of credited service.

The Schedule of Retired Members by Type of Benefit presents data about the major plan options selected by current retired members. Numbers of retired members are organized by ranges of benefit levels and by major plan features or options.

For multiple-employer plans, a Schedule of Principal Participating Employers for the current period and nine years prior is required. This schedule shows each employer's number of covered employees and each employer's percentage of total covered employees for the top ten participating employers.

The Plan Provisions For Participating Municipalities presents a summary of provisions in effect as of December 31, 2018 for each participating municipality.

# Schedule of Changes in Fiduciary Net Position

## Pension Trust Fund • Schedule of Changes in Fiduciary Net Position • Last Ten Fiscal Years

	For the Year Ended December 31									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Additions to net position by source</b>										
Employer contributions	\$ 641,747,222	\$ 679,270,766	\$ 703,778,739	\$ 664,852,429	\$ 681,469,222	\$ 719,904,310	\$ 751,708,718	\$ 768,252,338	\$ 838,363,116	\$ 881,531,535
Member contributions	313,475,829	315,643,308	318,986,168	327,363,043	339,906,924	355,413,935	376,103,505	389,919,391	410,527,770	427,808,238
Net investment income (loss)	1,483,308,952	1,496,328,020	434,765,653	1,863,280,541	1,974,888,477	1,285,344,179	35,011,429	1,602,187,418	3,497,133,077	(858,122,961)
Other	—	32,109	24,289	13,962	17,961	29,491	3,900	25,956	47,105	18,501
<b>Total additions to net position</b>	2,438,532,003	2,491,274,203	1,457,554,849	2,855,509,975	2,996,282,584	2,360,691,915	1,162,827,552	2,760,385,103	4,746,071,068	451,235,313
<b>Deductions from plan net position by type</b>										
Benefit payments	580,156,863	619,236,211	675,504,722	729,636,554	794,458,670	861,959,010	937,848,878	1,005,485,139	1,077,485,262	1,159,702,957
Disability retirements	15,394,675	15,469,400	15,923,372	16,049,912	16,469,149	16,873,699	16,775,098	17,019,188	17,005,751	17,060,303
Partial lump sum distributions	90,140,135	108,761,489	118,889,171	119,250,573	135,568,703	149,739,411	148,161,053	139,559,781	156,915,521	158,490,461
<b>Total benefit payments</b>	685,691,673	743,467,100	810,317,265	864,937,039	946,496,522	1,028,572,120	1,102,785,029	1,162,064,108	1,251,406,534	1,335,253,721
Refunds	43,917,853	48,385,106	55,050,211	56,756,327	56,856,706	58,174,242	55,742,784	52,935,465	58,344,609	63,195,632
Withdrawal/ineligibility	1,389,635	656,521	616,077	1,086,396	870,968	548,881	1,232,485	1,246,130	1,061,303	1,060,228
<b>Total refunds</b>	45,307,488	49,041,627	55,666,288	57,842,723	57,727,674	58,723,123	56,975,269	54,181,595	59,405,912	64,255,860
Administrative expenses	10,509,869	10,634,956	11,439,672	12,114,375	12,821,721	13,419,567	21,325,422	18,095,315	18,124,164	16,585,866
Income allocation to Supplemental Death Benefits Fund	1,304,784	1,312,293	1,331,570	1,310,740	1,202,065	1,132,803	1,057,178	1,000,892	965,614	885,044
Other	4,317	—	—	—	—	—	—	—	—	—
<b>Total deductions from net position</b>	742,818,131	804,455,976	878,754,795	936,204,877	1,018,247,982	1,101,847,613	1,182,142,898	1,235,341,910	1,329,902,224	1,416,980,491
<b>Net increase/(decrease) in net position</b>	\$ 1,695,713,872	\$ 1,686,818,227	\$ 578,800,054	\$ 1,919,305,098	\$ 1,978,034,602	\$ 1,258,844,302	\$ (19,315,346)	\$ 1,525,043,193	\$ 3,416,168,844	\$ (965,745,178)

# Schedule of Changes in Fiduciary Net Position

Continued

## Supplemental Death Benefits Fund Schedule of Changes in Fiduciary Net Position • Last Ten Fiscal Years

	For the Year Ended December 31									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Additions to net position by source</b>										
Employer contributions	\$ 7,066,638	\$ 6,465,510	\$ 6,978,502	\$ 5,248,375	\$ 5,673,095	\$ 6,126,769	\$ 6,507,371	\$ 6,983,501	\$ 7,286,154	\$ 7,758,059
Income allocation from Pension Trust Fund	1,304,784	1,312,293	1,331,570	1,310,740	1,202,065	1,132,803	1,057,178	1,000,892	965,614	885,044
<b>Total additions to net position</b>	8,371,422	7,777,803	8,310,072	6,559,115	6,875,160	7,259,572	7,564,549	7,984,393	8,251,768	8,643,103
<b>Deductions from net position by type</b>										
Supplemental death benefits - active	4,103,254	4,230,688	4,063,675	5,001,559	4,462,634	4,164,899	4,964,631	3,759,923	5,177,812	4,912,215
Supplemental death benefits - retiree	3,223,750	3,652,500	3,562,500	3,618,125	4,187,500	4,285,094	4,190,144	4,726,250	4,771,250	5,355,144
<b>Total deductions from net position</b>	7,327,004	7,883,188	7,626,175	8,619,684	8,650,134	8,449,993	9,154,775	8,486,173	9,949,062	10,267,359
<b>Net increase/(decrease) in net position</b>	\$ 1,044,418	\$ (105,385)	\$ 683,897	\$ (2,060,569)	\$ (1,774,974)	\$ (1,190,421)	\$ (1,590,226)	\$ (501,780)	\$ (1,697,294)	\$ (1,624,256)

# Schedule of Average Benefit Payments

## Retirement Effective Dates • Jan. 1, 2009 — Dec. 31, 2018

For Year Ended December 31:	Years Credited Service						
	0-<5	5-<10	10-<15	15-<20	20-<25	25-<30	30 +
<b>2009</b>							
Average Monthly Benefit	\$155.89	\$365.77	\$699.60	\$1,117.62	\$1,399.44	\$2,101.03	\$3,256.80
Number of Active Retirees	68	244	301	303	574	438	382
<b>2010</b>							
Average Monthly Benefit	\$179.95	\$374.28	\$775.66	\$1,086.18	\$1,414.72	\$2,086.73	\$3,402.20
Number of Active Retirees	87	296	365	321	614	483	527
<b>2011</b>							
Average Monthly Benefit	\$192.08	\$364.59	\$773.29	\$1,144.72	\$1,438.07	\$2,191.75	\$3,634.16
Number of Active Retirees	85	337	337	335	658	519	540
<b>2012</b>							
Average Monthly Benefit	\$209.76	\$370.74	\$837.42	\$1,253.33	\$1,525.77	\$2,267.20	\$3,598.25
Number of Active Retirees	102	353	406	319	641	488	634
<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

\* Excludes 85 retirees in 2018 electing a "cash out" in lieu of a monthly benefit.

Note: The above schedule does not include information about the average final average salary. Such information is not relevant to TMRS as the annuity payment is not based on the individual's final salary.

# Schedule of Retired Members by Type of Benefit

Amount of Monthly Benefit	Annuity Recipients		Type of Benefit		Life Only		Survivor Lifetime Options				Guaranteed Term Options		
	Retirees	Beneficiary	Service	Disability	Retiree	Alternate	100%	75%	50%	2/3	5 yrs	10 yrs	15 yrs
\$ 0 - 100	824	139	887	76	214	159	403	22	68	9	27	18	43
\$ 101- 500	8,730	1,942	10,066	606	2,988	856	3,618	356	1,175	165	419	324	771
\$ 501-1,000	10,012	1,944	11,482	474	3,091	392	4,024	592	1,683	235	627	436	876
\$ 1,001-1,500	8,528	1,303	9,618	213	2,542	173	3,277	557	1,497	253	530	307	695
\$ 1,501- 2,000	6,121	726	6,772	75	1,755	63	2,139	469	1,116	211	389	242	463
\$ 2,001- 2,500	4,453	484	4,896	41	1,313	36	1,459	357	823	174	303	152	320
\$ 2,501- 3,000	3,190	304	3,485	9	905	18	995	264	657	124	227	105	199
\$ 3,001- 3,500	2,425	207	2,628	4	699	10	695	233	525	87	176	75	132
\$ 3,501- 4,000	1,708	118	1,821	5	514	6	438	164	363	63	127	69	82
\$ 4,001 & Over	4,965	224	5,188	1	1,480	7	1,094	686	1,128	119	298	144	233
Subtotals	50,956	7,391	56,843	1,504	15,501	1,720	18,142	3,700	9,035	1,440	3,123	1,872	3,814
<b>Totals</b>		<b>58,347</b>		<b>58,347</b>									<b>58,347</b>

Note: Excluded from this schedule are 929 retirees who retired with a "cash out" in lieu of a monthly annuity, and who remain eligible for the retiree supplemental death benefit.

**Retiree Life Only** — A retirement annuity payable monthly as long as the retiree lives. Upon the retiree's death, all payments will cease even though the retiree may have received only one monthly payment.\*

**Retiree Life – 100% Survivor Benefit** — A retirement annuity payable throughout the life of the retiree. Upon the death of the retiree, the same amount is payable throughout the life of the designated beneficiary. If the beneficiary dies before the retiree, the monthly payments the retiree will receive after that will be increased to the amount that would have been payable throughout the retiree's lifetime only (Retiree Life Only).\*

**Retiree Life – 75% Survivor Benefit** — A retirement annuity payable throughout the life of the retiree. Upon the death of the retiree, 3/4 the amount is payable throughout the life of the designated beneficiary. If the beneficiary dies before the retiree, the monthly payments the retiree will receive after that will be increased to the amount that would have been payable throughout the retiree's lifetime only (Retiree Life Only).\*

**Retiree Life – 50% Survivor Benefit** — A retirement annuity payable throughout the life of the retiree. Upon the death of the retiree, 1/2 the amount is payable throughout the life of the designated beneficiary. If the beneficiary dies before the retiree, the monthly payments the retiree will receive after that will be increased to the amount that would have been payable throughout the retiree's lifetime only (Retiree Life Only).\*

**Retiree Life – 2/3 Survivor Benefit (no longer available)** — A retirement annuity payable throughout the life of the retiree. Upon the death of the retiree, 2/3 the amount is payable throughout the life of the designated beneficiary. If the beneficiary dies before the retiree, the monthly payments the retiree will receive after that will be increased to the amount that would have been payable throughout the retiree's lifetime only (Retiree Life Only).\*

**Retiree Life – 5 Years Guaranteed** — A retirement annuity payable throughout the life of the retiree. If the retiree dies before the expiration of a 5-year period after the date of retirement, the designated beneficiary, or if one does not exist, the retiree's estate, will receive the same amount for the balance of the 5-year period, and then all payments cease.\*

**Retiree Life – 10 Years Guaranteed** — A retirement annuity payable throughout the life of the retiree. If the retiree dies before the expiration of a 10-year period after the date of retirement, the designated beneficiary, or if one does not exist, the retiree's estate, will receive the same amount for the balance of the 10-year period, and then all payments cease.\*

**Retiree Life – 15 Years Guaranteed** — A retirement annuity payable throughout the life of the retiree. If the retiree dies before the expiration of a 15-year period after the date of retirement, the designated beneficiary, or if one does not exist, the retiree's estate, will receive the same amount for the balance of the 15-year period, and then all payments cease.\*

\*If all eligible recipients die before receiving benefits at least equal to the member deposits and interest in the retiree's account at the time of retirement, the remaining balance will be paid to the retiree's estate or beneficiary. If the retiree elected to receive a partial lump sum distribution, the amount of that distribution will reduce the member deposits and interest used for this calculation.

# Schedule of Principal Participating Employers

## Pension Trust Fund Current Year and Nine Years Ago

Participating Municipality	2018			2009		
	Rank	Current Employee Accounts	Percentage of Total	Rank	Current Employee Accounts	Percentage of Total
San Antonio	1	7,028	6.3 %	1	6,225	6.1 %
Arlington	2	2,551	2.3	3	2,469	2.4
Corpus Christi	3	2,419	2.2	2	2,649	2.6
Plano	4	2,410	2.2	4	2,180	2.1
Laredo	5	2,136	1.9	6	1,956	1.9
Garland	6	2,037	1.8	5	1,972	1.9
Amarillo	7	1,831	1.6	7	1,676	1.6
Lubbock	8	1,758	1.6	8	1,649	1.6
San Antonio Water System	9	1,709	1.5	9	1,648	1.6
McAllen	10	1,584	1.4	12	1,453	1.4
All other		86,388	77.2		78,542	76.8
<b>Total</b>		<b>111,851</b>	<b>100.0 %</b>		<b>102,419</b>	<b>100.0 %</b>

## Supplemental Death Benefits Fund Current Year and Nine Years Ago

Participating Municipality	2018					2009				
	Rank	Current Employee Accounts	Annuitant Accounts	Total Accounts	Percentage of Total	Rank	Current Employee Accounts	Annuitant Accounts	Total Accounts	Percentage of Total
Arlington	1	2,551	1,444	3,995	3.8 %	1	2,469	943	3,412	3.9 %
Garland	2	2,037	1,090	3,127	3.0	2	1,972	735	2,707	3.1
Laredo	3	2,136	826	2,962	2.8	3	1,956	519	2,475	2.9
Irving	4	1,486	808	2,294	2.2	4	1,474	489	1,963	2.3
Grand Prairie	5	1,337	585	1,922	1.8	7	1,121	326	1,447	1.7
Denton	6	1,265	504	1,769	1.7	10	1,035	266	1,301	1.5
Abilene	7	1,026	689	1,715	1.6	5	989	501	1,490	1.7
Brownsville	8	1,144	466	1,610	1.5	9	1,102	262	1,364	1.6
Pasadena	9	1,020	578	1,598	1.5	6	1,007	471	1,478	1.7
Killeen	10	956	439	1,395	1.3	11	895	236	1,131	1.3
All Other		60,077	23,024	83,101	78.8		54,199	13,502	67,701	78.3
<b>Total</b>		<b>75,035</b>	<b>30,453</b>	<b>105,488</b>	<b>100.0 %</b>		<b>68,219</b>	<b>18,250</b>	<b>86,469</b>	<b>100.0 %</b>

# Plan Provisions For Participating Municipalities

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Abernathy	5%	1-1	100 T	1995R	30	1995R		
Abilene	7%	2-1	100 T	2004R	50	2012	1-90	
Addison	7%	2-1	100 T	1994R	70	2015	12-88	11-09-88
Agua Dulce	5%	1-1						
Alamo	5%	1.5-1	100 T	2007R	70	2007R		12-17-02
Alamo Heights	7%	2-1	75	2018R	70	2018R	1-99	
Alba	5%	1-1						
Albany	5%	1.5-1	100 T	2014R			9-98	
Aledo	7%	2-1						
Alice	5%	2-1	75 T	2018R	30	2018R		
Allen	7%	2-1	100 T	1997R	70	1997R	1-88	5-11-04
Alpine	5%	2-1	100	1988	70	1988		
Alto	7%	2-1	100 T	1998R	70	1998R		
Alton	7%	2-1	100 T	2000R	70	2000R		8-15-00
Alvarado	6%	2-1						
Alvin	7%	2-1	100 T	2008R	70	2008R	10-87	10-01-92
Alvord	5%	2-1	100	2008				
Amarillo	7%	2-1	100	2013R	70	2010	1-86	9-19-06
Amherst	5%	1-1	100	2001R	70	2001R		
Anahuac	5%	2-1	100 T	2002R	70	2002R	10-06	
Andrews	7%	2-1	100 T	1997R	70	1997R	10-02	
Angleton	6%	2-1	100 T	2002R	70	2002R	1-04	8-17-93
Anna	7%	2-1	100 T	2007R	70	2007R		
Annetta	7%	2-1						
Anson	5%	1-1						6-27-16
Anthony	5%	1-1						
Aransas Pass	6%	2-1	100 T	2002R	70	2002R	10-89	
Arcola	5%	1-1						
Archer City	5%	1.5-1						
Argyle	7%	2-1	100 T	2003R	70	2003R	12-02	6-28-05
Arlington	7%	2-1	100 T	1998R	50	2011R	1-89	3-13-01
Arp	5%	1-1	100	1994R				
Aspermont	5%	1-1	100	1989				
Athens	7%	2-1	100 T	2005R	30	2019R	6-84	12-26-89
Atlanta	5%	1-1	100 T	1994R	70	1999R		
Aubrey	7%	2-1	100	1990				
Avinger	7%	1-1						
Azle	6%	2-1	100 T	2001R	70	2001R		
Baird	5%	1-1						
Balch Springs	7%	2-1	100 T	2003R	70	2003R	4-99	



# Plan Provisions For Participating Municipalities

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	7-02	X	X	7.50%	Abernathy	00004
5 yrs	5 yrs/age 60, 20 yrs/any age	1-95	X	X	REMOVED	Abilene	00006
5 yrs	5 yrs/age 60, 20 yrs/any age	5-92	X	X	15.50%	Addison	00007
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Agua Dulce	00008
5 yrs	5 yrs/age 60, 20 yrs/any age	1-03	X	X	9.50%	Alamo	00010
5 yrs	5 yrs/age 60, 20 yrs/any age	1-99	X	X	REMOVED	Alamo Heights	00012
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Alba	00014
10 yrs	10 yrs/age 60, 25 yrs/any age	9-98	X	X	9.50%	Albany	00016
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Aledo	00017
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98			11.50%	Alice	00018
5 yrs	5 yrs/age 60, 20 yrs/any age	3-96	X	X	REMOVED	Allen	00019
5 yrs	5 yrs/age 60, 20 yrs/any age	4-99	X	X	11.50%	Alpine	00020
5 yrs	5 yrs/age 60, 25 yrs/any age	1-09	X	X	13.50%	Alto	00022
5 yrs	5 yrs/age 60, 25 yrs/any age	4-99	X	X	13.50%	Alton	00023
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Alvarado	00024
5 yrs	5 yrs/age 60, 20 yrs/any age	5-92	X	X	REMOVED	Alvin	00026
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Alvord	00028
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92			REMOVED	Amarillo	00030
5 yrs	5 yrs/age 60, 20 yrs/any age	9-00			REMOVED	Amherst	00032
5 yrs	5 yrs/age 60, 25 yrs/any age	10-06	X	X	REMOVED	Anahuac	00034
10 yrs	10 yrs/age 60, 25 yrs/any age				REMOVED	Andrews	00036
5 yrs	5 yrs/age 60, 20 yrs/any age	4-17	X	X	REMOVED	Angleton	00038
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Anna	00040
5 yrs	5 yrs/age 60, 20 yrs/any age	1-18	X	X	REMOVED	Annetta	00041
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	7.50%	Anson	00044
5 yrs	5 yrs/age 60, 20 yrs/any age	12-05	X	X	REMOVED	Anthony	00045
10 yrs	10 yrs/age 60, 20 yrs/any age	10-91	X	X	REMOVED	Aransas Pass	00048
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Arcola	00049
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Archer City	00050
5 yrs	5 yrs/age 60, 20 yrs/any age	12-02			REMOVED	Argyle	00051
5 yrs	5 yrs/age 60, 20 yrs/any age	1-93	X	X	REMOVED	Arlington	00052
5 yrs	5 yrs/age 60, 25 yrs/any age	1-92	X	X	7.50%	Arp	00054
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Aspermont	00060
5 yrs	5 yrs/age 60, 20 yrs/any age	1-00	X	X	REMOVED	Athens	00062
5 yrs	5 yrs/age 60, 20 yrs/any age	5-09	X	X	7.50%	Atlanta	00064
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	13.50%	Aubrey	00066
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Avinger	00074
5 yrs	5 yrs/age 60, 20 yrs/any age	5-96	X	X	12.50%	Azle	00075
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Baird	00077
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X	X	REMOVED	Balch Springs	00078

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Balcones Heights	7%	2-1	100 T	2019R	70	2018	11-93	2-14-94
Ballinger	5%	1-1	100 T	1993R	70	1993R		3-05-07
Balmorea	5%	1-1						
Bandera	7%	2-1	100 T	2000R	70	2000R		
Bangs	7%	2-1	100 T	1998R	70	1998R		
Bartlett	7%	1.5-1	100 T	2014R	70	2014R		
Bartonville	7%	2-1	100 T	2012	70	2012		12-20-05
Bastrop	6%	2-1	100 T	2004R	70	2004R		
Bay City	5%	2-1	100 T	1992R	70	1992R	1-84	
Bayou Vista	5%	1.5-1						
Baytown	7%	2-1	100 T	1993R	70	1993R	11-84	1-28-88
Beaumont	7%	2-1	100 T	2012R	70	2012R	1-89	9-12-95
Bedford	7%	2-1						
Bee Cave	7%	2-1	100 T	2001R				
Beeville	5%	2-1	30	1991				
Bellaire	7%	2-1	100 T	2001R	70	2001R		
Bellmead	6%	2-1	100 T	1998R	70	1998R		
Bells	5%	1-1	100	1993				
Bellville	5%	2-1	100 T	1996R	70	1996R	1-90	9-19-94
Belton	6%	2-1	50 T	2019R	30	2019R	9-91	
Benbrook	7%	2-1	100 T	2000R	70	2000R		
Berryville	7%	1-1						
Bertram	5%	1-1					10-01	
Big Lake	7%	2-1	100 T	2014R	70	2014R		
Big Sandy	5%	1-1						
Big Spring	7%	2-1	100 T	1999R	70	1999R	1-90	7-10-01
Bishop	5%	1-1	100 T	2010R	70	2010R		
Blanco	7%	2-1						
Blooming Grove	5%	2-1	100 T	2002R				
Blossom	5%	2-1	100 T	1996R				
Blue Mound	5%	2-1						
Blue Ridge	7%	1-1						
Boerne	7%	2-1	100 T	2006R	70	2006R	12-02	11-26-02
Bogata	5%	1-1						
Bonham	6%	1.5-1	100 T	2008R	50	1976		5-06-96
Booker	5%	1.5-1	100	1992R	70	1992R		
Borger	7%	2-1	100 T	1998R	70	2005R	5-99	1-04-88
Bovina	5%	1-1	50	1990				
Bowie	5%	2-1	100	1992R	70	1992R	10-00	
Boyd	7%	1.5-1						

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	10-95	X	X	REMOVED	Balcones Heights	00079
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	7.50%	Ballinger	00080
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Balmorea	00082
5 yrs	5 yrs/age 60, 25 yrs/any age	1-98	X	X	REMOVED	Bandera	00083
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Bangs	00084
5 yrs	5 yrs/age 60, 20 yrs/any age	9-18	X	X	11.50%	Bartlett	00090
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Bartonville	00091
5 yrs	5 yrs/age 60, 25 yrs/any age	10-01	X	X	12.50%	Bastrop	00092
5 yrs	5 yrs/age 60, 25 yrs/any age	12-05	X	X	11.50%	Bay City	00094
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Bayou Vista	00093
5 yrs	5 yrs/age 60, 20 yrs/any age	1-96	X	X	REMOVED	Baytown	00096
5 yrs	5 yrs/age 60, 20 yrs/any age	11-96			REMOVED	Beaumont	00098
5 yrs	5 yrs/age 60, 20 yrs/any age				REMOVED	Bedford	00100
5 yrs	5 yrs/age 60, 25 yrs/any age	10-99	X	X	13.50%	Bee Cave	00101
5 yrs	5 yrs/age 60, 25 yrs/any age	3-12			11.50%	Beeville	00102
5 yrs	5 yrs/age 60, 20 yrs/any age	3-00	X	X	REMOVED	Bellaire	00106
5 yrs	5 yrs/age 60, 25 yrs/any age	12-11	X	X	12.50%	Bellmead	00109
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Bells	00110
5 yrs	5 yrs/age 60, 20 yrs/any age	7-92	X	X	REMOVED	Bellville	00112
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X	X	12.50%	Belton	00114
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Benbrook	00118
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Berryville	00121
5 yrs	5 yrs/age 60, 20 yrs/any age	10-01			7.50%	Bertram	00123
10 yrs	10 yrs/age 60, 20 yrs/any age	9-97	X	X	REMOVED	Big Lake	00124
5 yrs	5 yrs/age 60, 20 yrs/any age	2-09	X	X	7.50%	Big Sandy	00126
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Big Spring	00128
5 yrs	5 yrs/age 60, 20 yrs/any age	8-07	X	X	11.50%	Bishop	00132
5 yrs	5 yrs/age 60, 20 yrs/any age	10-05	X	X	13.50%	Blanco	00134
5 yrs	5 yrs/age 60, 20 yrs/any age	1-17	X	X	11.50%	Blooming Grove	00140
5 yrs	5 yrs/age 60, 25 yrs/any age	11-00	X	X	11.50%	Blossom	00142
5 yrs	5 yrs/age 60, 20 yrs/any age	12-10	X	X	REMOVED	Blue Mound	00143
5 yrs	5 yrs/age 60, 20 yrs/any age	5-02	X	X	REMOVED	Blue Ridge	00144
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Boerne	00148
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	7.50%	Bogata	00150
5 yrs	5 yrs/age 60, 20 yrs/any age	6-96			10.50%	Bonham	00152
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Booker	00154
10 yrs	10 yrs/age 60, 20 yrs/any age	1-98	X	X	REMOVED	Borger	00156
5 yrs	5 yrs/age 60, 25 yrs/any age	12-09	X	X	7.50%	Bovina	00158
5 yrs	5 yrs/age 60, 20 yrs/any age	5-02	X	X	11.50%	Bowie	00160
5 yrs	5 yrs/age 60, 25 yrs/any age				11.50%	Boyd	00162

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Brady	6%	2-1	100 T	2012R	70	2012R		
Brazoria	5%	2-1	100 T	1997R	70	1997R		
Breckenridge	5%	1.5-1	100 T	1993R	70	1993R		8-01-17
Bremond	7%	2-1	100	2014				
Brenham	5%	2-1	100 T	2017R	70	2019		
Bridge City	7%	2-1	100 T	2004R	70	2004R		12-04-90
Bridgeport	7%	2-1	100 T	2007R	70	2007R	11-03	
Bronte	6%	1-1	50 T	2012R				
Brookshire	6%	2-1	100	2019R	30	2019R	10-87	
Brownfield	5%	2-1	100 T	1992R	50	1992R	1-82	12-01-05
Brownsboro	5%	1-1						
Brownsville	7%	2-1	100 T	1996R	70	1996R	10-89	
Brownsville PUB	7%	2-1	100 T	2016R	70	2016R	1-87	
Brownwood	7%	2-1	100 T	1994R	70	1994R		2-27-01
Brownwood Health Dept.	7%	2-1	70 T	1994R				
Brownwood Public Library	5%	2-1						
Bruceville-Eddy	7%	1.5-1	100 T	2000R				
Bryan	7%	2-1	100 T	2002R	50	2013R	12-89	8-23-05
Bryson	5%	1.5-1						
Buda	7%	2-1	100 T	2007R	70	2007R		
Buffalo	5%	2-1						2-14-00
Bullard	5%	2-1	100	2009R				8-11-05
Bulverde	6%	2-1	100 T	2005R				
Bunker Hill Village	7%	2-1	100 T	1998R	70	2009		
Burkburnett	7%	2-1	100 T	2003R	30	2018	9-89	8-21-89
Burleson	7%	2-1	100 T	1996R	70	1996R	1-90	
Burnet	7%	2-1	100 T	1997R	70	1997R	6-90	
Burton	5%	1-1						
Cactus	7%	2-1						
Caddo Mills	6%	2-1						
Caldwell	5%	2-1	100 T	2000R	50	2000R	2-04	
Calvert	5%	1-1						
Cameron	5%	1.5-1	100 T	2013R	70	2013R	5-93	
Campbell	5%	1-1						
Canadian	7%	2-1	100 T	2001R	70	2001R		
Caney City	5%	1-1						
Canton	7%	2-1	100 T	2011R	30	2011R	10-92	
Canyon	7%	2-1	100 T	1992R	70	1992R	9-87	8-23-99
Carmine	5%	1-1	100 T	1993R	70	1993R		
Carrizo Springs	5%	1.5-1	100 T	1992R	70	1992R		

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 25 yrs/any age	7-01	X	X	12.50%	Brady	00166
5 yrs	5 yrs/age 60, 25 yrs/any age	5-03	X	X	11.50%	Brazoria	00170
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Breckenridge	00172
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Bremond	00174
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98			11.50%	Brenham	00176
10 yrs	10 yrs/age 60, 20 yrs/any age	3-95	X	X	REMOVED	Bridge City	00177
5 yrs	5 yrs/age 60, 20 yrs/any age	11-03	X	X	REMOVED	Bridgeport	00178
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Bronte	00180
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	12.50%	Brookshire	00182
10 yrs	10 yrs/age 60, 20 yrs/any age	1-06			REMOVED	Brownfield	00184
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Brownsboro	00186
5 yrs	5 yrs/age 60, 20 yrs/any age	2-99	X	X	REMOVED	Brownsville	10188
5 yrs	5 yrs/age 60, 20 yrs/any age	6-96	X	X	REMOVED	Brownsville PUB	20188
5 yrs	5 yrs/age 60, 20 yrs/any age	4-98			REMOVED	Brownwood	10190
5 yrs	5 yrs/age 60, 20 yrs/any age	4-09			REMOVED	Brownwood Health Dept.	30190
5 yrs	5 yrs/age 60, 20 yrs/any age	11-15			11.50%	Brownwood Public Library	20190
5 yrs	5 yrs/age 60, 25 yrs/any age	10-17	X	X	11.50%	Bruceville-Eddy	00195
5 yrs	5 yrs/age 60, 20 yrs/any age	8-95			REMOVED	Bryan	00192
5 yrs	5 yrs/age 60, 25 yrs/any age				9.50%	Bryson	00193
5 yrs	5 yrs/age 60, 20 yrs/any age	4-03	X	X	REMOVED	Buda	00194
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	11.50%	Buffalo	00196
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	11.50%	Bullard	00198
5 yrs	5 yrs/age 60, 20 yrs/any age	12-06	X	X	REMOVED	Bulverde	00203
5 yrs	5 yrs/age 60, 25 yrs/any age	10-94	X	X	REMOVED	Bunker Hill Village	00199
10 yrs	10 yrs/age 60, 20 yrs/any age	1-03	X	X	REMOVED	Burkburnett	00200
5 yrs	5 yrs/age 60, 20 yrs/any age	1-94	X	X	REMOVED	Burleson	00202
10 yrs	10 yrs/age 60, 20 yrs/any age	6-00	X	X	13.50%	Burnet	00204
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Burton	00206
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	13.50%	Cactus	00207
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Caddo Mills	00208
10 yrs	10 yrs/age 60, 20 yrs/any age		X	X	11.50%	Caldwell	00210
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Calvert	00212
5 yrs	5 yrs/age 60, 20 yrs/any age	1-95	X	X	REMOVED	Cameron	00214
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Campbell	00216
10 yrs	10 yrs/age 60, 20 yrs/any age	10-96	X	X	REMOVED	Canadian	00220
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Caney City	00221
5 yrs	5 yrs/age 60, 20 yrs/any age	8-97	X	X	REMOVED	Canton	00222
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Canyon	00224
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Carmine	00227
10 yrs	10 yrs/age 60, 25 yrs/any age		X	X	9.50%	Carrizo Springs	00228

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Carrollton	7%	2-1	75	2009R	50	2010R		
Carthage	7%	2-1	100 T	1992R	70	1993R	2-01	5-08-06
Castle Hills	7%	1.5-1	100 T	2001R	70	2001R	1-91	
Castroville	5%	2-1	100	1994R	70	1994R		
Cedar Hill	7%	2-1	100 T	2000R	50	2013R	1-91	10-13-92
Cedar Park	7%	2-1	100 T	2002R	50	2018R		
Celeste	5%	1-1						
Celina	7%	2-1						
Center	7%	2-1	100 T	2008R	70	2008R		
Centerville	7%	2-1	50 T	2015				
Chandler	5%	1-1						
Charlotte	3%	2-1	100 T	2003R	70	2003R		
Chester	6%	2-1	100	1988	70	1988		
Chico	5%	1-1						
Childress	7%	2-1	100 T	2005R	70	2005R	10-96	
Chillicothe	5%	1-1						
Chireno	7%	2-1	100	2000R	70	2000R	7-89	
Christine	5%	1-1						
Cibolo	7%	2-1	100 T	2005R	70	2005R		
Cisco	5%	2-1	100 T	2018R	50	2018R	8-97	3-13-03
Clarendon	7%	1-1						
Clarksville	5%	2-1	100	1992R	70	1992R		4-18-00
Clarksville City	7%	2-1	100	2015				
Clear Lake Shores	6%	2-1	100 T	2008R	70	2008R		
Cleburne	7%	2-1	50	2017R	50	2017R	1-83	5-27-14
Cleveland	5%	2-1	100 T	2008R	70	2008R		
Clifton	5%	1-1	100 T	1992R				
Clute	7%	2-1	100 T	1992R	70	1992R	11-02	7-22-04
Clyde	7%	2-1	100 T	2002R	70	2002R		
Coahoma	5%	2-1	100 T	1992R			6-91	
Cockrell Hill	7%	2-1	100 T	1996R	70	1996R	6-97	12-18-01
Coleman	7%	2-1	100 T	2003R	50	2003R		
College Station	7%	2-1	75 T	2013R	50	2013R	1-89	6-08-06
Colleyville	7%	2-1	100 T	2003R	70	2011	1-86	
Collinsville	6%	2-1						
Colmesneil	5%	2-1	50	2018				
Colorado City	6%	2-1	100 T	2002R	70	2002R	9-93	
Columbus	6%	2-1	100 T	2008R	70	2008R		
Comanche	5%	1-1	100 T	1992R	70	1992R		
Combes	5%	1-1						

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	12-91			REMOVED	Carrollton	00230
5 yrs	5 yrs/age 60, 20 yrs/any age	4-98	X	X	REMOVED	Carthage	00232
5 yrs	5 yrs/age 60, 20 yrs/any age	2-98	X	X	REMOVED	Castle Hills	00231
5 yrs	5 yrs/age 60, 20 yrs/any age	4-97	X	X	11.50%	Castroville	00234
5 yrs	5 yrs/age 60, 20 yrs/any age	4-96	X	X	REMOVED	Cedar Hill	00238
5 yrs	5 yrs/age 60, 20 yrs/any age	6-94	X	X	REMOVED	Cedar Park	00239
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Celeste	00240
5 yrs	5 yrs/age 60, 20 yrs/any age	6-17	X	X	13.50%	Celina	00242
5 yrs	5 yrs/age 60, 20 yrs/any age	5-06	X	X	REMOVED	Center	00244
5 yrs	5 yrs/age 60, 25 yrs/any age				REMOVED	Centerville	00246
5 yrs	5 yrs/age 60, 20 yrs/any age	10-08	X	X	REMOVED	Chandler	00247
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Charlotte	00248
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Chester	00249
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Chico	00245
5 yrs	5 yrs/age 60, 20 yrs/any age	10-96	X	X	REMOVED	Childress	00250
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Chillicothe	00251
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Chireno	00253
5 yrs	5 yrs/age 60, 25 yrs/any age				REMOVED	Christine	00254
5 yrs	5 yrs/age 60, 20 yrs/any age	6-98	X	X	13.50%	Cibolo	00255
5 yrs	5 yrs/age 60, 20 yrs/any age		X		11.50%	Cisco	00256
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	Clarendon	00258
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	11.50%	Clarksville	00259
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Clarksville City	00260
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	12.50%	Clear Lake Shores	00263
5 yrs	5 yrs/age 60, 20 yrs/any age	9-05	X	X	REMOVED	Cleburne	00264
5 yrs	5 yrs/age 60, 20 yrs/any age	8-96	X	X	11.50%	Cleveland	00266
5 yrs	5 yrs/age 60, 25 yrs/any age	5-96	X	X	7.50%	Clifton	00268
5 yrs	5 yrs/age 60, 20 yrs/any age	10-91	X	X	13.50%	Clute	00271
5 yrs	5 yrs/age 60, 20 yrs/any age	2-12	X	X	13.50%	Clyde	00272
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	11.50%	Coahoma	00274
5 yrs	5 yrs/age 60, 20 yrs/any age	3-98	X	X	13.50%	Cockrell Hill	00276
5 yrs	5 yrs/age 60, 25 yrs/any age	1-98			REMOVED	Coleman	00278
5 yrs	5 yrs/age 60, 20 yrs/any age	6-95			REMOVED	College Station	00280
5 yrs	5 yrs/age 60, 20 yrs/any age	10-97	X	X	13.50%	Colleyville	00281
10 yrs	10 yrs/age 60, 25 yrs/any age		X	X	12.50%	Collinsville	00282
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Colmesneil	00283
5 yrs	5 yrs/age 60, 25 yrs/any age	10-91	X	X	12.50%	Colorado City	00284
5 yrs	5 yrs/age 60, 25 yrs/any age	7-98	X	X	REMOVED	Columbus	00286
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Comanche	00288
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Combes	00289

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>Ⓞ</sup> (%)	Year Effective		
Commerce	5%	2-1	100 T	1993R	70	1993R		
Conroe	7%	2-1	100 T	1992R	70	1992R		6-02-88
Converse	7%	2-1	100 T	1996R	70	1996R	5-94	
Cooper	6%	1-1	100	2008R				
Coppell	7%	2-1	100 T	1995R	70	1995R	5-93	12-14-04
Copper Canyon	7%	2-1						
Copperas Cove	6%	2-1	100 T	2002R	70	2002R	11-93	10-05-93
Corinth	7%	2-1	100 T	2007R	70	2007R		3-02-06
Corpus Christi	7%	2-1	100	2019R	70	2019R	1-85	
Corrigan	5%	2-1						
Corsicana	7%	2-1	50 T	2011R	50	2011R	10-89	
Cotulla	5%	2-1	80 T	2014R				
Crandall	7%	2-1	100 T	2001R	70	2008R		
Covington	7%	1-1						
Crane	7%	2-1	100 T	1992R	40	1992R		7-15-87
Crawford	5%	1-1						
Crockett	5%	2-1	100 T	2001R	70	2001R	10-89	
Crosbyton	6%	1.5-1	100	1992R	40	1982		
Cross Plains	5%	1.5-1	100	1992R	70	1992R		
Cross Roads	7%	2-1						
Crowell	5%	1-1						
Crowley	6%	2-1	100 T	2002R	70	2002R	1-96	1-20-94
Crystal Beach <sup>Ⓞ</sup>	5%	2-1						
Crystal City	7%	2-1						
Cuero	5%	2-1	100 T	2010R	70	2010R	1-99	
Cumby	5%	1-1						
Daingerfield	5%	1.5-1	100 T	2000R	70	2000R		
Daisetta	5%	1-1						
Dalhart	5%	2-1	100	1992R	70	1985		
Dalworthington Gardens	7%	2-1	100 T	2007R	70	2007R	11-05	
Danbury	5%	2-1						
Darrouzett	7%	1-1						
Dayton	7%	2-1	100 T	2011	70	2011		
De Leon	5%	1-1						
Decatur	7%	2-1	100 T	2006R	70	2006R	3-01	
Deer Park	7%	2-1	100 T	2003R	50	2003R	2-82	
Dekalb	7%	1-1	100	2016R				
Del Rio	5%	2-1					10-05	
Dell City	5%	2-1	100 T	1999R				
Denison	7%	2-1	100 T	1994R	30	2012R		9-19-88



# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	1-94	X	X	11.50%	Commerce	00290
5 yrs	5 yrs/age 60, 20 yrs/any age	1-02			REMOVED	Conroe	00294
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X	X	REMOVED	Converse	00295
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	8.50%	Cooper	00298
5 yrs	5 yrs/age 60, 20 yrs/any age	5-93	X	X	REMOVED	Coppell	00299
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Copper Canyon	00297
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Copperas Cove	00300
5 yrs	5 yrs/age 60, 20 yrs/any age	5-96	X	X	REMOVED	Corinth	00301
5 yrs	5 yrs/age 60, 20 yrs/any age	11-95			REMOVED	Corpus Christi	00302
5 yrs	5 yrs/age 60, 25 yrs/any age	11-14	X	X	11.50%	Corrigan	00304
5 yrs	5 yrs/age 60, 20 yrs/any age	1-96	X	X	REMOVED	Corsicana	00306
5 yrs	5 yrs/age 60, 25 yrs/any age	8-04	X	X	11.50%	Cotulla	00308
5 yrs	5 yrs/age 60, 20 yrs/any age	6-07	X	X	13.50%	Crandall	00310
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Covington	00311
5 yrs	5 yrs/age 60, 20 yrs/any age	12-95	X	X	15.50%	Crane	00312
5 yrs	5 yrs/age 60, 25 yrs/any age				7.50%	Crawford	00314
5 yrs	5 yrs/age 60, 20 yrs/any age	8-97	X	X	11.50%	Crockett	00316
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	10.50%	Crosbyton	00318
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Cross Plains	00320
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Cross Roads	00321
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Crowell	00322
5 yrs	5 yrs/age 60, 20 yrs/any age	1-94	X	X	12.50%	Crowley	00323
5 yrs	5 yrs/age 60, 28 yrs/any age <sup>4</sup>		X	X	11.50%	Crystal Beach <sup>9</sup>	00325
10 yrs	10 yrs/age 60, 25 yrs/any age	7-00			13.50%	Crystal City	00324
5 yrs	5 yrs/age 60, 20 yrs/any age	7-96	X	X	11.50%	Cuero	00326
5 yrs	5 yrs/age 60, 20 yrs/any age	12-15	X	X	REMOVED	Cumby	00328
5 yrs	5 yrs/age 60, 20 yrs/any age	9-97			9.50%	Daingerfield	00332
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Daisetta	00334
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	11.50%	Dalhart	00336
5 yrs	5 yrs/age 60, 20 yrs/any age	1-07	X	X	REMOVED	Dalworthington Gardens	00339
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Danbury	00340
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Darrouzett	00341
5 yrs	5 yrs/age 60, 20 yrs/any age	1-99	X	X	13.50%	Dayton	00344
5 yrs	5 yrs/age 60, 25 yrs/any age	5-98	X	X	7.50%	De Leon	00352
5 yrs	5 yrs/age 60, 20 yrs/any age	11-99	X	X	REMOVED	Decatur	00346
5 yrs	5 yrs/age 60, 20 yrs/any age	8-97	X	X	REMOVED	Deer Park	00348
5 yrs	5 yrs/age 60, 25 yrs/any age	10-91	X	X	9.50%	Dekalb	00350
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Del Rio	00354
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Dell City	00353
5 yrs	5 yrs/age 60, 20 yrs/any age	10-93			REMOVED	Denison	00356

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Denton	7%	2-1	100 T	2000R	70	2000R	1-94	9-04-01
Denver City	5%	2-1	100	1999R	70	1999R	11-86	11-03-86
Deport	5%	1-1						
DeSoto	7%	2-1	100 T	2015R	30	2015R	1-90	
Devine	6%	1.5-1	100 T	2017R	70	2017R		
Diboll	7%	2-1	100 T	1995R	70	1995R	1-90	
Dickens	7%	1-1						
Dickinson	7%	2-1	100 T	2004R			10-89	
Dilley	6%	2-1	100 T	2019R				
Dimmitt	6%	2-1	100 T	1998R	30	1998R		
Donna	7%	2-1	100 T	2019R	70	2015		10-21-15
Double Oak	6%	2-1					2-10	
Driscoll	5%	1-1						
Dripping Springs	6%	2-1						
Dublin	7%	2-1	100 T	2012R	70	2012R		
Dumas	5%	1.5-1	100 T	1997R	70	1997R	6-97	10-07-91
Duncanville	7%	2-1	100 T	2017	50	2017	9-90	9-04-01
Eagle Lake	6%	2-1	100 T	1999R	70	1999R		
Eagle Pass	5%	2-1	100 T	1998R	70	1998R	3-97	2-04-97
Early	5%	1.5-1	100 T	2007R				
Earth	5%	1-1	100	2007				
East Bernard	5%	1.5-1						
East Mountain	7%	2-1	100 T	2007R	70	2007R		
East Tawakoni	7%	2-1						
Eastland	5%	2-1	100 T	2004R	70	2004R		
Ector	5%	1-1						
Eden	5%	1-1	100	1992R	70	1992R		6-12-84
Edgewood	5%	1-1						
Edinburg	7%	2-1	100 T	2003R	70	2003R	1-85	
Edna	5%	2-1	100 T	2008R	70	2008R	10-89	11-05-92
El Campo	6%	1.5-1	100 T	2014R	70	2014R	10-90	11-07-77
Eldorado	6%	1.5-1	100 T	2009R	70	2009R	12-02	
Electra	5%	1-1						5-11-99
Elgin	7%	2-1	100 T	2016R	70	2016R	11-89	10-01-83
Elkhart	5%	1-1	100 T	2003R	70	2003R		
Elmendorf	5%	1-1						
Emory	7%	2-1						
Ennis	7%	2-1	100 T	1998R	70	2001R		
Euless	7%	2-1	100 T	1992R	70	1992R	9-82	1-12-93
Eustace	7%	2-1	100	2016				

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	1-94	X	X	REMOVED	Denton	00358
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Denver City	00360
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Deport	00362
5 yrs	5 yrs/age 60, 20 yrs/any age	12-91	X	X	REMOVED	DeSoto	10366
5 yrs	5 yrs/age 60, 20 yrs/any age	1-04	X	X	REMOVED	Devine	00370
5 yrs	5 yrs/age 60, 20 yrs/any age	1-99	X	X	REMOVED	Diboll	00371
5 yrs	5 yrs/age 60, 20 yrs/any age	12-07	X	X	REMOVED	Dickens	00372
5 yrs	5 yrs/age 60, 20 yrs/any age	4-97	X	X	13.50%	Dickinson	00373
5 yrs	5 yrs/age 60, 20 yrs/any age	2-95	X	X	12.50%	Dilley	00374
5 yrs	5 yrs/age 60, 20 yrs/any age	6-00			12.50%	Dimmitt	00376
5 yrs	5 yrs/age 60, 20 yrs/any age				13.50%	Donna	00382
5 yrs	5 yrs/age 60, 20 yrs/any age	2-10	X	X	REMOVED	Double Oak	00379
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Driscoll	00385
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Dripping Springs	00383
5 yrs	5 yrs/age 60, 20 yrs/any age	9-03	X	X	REMOVED	Dublin	00384
5 yrs	5 yrs/age 60, 20 yrs/any age	10-08	X	X	9.50%	Dumas	00386
5 yrs	5 yrs/age 60, 20 yrs/any age	11-95			REMOVED	Duncanville	00388
10 yrs	10 yrs/age 60, 25 yrs/any age	6-99	X	X	12.50%	Eagle Lake	00394
5 yrs	5 yrs/age 60, 20 yrs/any age	9-98	X	X	11.50%	Eagle Pass	00396
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	Early	00397
5 yrs	5 yrs/age 60, 20 yrs/any age	1-07	X	X	REMOVED	Earth	00399
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	East Bernard	00393
5 yrs	5 yrs/age 60, 20 yrs/any age	11-02	X	X	REMOVED	East Mountain	00401
10 yrs	10 yrs/age 60, 25 yrs/any age		X	X	REMOVED	East Tawakoni	00395
5 yrs	5 yrs/age 60, 20 yrs/any age	2-96	X	X	11.50%	Eastland	00398
5 yrs	5 yrs/age 60, 25 yrs/any age	11-08	X	X	REMOVED	Ector	00402
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	7.50%	Eden	00406
5 yrs	5 yrs/age 60, 20 yrs/any age	11-03	X	X	REMOVED	Edgewood	00408
10 yrs	10 yrs/age 60, 20 yrs/any age	1-94	X	X	REMOVED	Edinburg	00410
10 yrs	10 yrs/age 60, 20 yrs/any age	1-99	X	X	REMOVED	Edna	00412
5 yrs	5 yrs/age 60, 20 yrs/any age	4-94	X	X	REMOVED	El Campo	00414
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	10.50%	Eldorado	00416
5 yrs	5 yrs/age 60, 20 yrs/any age	8-95	X	X	7.50%	Electra	00418
5 yrs	5 yrs/age 60, 20 yrs/any age	5-94	X	X	REMOVED	Elgin	00420
5 yrs	5 yrs/age 60, 25 yrs/any age				REMOVED	Elkhart	00422
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Elmendorf	00427
5 yrs	5 yrs/age 60, 20 yrs/any age	3-97	X	X	13.50%	Emory	00432
5 yrs	5 yrs/age 60, 20 yrs/any age	1-93	X	X	REMOVED	Ennis	00436
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92			REMOVED	Eules	00439
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	13.50%	Eustace	00440

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Everman	5%	2-1	100 T	2000R	70	2000R		1-01-91
Fair Oaks Ranch	7%	2-1	100 T	2002R	70	2008R		
Fairfield	7%	2-1	100 T	2017R			10-88	
Fairview	7%	2-1	100 T	2011R				
Falfurrias	5%	1.5-1						
Falls City	6%	1-1	100 T	2001R	70	2001R		
Farmers Branch	7%	2-1	100 T	1996R	70	1996R	10-01	9-15-15
Farmersville	5%	2-1	100 T	2005R	70	2005R		7-14-92
Farwell	6%	2-1	100 T	2003R	70	2003R		
Fate	7%	2-1	100 T	2010R				
Fayetteville	5%	1-1						
Ferris	5%	1.5-1	100 T	2000R	70	2000R		
Flatonina	7%	2-1	100	2003R	70	2003R		
Florence	5%	2-1						
Floresville	5%	2-1	100	2007R	70	2007R	10-02	3-22-07
Flower Mound	7%	2-1	100 T	2008R	70	2007	1-95	11-06-00
Floydada	5%	2-1	100 T	2016R	70	2016R	10-99	
Forest Hill	7%	2-1	100 T	2007R	70	2007R	1-92	10-03-06
Forney	7%	2-1	100 T	2007R	70	2007R		
Fort Stockton	5%	2-1	100 T	2009R	70	2009R	1-90	
Franklin	5%	2-1						
Frankston	5%	1-1						
Fredericksburg	5%	2-1	100 T	2019R	50	2019R	5-90	
Freeport	7%	2-1	100 T	2003R	70	2003R	7-90	11-17-80
Freer	5%	1-1	100 T	2005R	70	2005R		
Friendswood	7%	2-1	100 T	1999R	50	2012R	2-85	1-21-85
Friona	5%	2-1	100 T	2005R	70	2005R		
Frisco	7%	2-1	100 T	2000R	70	2000R	6-02	12-06-11
Fritch	7%	2-1	100 T	2005R	10	1981	2-86	
Frost	5%	1-1	100	1997R				
Fulshear	7%	2-1	100 T	2014				
Fulton	6%	2-1						
Gainesville	6%	1.5-1	100	2019R	70	2019R	10-97	8-16-94
Galena Park	7%	2-1	100 T	1994R	70	1994R	4-93	1-18-94
Ganado	7%	2-1	100 T	2000R	70	2000R		
Garden Ridge	5%	2-1	100 T	2009R			3-02	
Garland	7%	2-1	100 T	1999R	70	2008	1-90	1-16-90
Garrison	7%	2-1	100 T	2018R	70	2018R		
Gary	5%	1-1	100 T	1999R	70	1999R		
Gatesville	7%	2-1	100 T	1997R	70	1997R		4-13-04

# Plan Provisions For Participating Municipalities

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Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	8-07	X	X	11.50%	Everman	00441
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	13.50%	Fair Oaks Ranch	00443
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	13.50%	Fairfield	00442
5 yrs	5 yrs/age 60, 20 yrs/any age	9-03	X	X	REMOVED	Fairview	00445
5 yrs	5 yrs/age 60, 25 yrs/any age	2-15	X	X	9.50%	Falfurrias	20444
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Falls City	00446
5 yrs	5 yrs/age 60, 25 yrs/any age		X		REMOVED	Farmers Branch	00448
5 yrs	5 yrs/age 60, 20 yrs/any age	11-97	X	X	REMOVED	Farmersville	00450
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Farwell	00451
5 yrs	5 yrs/age 60, 20 yrs/any age	10-15	X	X	REMOVED	Fate	00452
5 yrs	5 yrs/age 60, 25 yrs/any age				REMOVED	Fayetteville	00454
5 yrs	5 yrs/age 60, 20 yrs/any age	8-01	X	X	9.50%	Ferris	00456
5 yrs	5 yrs/age 60, 20 yrs/any age	5-01	X	X	REMOVED	Flatonia	00458
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Florence	00460
5 yrs	5 yrs/age 60, 20 yrs/any age	5-07			11.50%	Floresville	20462
5 yrs	5 yrs/age 60, 20 yrs/any age	1-95	X	X	13.50%	Flower Mound	00463
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Floydada	00464
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	13.50%	Forest Hill	00468
5 yrs	5 yrs/age 60, 20 yrs/any age	1-97	X	X	REMOVED	Forney	00470
5 yrs	5 yrs/age 60, 20 yrs/any age	7-96	X	X	11.50%	Fort Stockton	00472
5 yrs	5 yrs/age 60, 25 yrs/any age				11.50%	Franklin	00476
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Frankston	00478
5 yrs	5 yrs/age 60, 20 yrs/any age	6-95	X	X	REMOVED	Fredericksburg	00480
5 yrs	5 yrs/age 60, 20 yrs/any age	9-97	X	X	REMOVED	Freeport	00482
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Freer	00481
5 yrs	5 yrs/age 60, 20 yrs/any age	11-91	X	X	REMOVED	Friendswood	00483
5 yrs	5 yrs/age 60, 20 yrs/any age	6-03	X	X	REMOVED	Friona	00484
5 yrs	5 yrs/age 60, 20 yrs/any age	1-97	X	X	REMOVED	Frisco	00486
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	13.50%	Fritch	00487
5 yrs	5 yrs/age 60, 25 yrs/any age				7.50%	Frost	00488
5 yrs	5 yrs/age 60, 20 yrs/any age	2-17	X	X	REMOVED	Fulshear	00491
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Fulton	00493
5 yrs	5 yrs/age 60, 20 yrs/any age	10-97	X	X	REMOVED	Gainesville	00492
5 yrs	5 yrs/age 60, 20 yrs/any age	10-93	X	X	REMOVED	Galena Park	00494
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Ganado	00498
5 yrs	5 yrs/age 60, 20 yrs/any age	7-97	X	X	11.50%	Garden Ridge	00499
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Garland	00500
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Garrison	00502
5 yrs	5 yrs/age 60, 25 yrs/any age				7.50%	Gary	00503
5 yrs	5 yrs/age 60, 20 yrs/any age	9-91	X	X	REMOVED	Gatesville	00504

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
George West	5%	2-1						
Georgetown	7%	2-1	100	2010R	30	2010R	1-12	7-27-76
Giddings	7%	2-1	100 T	2008R	70	2008R	12-94	8-20-07
Gilmer	6%	2-1	100 T	2002R	70	2002R		
Gladewater	5%	2-1	100	2019R	70	2019R		
Glen Rose	7%	2-1	100 T	2002R	70	2002R		
Glenn Heights	6%	2-1	100 T	2018	70	2018	1-97	
Godley	6%	1-1						
Goldsmith	5%	1-1						
Goldthwaite	7%	2-1	100	2000R	70	2000R		
Goliad	7%	2-1	100 T	2002	50	2002		
Gonzales	5%	2-1	100	1999R	70	1999R	4-96	
Gordon	5%	1-1						
Gorman	5%	1-1						
Graford	5%	1-1						
Graham	5%	2-1	100 T	1993R	70	1993R	2-97	2-21-02
Graham Regional Medical Center	5%	2-1	75	2014	70	1989		
Granbury	7%	2-1	100 T	1997R	70	1997R	1-90	10-02-07
Grand Prairie	7%	2-1	100 T	1993R	70	1993R	1-89	12-13-16
Grand Saline	7%	1.5-1	100 T	2019R	70	2019R	1-90	
Grandview	7%	1.5-1	100 T	1998R	70	1988		
Granger	5%	1-1						
Granite Shoals	5%	2-1						
Grapeland	5%	1-1	100 T	2001R	70	2001R		
Grapevine	7%	2-1	100 T	1998R	70	1998R	10-88	10-19-99
Greenville	7%	2-1	100 T	1995R	70	2009	1-88	2-10-04
Gregory	5%	1.5-1	100 T	1992R	70	1998R		
Grey Forest Utilities	7%	2-1	100 T	2001R	70	2001R	1-90	
Groesbeck	5%	1-1						
Groom	5%	1-1	100	1992R				
Groves	6%	2-1	100 T	2005R	70	1989	10-86	9-08-86
Groveton	5%	1-1						
Gruver	6%	2-1	100 T	1998R				
Gun Barrel City	5%	2-1	100 T	1998R				
Gunter	5%	2-1					10-04	
Hale Center	5%	1-1						
Hallettsville	5%	2-1	100 T	2008R	70	2008R	12-03	9-11-00
Hallsville	5%	1-1						
Haltom City	7%	2-1	100 T	1993R	70	2007R	2-83	1-08-01
Hamilton	7%	2-1	100 T	2011R	70	2011R		

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	5-06	X	X	REMOVED	George West	00505
5 yrs	5 yrs/age 60, 20 yrs/any age	9-12	X	X	13.50%	Georgetown	00506
5 yrs	5 yrs/age 60, 20 yrs/any age	10-97	X	X	REMOVED	Giddings	00510
5 yrs	5 yrs/age 60, 20 yrs/any age	10-98	X	X	REMOVED	Gilmer	00512
5 yrs	5 yrs/age 60, 20 yrs/any age	11-97	X	X	11.50%	Gladewater	00514
5 yrs	5 yrs/age 60, 20 yrs/any age	8-99	X	X	REMOVED	Glen Rose	00516
5 yrs	5 yrs/age 60, 20 yrs/any age	1-95	X	X	12.50%	Glenn Heights	00517
5 yrs	5 yrs/age 60, 20 yrs/any age	12-12	X	X	8.50%	Godley	00518
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Goldsmith	00519
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Goldthwaite	00520
5 yrs	5 yrs/age 60, 20 yrs/any age	9-01	X	X	REMOVED	Goliad	00522
5 yrs	5 yrs/age 60, 20 yrs/any age	4-96	X	X	REMOVED	Gonzales	00524
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Gordon	00527
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Gorman	00530
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Graford	00532
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Graham	10534
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	11.50%	Graham Regional Medical Center	20534
5 yrs	5 yrs/age 60, 20 yrs/any age	6-96	X	X	REMOVED	Granbury	00536
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Grand Prairie	00540
5 yrs	5 yrs/age 60, 20 yrs/any age	6-05	X	X	11.50%	Grand Saline	00542
5 yrs	5 yrs/age 60, 20 yrs/any age	12-18			11.50%	Grandview	00544
5 yrs	5 yrs/age 60, 20 yrs/any age	10-10			7.50%	Granger	00546
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Granite Shoals	00547
5 yrs	5 yrs/age 60, 25 yrs/any age				7.50%	Grapeland	00548
5 yrs	5 yrs/age 60, 20 yrs/any age	3-92			REMOVED	Grapevine	00550
5 yrs	5 yrs/age 60, 20 yrs/any age	9-93	X	X	REMOVED	Greenville	00552
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Gregory	00551
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Grey Forest Utilities	00553
5 yrs	5 yrs/age 60, 20 yrs any age	5-15	X	X	REMOVED	Groesbeck	00556
5 yrs	5 yrs/age 60, 25 yrs/any age				7.50%	Groom	00558
10 yrs	10 yrs/age 60, 20 yrs/any age	1-01			REMOVED	Groves	00559
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Groveton	00560
5 yrs	5 yrs/age 60, 25 yrs/any age				12.50%	Gruver	00562
5 yrs	5 yrs/age 60, 20 yrs/any age	9-94	X	X	11.50%	Gun Barrel City	00563
5 yrs	5 yrs/age 60, 20 yrs/any age	1-08	X	X	REMOVED	Gunter	00564
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Hale Center	00568
5 yrs	5 yrs/age 60, 25 yrs/any age	10-00	X	X	REMOVED	Hallettsville	00570
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Hallsville	00572
5 yrs	5 yrs/age 60, 20 yrs/any age	4-94	X	X	REMOVED	Haltom City	00574
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Hamilton	00576

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Hamlin	6%	2-1	100	1992R	70	1992R	1-84	
Happy	7%	1.5-1	100 T	1999R	70	1999R		
Harker Heights	7%	2-1	100 T	2003R	70	2003R		10-11-05
Harlingen	7%	2-1	100 T	2006	70	2006	10-89	9-05-01
Harlingen Waterworks System	7%	1-1	100 T	2005	70	2005	4-97	8-12-02
Hart	5%	1-1						
Haskell	7%	1-1					9-89	
Haslet	7%	2-1	100 T	2002R				
Hawkins	7%	2-1	100	2015R	70	1988		2-17-14
Hays	7%	2-1	100 T	2004R				
Hearne	7%	2-1	100 T	2011R	70	2011R	10-85	10-01-85
Heath	7%	2-1	100 T	2005R				
Hedley	5%	2-1						
Hedwig Village	5%	2-1						
Helotes	6%	2-1	100	2019	70	2013	3-01	
Hemphill	5%	2-1	100 T	2016R	70	1992	5-95	
Hempstead	5%	2-1	100 T	1998R	70	1998R	11-89	11-21-16
Henderson	7%	2-1	100 T	2008R	70	2008R	9-98	10-20-81
Henrietta	7%	2-1	100 T	2007R	70	2007R	12-03	11-10-03
Hereford	5%	2-1	100 T	1996R	70	1996R		
Hewitt	7%	2-1	100 T	1998R	70	1998R	12-91	2-18-02
Hickory Creek	7%	2-1	100 T	2013R	70	2013R		8-21-07
Hico	7%	2-1	100	2019R				
Hidalgo	7%	2-1	100 T	2006R	70	2006R		
Higgins	5%	1-1	100	1999R	70	1999R		
Highland Park	7%	2-1	100	2008	50	2008	11-89	
Highland Village	7%	2-1	100 T	1994R	70	1994R		
Hill Country Village	5%	2-1	100 T	2005				
Hillsboro	5%	2-1	100 T	1992R	70	1992R		
Hilshire Village	5%	2-1						
Hitchcock	5%	2-1	50 T	2014				
Holland	6%	1.5-1	100 T	1999R				
Holliday	5%	1.5-1	100	2007				
Hollywood Park	6%	1.5-1	100 T	2003R	70	2003R	5-89	
Hondo	5%	2-1	100 T	1996R	70	1996R		
Honey Grove	5%	1.5-1	100 T	1993R	70	1993R		
Hooks	7%	2-1	100	2016R				
Horizon City	5%	1.5-1						
Howe	5%	2-1	100	1992R			3-12	
Hubbard	5%	1-1						



# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 25 yrs/any age	1-05	X	X	REMOVED	Hamlin	00578
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Happy	00580
5 yrs	5 yrs/age 60, 20 yrs/any age	10-97	X	X	REMOVED	Harker Heights	00581
5 yrs	5 yrs/age 60, 20 yrs/any age	1-93	X	X	15.50%	Harlingen	10582
5 yrs	5 yrs/age 60, 20 yrs/any age	4-97	X	X	9.50%	Harlingen Waterworks System	20582
5 yrs	5 yrs/age 60, 20 yrs/any age				REMOVED	Hart	00583
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Haskell	00586
5 yrs	5 yrs/age 60, 25 yrs/any age	5-99	X	X	15.50%	Haslet	00587
5 yrs	5 yrs/age 60, 20 yrs/any age	10-00	X	X	REMOVED	Hawkins	00588
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Hays	00585
5 yrs	5 yrs/age 60, 20 yrs/any age	10-95	X	X	REMOVED	Hearne	00590
5 yrs	5 yrs/age 60, 20 yrs/any age	3-98	X	X	13.50%	Heath	00591
10 yrs	10 yrs/age 60, 25 yrs/any age		X	X	11.50%	Hedley	00592
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Hedwig Village	00595
5 yrs	5 yrs/age 60, 20 yrs/any age	3-01	X	X	12.50%	Helotes	00593
5 yrs	5 yrs/age 60, 25 yrs/any age	7-98	X	X	11.50%	Hemphill	00594
10 yrs	10 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Hempstead	00596
5 yrs	5 yrs/age 60, 20 yrs/any age	9-98	X	X	REMOVED	Henderson	00598
5 yrs	5 yrs/age 60, 20 yrs/any age	9-94	X	X	REMOVED	Henrietta	00600
5 yrs	5 yrs/age 60, 25 yrs/any age	1-96	X	X	11.50%	Hereford	00602
5 yrs	5 yrs/age 60, 20 yrs/any age	12-91	X	X	REMOVED	Hewitt	00605
5 yrs	5 yrs/age 60, 20 yrs/any age	8-07	X	X	13.50%	Hickory Creek	00609
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	13.50%	Hico	00606
5 yrs	5 yrs/age 60, 20 yrs/any age	9-14			13.50%	Hidalgo	00607
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Higgins	00608
5 yrs	5 yrs/age 60, 20 yrs/any age	6-95			REMOVED	Highland Park	00610
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Highland Village	00611
5 yrs	5 yrs/age 60, 25 yrs/any age	2-00	X	X	11.50%	Hill Country Village	00613
5 yrs	5 yrs/age 60, 20 yrs/any age	6-96			REMOVED	Hillsboro	00612
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Hilshire Village	00619
5 yrs	5 yrs/age 60, 25 yrs/any age	7-98	X	X	11.50%	Hitchcock	00614
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	10.50%	Holland	00615
5 yrs	5 yrs/age 60, 20 yrs/any age				9.50%	Holiday	00616
5 yrs	5 yrs/age 60, 20 yrs/any age	7-95	X	X	10.50%	Hollywood Park	00617
5 yrs	5 yrs/age 60, 20 yrs/any age	8-97	X	X	11.50%	Hondo	00618
5 yrs	5 yrs/age 60, 20 yrs/any age	2-01	X	X	9.50%	Honey Grove	00620
5 yrs	5 yrs/age 60, 25 yrs/any age	12-99	X	X	13.50%	Hooks	00622
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Horizon City	00623
5 yrs	5 yrs/age 60, 25 yrs/any age	11-04	X	X	11.50%	Howe	00626
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Hubbard	00627

# Plan Provisions For Participating Municipalities

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Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Hudson	5%	2-1						
Hudson Oaks	7%	2-1	100 T	2012R	70	2012R		
Hughes Springs	7%	2-1	100	1998R	70	1998R		
Humble	7%	2-1	50 T	2016R	70	2016R	2-85	
Hunters Creek Village	7%	2-1	100 T	2008R				
Huntington	7%	2-1	100 T	1999R	70	1999R	7-99	
Huntsville	7%	2-1	50 T	2014R	50	2014R	10-89	1-01-99
Hurst	7%	2-1	100	2009R	30	2019	4-87	3-24-87
Hutchins	7%	1.5-1	100 T	2001R	70	2001R		
Hutto	7%	2-1	100 T	2008R	70	2008R		
Huxley	5%	1.5-1	50	2014	30	2014		
Idalou	5%	2-1						
Ingleside	5%	2-1	100 T	2008R	70	2008R		
Ingram	5%	1.5-1	100 T	1998R				
Iowa Colony	5%	2-1						
Iowa Park	6%	2-1	100 T	2010R	70	2010R	12-10	
Iraan	7%	2-1	100 T	2009	70	2009		7-21-04
Irving	7%	2-1	100 T	1992R	30	2015R	1-87	6-29-06
Italy	5%	1-1						
Itasca	7%	2-1	100 T	2002R	70	2002R	1-92	
Jacinto City	5%	1.5-1	100 T	1992R	70	1992R		9-24-81
Jacksboro	7%	2-1	100 T	2007R	70	2007R	6-98	8-14-90
Jacksonville	6%	2-1	100 T	2008R	50	2011R	4-91	
Jasper	7%	2-1	100	2013	70	2013	1-82	10-17-83
Jefferson	5%	1-1	100 T	2001R				
Jersey Village	7%	2-1	100 T	2000R	70	2000R	10-95	
Jewett	7%	1-1	100 T	1994R	70	1994R		
Joaquin	5%	1-1						
Johnson City	6%	1.5-1	100 T	2012R	70	2012R		8-08-05
Jones Creek	5%	1.5-1						
Jonestown	7%	2-1						
Josephine	6%	1.5-1	100 T	2007R				
Joshua	7%	2-1						
Jourdanton	5%	1.5-1	100	1992R	70	1992R		8-18-14
Junction	7%	2-1	100 T	1997R	70	1997R		
Justin	7%	2-1	50	2018R				
Karnes City	5%	1.5-1	100 T	2019R	70	2019R		
Katy	7%	2-1	100 T	1992R	70	1992R	11-85	
Kaufman	7%	2-1	100 T	2008R	50	2019R	10-01	
Keene	7%	2-1	100 T	2001R	30	2018R		

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 25 yrs/any age	4-01	X	X	REMOVED	Hudson	00628
5 yrs	5 yrs/age 60, 20 yrs/any age	2-98	X	X	13.50%	Hudson Oaks	00629
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Hughes Springs	00630
5 yrs	5 yrs/age 60, 20 yrs/any age	3-96	X	X	REMOVED	Humble	00632
5 yrs	5 yrs/age 60, 25 yrs/any age	3-98	X	X	REMOVED	Hunters Creek Village	00633
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Huntington	00634
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X	X	REMOVED	Huntsville	00636
5 yrs	5 yrs/age 60, 20 yrs/any age	2-92			REMOVED	Hurst	00637
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	11.50%	Hutchins	00638
5 yrs	5 yrs/age 60, 20 yrs/any age	8-01	X	X	REMOVED	Hutto	00640
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Huxley	00641
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Idalou	00642
5 yrs	5 yrs/age 60, 20 yrs/any age	3-00	X	X	11.50%	Ingleside	00643
5 yrs	5 yrs/age 60, 20 yrs/any age	11-96			9.50%	Ingram	00646
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Iowa Colony	00647
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Iowa Park	00644
5 yrs	5 yrs/age 60, 20 yrs/any age	8-97	X	X	REMOVED	Iraan	00645
5 yrs	5 yrs/age 60, 20 yrs/any age	1-93	X	X	REMOVED	Irving	00648
5 yrs	5 yrs/age 60, 20 yrs/any age	12-06	X	X	REMOVED	Italy	00650
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	13.50%	Itasca	00652
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	Jacinto City	00654
5 yrs	5 yrs/age 60, 20 yrs/any age	11-95	X	X	REMOVED	Jacksboro	00656
5 yrs	5 yrs/age 60, 20 yrs/any age	5-96	X	X	REMOVED	Jacksonville	00658
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	15.50%	Jasper	00660
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Jefferson	00664
5 yrs	5 yrs/age 60, 25 yrs/any age	5-95	X	X	REMOVED	Jersey Village	00665
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Jewett	00666
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Joaquin	00668
5 yrs	5 yrs/age 60, 20 yrs/any age	3-02	X	X	10.50%	Johnson City	00670
5 yrs	5 yrs/age 60, 25 yrs/any age	2-13	X	X	REMOVED	Jones Creek	00673
5 yrs	5 yrs/age 60, 20 yrs/any age	4-18	X	X	REMOVED	Jonestown	00675
5 yrs	5 yrs/age 60, 20 yrs/any age	8-11	X	X	REMOVED	Josephine	00677
5 yrs	5 yrs/age 60, 20 yrs/any age	3-16	X	X	13.50%	Joshua	00671
5 yrs	5 yrs/age 60, 20 yrs/any age	9-14	X	X	9.50%	Jourdanton	00672
10 yrs	10 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Junction	00674
5 yrs	5 yrs/age 60, 20 yrs/any age	5-08			13.50%	Justin	00676
5 yrs	5 yrs/age 60, 20 yrs/any age	10-16	X	X	REMOVED	Karnes City	00678
5 yrs	5 yrs/age 60, 20 yrs/any age	5-96	X	X	REMOVED	Katy	00680
5 yrs	5 yrs/age 60, 20 yrs/any age	6-97	X	X	REMOVED	Kaufman	00682
5 yrs	5 yrs/age 60, 25 yrs/any age	1-93	X	X	REMOVED	Keene	00683

# Plan Provisions For Participating Municipalities

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Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Keller	7%	2-1	100 T	2002R	50	2012R	1-97	12-20-05
Kemah	7%	2-1					8-99	
Kemp	5%	2-1	100 T	2016R				10-27-15
Kenedy	5%	1-1	100 T	1994R	70	1994R		
Kennedale	7%	2-1	100 T	2006R	70	2006R	9-01	8-09-01
Kerens	6%	1-1						
Kermit	7%	2-1	100 T	2004R	70	2004R		9-18-08
Kerrville	7%	2-1	100 T	2012R	50	2010	6-90	
Kerrville PUB	7%	2-1	100 T	1994R	70	2007R		
Kilgore	7%	2-1	100 T	2001R	70	2001R		4-10-07
Killeen	7%	2-1	100 T	2019	70	2019	1-01	2-28-89
Kingsville	7%	1.5-1	100 T	2000R	70	2000R	3-85	
Kirby	7%	2-1	100 T	2008R	70	2008R	3-99	
Kirbyville	5%	1-1	100	1992R	70	1992R		
Kosse	5%	1-1						
Knox City	5%	1.5-1	100	1991	70	1991		
Kountze	5%	1-1						
Kress	7%	1-1	100	1995R				
Krugerville	7%	2-1						
Krum	7%	2-1	100	1997				
Kyle	7%	2-1	100 T	1999R	70	2000R		
La Coste	5%	1-1						
La Feria	7%	1-1	100 T	2004R	70	2004R	10-03	8-28-03
La Grange	7%	2-1	100 T	2012R	50	2014R	10-89	
La Grulla	5%	2-1	100 T	2007R	70	2007R		
La Joya	5%	1-1						
La Marque	7%	2-1	100 T	2016R	70	2016R	1-97	4-24-06
La Porte	7%	2-1	100 T	2004R	70	2004R	1-83	12-22-97
La Vernia	6%	1-1						
Lacy-Lakeview	7%	2-1	100 T	2004R	70	2004R	10-89	
Ladonia	7%	2-1						
Lago Vista	6%	2-1	100 T	2003R			11-95	10-01-90
Laguna Vista	5%	2-1						
Lake Dallas	7%	2-1	100 T	2001R	70	2001R		
Lake Jackson	6%	2-1	100 T	2007R	70	2007R	10-93	
Lake Worth	7%	2-1	100 T	2019R	70	2019R	10-98	10-10-00
Lakeport	5%	1.5-1						
Lakeside	6%	2-1	100	2014R				
Lakeside City	5%	1-1						
Lakeway	7%	2-1	100 T	2007R	70	2007R		

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	1-94	X	X	REMOVED	Keller	00681
5 yrs	5 yrs/age 60, 20 yrs/any age	8-99	X	X	REMOVED	Kemah	00685
5 yrs	5 yrs/age 60, 25 yrs/any age	1-96			11.50%	Kemp	00684
5 yrs	5 yrs/age 60, 25 yrs/any age	10-95	X	X	7.50%	Kenedy	00686
5 yrs	5 yrs/age 60, 20 yrs/any age	9-01	X	X	REMOVED	Kennedale	00688
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Kerens	00690
5 yrs	5 yrs/age 60, 25 yrs/any age	3-01	X	X	REMOVED	Kermit	00692
5 yrs	5 yrs/age 60, 20 yrs/any age	3-92	X	X	15.50%	Kerrville	10694
5 yrs	5 yrs/age 60, 25 yrs/any age	11-93	X	X	REMOVED	Kerrville PUB	20694
5 yrs	5 yrs/age 60, 20 yrs/any age	1-97	X	X	REMOVED	Kilgore	10696
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X	X	13.50%	Killeen	00698
5 yrs	5 yrs/age 60, 20 yrs/any age	4-00			REMOVED	Kingsville	00700
5 yrs	5 yrs/age 60, 20 yrs/any age	10-08	X	X	REMOVED	Kirby	00701
5 yrs	5 yrs/age 60, 20 yrs/any age	11-91	X	X	7.50%	Kirbyville	00702
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Kosse	00706
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Knox City	00704
5 yrs	5 yrs/age 60, 20 yrs/any age	6-12	X	X	REMOVED	Kountze	00708
10 yrs	10 yrs/age 60, 25 yrs/any age				REMOVED	Kress	00709
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Krugerville	00699
5 yrs	5 yrs/age 60, 20 yrs/any age	2-06	X	X	13.50%	Krum	00707
5 yrs	5 yrs/age 60, 20 yrs/any age	3-00	X	X	13.50%	Kyle	00710
5 yrs	5 yrs/age 60, 25 yrs/any age				7.50%	La Coste	00725
5 yrs	5 yrs/age 60, 20 yrs/any age	10-03	X	X	REMOVED	La Feria	00714
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	La Grange	00716
5 yrs	5 yrs/age 60, 25 yrs/any age	10-03	X	X	11.50%	La Grulla	00723
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	La Joya	00732
5 yrs	5 yrs/age 60, 20 yrs/any age	12-99	X	X	REMOVED	La Marque	00721
10 yrs	10 yrs/age 60, 20 yrs/any age	1-97	X	X	REMOVED	La Porte	00728
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	La Vernia	00731
5 yrs	5 yrs/age 60, 20 yrs/any age	12-97	X	X	REMOVED	Lacy-Lakeview	00711
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Ladonia	00712
5 yrs	5 yrs/age 60, 20 yrs/any age	3-97	X	X	12.50%	Lago Vista	00713
5 yrs	5 yrs/age 60, 20 yrs/any age	10-16	X	X	REMOVED	Laguna Vista	00705
5 yrs	5 yrs/age 60, 20 yrs/any age	1-01	X	X	13.50%	Lake Dallas	00717
5 yrs	5 yrs/age 60, 20 yrs/any age	2-98	X	X	REMOVED	Lake Jackson	00718
5 yrs	5 yrs/age 60, 20 yrs/any age	10-98	X	X	REMOVED	Lake Worth	00719
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Lakeport	00727
5 yrs	5 yrs/age 60, 25 yrs/any age	11-99	X	X	12.50%	Lakeside	00715
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Lakeside City	00729
5 yrs	5 yrs/age 60, 20 yrs/any age	9-03	X	X	15.50%	Lakeway	00720

# Plan Provisions For Participating Municipalities

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Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Lamesa	7%	1.5-1	100 T	2010R	70	2009	1-90	
Lampasas	7%	2-1	100 T	1992R	70	1992R	11-00	9-08-14
Lancaster	7%	2-1	100 T	1998R	50	2012R	10-89	
Laredo	7%	2-1	100	2007R	70	2007R	10-89	1-20-97
Lavon	6%	2-1						
Lefors	5%	1-1						
League City	7%	2-1	100 T	2001R	70	2001R	5-93	2-08-90
Leander	7%	2-1	100	2013R	50	2014R	11-87	10-11-16
Leon Valley	7%	2-1	100 T	2019R	70	2019R	10-88	9-20-88
Leonard	7%	1-1					1-03	
Levelland	6%	2-1	100 T	2000R	70	2000R		8-27-18
Lewisville	7%	2-1	75 T	2013R	70	2013R	11-89	5-05-97
Lexington	6%	1.5-1	100 T	2000R	70	2000R	9-01	
Liberty	7%	2-1	100 T	2015				
Liberty Hill	7%	2-1						
Lindale	6%	2-1	100 T	2008R	70	2008R		
Linden	5%	1-1						
Lipan	5%	1-1						
Little Elm	7%	2-1	100 T	2001R	70	2001R	11-03	11-20-07
Littlefield	5%	2-1	100 T	1994R	70	1994R	6-98	
Live Oak	7%	2-1	100 T	2007R	70	2007R	1-95	
Liverpool	5%	1-1						
Livingston	7%	2-1	100 T	1992R	70	1992R	8-92	
Llano	7%	2-1	100 T	2016R	70	1999		
Lockhart	6%	2-1	100 T	1999R	70	1999R	11-90	1-06-98
Lockney	5%	1-1	100 T	2001R	50	1981		
Lone Star	5%	1-1	100 T	2001R	70	2001R		9-08-81
Longview	7%	2-1	100 T	2000R	70	2012	1-88	2-11-93
Lorraine	5%	1.5-1						
Lorena	6%	2-1	100 T	2019R	70	2019R		
Lorenzo	5%	1.5-1	100 T	1995R	70	1995R		
Los Fresnos	5%	2-1	50 T	2019R	30	2019R		
Lott	5%	1-1						
Lovelady	7%	2-1						
Lubbock	7%	2-1	100 T	1998R	70	2001R	1-90	
Lucas	7%	2-1	100	2006R	70	2015R		
Lufkin	7%	2-1	100 T	1998R	50	2012R	12-89	10-01-00
Luling	5%	2-1	100 T	1992R	70	1992R		
Lumberton	7%	2-1	100 T	2001R	70	2001R		
Lyford	5%	1-1						

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 25 yrs/any age	6-94			13.50%	Lamesa	00722
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Lampasas	00724
5 yrs	5 yrs/age 60, 20 yrs/any age	1-97	X	X	REMOVED	Lancaster	00726
5 yrs	5 yrs/age 60, 20 yrs/any age	7-93	X	X	REMOVED	Laredo	00730
5 yrs	5 yrs/age 60, 20 yrs/any age	10-12	X	X	REMOVED	Lavon	00733
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Lefors	00735
5 yrs	5 yrs/age 60, 20 yrs/any age	7-99	X	X	15.50%	League City	00736
5 yrs	5 yrs/age 60, 20 yrs/any age	10-02	X	X	13.50%	Leander	00737
10 yrs	10 yrs/age 60, 20 yrs/any age	10-91	X	X	REMOVED	Leon Valley	00739
5 yrs	5 yrs/age 60, 25 yrs/any age	1-03	X	X	9.50%	Leonard	00738
5 yrs	5 yrs/age 60, 20 yrs/any age	1-14	X	X	REMOVED	Levelland	00740
5 yrs	5 yrs/age 60, 20 yrs/any age	2-92			REMOVED	Lewisville	00742
5 yrs	5 yrs/age 60, 25 yrs/any age	8-09			REMOVED	Lexington	00744
5 yrs	5 yrs/age 60, 20 yrs/any age	1-19			REMOVED	Liberty	00746
5 yrs	5 yrs/age 60, 20 yrs/any age	3-09	X	X	REMOVED	Liberty Hill	00745
5 yrs	5 yrs/age 60, 20 yrs/any age	5-07			REMOVED	Lindale	00748
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Linden	00750
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Lipan	00755
5 yrs	5 yrs/age 60, 20 yrs/any age	11-03	X	X	13.50%	Little Elm	00751
5 yrs	5 yrs/age 60, 20 yrs/any age	6-98	X	X	11.50%	Littlefield	00752
5 yrs	5 yrs/age 60, 20 yrs/any age	1-95	X	X	REMOVED	Live Oak	00753
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Liverpool	00757
10 yrs	10 yrs/age 60, 25 yrs/any age	3-98	X	X	REMOVED	Livingston	00754
5 yrs	5 yrs/age 60, 20 yrs/any age	1-99	X	X	REMOVED	Llano	00756
5 yrs	5 yrs/age 60, 20 yrs/any age	1-94	X	X	REMOVED	Lockhart	00758
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Lockney	00760
5 yrs	5 yrs/age 60, 25 yrs/any age	3-01	X	X	7.50%	Lone Star	00765
5 yrs	5 yrs/age 60, 20 yrs/any age	2-93	X	X	15.50%	Longview	00766
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Loraine	00768
5 yrs	5 yrs/age 60, 20 yrs/any age	4-04	X	X	12.50%	Lorena	00769
5 yrs	5 yrs/age 60, 25 yrs/any age	8-03			9.50%	Lorenzo	00770
5 yrs	5 yrs/age 60, 20 yrs/any age	2-08	X	X	11.50%	Los Fresnos	00771
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Lott	00773
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Lovelady	00774
5 yrs	5 yrs/age 60, 20 yrs/any age	10-95			REMOVED	Lubbock	00778
5 yrs	5 yrs/age 60, 20 yrs/any age	1-07	X	X	15.50%	Lucas	00779
5 yrs	5 yrs/age 60, 20 yrs/any age	6-97	X	X	REMOVED	Lufkin	00782
10 yrs	10 yrs/age 60, 25 yrs/any age	9-95	X	X	11.50%	Luling	00784
5 yrs	5 yrs/age 60, 20 yrs/any age	9-95	X	X	REMOVED	Lumberton	00785
5 yrs	5 yrs/age 60, 20 yrs/any age				REMOVED	Lyford	00786

# Plan Provisions For Participating Municipalities

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Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Lytle	5%	2-1	100	1992R	70	1992R		
Madisonville	5%	2-1	100	1992R	70	1992R		
Magnolia	6%	1-1						
Malakoff	7%	2-1	100 T	1993				
Manor	7%	2-1	100	2019				7-19-06
Mansfield	7%	2-1	100 T	1992R	70	1992R	1-89	
Manvel	7%	2-1	100 T	2017	70	2017		
Marble Falls	7%	2-1	75 T	2019R			7-03	5-23-90
Marfa	5%	2-1	100	1990	70	1990		
Marion	5%	2-1	100 T	2008R				
Marlin	5%	2-1	100 T	2000R	70	2000R		
Marquez	5%	1-1						
Marshall	7%	2-1	100 T	1998R	50	2013R	1-90	6-09-88
Mart	5%	1.5-1	100	1992R	70	1992R		
Martindale	5%	2-1						
Mason	5%	1.5-1	100	2010R	70	2010R		2-13-89
Matador	5%	1-1						
Mathis	7%	2-1	100	1991	70	1991	11-03	
Maud	5%	1-1						
Maypearl	5%	1-1						
McAllen	7%	2-1	100 T	2016				12-27-07
McCamey	7%	1-1	100	1997R	70	2009		
McGregor	6%	2-1	100 T	1996R	70	1996R		
McKinney	7%	2-1	100 T	1996R	70	2003R		
McLean	5%	1-1						
Meadowlakes	7%	1-1						
McLendon-Chisholm	5%	1-1						
Meadow	5%	1-1						
Meadows Place	7%	2-1	100	2019	70	2019		
Melissa	7%	2-1	100 T	2018R				
Memorial Villages P.D.	7%	2-1	100 T	2009	70	2009		
Memphis	5%	1.5-1	100	1998R	70	1998R		
Menard	5%	1-1	100	2009R	70	2009R		
Mercedes	7%	2-1	100 T	2009R	70	2009R	4-97	7-06-99
Meridian	5%	2-1						
Merkel	6%	2-1	100 T	2004R	70	2004R	4-02	
Mertzson	5%	2-1						
Mesquite	7%	2-1	100 T	2019R	50	2018	1-84	9-16-91
Mexia	7%	2-1	100 T	1992R	70	1992R	2-84	
Miami	5%	1-1						



# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	11.50%	Lytle	00787
5 yrs	5 yrs/age 60, 20 yrs/any age	1-93	X	X	11.50%	Madisonville	00790
5 yrs	5 yrs/age 60, 25 yrs/any age	4-98	X	X	8.50%	Magnolia	00791
5 yrs	5 yrs/age 60, 20 yrs/any age	3-07	X	X	13.50%	Malakoff	00792
5 yrs	5 yrs/age 60, 20 yrs/any age	6-14	X	X	REMOVED	Manor	00796
5 yrs	5 yrs/age 60, 20 yrs/any age	3-92	X	X	REMOVED	Mansfield	00798
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	13.50%	Manvel	00799
5 yrs	5 yrs/age 60, 20 yrs/any age	5-96	X	X	13.50%	Marble Falls	00800
5 yrs	5 yrs/age 60, 25 yrs/any age	3-05	X	X	11.50%	Marfa	00802
5 yrs	5 yrs/age 60, 25 yrs/any age	11-15	X	X	11.50%	Marion	00804
5 yrs	5 yrs/age 60, 20 yrs/any age	8-16	X	X	11.50%	Marlin	00806
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Marquez	00808
5 yrs	5 yrs/age 60, 20 yrs/any age	1-94	X	X	REMOVED	Marshall	00810
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	Mart	00812
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Martindale	00813
5 yrs	5 yrs/age 60, 25 yrs/any age	5-97	X	X	9.50%	Mason	00814
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Matador	00816
5 yrs	5 yrs/age 60, 20 yrs/any age	9-99	X	X	13.50%	Mathis	00818
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Maud	00820
5 yrs	5 yrs/age 60, 25 yrs/any age	6-12	X	X	7.50%	Maypearl	00822
10 yrs	10 yrs/age 60, 20 yrs/any age	7-99			13.50%	McAllen	00824
10 yrs	10 yrs/age 60, 25 yrs/any age		X	X	9.50%	McCamey	00826
5 yrs	5 yrs/age 60, 20 yrs/any age	7-96	X	X	12.50%	McGregor	00828
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	McKinney	00830
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	McLean	00832
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Meadowlakes	00831
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	McLendon-Chisholm	00833
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Meadow	00834
5 yrs	5 yrs/age 60, 20 yrs/any age	10-97	X	X	13.50%	Meadows Place	00835
5 yrs	5 yrs/age 60, 20 yrs/any age	3-03	X	X	REMOVED	Melissa	00837
5 yrs	5 yrs/age 60, 25 yrs/any age	6-96	X	X	REMOVED	Memorial Villages P.D.	01501
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Memphis	00840
5 yrs	5 yrs/age 60, 25 yrs/any age				REMOVED	Menard	00842
5 yrs	5 yrs/age 60, 20 yrs/any age	1-00	X	X	REMOVED	Mercedes	00844
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	11.50%	Meridian	00846
5 yrs	5 yrs/age 60, 25 yrs/any age	6-01	X	X	REMOVED	Merkel	00848
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Mertzton	00852
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92			REMOVED	Mesquite	00854
5 yrs	5 yrs/age 60, 20 yrs/any age	9-91	X	X	13.50%	Mexia	00856
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Miami	00858

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Midland	7%	2-1	100 T	1992R	50	1992R	11-83	
Midlothian	7%	2-1	100 T	2003R	70	2003R	10-88	9-13-88
Milano	5%	1-1						
Miles	5%	1-1	100	1990				
Milford	7%	1-1	100 T	2002R				
Mineola	5%	2-1	100 T	2000R	70	1988	2-99	
Mineral Wells	5%	2-1	100	1992R	70	1992R	12-90	10-18-88
Mission	6%	2-1	100 T	2007R	70	2010		
Missouri City	7%	2-1	100 T	2019	70	2019	3-93	8-06-01
Monahans	5%	2-1	100 T	1992R	70	1992R	11-94	
Mont Belvieu	7%	2-1	100 T	2015R	70	2015R		5-29-79
Montgomery	7%	2-1						
Moody	5%	1-1						
Morgan's Point	7%	2-1	50 T	2013R	30	2013R		
Morgan's Point Resort	7%	2-1	100 T	2006R	70	2003R	1-90	
Morton	5%	2-1	100 T	1999R	70	1999R		
Moulton	6%	1-1	100 T	2013R	70	2013R	12-97	
Mount Enterprise	5%	1-1						
Mount Pleasant	7%	2-1	100 T	2005R	70	2005R		
Mount Vernon	7%	2-1	100	1992R	70	1992R		1-13-98
Muenster	5%	2-1	100	1981	20	1981		
Muleshoe	7%	2-1	100 T	1992R	70	1992R	2-96	10-18-83
Munday	5%	1-1						
Murphy	7%	2-1	100 T	2002R	70	2002R		
Nacogdoches	7%	2-1	100 T	2000R	30	2012R	11-89	6-06-17
Naples	5%	1.5-1						
Nash	7%	2-1	100 T	2017R	70	2017R		
Nassau Bay	7%	2-1	50	2012R	70	2012R	9-02	7-08-02
Natalia	5%	1-1						
Navasota	5%	2-1	100	1992R	70	1992R		5-08-89
Nederland	7%	2-1	100	2000R	30	1984	3-82	12-13-83
Needville	7%	1-1	100 T	1996R	70	1989		
Newark	5%	1-1						
New Boston	5%	1-1	100 T	1993R	70	1993R		
New Braunfels	7%	2-1	100 T	2005R	70	2005R	1-90	1-11-93
New Braunfels Utilities	7%	2-1	100 T	2018R	70	2018R	4-04	
New Deal	5%	1-1						
New Fairview	7%	1-1						
New London	5%	1-1	100 T	1997R	70	1997R		
New Summerfield	7%	2-1	100	2016R				5-22-07

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	4-94	X	X	REMOVED	Midland	00860
5 yrs	5 yrs/age 60, 20 yrs/any age	10-91	X	X	REMOVED	Midlothian	00862
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Milano	00863
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Miles	00864
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Milford	00865
5 yrs	5 yrs/age 60, 20 yrs/any age	10-91	X	X	11.50%	Mineola	00868
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	11.50%	Mineral Wells	00870
5 yrs	5 yrs/age 60, 20 yrs/any age	9-98	X	X	12.50%	Mission	00874
5 yrs	5 yrs/age 60, 20 yrs/any age	6-93	X	X	15.50%	Missouri City	00875
10 yrs	10 yrs/age 60, 25 yrs/any age	11-95	X	X	REMOVED	Monahans	00876
5 yrs	5 yrs/age 60, 25 yrs/any age	11-95	X	X	REMOVED	Mont Belvieu	00887
5 yrs	5 yrs/age 60, 20 yrs/any age				13.50%	Montgomery	00877
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Moody	00878
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X		REMOVED	Morgan's Point	00883
5 yrs	5 yrs/age 60, 20 yrs/any age	1-03	X	X	13.50%	Morgan's Point Resort	00882
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Morton	00884
5 yrs	5 yrs/age 60, 20 yrs/any age	11-97	X	X	REMOVED	Moulton	00886
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Mount Enterprise	00890
5 yrs	5 yrs/age 60, 20 yrs/any age	1-96	X	X	REMOVED	Mount Pleasant	00892
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	13.50%	Mount Vernon	00894
5 yrs	5 yrs/age 60, 25 yrs/any age				11.50%	Muenster	00896
5 yrs	5 yrs/age 60, 20 yrs/any age	2-96	X	X	REMOVED	Muleshoe	00898
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Munday	00901
5 yrs	5 yrs/age 60, 20 yrs/any age	1-05	X	X	15.50%	Murphy	00903
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X	X	REMOVED	Nacogdoches	10904
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Naples	00906
5 yrs	5 yrs/age 60, 25 yrs/any age	6-96	X	X	REMOVED	Nash	00907
5 yrs	5 yrs/age 60, 20 yrs/any age	1-07	X	X	REMOVED	Nassau Bay	00905
5 yrs	5 yrs/age 60, 20 yrs/any age	10-09	X	X	REMOVED	Natalia	00909
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	11.50%	Navasota	00908
10 yrs	10 yrs/age 60, 20 yrs/any age	1-00			REMOVED	Nederland	00910
5 yrs	5 yrs/age 60, 20 yrs/any age	2-98	X	X	9.50%	Needville	00912
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Newark	00913
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	New Boston	00914
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	New Braunfels	10916
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	New Braunfels Utilities	20916
5 yrs	5 yrs/age 60, 25 yrs/any age				7.50%	New Deal	00915
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	New Fairview	00923
5 yrs	5 yrs/age 60, 20 yrs/any age				7.50%	New London	00918
5 yrs	5 yrs/age 60, 25 yrs/any age				13.50%	New Summerfield	00919

# Plan Provisions For Participating Municipalities

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Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
New Waverly	5%	1.5-1	100	2004R				
Newton	7%	2-1	100 T	2001R	70	2001R		12-10-91
Nixon	5%	1-1						
Nocona	5%	2-1	100	2008R	70	2008R		
Nolanville	5%	1-1						
Normangee	5%	2-1						
North Richland Hills	7%	2-1	100 T	1992R	70	1992R	1-90	12-12-88
Northlake	7%	2-1	100 T	2011R				
Oak Point	7%	2-1	100	2010			12-03	
Oak Ridge North	7%	2-1	100	2007R	70	2009R		
Odem	6%	2-1						
Odessa	7%	2-1	100 T	2011R	50	2011R	10-89	2-28-12
O'Donnell	5%	1-1						
Oglesby	5%	1-1					12-03	
Old River-Winfree	5%	1-1						
Olmos Park	5%	2-1	100 T	2005	70	1998		
Olney	7%	2-1						
Omaha	5%	1-1						
Onalaska	5%	1.5-1						
Orange	7%	2-1	100 T	1997R	70	1997R	1-88	
Orange Grove	6%	2-1	100	2019R	50	2019R		8-18-10
Ore City	5%	1-1						
Overton	6%	2-1	100 T	1993	70	1993		
Ovilla	7%	2-1	100 T	2012R				11-12-07
Oyster Creek	7%	2-1	100 T	2009R				
Paducah	5%	1.5-1	100	1998R				
Palacios	7%	2-1	100 T	2012R	70	2012R		
Palestine	6%	2-1	100 T	2005R	70	2005R	12-03	6-27-78
Palmer	7%	2-1	100 T	2019R	70	2019R		
Palmhurst	7%	2-1						
Palmview	5%	1-1						12-18-18
Pampa	7%	2-1	100 T	2012R	70	2012R	10-88	12-08-87
Panhandle	5%	2-1	100 T	2015R	70	2015R		8-26-93
Panorama Village	6%	2-1	100	1990				
Pantego	7%	2-1	100 T	1998R	50	2014R	1-93	
Paris	6%	2-1	100 T	2008	70	2008	9-88	10-09-95
Parker	6%	2-1	100 T	1998R				
Pasadena	7%	2-1	100 T	1993R	40	1993R	1-82	9-29-09
Pearland	7%	2-1	100 T	1998R	70	1998R	10-89	2-11-91
Pearsall	6%	1-1	100 T	2019R	70	2019R		

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	New Waverly	00917
5 yrs	5 yrs/age 60, 20 yrs/any age	8-10	X	X	REMOVED	Newton	00920
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Nixon	00922
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	11.50%	Nocona	00924
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Nolanville	00925
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	11.50%	Normangee	00928
5 yrs	5 yrs/age 60, 20 yrs/any age	2-92			REMOVED	North Richland Hills	00931
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Northlake	00930
5 yrs	5 yrs/age 60, 20 yrs/any age	5-03	X	X	REMOVED	Oak Point	00936
5 yrs	5 yrs/age 60, 25 yrs/any age	7-99	X	X	REMOVED	Oak Ridge North	00937
10 yrs	10 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Odem	00942
5 yrs	5 yrs/age 60, 20 yrs/any age	12-93	X	X	REMOVED	Odessa	00944
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	O'Donnell	00935
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Oglesby	00945
5 yrs	5 yrs/age 60, 25 yrs/any age				7.50%	Old River-Winfree	00949
5 yrs	5 yrs/age 60, 25 yrs/any age				11.50%	Olmos Park	00950
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Olney	00951
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Omaha	00953
5 yrs	5 yrs/age 60, 25 yrs/any age	4-04	X	X	9.50%	Onalaska	00954
10 yrs	10 yrs/age 60, 20 yrs/any age	3-96			REMOVED	Orange	00958
5 yrs	5 yrs/age 60, 25 yrs/any age	9-10	X	X	12.50%	Orange Grove	00960
5 yrs	5 yrs/age 60, 25 yrs/any age	10-01	X	X	7.50%	Ore City	00959
5 yrs	5 yrs/age 60, 20 yrs/any age	3-96	X	X	12.50%	Overton	00962
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	13.50%	Ovilla	00961
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	13.50%	Oyster Creek	00963
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	Paducah	00964
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X	X	REMOVED	Palacios	00966
5 yrs	5 yrs/age 60, 20 yrs/any age	11-01	X	X	REMOVED	Palestine	00968
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	13.50%	Palmer	00970
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Palmhurst	00969
5 yrs	5 yrs/age 60, 20 yrs/any age	11-18	X	X	REMOVED	Palmview	00971
5 yrs	5 yrs/age 60, 20 yrs/any age	2-96	X	X	REMOVED	Pampa	00972
5 yrs	5 yrs/age 60, 20 yrs/any age				REMOVED	Panhandle	00974
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X	X	12.50%	Panorama Village	00973
5 yrs	5 yrs/age 60, 20 yrs/any age	7-94	X	X	REMOVED	Pantego	00975
5 yrs	5 yrs/age 60, 20 yrs/any age	11-95	X	X	REMOVED	Paris	00976
5 yrs	5 yrs/age 60, 25 yrs/any age	8-18	X	X	13.50%	Parker	00977
5 yrs	5 yrs/age 60, 20 yrs/any age	4-94	X	X	REMOVED	Pasadena	00978
5 yrs	5 yrs/age 60, 20 yrs/any age	3-95	X	X	15.50%	Pearland	00983
5 yrs	5 yrs/age 60, 25 yrs/any age	2-04	X	X	8.50%	Pearsall	00984

# Plan Provisions For Participating Municipalities

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Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Pecos City	5%	2-1	100 T	1992R	30	1992R	11-90	8-08-96
Pelican Bay	5%	1-1						
Penitas	6%	1.5-1						
Perryton	7%	2-1	100 T	1992R	70	1992R	10-84	10-01-02
Pflugerville	7%	2-1	100 T	2002R	70	2002R	9-89	
Pharr	7%	2-1	100 T	2008	70	2008	4-84	11-19-02
Pilot Point	6%	2-1	100 T	2019R	70	2019R	2-00	
Pinehurst	7%	2-1	100 T	2004R	70	2004R	4-03	3-08-90
Pineland	5%	1.5-1	100	1992R	70	1992R	8-94	8-20-91
Piney Point Village	5%	2-1	100	1999				
Pittsburg	7%	2-1	100 T	1999R	70	1999R		9-08-88
Plains	7%	1.5-1	100 T	1996R				
Plainview	7%	2-1	100 T	1997R	70	1997R	9-95	12-13-77
Plano	7%	2-1	100 T	1994R	70	1994R	1-92	12-27-93
Pleasanton	7%	2-1	100 T	2013R	70	2013R	5-91	9-21-87
Point	7%	2-1	100 T	2016R	50	2016R		
Ponder	5%	2-1						
Port Aransas	6%	2-1	100 T	2014R	70	2014R	2-00	
Port Arthur	5%	2-1	100 T	1999R	70	1999R	10-85	9-27-79
Port Isabel	5%	1.5-1	100	1992R	70	1992R		
Port Lavaca	5%	1.5-1	100 T	2003R	70	2003R		
Port Neches	7%	2-1	100 T	2001R	30	2019	12-87	11-19-87
Portland	6%	2-1	100 T	2006R	70	2006R	5-91	
Post	7%	2-1	50 T	2019R				
Poteet	5%	1.5-1	100	2007R				
Poth	7%	1-1	100	2004				
Pottsboro	7%	2-1						
Prairie View	5%	1-1						
Premont	5%	1-1						
Presidio	5%	1-1						
Primera	5%	1-1						
Princeton	7%	2-1	100 T	1992R	70	1992R	1-90	
Prosper	7%	2-1	100 T	2009R	70	2009R		
Providence Village	5%	2-1						
Quanah	5%	1.5-1	100 T	1995R	70	1995R		
Queen City	5%	1-1	100 T	2000R				5-11-06
Quinlan	6%	2-1	100 T	2015R	70	2015R		
Quintana	5%	1-1						
Quitaque	5%	1-1						
Quitman	5%	2-1	100	1992R	70	1992R		

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	4-95	X	X	11.50%	Pecos City	00988
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Pelican Bay	00989
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Penitas	00991
10 yrs	10 yrs/age 60, 20 yrs/any age	2-97	X	X	REMOVED	Perryton	00994
5 yrs	5 yrs/age 60, 20 yrs/any age	1-95	X	X	REMOVED	Pflugerville	01000
5 yrs	5 yrs/age 60, 20 yrs/any age	12-99	X	X	REMOVED	Pharr	01002
5 yrs	5 yrs/age 60, 20 yrs/any age	4-96	X	X	12.50%	Pilot Point	01004
5 yrs	5 yrs/age 60, 20 yrs/any age	12-92	X	X	REMOVED	Pinehurst	01005
5 yrs	5 yrs/age 60, 20 yrs/any age	5-05	X	X	REMOVED	Pineland	01003
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Piney Point Village	01001
5 yrs	5 yrs/age 60, 20 yrs/any age	2-94	X	X	REMOVED	Pittsburg	01006
5 yrs	5 yrs/age 60, 25 yrs/any age	11-00	X	X	REMOVED	Plains	01007
5 yrs	5 yrs/age 60, 25 yrs/any age	1-92			REMOVED	Plainview	01008
5 yrs	5 yrs/age 60, 20 yrs/any age	1-94			REMOVED	Plano	01010
5 yrs	5 yrs/age 60, 20 yrs/any age	12-96	X	X	REMOVED	Pleasanton	01012
5 yrs	5 yrs/age 60, 20 yrs/any age	11-10			REMOVED	Point	01013
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Ponder	01017
5 yrs	5 yrs/age 60, 20 yrs/any age	2-00	X	X	12.50%	Port Aransas	01014
10 yrs	10 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Port Arthur	11016
5 yrs	5 yrs/age 60, 25 yrs/any age	6-17	X	X	9.50%	Port Isabel	01018
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Port Lavaca	01020
10 yrs	10 yrs/age 60, 20 yrs/any age	3-97			REMOVED	Port Neches	01022
10 yrs	10 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Portland	01019
5 yrs	5 yrs/age 60, 20 yrs/any age	1-97	X	X	REMOVED	Post	01024
5 yrs	5 yrs/age 60, 20 yrs/any age	12-18	X	X	9.50%	Poteet	01026
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Poth	01028
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	13.50%	Pottsboro	01030
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Prairie View	01031
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Premont	01032
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Presidio	01029
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Primera	01033
5 yrs	5 yrs/age 60, 20 yrs/any age	2-02	X	X	13.50%	Princeton	01034
5 yrs	5 yrs/age 60, 20 yrs/any age				15.50%	Prosper	01036
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Providence Village	01037
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Quanah	01042
5 yrs	5 yrs/age 60, 25 yrs/any age	11-01	X	X	7.50%	Queen City	01045
5 yrs	5 yrs/age 60, 25 yrs/any age	8-97	X	X	12.50%	Quinlan	01044
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Quintana	01047
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Quitague	01046
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	11.50%	Quitman	01048

# Plan Provisions For Participating Municipalities

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Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Ralls	5%	1.5-1	100 T	1997R	70	1997R		
Rancho Viejo	7%	1.5-1	100	1999R				11-13-01
Ranger	6%	2-1	100 T	2005R	70	2005R		
Rankin	5%	1-1	100 T	1993			1-90	
Ransom Canyon	6%	1.5-1	100 T	2014R			8-09	
Raymondville	7%	2-1	90 T	1988	70	1988	1-86	
Red Oak	7%	2-1	100 T	2009	70	2009		
Redwater	7%	1-1						
Refugio	5%	1-1	100	1991				
Reklaw	7%	1.5-1	100 T	2001R	70	2001R		
Reno (Lamar County)	5%	2-1	100	1994R				
Reno (Parker County)	7%	1.5-1						
Rhome	7%	2-1						
Rice	5%	1-1						
Richardson	7%	2-1	50	2011R	50	2011R	1-87	12-10-18
Richland Hills	7%	2-1	100 T	1992R	70	1992R	1-90	12-10-91
Richland Springs	5%	2-1	20	1997				
Richmond	7%	2-1	100 T	1992R	70	1992R	1-90	4-18-05
Richwood	5%	2-1	100 T	1998R	70	1998R	4-90	
Riesel	5%	1-1						
Rio Grande City	6%	1.5-1	100 T	2007R	70	2007R		9-07-06
Rio Vista	7%	1-1						
Rising Star	5%	1-1						
River Oaks	7%	2-1	100 T	1992R	70	1992R	8-88	
Roanoke	7%	2-1	100 T	1993R	70	1993R		
Robert Lee	5%	1-1						
Robinson	7%	2-1	100 T	2009R	30	2009R		
Robstown	5%	1.5-1	100	2004R	70	2004R		
Robstown Utility System	5%	1.5-1	100 T	2018R	70	2018R	11-03	3-07-91
Roby	7%	2-1	100	1994	70	1994		
Rockdale	5%	2-1	100	2004R	70	2004R		
Rockport	7%	2-1	100 T	1993R	70	1993R	6-92	
Rocksprings	7%	1-1						
Rockwall	7%	2-1	100 T	2001R	70	2001R	7-93	8-02-83
Rogers	7%	1.5-1	75 T	2018R				
Rollingwood	7%	2-1	100 T	2019R				
Roma	5%	2-1	100 T	2009R	70	2009R		
Roscoe	5%	1-1						
Rosebud	5%	1-1						
Rosenberg	7%	2-1	100 T	2019R	70	2019R	2-91	5-18-99



# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Ralls	01050
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	11.50%	Rancho Viejo	01051
5 yrs	5 yrs/age 60, 20 yrs/any age				12.50%	Ranger	01052
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	7.50%	Rankin	01054
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Ransom Canyon	01055
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	15.50%	Raymondville	01058
5 yrs	5 yrs/age 60, 20 yrs/any age	10-08	X	X	13.50%	Red Oak	01061
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Redwater	01062
5 yrs	5 yrs/age 60, 25 yrs/any age				7.50%	Refugio	01064
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Reklaw	01065
5 yrs	5 yrs/age 60, 20 yrs/any age	2-01	X	X	11.50%	Reno (Lamar County)	01066
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Reno (Parker County)	01069
5 yrs	5 yrs/age 60, 20 yrs/any age	10-02	X	X	13.50%	Rhome	01067
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	7.50%	Rice	01068
5 yrs	5 yrs/age 60, 25 yrs/any age	10-91			REMOVED	Richardson	01070
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Richland Hills	01073
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Richland Springs	01074
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Richmond	01076
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Richwood	01077
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Riesel	01072
5 yrs	5 yrs/age 60, 20 yrs/any age	1-07	X	X	REMOVED	Rio Grande City	01075
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Rio Vista	01079
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Rising Star	01080
5 yrs	5 yrs/age 60, 20 yrs/any age	11-95	X	X	REMOVED	River Oaks	01082
5 yrs	5 yrs/age 60, 20 yrs/any age	11-97			REMOVED	Roanoke	01084
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Robert Lee	01088
5 yrs	5 yrs/age 60, 20 yrs/any age	12-97	X	X	REMOVED	Robinson	01089
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X	X	9.50%	Robstown	21090
5 yrs	5 yrs/age 60, 20 yrs/any age	11-97	X	X	REMOVED	Robstown Utility System	11090
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Roby	01092
5 yrs	5 yrs/age 60, 20 yrs/any age	7-01	X	X	11.50%	Rockdale	01096
5 yrs	5 yrs/age 60, 20 yrs/any age	3-97	X	X	REMOVED	Rockport	01098
5 yrs	5 yrs/age 60, 25 yrs/any age	9-18			REMOVED	Rocksprings	01100
5 yrs	5 yrs/age 60, 20 yrs/any age	11-95	X	X	REMOVED	Rockwall	01102
5 yrs	5 yrs/age 60, 25 yrs/any age	8-09			REMOVED	Rogers	01104
5 yrs	5 yrs/age 60, 20 yrs/any age	1-07	X	X	13.50%	Rollingwood	01105
5 yrs	5 yrs/age 60, 20 yrs/any age	5-02	X	X	11.50%	Roma	01106
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Roscoe	01109
5 yrs	5 yrs/age 60, 20 yrs/any age	10-05	X	X	REMOVED	Rosebud	01112
5 yrs	5 yrs/age 60, 20 yrs/any age	10-96	X	X	REMOVED	Rosenberg	01114

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Rotan	5%	1-1						
Round Rock	7%	2-1	100 T	1999R	70	1999R	1-90	6-08-06
Rowlett	7%	2-1	100 T	1999R	50	2012R	1-90	
Roy H. Laird Mem. Hospital	5%	2-1	100	2009	70	2009		
Royse City	7%	2-1	100 T	2009R	70	2018R		
Rule	7%	1.5-1						
Runaway Bay	5%	1.5-1						
Runge	7%	1-1	100 T	2003R	70	2003R		
Rusk	6%	1.5-1	100 T	2004R	70	2004R	2-12	12-19-02
Sabinal	3%	2-1	100 T	1996R			4-95	
Sachse	7%	2-1	100 T	1998R	70	1998R		
Saginaw	7%	2-1	100 T	2019R	70	2019R		
Saint Jo	6%	1.5-1	100	1992R	70	1998R		
Salado	5%	2-1	100 T	2005R			7-02	
San Angelo	7%	2-1	100 T	1995R	50	2010R	1-82	11-13-79
San Antonio	6%	2-1	100 T	2000R	70	2019	10-96	1-01-00
San Antonio Water System	3%	1-1	100	1992R	70	1992R	9-89	
San Augustine	7%	2-1	100 T	1995R	70	1995R	9-99	3-14-00
San Benito	5%	2-1	100 T	2001			6-98	
San Felipe	5%	1-1						
San Juan	6%	1.5-1					4-01	
San Marcos	7%	2-1	100 T	1999R	70	1999R	4-84	7-09-01
San Saba	6%	1.5-1	100 T	2011R	70	2011R		7-11-78
Sanger	6%	2-1	100	2007R			12-95	8-20-07
Sansom Park	7%	1.5-1	100 T	2008R	70	2008R		
Santa Anna	5%	1.5-1	100 T	1992R	70	1992R		
Santa Fe	7%	1.5-1	100 T	2005R	70	2005R		
Savoy	6%	1.5-1						
Schertz	7%	2-1	100 T	2008R	70	2008R	9-94	8-16-94
Schulenburg	7%	2-1	100 T	2001R	70	2001R		3-09-89
Seabrook	7%	2-1	100 T	2005R	30	2014R	1-88	3-05-13
Seadrift	5%	1-1						
Seagoville	7%	2-1	100 T	2007R	70	1988		
Seagraves	5%	2-1	100	1992R	70	1992R		
Sealy	7%	2-1	100 T	2007R	70	2007R	1-90	
Seguin	7%	2-1	100 T	2015R	70	2019R	2-96	
Selma	7%	2-1	100 T	1993R	70	1996R	7-95	
Seminole	7%	2-1	100 T	2000R	70	2000R	7-96	3-23-92
Seven Points	7%	2-1	100 T	1998R	70	1998R		
Seymour	6%	1-1	100 T	1995R	70	1995R	9-89	

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Rotan	01116
5 yrs	5 yrs/age 60, 20 yrs/any age	2-96	X	X	REMOVED	Round Rock	01118
5 yrs	5 yrs/age 60, 20 yrs/any age	5-94			REMOVED	Rowlett	01119
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	11.50%	Roy H. Laird Mem. Hospital	20696
5 yrs	5 yrs/age 60, 20 yrs/any age	8-92	X	X	REMOVED	Royse City	01120
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	11.50%	Rule	01122
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	Runaway Bay	01123
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Runge	01124
5 yrs	5 yrs/age 60, 20 yrs/any age	2-12	X	X	10.50%	Rusk	01126
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Sabinal	01128
5 yrs	5 yrs/age 60, 20 yrs/any age	9-95	X	X	REMOVED	Sachse	01129
5 yrs	5 yrs/age 60, 20 yrs/any age	11-97	X	X	REMOVED	Saginaw	01131
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	10.50%	Saint Jo	01130
5 yrs	5 yrs/age 60, 20 yrs/any age	6-11	X	X	REMOVED	Salado	01133
5 yrs	5 yrs/age 60, 20 yrs/any age	10-94			REMOVED	San Angelo	01132
5 yrs	5 yrs/age 60, 20 yrs/any age	10-96			REMOVED	San Antonio	21136
5 yrs	5 yrs/age 60, 20 yrs/any age	4-97			5.50%	San Antonio Water System	11136
10 yrs	10 yrs/age 60, 25 yrs/any age	9-99	X	X	13.50%	San Augustine	01138
5 yrs	5 yrs/age 60, 20 yrs/any age	6-98	X	X	11.50%	San Benito	01140
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	San Felipe	01144
5 yrs	5 yrs/age 60, 25 yrs/any age	12-00	X	X	10.50%	San Juan	01148
5 yrs	5 yrs/age 60, 20 yrs/any age	2-96	X	X	REMOVED	San Marcos	01150
5 yrs	5 yrs/age 60, 20 yrs/any age	11-08	X	X	10.50%	San Saba	01152
5 yrs	5 yrs/age 60, 20 yrs/any age	3-99	X	X	12.50%	Sanger	01146
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	11.50%	Sansom Park	01153
5 yrs	5 yrs/age 60, 25 yrs/any age	1-92	X	X	9.50%	Santa Anna	01154
10 yrs	10 yrs/age 60, 20 yrs/any age	2-97			REMOVED	Santa Fe	01155
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	10.50%	Savoy	01158
5 yrs	5 yrs/age 60, 20 yrs/any age	2-93	X	X	REMOVED	Schertz	01159
5 yrs	5 yrs/age 60, 20 yrs/any age	1-01	X	X	REMOVED	Schulenburg	01160
5 yrs	5 yrs/age 60, 20 yrs/any age	12-94	X	X	REMOVED	Seabrook	01161
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Seadrift	01162
5 yrs	5 yrs/age 60, 20 yrs/any age	11-95	X	X	13.50%	Seagoville	01164
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Seagraves	01166
5 yrs	5 yrs/age 60, 20 yrs/any age	1-05	X	X	REMOVED	Sealy	01167
5 yrs	5 yrs/age 60, 20 yrs/any age	6-95	X	X	REMOVED	Seguin	01168
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X	X	REMOVED	Selma	01169
5 yrs	5 yrs/age 60, 25 yrs/any age	9-96	X	X	REMOVED	Seminole	01170
10 yrs	10 yrs/age 60, 20 yrs/any age	5-00	X	X	13.50%	Seven Points	01171
5 yrs	5 yrs/age 60, 20 yrs/any age	4-98	X	X	8.50%	Seymour	01172

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Shady Shores	7%	2-1	100 T	2017				
Shallowater	6%	1.5-1	100 T	2019R				
Shamrock	5%	1-1	100 T	1992R	70	1992R		
Shavano Park	7%	2-1	100 T	2006R	70	2006R		
Shenandoah	7%	2-1	100 T	2009R	70	2009R		11-28-07
Shepherd	7%	1.5-1	100	1998				
Sherman	7%	2-1	100 T	2007R	30	2007R	1-91	10-01-00
Shiner	5%	1-1	100 T	2005R	70	2005R		
Shoreacres	5%	1.5-1	100 T	1993R	70	1993R		3-26-01
Silsbee	7%	2-1	100	1996R	70	1996R	10-89	11-08-83
Silverton	6%	1.5-1	75	2012R	50	2012R		
Simonton	5%	1-1						
Sinton	7%	2-1	100	2012R	70	2012R	5-88	
Skellytown	7%	1-1	100	2012R				
Slaton	6%	2-1	100 T	1992R	70	1996		
Smithville	5%	1.5-1	100 T	2001R	70	2001R	12-95	4-11-94
Smyer	7%	2-1						
Snyder	7%	2-1	100 T	1992R	70	1992R		
Somerset	5%	1.5-1	100 T	2011	70	2011		
Somerville	5%	1.5-1	100 T	2000R	70	2000R		
Sonora	5%	2-1	100 T	2009R	70	2009R		11-18-08
Sour Lake	7%	2-1					5-11	
South Houston	5%	2-1	100 T	2007R	70	2007R	12-91	
South Padre Island	7%	2-1	100 T	2002R	70	2002R	1-90	7-01-78
Southlake	7%	2-1	100	2010R	50	2010R	1-95	6-20-00
Southmayd	5%	1-1						
Southside Place	7%	2-1	100 T	2011R	70	1988	1-03	
Spearman	7%	2-1	100 T	1992R	70	1992R		12-16-86
Splendora	7%	1-1						
Spring Valley	7%	2-1	100 T	2009	70	2009		
Springtown	7%	2-1	100 T	2007R	70	2007R		
Spur	5%	1-1	100 T	2013R	70	2017		
Stafford	7%	2-1	100 T	2005R	70	2005R		
Stamford	5%	1.5-1	100 T	1994R	70	1994R	2-89	
Stanton	5%	1.5-1	100	1992R	70	1992R	5-89	
Star Harbor	5%	2-1	100	1992R	70	1992R	9-82	
Stephenville	6%	2-1	100 T	2018R	70	2017	10-89	12-04-01
Sterling City	5%	1-1						
Stinnett	5%	1.5-1	100	1995	60	1995		3-18-02
Stockdale	7%	1-1						

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Shady Shores	01165
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	10.50%	Shallowater	01177
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Shamrock	01174
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	13.50%	Shavano Park	01173
5 yrs	5 yrs/age 60, 20 yrs/any age	1-08	X	X	REMOVED	Shenandoah	01175
5 yrs	5 yrs/age 60, 25 yrs/any age	7-00	X	X	11.50%	Shepherd	01181
5 yrs	5 yrs/age 60, 20 yrs/any age	10-00	X	X	REMOVED	Sherman	01176
5 yrs	5 yrs/age 60, 20 yrs/any age	12-17	X	X	REMOVED	Shiner	01178
5 yrs	5 yrs/age 60, 20 yrs/any age	11-93	X	X	9.50%	Shoreacres	01179
5 yrs	5 yrs/age 60, 20 yrs/any age	5-98			REMOVED	Silsbee	01180
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Silverton	01182
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Simonton	01183
5 yrs	5 yrs/age 60, 25 yrs/any age	11-91	X	X	REMOVED	Sinton	01184
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Skellytown	01185
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	12.50%	Slaton	01186
5 yrs	5 yrs/age 60, 20 yrs/any age	1-94	X	X	9.50%	Smithville	01188
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	13.50%	Smyer	01189
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Snyder	01190
5 yrs	5 yrs/age 60, 25 yrs/any age	10-01	X	X	9.50%	Somerset	01191
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Somerville	01192
5 yrs	5 yrs/age 60, 20 yrs/any age	4-00	X	X	REMOVED	Sonora	01194
5 yrs	5 yrs/age 60, 25 yrs/any age	9-12	X	X	13.50%	Sour Lake	01196
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	South Houston	01198
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	13.50%	South Padre Island	01199
5 yrs	5 yrs/age 60, 20 yrs/any age	1-95	X	X	13.50%	Southlake	01197
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Southmayd	01200
5 yrs	5 yrs/age 60, 20 yrs/any age	1-03	X	X	REMOVED	Southside Place	01202
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	13.50%	Spearman	01204
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Splendor	01201
5 yrs	5 yrs/age 60, 25 yrs/any age	4-97	X	X	REMOVED	Spring Valley	01205
5 yrs	5 yrs/age 60, 20 yrs/any age	10-04	X	X	13.50%	Springtown	01203
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Spur	01206
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Stafford	01207
5 yrs	5 yrs/age 60, 25 yrs/any age	9-96	X	X	9.50%	Stamford	01208
5 yrs	5 yrs/age 60, 25 yrs/any age	10-99	X	X	9.50%	Stanton	01210
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Star Harbor	01211
5 yrs	5 yrs/age 60, 20 yrs/any age	10-91	X	X	REMOVED	Stephenville	01212
5 yrs	5 yrs/age 60, 25 yrs/any age				7.50%	Sterling City	01213
5 yrs	5 yrs/age 60, 25 yrs/any age	9-98	X	X	9.50%	Stinnett	01214
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Stockdale	01216

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Stratford	5%	1.5-1	100 T	2006R	70	2006R	1-00	
Sudan	5%	1-1	100 T	2019	70	2019		
Sugar Land	7%	2-1	100 T	2002R	70	2002R		
Sulphur Springs	6%	2-1	100 T	2019	50	2007		
Sundown	7%	2-1	100 T	2010R	50	1996		
Sunnyvale	6%	2-1	100 T	2004R	70	2004R	5-04	
Sunray	7%	2-1	100 T	2000R	70	2000R	2-99	
Sunrise Beach Village	5%	1-1						
Sunset Valley	7%	2-1	100 T	2004R	70	2004R	7-01	
Surfside Beach	7%	1-1						
Sweeny	7%	2-1	100 T	2008R	70	2008R		
Sweetwater	7%	2-1	100 T	2000R	70	2000R		9-10-91
TMRS	7%	2-1	100 T	1992R	70	2000R	1-82	12-06-13
Taft	7%	2-1	100 T	2013R	30	2013R	11-94	6-12-12
Tahoka	5%	2-1	100	2019	50	1976	12-03	
Talty	5%	1-1						
Tatum	5%	1-1						
Taylor	7%	1.5-1	100 T	2007R	70	2007R	2-92	
Teague	7%	2-1	100 T	2007R	70	2007R		
Temple	7%	2-1	100 T	1992R	70	1992R	1-90	
Tenaha	5%	1-1						
Terrell	7%	2-1	100 T	1996R	70	1996R	1-96	
Terrell Hills	7%	2-1	100 T	2019R	70	2019R	3-02	
Texarkana	7%	2-1	100 T	1992R	70	1992R	10-88	
Texarkana Police Dept.	7%	2-1	100 T	1998R	70	1998R	10-88	
Texarkana Water Utilities	7%	2-1	100 T	1992R	70	1992R	10-88	
Texas City	7%	2-1	100 T	2003R	70	2003R	6-90	1-01-03
Texas Municipal League	6%	2-1	100 T	2005R	70	2005R	11-91	
Texas Municipal League IEBP	6%	2-1	100	2019				
Texas Municipal League IRP	7%	2-1	100 T	2016R	70	2016R	3-92	10-19-02
Texhoma	5%	1-1						
The Colony	7%	2-1	100 T	2011R	30	2011R	10-93	
Thompsons	5%	1-1						
Thorndale	5%	1.5-1	100 T	2013R	70	2013R		
Thrall	5%	1.5-1						
Three Rivers	7%	2-1	100	2018R	70	2018R		
Throckmorton	5%	1.5-1	100	2004R	70	2004R		12-08-87
Tiki Island	6%	1-1						
Timpson	5%	1-1	100	1996R				
Tioga	7%	1-1						

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	1-00	X	X	REMOVED	Stratford	01218
5 yrs	5 yrs/age 60, 20 yrs/any age	10-99			7.50%	Sudan	01224
5 yrs	5 yrs/age 60, 20 yrs/any age	7-98	X	X	REMOVED	Sugar Land	01225
5 yrs	5 yrs/age 60, 20 yrs/any age	11-95	X	X	REMOVED	Sulphur Springs	01226
5 yrs	5 yrs/age 60, 20 yrs/any age	4-00	X	X	REMOVED	Sundown	01228
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Sunnyvale	01229
5 yrs	5 yrs/age 60, 20 yrs/any age	2-99	X	X	REMOVED	Sunray	01230
5 yrs	5 yrs/age 60, 25 yrs/any age	4-11	X	X	7.50%	Sunrise Beach Village	01227
5 yrs	5 yrs/age 60, 20 yrs/any age	6-06	X	X	13.50%	Sunset Valley	01231
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Surfside Beach	01233
5 yrs	5 yrs/age 60, 25 yrs/any age	10-11	X	X	REMOVED	Sweeny	01232
5 yrs	5 yrs/age 60, 25 yrs/any age	1-96	X	X	REMOVED	Sweetwater	01234
5 yrs	5 yrs/age 60, 20 yrs/any age	1-97	X	X	REMOVED	TMRS	01264
5 yrs	5 yrs/age 60, 25 yrs/any age	1-16	X	X	REMOVED	Taft	01236
5 yrs	5 yrs/age 60, 25 yrs/any age	3-04	X	X	11.50%	Tahoka	01238
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Talty	01240
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Tatum	01241
5 yrs	5 yrs/age 60, 20 yrs/any age	10-91	X	X	REMOVED	Taylor	01246
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	13.50%	Teague	01248
5 yrs	5 yrs/age 60, 20 yrs/any age	1-94	X	X	REMOVED	Temple	01252
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	7.50%	Tenaha	01254
5 yrs	5 yrs/age 60, 20 yrs/any age	1-96	X	X	REMOVED	Terrell	01256
5 yrs	5 yrs/age 60, 20 yrs/any age	8-97	X	X	REMOVED	Terrell Hills	01258
5 yrs	5 yrs/age 60, 20 yrs/any age	6-95			REMOVED	Texarkana	21260
5 yrs	5 yrs/age 60, 20 yrs/any age	6-95			REMOVED	Texarkana Police Dept.	11260
5 yrs	5 yrs/age 60, 20 yrs/any age	6-95			REMOVED	Texarkana Water Utilities	31260
5 yrs	5 yrs/age 60, 20 yrs/any age	10-16			REMOVED	Texas City	01262
10 yrs	10 yrs/age 60, 20 yrs/any age	11-91	X	X	REMOVED	Texas Municipal League	11263
10 yrs	10 yrs/age 60, 25 yrs/any age	1-99	X	X	12.50%	Texas Municipal League IEBP	31263
10 yrs	10 yrs/age 60, 25 yrs/any age	3-92	X	X	REMOVED	Texas Municipal League IRP	21263
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Texhoma	01265
5 yrs	5 yrs/age 60, 20 yrs/any age	1-96	X	X	REMOVED	The Colony	01267
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Thompsons	01269
5 yrs	5 yrs/age 60, 20 yrs/any age	9-99	X	X	9.50%	Thorndale	01268
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Thrall	01272
5 yrs	5 yrs/age 60, 20 yrs/any age	2-16	X	X	REMOVED	Three Rivers	01274
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	Throckmorton	01276
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Tiki Island	01277
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Timpson	01278
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	Tioga	01280

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Tolar	7%	2-1						
Tom Bean	6%	1.5-1						
Tomball	7%	2-1	100 T	1995R	70	1995R	11-89	6-20-88
Trent	7%	1.5-1						
Trenton	5%	1.5-1	100 T	1998R				4-07-94
Trinidad	5%	1-1						
Trinity	5%	2-1	100	2014R	70	2014R		
Trophy Club	7%	2-1	100 T	2001R	30	2015R		
Troup	5%	1.5-1	100 T	2011R	70	2011R		
Troy	7%	2-1	100	2016R				
Tulia	6%	2-1	100 T	1997R	70	1997R		5-05-87
Turkey	5%	1-1						
Tye	7%	1.5-1						
Tyler	7%	2-1	100 T	2005R	70	2005R	2-94	5-24-00
Universal City	7%	2-1	100 T	2014R	70	2014R	3-94	
University Park	7%	2-1	100 T	2019	70	2019		
Uvalde	5%	1.5-1	100 T	2012R	70	2012R	6-90	
Valley Mills	5%	1-1						
Valley View	5%	1-1						
Van	6%	2-1	100 T	2015R	70	1990	3-11	
Van Alstyne	6%	2-1	100 T	2000R	70	2000R		
Van Horn	5%	1.5-1	100	1994R	70	1994R		12-10-96
Vega	7%	2-1	100 T	2008R	70	2008R		
Venus	7%	2-1	100	2007R	70	2010R		
Vernon	7%	2-1	75 T	2016R	30	2016R	5-91	
Victoria	6%	2-1	100 T	1993R	70	1993R	11-84	8-16-82
Vidor	7%	2-1	100 T	2006R	70	2006R	1-92	10-11-07
Volente	6%	1.5-1						
Village Fire Dept.	7%	1.5-1	100 T	2009	70	2009		
Village of the Hills	6%	1.5-1						
Waco	7%	2-1	100 T	2005R	50	2014	9-89	4-01-03
Waelder	5%	1-1	100	1992R	30	1988		
Wake Village	7%	2-1	100	1995R	70	1995R		2-14-11
Waller	5%	1.5-1	100 T	2010R				
Wallis	6%	1-1	100	2001R				
Walnut Springs	5%	1-1						
Waskom	5%	1-1	100 T	2005R	70	2005R		
Watauga	7%	2-1	100 T	1999R	70	1999R	11-89	
Waxahachie	7%	2-1	100 T	1997R	70	1997R	1-90	12-16-85
Weatherford	7%	2-1	100 T	2000R	50	2014R	10-88	3-28-89



# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 25 yrs/any age	9-12	X	X	REMOVED	Tolar	01283
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	10.50%	Tom Bean	01286
5 yrs	5 yrs/age 60, 20 yrs/any age	9-94	X	X	REMOVED	Tomball	01284
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	11.50%	Trent	01290
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	Trenton	01292
5 yrs	5 yrs/age 60, 25 yrs/any age	10-96	X	X	7.50%	Trinidad	01293
5 yrs	5 yrs/age 60, 20 yrs/any age	4-06	X	X	11.50%	Trinity	01294
5 yrs	5 yrs/age 60, 20 yrs/any age	3-01	X	X	REMOVED	Trophy Club	01295
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	9.50%	Troup	01296
5 yrs	5 yrs/age 60, 25 yrs/any age	3-98	X	X	13.50%	Troy	01297
5 yrs	5 yrs/age 60, 20 yrs/any age	12-96	X	X	REMOVED	Tulia	01298
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Turkey	01299
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Tye	01301
5 yrs	5 yrs/age 60, 20 yrs/any age	1-94	X	X	REMOVED	Tyler	01304
5 yrs	5 yrs/age 60, 20 yrs/any age	4-97	X	X	REMOVED	Universal City	01305
10 yrs	10 yrs/age 60, 20 yrs/any age	12-91			REMOVED	University Park	01306
5 yrs	5 yrs/age 60, 20 yrs/any age	1-98	X	X	9.50%	Uvalde	01308
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Valley Mills	01312
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Valley View	01313
5 yrs	5 yrs/age 60, 20 yrs/any age	3-11	X	X	12.50%	Van	01314
5 yrs	5 yrs/age 60, 20 yrs/any age	9-18	X	X	12.50%	Van Alstyne	01316
5 yrs	5 yrs/age 60, 20 yrs/any age	1-97	X	X	9.50%	Van Horn	01318
5 yrs	5 yrs/age 60, 20 yrs/any age	1-03	X	X	REMOVED	Vega	01320
5 yrs	5 yrs/age 60, 20 yrs/any age				13.50%	Venus	01324
5 yrs	5 yrs/age 60, 25 yrs/any age	12-96	X	X	REMOVED	Vernon	01326
5 yrs	5 yrs/age 60, 20 yrs/any age	1-92	X	X	REMOVED	Victoria	01328
10 yrs	10 yrs/age 60, 20 yrs/any age	7-97	X	X	REMOVED	Vidor	01329
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Volente	01331
5 yrs	5 yrs/age 60, 20 yrs/any age	6-96	X	X	REMOVED	Village Fire Dept.	01500
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Village of the Hills	01327
5 yrs	5 yrs/age 60, 20 yrs/any age	11-91			REMOVED	Waco	01330
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Waelder	01332
5 yrs	5 yrs/age 60, 25 yrs/any age	1-92	X	X	REMOVED	Wake Village	01334
5 yrs	5 yrs/age 60, 25 yrs/any age	6-02	X	X	9.50%	Waller	01336
10 yrs	10 yrs/age 60, 20 yrs/any age		X	X	8.50%	Wallis	01337
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Walnut Springs	01338
10 yrs	10 yrs/age 60, 20 yrs/any age	5-00	X	X	7.50%	Waskom	01340
5 yrs	5 yrs/age 60, 20 yrs/any age	3-92	X	X	REMOVED	Watauga	01341
5 yrs	5 yrs/age 60, 20 yrs/any age	11-91	X	X	REMOVED	Waxahachie	01342
5 yrs	5 yrs/age 60, 20 yrs/any age	11-92	X	X	REMOVED	Weatherford	01344

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>®</sup> (%)	Year Effective		
Webster	7%	2-1	100 T	1998R	70	1998R	2-95	1-02-07
Weimar	7%	2-1	100	2008R	50	2008R		
Wellington	5%	2-1	100 T	2015R	70	2007	10-89	
Wells	5%	1-1	100	1992R	70	1992R		
Weslaco	7%	2-1	50 T	2019	30	2019		8-18-05
West	5%	1.5-1	100	2003R	50	1981		
West Columbia	5%	2-1	100 T	2003R	50	1976		7-12-10
West Lake Hills	7%	2-1	100 T	2000R	70	2000R		5-13-92
West Orange	7%	2-1	100	2003R	70	2003R	11-89	
West Tawakoni	5%	2-1	100 T	2007R				9-13-05
West University Place	7%	2-1	100 T	2004R	70	2010	1-91	11-26-90
Westlake	7%	2-1	100 T	2006R				
Westover Hills	7%	1-1	90	1991	30	1991		
Westworth Village	7%	2-1	100 T	2010R	70	2010R		
Wharton	5%	1.5-1	100 T	2010R	70	2010R	1-97	
Wheeler	5%	2-1	100	1999R	70	1999R		
White Deer	5%	1-1	100	1992R	70	1992R		
White Oak	7%	2-1	100 T	1992R	70	1992R	12-00	
White Settlement	7%	2-1	100 T	2017R	70	2017R	6-90	12-21-99
Whiteface	5%	1.5-1	100 T	1996R	70	1996R	10-01	
Whitehouse	5%	2-1	100	2017R	70	2017R		
Whitesboro	5%	1.5-1	100 T	1998R	70	1998R		
Whitewright	5%	1.5-1	100 T	1992R				
Whitney	5%	1-1	100 T	2002R	70	2002R		
Wichita Falls	5% <sup>®</sup>	2-1	50 T	1997R	70	1997R		
Willis	7%	2-1	100 T	2011R	70	2011		
Willow Park	7%	2-1						12-09-14
Wills Point	5%	2-1	100 T	2009R	70	2009R		
Wilmer	6%	2-1	100	1991	70	1991		
Wimberley	5%	2-1	100 T	2018				
Windcrest	6%	1.5-1	100 T	2004R	70	2004R		
Winfield	5%	1-1						
Wink	7%	2-1	100	1991	70	1991		
Winnsboro	5%	2-1	100 T	2015R	70	2015R	1-89	3-11-08
Winona	7%	2-1	100	2006R	70	2007R		
Winters	5%	2-1	100 T	2001R	70	2001R		
Wolfforth	5%	2-1	100 T	2015R	70	2015R	1-00	
Woodcreek	5%	2-1						
Woodsboro	5%	1-1	100	1992R	70	1992R		
Woodville	7%	2-1	100 T	2000R	70	2000R		

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age	2-95	X	X	REMOVED	Webster	01345
5 yrs	5 yrs/age 60, 25 yrs/any age	5-98	X	X	REMOVED	Weimar	01346
10 yrs	10 yrs/age 60, 25 yrs/any age	12-98	X	X	REMOVED	Wellington	01350
5 yrs	5 yrs/age 60, 25 yrs/any age				7.50%	Wells	01352
5 yrs	5 yrs/age 60, 20 yrs/any age	10-95	X	X	REMOVED	Weslaco	01354
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	West	01356
5 yrs	5 yrs/age 60, 20 yrs/any age	5-13			11.50%	West Columbia	01358
5 yrs	5 yrs/age 60, 20 yrs/any age	11-96	X	X	REMOVED	West Lake Hills	01359
10 yrs	10 yrs/age 60, 20 yrs/any age	10-95			REMOVED	West Orange	01361
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	West Tawakoni	01365
5 yrs	5 yrs/age 60, 20 yrs/any age	1-96	X	X	REMOVED	West University Place	01364
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Westlake	01363
5 yrs	5 yrs/age 60, 25 yrs/any age	10-93	X	X	9.50%	Westover Hills	01362
5 yrs	5 yrs/age 60, 20 yrs/any age	8-00	X	X	13.50%	Westworth Village	01366
10 yrs	10 yrs/age 60, 20 yrs/any age	11-97	X	X	9.50%	Wharton	01368
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Wheeler	01370
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	White Deer	01372
5 yrs	5 yrs/age 60, 20 yrs/any age	5-00	X	X	REMOVED	White Oak	01377
5 yrs	5 yrs/age 60, 20 yrs/any age	11-91	X	X	REMOVED	White Settlement	01378
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Whiteface	01374
5 yrs	5 yrs/age 60, 20 yrs/any age	3-95	X	X	11.50%	Whitehouse	01375
5 yrs	5 yrs/age 60, 20 yrs/any age	8-98	X	X	9.50%	Whitesboro	01376
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	9.50%	Whitewright	01380
5 yrs	5 yrs/age 60, 20 yrs/any age	4-02	X	X	7.50%	Whitney	01382
10 yrs	10 yrs/age 60, 25 yrs/any age	10-96			REMOVED	Wichita Falls	01384
5 yrs	5 yrs/age 60, 20 yrs/any age	8-97	X	X	13.50%	Willis	01386
5 yrs	5 yrs/age 60, 20 yrs/any age	9-18	X	X	REMOVED	Willow Park	01387
10 yrs	10 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Wills Point	01388
5 yrs	5 yrs/age 60, 20 yrs/any age	10-97	X	X	12.50%	Wilmer	01390
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Wimberley	01392
5 yrs	5 yrs/age 60, 20 yrs/any age	6-00	X	X	10.50%	Windcrest	01393
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Winfield	01395
5 yrs	5 yrs/age 60, 20 yrs/any age	11-99	X	X	REMOVED	Wink	01396
5 yrs	5 yrs/age 60, 25 yrs/any age	1-96	X	X	11.50%	Winnsboro	01398
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	13.50%	Winona	01399
5 yrs	5 yrs/age 60, 20 yrs/any age	10-00	X	X	11.50%	Winters	01400
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Wolforth	01403
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	REMOVED	Woodcreek	01409
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	7.50%	Woodsboro	01404
5 yrs	5 yrs/age 60, 25 yrs/any age	5-99	X	X	REMOVED	Woodville	01406

# Plan Provisions For Participating Municipalities

Continued

Participating Municipality	Employee Deposit Rate	Municipal Current Matching Ratio	Updated Service Credit		Increased Benefits to Retirees		Military Service Credit Effective Date	Buyback Effective Date
			Rate (%)	Year Effective	Rate <sup>①</sup> (%)	Year Effective		
Woodway	7%	2-1	100 T	1992R	70	1992R	1-91	
Wortham	6%	2-1	100 T	2004R				
Wylie	7%	2-1	100 T	1995R	70	1995R	2-89	12-12-00
Yoakum	6%	2-1	100	1992R	70	1992R	5-82	
Yorktown	5%	1-1	100	1988	70	1988		
Zavalla	7%	1-1	100 T	2001R			9-05	

① For years prior to 1982, the rate is the actual percentage in annuities. For 1982 and later, the rate is the percentage of the change in the CPI-U since retirement date, granted to each annuitant as an increase of the original annuity.

② Police Department — 7%.

③ All plans include Vested Employee Survivor benefits and Occupational Disability benefits except for this inactive municipality.

④ Also includes 25 yrs/age 50 retirement eligibility.

T — Includes Transfer Credits.

R — Annually Repeating. Ordinance automatically renews effective January 1 of each successive year.

# Plan Provisions For Participating Municipalities

Continued

Vesting	Service Retirement Eligibilities	Restricted Prior Service Credit Effective Date	Supplemental Death Benefits		Statutory Maximum (%)	Participating Municipality	City Number
			Employees	Retirees			
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	REMOVED	Woodway	01407
5 yrs	5 yrs/age 60, 25 yrs/any age		X	X	12.50%	Wortham	01408
5 yrs	5 yrs/age 60, 20 yrs/any age	9-91	X	X	REMOVED	Wylie	01410
5 yrs	5 yrs/age 60, 25 yrs/any age	3-98	X	X	REMOVED	Yoakum	01412
5 yrs	5 yrs/age 60, 20 yrs/any age		X	X	7.50%	Yorktown	01414
5 yrs	5 yrs/age 60, 20 yrs/any age	9-09			9.50%	Zavalla	01415









