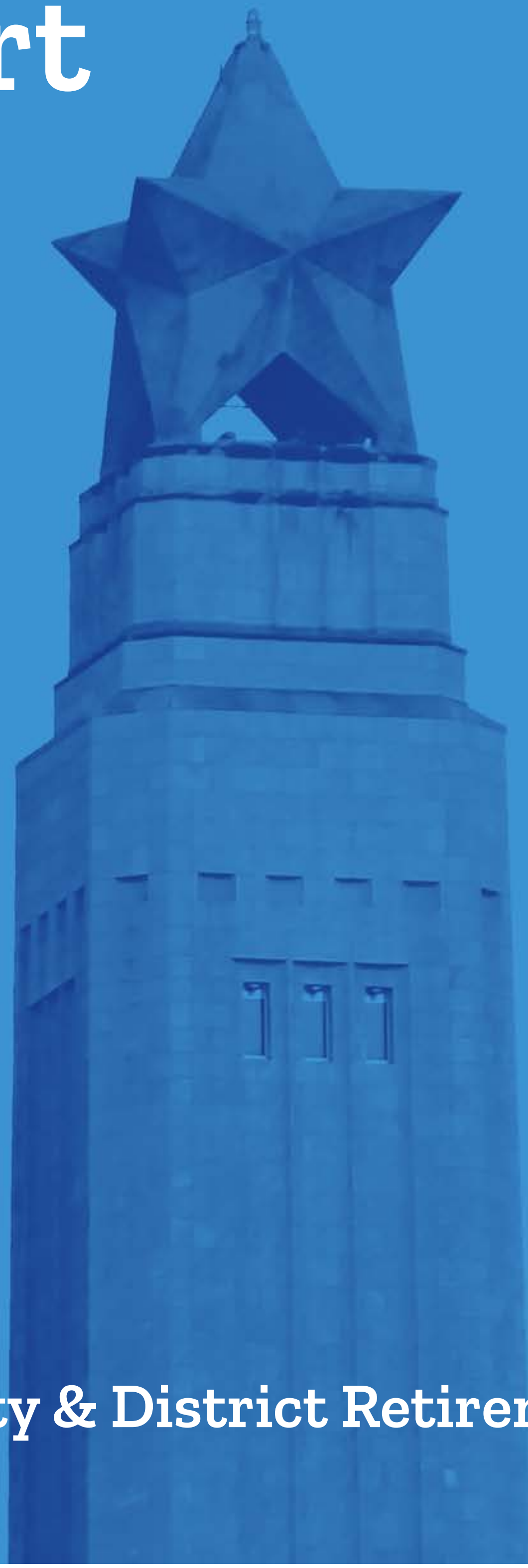
Comprehensive Annual Financial Report

For the years ended
December 31, 2018 & 2017



Texas County & District Retirement System

Comprehensive Annual Financial Report

For the years ended December 31, 2018 & 2017

Texas County & District Retirement System

Barton Oaks Plaza IV, Ste. 500
901 S. MoPac Expy.
Austin, TX 78746

Prepared by the Actuarial Services, Communications, Finance and Investment Divisions

Not all retirement systems are created equal

From the day we were established by the Texas Legislature on May 5, 1967, the Texas County & District Retirement System was set apart from other public plans by our unique savings-based design.

For more than 50 years, we have pioneered the way to retirement confidence by providing dependable retirement, disability and survivor benefits for more than 305,000 diverse Texans.

TCDRS serves more than 780 Texas counties and diverse districts, like water districts, hospital districts, appraisal districts, emergency services districts and more. We help our employers compete with the private sector when it comes to hiring and retaining talented staff by providing competitive retirement benefits at affordable rates.

TCDRS is not a one-size-fits-all system. Each employer maintains a customized plan of retirement benefits with the flexibility to select benefits and pay for those benefits based on their needs and budgets.

We are proud to serve so many who serve Texas.

Our broadly diversified investment portfolio may look different from other systems, but that's what makes us strong. Thanks to our unique investment strategy, TCDRS has grown into a $29 billion trust with a 30-year return of 8.0%.

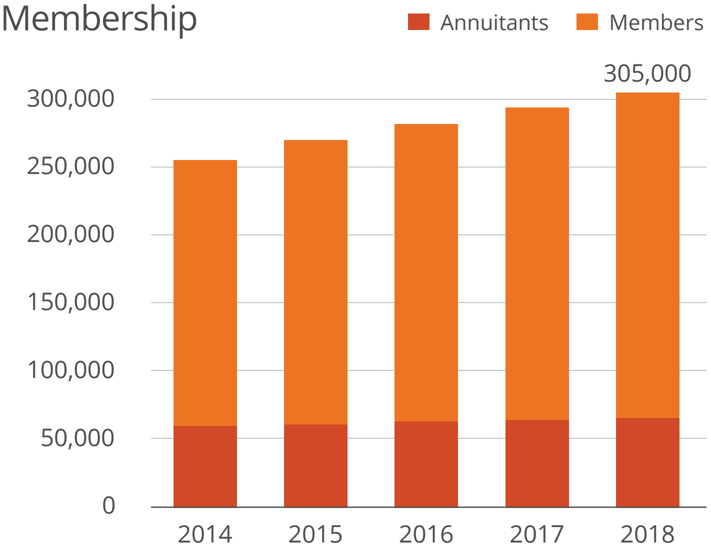
TCDRS is as distinct and independent as the Lone Star State. We're set apart in the retirement world — and that's just the way we like it.

TCDRS: At a Glance

All figures as of Dec. 31, 2018, except where noted.

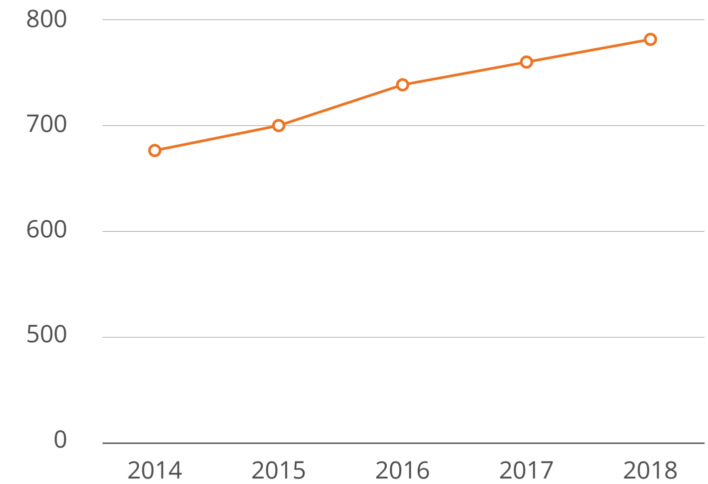
Serving Our Membership

Membership



We serve a membership of more than 305,000, including over 67,000 retirees and beneficiaries.

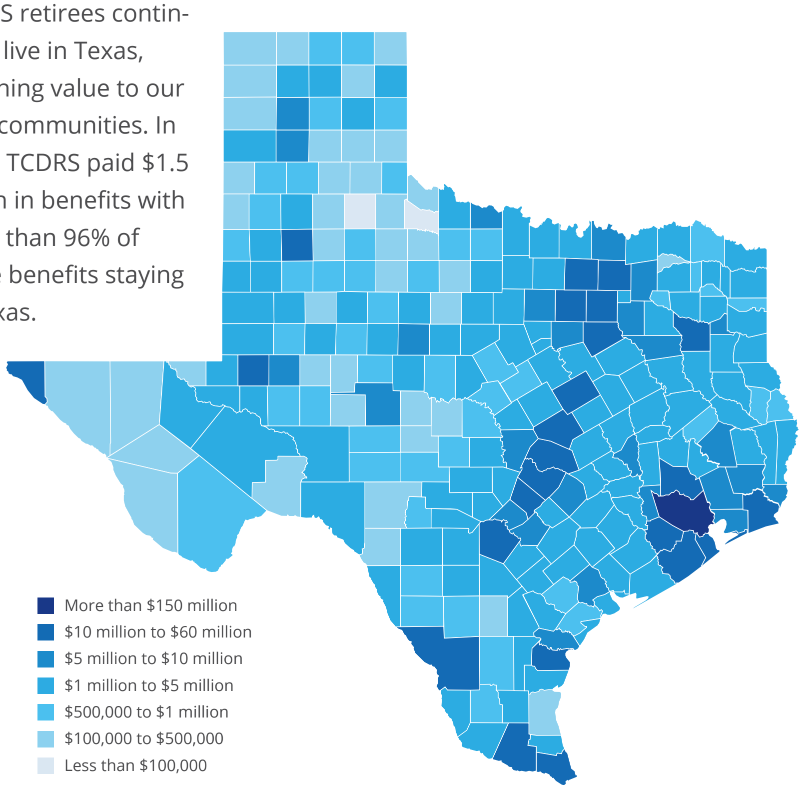
Participating Employers



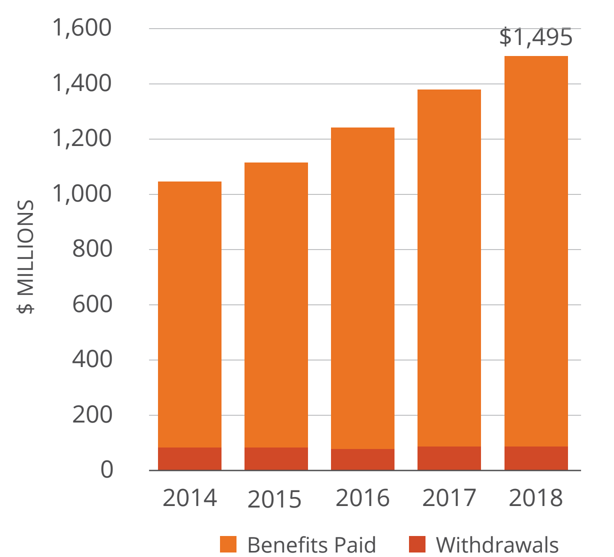
Since 1967, the system has grown to include more than 780 counties and districts.

Benefiting Texas

TCDRS retirees continue to live in Texas, returning value to our local communities. In 2018, TCDRS paid $1.5 billion in benefits with more than 96% of those benefits staying in Texas.



Benefits Paid and Withdrawals



Retiree Profile (as of Jan. 1, 2018)

Average Age at Retirement	Average Years of Service	Average Annual Benefit
61	18	$23,772

Investing for the Long Term

Asset Allocation Targets As of April 2018

Equities	Credit	Hedge Funds	Private Equity	Real Assets	Investment-Grade Bonds
32%	20%	18%	16%	11%	3%

Total Fund Return - Net of All Fees

Our investments have achieved our target return of 8% over the long term.

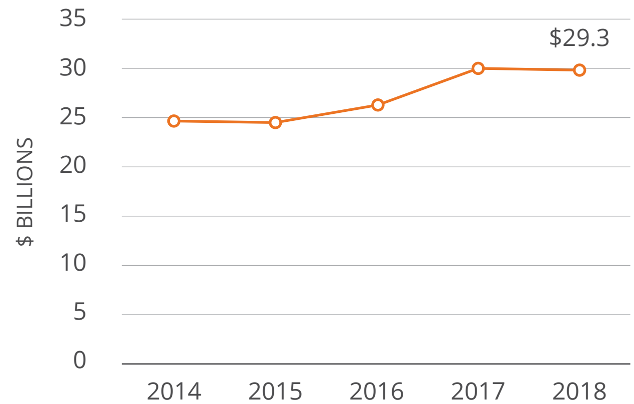
Annualized Returns & Total Fund

2018 Return

-1.9%

5 Years	10 Years	20 Years	30 Years
5.1%	9.0%	6.4%	8.0%

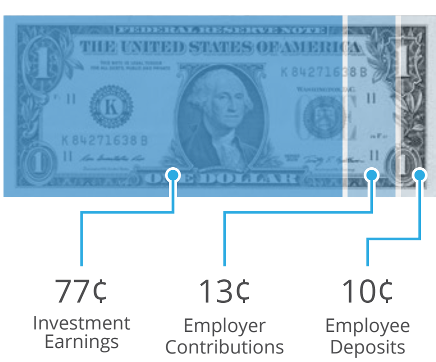
Fiduciary Net Position



Fiduciary net position totaled $29.3 billion. Broad diversity in our investment portfolio reduces possible overall losses due to negative experience in any single asset class.

Funding Plans Responsibly

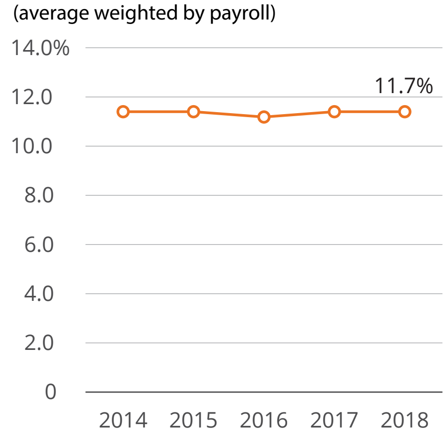
Benefit Funding



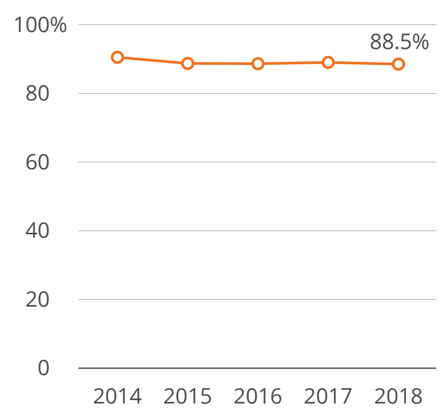
(Estimated)

Average Required Employer Contribution Rates

(average weighted by payroll)



Funded Ratio



Investment earnings fund nearly 80 cents of every dollar of benefits. Employers must pay 100% of their required contributions every year. Each plan is funded independently by a county or district and its employees. Our conservative funding methods ensure any debt is paid down to zero within 20 years. This means money is there when needed and debt is not pushed to future generations.

TABLE OF CONTENTS

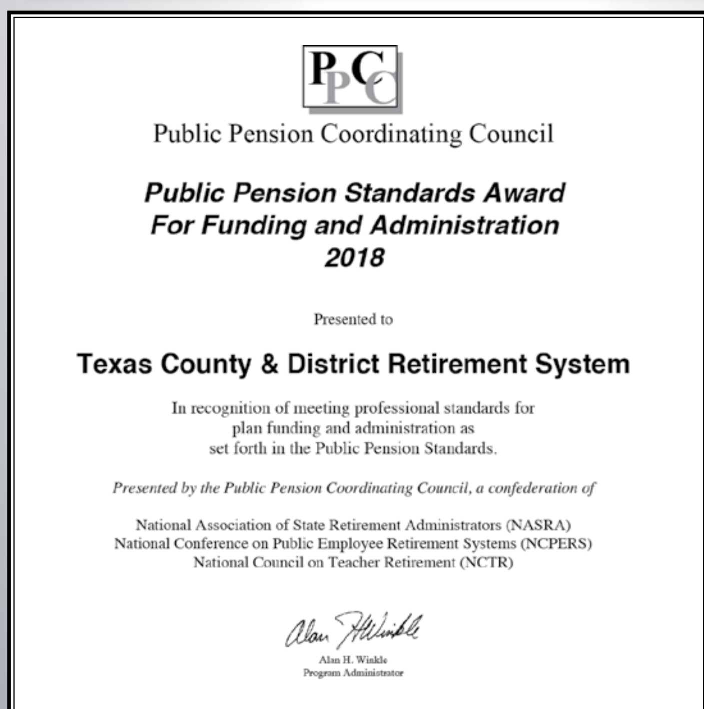
780+

Unique Plans

TCDRS partners with more than 780 employers to provide secure retirement benefits to hardworking Texans. Each employer is as distinctive as the Lone Star State, and so each year, employers have the flexibility and local control to make changes to their plans to meet their unique needs and budgets.

Jill Drake, TCDRS member since 2007

The Certificate of Achievement for Excellence in Financial Reporting was presented by the Government Finance Officers Association of the United States and Canada for the fiscal year ended Dec. 31, 2017. This was the 26th consecutive year that TCDRS has received this prestigious award, which recognizes comprehensive annual financial reports that have achieved the highest standards in government accounting and reporting.


PPCC

Public Pension Coordinating Council

Public Pension Standards Award
For Funding and Administration
2018

Presented to

Texas County & District 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
Program Administrator

TCDRS was awarded the Public Pension Coordinating Council's Public Pension Standards award for the 16th consecutive year. This award is in recognition of meeting professional standards for plan funding and administration as set forth in the Public Pension Standards.

TEXAS COUNTY & DISTRICT RETIREMENT SYSTEM

Barton Oaks Plaza IV
Suite 500
901 S. MoPac Expy.
Austin, TX 78746

Tel. 800-823-7782
512-328-8889
Fax 512-328-8887
www.tcdrs.org

LETTER OF TRANSMITTAL

June 7, 2019

We are pleased to present the Comprehensive Annual Financial Report (CAFR) of the Texas County & District Retirement System (TCDRS) for the year ended Dec. 31, 2018.

Like our great state, TCDRS has an independent streak. For starters, we have been a model for providing retirement benefits for more than 50 years. Our unique features set us apart and make us financially sound and strong. Savings-based benefits that are responsibly funded in advance, and local flexibility and control not only make us successful, but also one of the best funded retirement systems in the nation.

Since 1967, we have grown into a $29 billion trust partnering with 781 counties and governmental districts to provide reliable retirement, disability and survivor benefits. Employers choose to provide a retirement benefit through TCDRS as part of their compensation plans so that they may recruit and retain qualified staff. The number of participating employers continues to grow and, for the 10-year period ended Dec. 31, 2018, has increased by 34%. Over the past decade our membership has risen by 46%.

The TCDRS Board of Trustees provides leadership for the system. Our nine-person board is appointed by the governor and confirmed by the Texas Senate. The board appoints an executive director, who is responsible for all day-to-day operations, and a chief investment officer, who manages investment operations.

WE DO RETIREMENT RIGHT

Our unique savings-based plan helps employers provide reliable benefits at a predictable cost. Members save for their own retirement over the length of their careers. At retirement, benefits are based on a member's final savings balance and employer matching. This plan design makes costs more predictable for employers and provides excellent portability for our members.

In 2018, we paid out $1.5 billion in benefits to retirees and former members. Over 96% of these benefits went to Texas addresses where the income serves as an economic engine to our local economies. On average, our current retirees start their benefit payments at age 61 after working 18 years. The average annual benefit for current retirees is $23,772 as of Dec. 31, 2018. The number of retirees has increased over the past decade by 85%.

INVESTMENTS

Because members and employers are saving in advance for retirement, they are getting the maximum power of investment earnings over time. Investment earnings fund almost 80 cents for every benefit dollar our members receive.

TCDRS is a long-term investor with a fully diversified portfolio. The TCDRS Board of Trustees constructs the investment portfolio to achieve our long-term investment return goal of 8%. In 2018, the TCDRS portfolio returned -1.9%, net of all fees. Our 30-year return was 8.0% for the period ended Dec. 31, 2018. We have consistently exceeded our portfolio benchmark.

The board has adopted and periodically reviews an investment policy that defines and restricts investment authority. The policy also emphasizes the importance of a long-term investment philosophy with minimization of risk.

MAJOR INITIATIVES

This year we made great progress in our strategic initiatives, outlined in the TCDRS Strategic Plan 2019–2022. This progress includes:

- Helping members retire with confidence — We introduced a newly designed interface for the members' accounts that provides customized education based on career milestones, offers an enhanced estimator tool that displays all benefit options on one page and gives members the ability to upload documents. In addition, we made significant progress on bringing members the option of applying for benefits online. This feature will roll out in 2019.
- Connecting anytime, anywhere — We recognize that today's membership wants to connect with TCDRS in several different ways and at their convenience. Toward that goal, we rolled out online counseling, which makes it easier for members to schedule and receive personalized counseling and education about their benefits.
- Protecting sensitive information — We improved account security by implementing two-factor authentication and other security measures on our website. To ensure our assets are safeguarded, we are also continuing to implement a comprehensive information security program. The accomplishments in 2018 included an incident response test, mobile device management, patching and upgrading core systems, and continuing security awareness training.
- Making administration easier for employers — We gave employers the option of submitting their deposit reports by payroll cycle rather than monthly to make payroll balancing easier. We oversaw the transition of all employers to electronic payments, which is a more secure and reliable method to submit payments.
- Strengthening our organizational effectiveness — To improve knowledge transfer and to encourage staff development, TCDRS implemented an internal training program. In addition, we developed a program to recognize employees who exemplify our core values.

FUNDING

As of Dec. 31, 2018, TCDRS was 88.5% funded in aggregate. The actuarial value of assets and actuarial liabilities totaled $30.55 billion and $34.54 billion, respectively. The net position for pension benefits at year end 2018 and 2017 was $29.26 billion and $30.00 billion, respectively, a decrease of $0.74 billion (-2.5%). The system also maintains a reserves position to help keep rates stable and to offset future adverse experience. TCDRS is funded at 91% when the reserves are considered.

TCDRS does not receive funding from the State of Texas. Each plan is funded by our employers, members and investment earnings. TCDRS has one of the most conservative funding policies in the nation, ensuring that our employers fund their plans responsibly. By paying 100% of their required contribution rate every year, employers are paying for their current employees' future benefits and are paying down any unfunded liabilities within 20 years. The weighted average amortization period of TCDRS plans is 12.6 years, one of the lowest in the state.

TCDRS employers have tools to help manage their risk of providing benefits. Over one-third of TCDRS' participating employers make additional contributions over the required amounts in order to prefund benefits or to build up reserves within their plan to mitigate negative plan experience. Every year each employer can adjust benefits and costs prospectively based on local workforce needs and budgets. This flexibility and local control is unique among public pension plans.

Cash flow from deposits and contributions is slightly less than the amounts required to meet annual benefits paid to TCDRS retirees, member account withdrawals and the administrative expenses of the organization in 2018. The negative net cash flow is expected as the system matures. Investment returns and changes in employer plans also affect annual cash flow and the change in net position.

To better understand TCDRS' financial strength, the recent history of net investment income, contributions and deposits, benefit payments and administrative costs is shown in the Statistical Section, which begins on page 79. Information on funding progress for all employers as a group is in the Actuarial Section, Table 6: Funding Progress, on page 69.

MANAGEMENT RESPONSIBILITY FOR FINANCIAL REPORTING

This report fulfills the requirements established by the Texas Government Code for public retirement systems to publish an annual financial report. TCDRS management is responsible for the accuracy of the data and the completeness and fairness of the presentation within this report.

The financial statements have been prepared in accordance with the principles of governmental accounting and reporting set forth by the Governmental Accounting Standards Board (GASB).

A comprehensive framework of internal controls exists to provide reasonable assurance regarding the safekeeping of assets and fair presentation of the financial statements and supporting schedules. Internal controls also provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements. The concept of reasonable assurance recognizes that first, the cost of a control should not exceed the benefits likely to be derived; second, the valuation of the cost and benefits requires estimates and judgments by management.

KPMG LLP, Certified Public Accountants, has issued an unmodified (“clean”) opinion on TCDRS’ financial statements for the year ended Dec. 31, 2018. The independent auditor’s opinion is located at the front of the Financial Section of this report (see page 20).

Immediately following the independent auditor’s opinion, Management’s Discussion and Analysis (MD&A) provides a narrative introduction, overview and analysis of the basic financial statements. The MD&A complements the Letter of Transmittal and should be read in conjunction with it.

AWARDS AND ACKNOWLEDGMENTS

TCDRS proudly accepted a Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association of the United States and Canada (GFOA) for the fiscal year ended Dec. 31, 2017. This was the 26th consecutive year that the system achieved this prestigious award, which recognizes comprehensive annual financial reports that are readable and efficiently organized, and that satisfy accepted accounting principles and applicable legal requirements.

TCDRS was also awarded the Public Pension Coordinating Council’s (PPCC) Public Pension Standards award for 2018, which is the 16th consecutive year that the system received this award in recognition of meeting professional standards for plan funding and administration.

SUMMARY

TCDRS staff under the direction of the Board of Trustees worked together to produce this report. Our thanks go out to everyone who has contributed to the preparation of this report and who works to ensure that TCDRS remains strong for our participating employers and members.

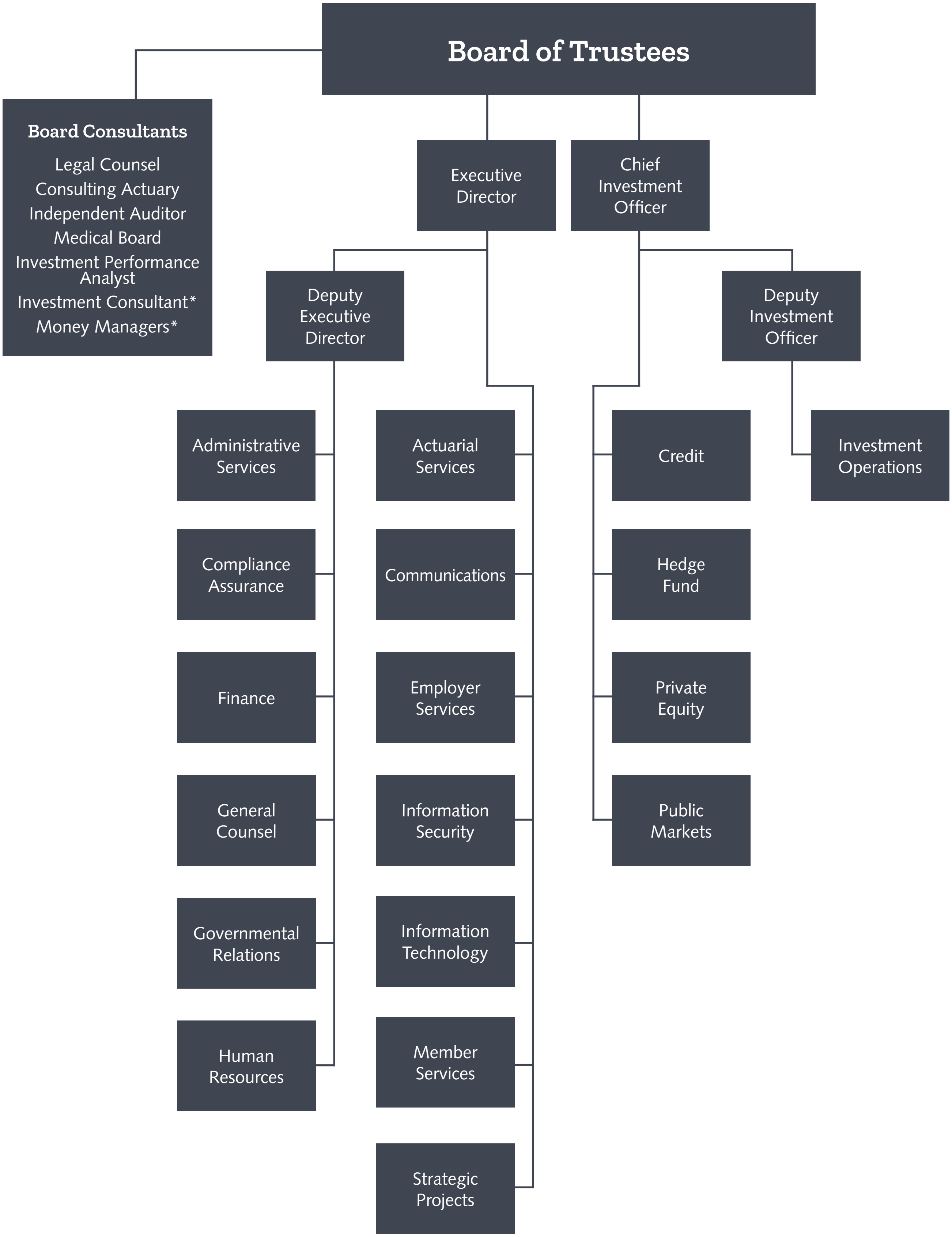
Sincerely,

Robert A. Eckels
Chair

Amy Bishop
Executive Director

Casey Wolf
Chief Investment Officer

ORGANIZATION CHART



*** For information regarding investment professionals' fees, see Tables 8–9 in the Investment Section.**

BOARD OF TRUSTEES As of Dec. 31, 2018

Kristeen Roe, H.C. "Chuck" Cazalas, Robert A. Eckels, Mary Louise Nicholson, Deborah Hunt, Bob Willis, Chris Davis, Bridget McDowell, Bill Metzger

EXECUTIVE STAFF AND PROFESSIONAL ADVISORS

INVESTMENT STAFF

Casey Wolf
Chief Investment Officer

Sandra Bragg
Deputy Investment Officer

ADMINISTRATIVE STAFF

Amy Bishop
Executive Director

Tom Harrison
Deputy Executive Director

Ann McGeehan
General Counsel

PROFESSIONAL ADVISORS

Vinson & Elkins LLP
Bradshaw & Bickerton PLLC
DLA Piper LLP

Investment Counsel

Milliman, Inc.

Consulting Actuary

Bank of New York Mellon

Investment Performance Analyst

Cliffwater LLC

Investment Consultant

KPMG LLP

Independent Auditor

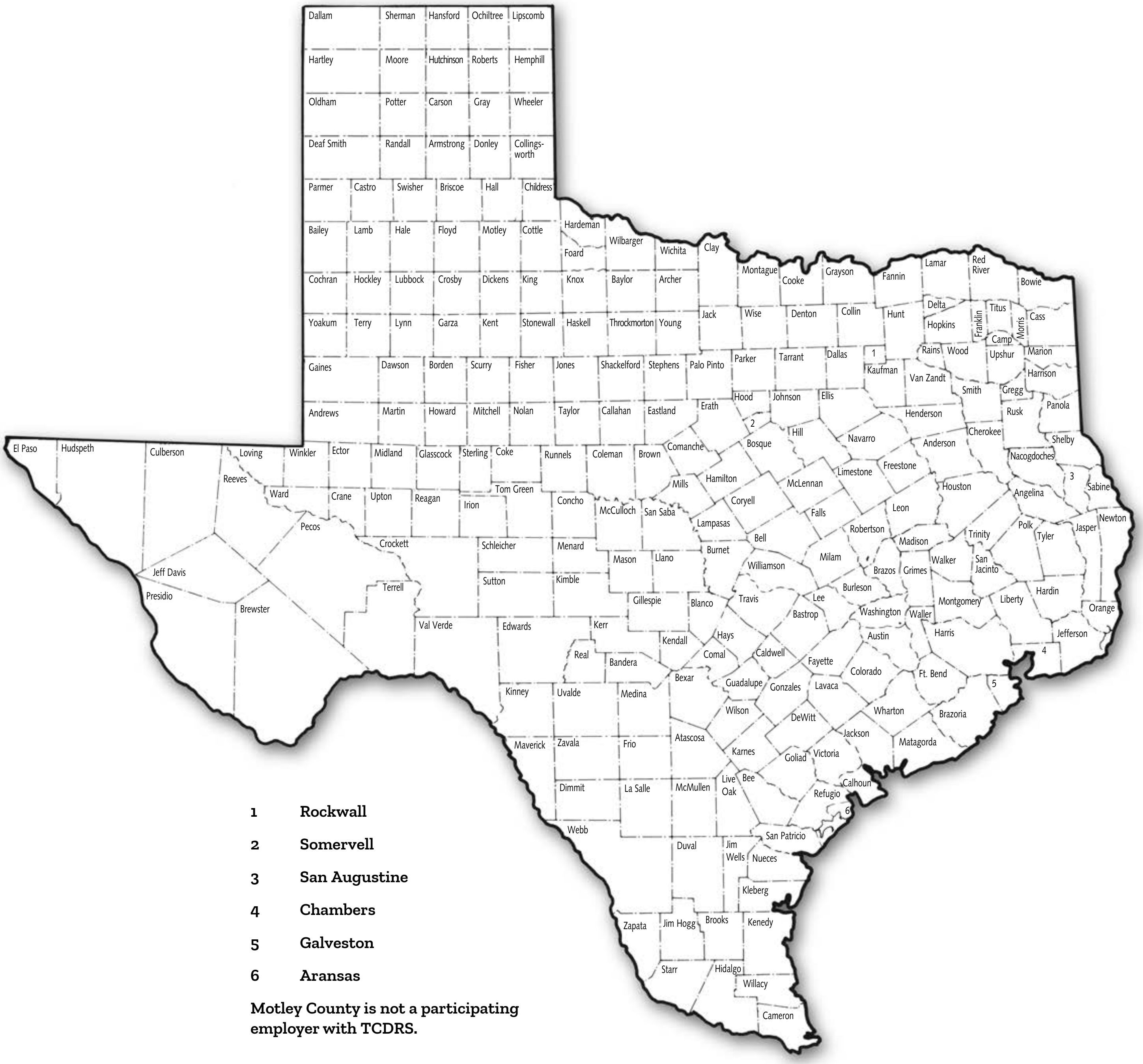
Jackson Walker LLP

Fiduciary & Benefit Plan Administration Counsel

Ace Alsup, M.D., Chairman
Shelby H. Carter, M.D.
Frank E. Robinson, M.D.

Medical Board

PARTICIPATING COUNTIES AND DISTRICTS As of Dec. 31, 2018



1 **Rockwall**

2 **Somervell**

3 **San Augustine**

4 **Chambers**

5 **Galveston**

6 **Aransas**

Motley County is not a participating employer with TCDRS.

PARTICIPATING COUNTIES AND DISTRICTS As of Dec. 31, 2018

A

Acton Municipal Utility District
Agua Special Utility District
Alamo Area Council of Governments
Alliance Regional Water Authority
Anderson County
Anderson County Central Appraisal District
Andrews County
Andrews County Appraisal District
Angelina and Nacogdoches Counties WC & ID #1
Angelina County
Angelina County Appraisal District
Angleton Drainage District
Aquilla Water Supply District - Hill County
Aransas County
Aransas County Appraisal District
Aransas County Navigation District
Archer County
Archer County Appraisal District
Ark-Tex Council of Governments
Armstrong County
Atascosa Central Appraisal District
Atascosa County
Athens Municipal Water Authority
Austin County
Austin County Appraisal District
Austin County Emergency Communications District

B

Bacliff Municipal Utility District
Bailey County
Ballinger Memorial Hospital District
Bandera County
Bastrop Central Appraisal District
Bastrop County
Bastrop County Emergency Services District #1
Bastrop County Emergency Services District #2
Bastrop County Water Control and Improvement District 2
Baylor County
Baylor County Appraisal District
Bayview Irrigation District #11
Bayview Municipal Utility District
Bee County
Bell County
Bell County Appraisal District
Bell County Water Control and Improvement District No. 1
Bell County Water Control and Improvement District No. 3
Benbrook Water Authority
Bexar Appraisal District
Bexar County
Bexar County Emergency Service District No. 2
Bexar County Emergency Services District #6
Bexar County Emergency Services District 7
Bexar County Emergency Services District No. 8
Bexar County Water Control and Improvement District #10
Bexar Metro 9-1-1 Network District
Bexar-Medina-Atascosa WCID #1
Bistone Municipal Water Supply District - Limestone County
Blanco County
Blanco County Emergency Services District No. 2
Bluebonnet Groundwater Conservation District
Borden County
Borden County Appraisal District
Bosque County
Bosque County Central Appraisal District
Bowie County
Brazoria County
Brazoria County Appraisal District
Brazoria County Conservation and Reclamation District #3
Brazoria County Drainage District #4
Brazoria County Drainage District #5
Brazos Central Appraisal District
Brazos County
Brazos County Emergency Communications District
Brazos Regional Public Utility Agency
Brazos River Authority
Brazos Transit District
Brazos Valley Council of Governments
Brazos Valley Groundwater Conservation District
Brewster County
Brewster County Appraisal District
Bright Star-Salem Special Utility District
Briscoe County
Brookesmith Special Utility District
Brooks County
Brookshire - Katy Drainage District
Brookshire Municipal Water District
Brown County
Brownsville Irrigation District
Brushy Creek Municipal Utility District - Williamson County
Burleson County
Burleson County Appraisal District
Burnet Central Appraisal District
Burnet County

C

Caldwell County
Caldwell County Appraisal District
Calhoun County
Calhoun County Appraisal District
Calhoun County E911 Emergency Communications District
Callahan County
Callahan County Appraisal District
Cameron County
Cameron County Appraisal District
Cameron County Drainage District #1
Cameron County Drainage District #3
Cameron County Drainage District #5
Cameron County Emergency Communication District
Cameron County Irrigation District #2
Cameron County Irrigation District #6
Cameron County Regional Mobility Authority
Camp Central Appraisal District
Camp County
Caney Creek Municipal Utility District
Canyon Lake Community Library District
Carson County
Cass County
Cass County Appraisal District
Castro County
Central Appraisal District of Bandera County
Central Appraisal District of Johnson County
Central Appraisal District of Taylor County
Central Texas Groundwater Conservation District
Central Texas Regional Mobility Authority
Central Water Control and Improvement District - Angelina County
Chambers County
Chambers County Appraisal District
Chambers County Public Hospital District
Cherokee County
Childress County
Childress County Appraisal District
Childress County Hospital District
Clay County
Clay County Appraisal District
Coastal Bend Groundwater Conservation District
Coastal Plains Groundwater Conservation District
Cochran County
Cochran County Appraisal District
Coke Central Appraisal District
Coke County
Coke County Soil and Water Conservation District #219
Coleman County
Collin County
Collin County Central Appraisal District
Collingsworth County
Collingsworth County Appraisal District
Colorado County
Comal Appraisal District
Comal County
Comal County Emergency Services District #3
Comanche County
Combined Consumers Special Utility District
Concho County
Concho County Appraisal District
Concho County Hospital District
Concho Valley Council of Governments
Cooke County
Cooke County Appraisal District
Coryell County
Cottle County
Cow Creek Groundwater Conservation District
Crane County
Crane County Appraisal District
Crane County Hospital District
Crockett County
Crockett County Appraisal District
Crockett County Water Control and Improvement District #1
Crosby County

Crosby County Appraisal District
Crosby Municipal Utility District
Cross Roads Special Utility District
Crystal Clear Special Utility District
Culberson County
Cypress Springs Special Utility District

D

Dallam County
Dallam County Appraisal District
Dallas Central Appraisal District
Dallas County
Dallas County Park Cities Municipal Utility District
Dawson County
Dawson County Central Appraisal District
Deaf Smith County
Deaf Smith County Hospital District
Deep East Texas Council of Governments
Delta County
Delta County Appraisal District
Delta County Municipal Utility District
Delta Lake Irrigation District
Denco Area 9-1-1 District - Denton County
Denton Central Appraisal District
Denton County
Denton County Fresh Water Supply District #10
Denton County Fresh Water Supply District 1A
Denton County Transportation Authority
DeWitt County
DeWitt County Appraisal District
Dickens County
Dickens County Appraisal District
Dimmit County
Donley County
Duval County
Duval County Appraisal District
Duval County Groundwater Conservation District

E

East Fork Special Utility District
East Harris County Emergency Services Joint Powers Board
East Medina County Special Utility District
Eastland County
Eastland County Appraisal District
Ector County
Ector County Appraisal District
Ector County Hospital District
Edwards Aquifer Authority - Bexar County
Edwards Central Appraisal District
Edwards County
El Paso Central Appraisal District
El Paso County
El Paso County 9-1-1 District
El Paso County Emergency Services District #1
El Paso County Emergency Services District #2
El Paso County Hospital District
El Paso County Water Improvement District No. 1
El Paso Mental Health and Mental Retardation
Electra Housing Authority
Ellis Appraisal District
Ellis County
Emerald Bay Municipal Utility District
Emergency Communication District of Ector County
Erath County
Erath County Appraisal District

F

Falls County
Falls County Appraisal District
Fannin Central Appraisal District
Fannin County
Fayette County
Fern Bluff Municipal Utility District
Fisher County
Fisher County Hospital District
Floyd County
Foard County
Fort Bend Central Appraisal District
Fort Bend County
Fort Bend County Emergency Services District #2
Fort Bend County Emergency Services District #4
Fort Bend County Water Control and Improvement District #2
Fort Clark Municipal Utility District
Fort Griffin Special Utility District
Four Way Special Utility District
Franklin County
Freestone County
Freestone County Appraisal District
Frio County
Frio County Appraisal District

G

Gaines County
Gaines County Appraisal District
Galveston Central Appraisal District
Galveston County
Galveston County Consolidated Drainage District
Galveston County Drainage District #1
Galveston County Drainage District #2
Galveston County Emergency Communication Dist.
Galveston County Fresh Water Supply District #6
Galveston County Health District
Galveston County Water Control and Improvement District No. 1
Galveston County Water Control & Improvement District No. 8
Garza Central Appraisal District
Garza County
Garza County Health Care District
Gillespie Central Appraisal District
Gillespie County
Gillespie County Soil and Water Conservation District
Glasscock County
Glasscock County Appraisal District
Goliad County
Gonzales Central Appraisal District
Gonzales County
Graham Regional Medical Center
Gray County
Gray County Appraisal District
Grayson Central Appraisal District
Grayson County
Greater Harris County 9-1-1 Emergency Network
Greenbelt Municipal & Industrial Water Authority - Donley County
Gregg County
Grimes County
Grimes County Appraisal District
Guadalupe Appraisal District
Guadalupe County
Guadalupe County Groundwater Conservation District
Gulf Coast Water Authority - Galveston County

H

Hale County
Hall County
Hall County Appraisal District
Hamilton County
Hansford County
Hansford County Hospital District
Hardeman County
Hardin County
Hardin County Appraisal District
Hardin County Emergency Services District # 2
Harlingen Irrigation District Cameron County #1
Harris County
Harris County Appraisal District
Harris County Emergency Services District No. 9
Harris County Emergency Services District No. 10
Harris County Emergency Services District No. 12
Harris County Emergency Services District No. 13
Harris County Emergency Services District No. 17
Harris County Emergency Services District No. 24
Harris County Emergency Services District No. 29
Harris County Emergency Services District No. 46
Harris County Emergency Services District No. 48
Harris County Emergency Services District No. 50
Harris County Fresh Water Supply District 61
Harris County Housing Authority
Harris County Sports & Convention Corporation
Harris County Water Control and Improvement District #1
Harris County Water Control and Improvement District #36
Harris County Water Control and Improvement District #50

PARTICIPATING COUNTIES AND DISTRICTS As of Dec. 31, 2018

Harrison County
Hartley County
Hartley County Appraisal District
Haskell County
Haskell Memorial Hospital District
Hays County
Hays County Emergency Services District #5
Hays County Emergency Services District #6
Hays County Emergency Services District #8
Heart of Texas Council of Governments
Hemphill County
Hemphill County Appraisal District
Hemphill County Hospital District
Hemphill County Underground Water Conservation District
Henderson County
Henderson County 9-1-1 Communications District
Henderson County Appraisal District
Hidalgo and Cameron Counties Irrigation District #9
Hidalgo County
Hidalgo County Appraisal District
Hidalgo County Drainage District #1
Hidalgo County Emergency Services District No. 2
Hidalgo County Irrigation District #1
Hidalgo County Irrigation District #2
Hidalgo County Irrigation District #6
Hidalgo Municipal Utility District #1
High Plains Underground Water Conservation District # 1
High Point Special Utility District
Hill County
Hockley County
Hockley County Appraisal District
Hood Central Appraisal District
Hood County
Hopkins County
Hopkins County Appraisal District
Housing Authority of the City of Edinburg
Housing Authority of the City of Knox City
Housing Authority of the City of Mercedes
Housing Authority of the City of Munday
Housing Authority of Travis County
Houston County
Houston County Appraisal District
Howard County
Hudspeth County
Hunt County
Hunt County Appraisal District
Hutchinson County
Hutchinson County Appraisal District

I

Iraan General Hospital District
Irion County
Irion County Appraisal District

J

Jack County
Jack County Appraisal District
Jackson County
Jackson County Appraisal District
Jackson County County-Wide Drainage District
Jackson County Emergency Services District No. 3
Jasper County
Jasper County Appraisal District
Jasper County Water Control and Improvement District #1
Jeff Davis County
Jefferson Central Appraisal District
Jefferson County
Jefferson County Drainage District #3
Jefferson County Drainage District #6
Jefferson County Drainage District #7
Jefferson County Water Control and Improvement District #10
Jim Hogg County
Jim Hogg County Appraisal District
Jim Hogg County Emergency Services District #1
Jim Hogg County Water Control and Improvement District #2
Jim Wells County
Johnson County
Jonah Water Special Utility District
Jones County
Jones County Appraisal District

K

Karnes County
Karnes County Appraisal District
Karnes County Hospital District
Kaufman County
Kaufman County Appraisal District
Kendall Appraisal District
Kendall County
Kendall County Water Control and Improvement District #1
Kenedy County
Kenedy County Central Appraisal District
Kenedy County Fire & Emergency Services District No. 1
Kent County
Kent County Tax Appraisal District
Kerr County
Kerr County Soil and Water Conservation District
Kerr Emergency 9-1-1 Network
Kimble County
King County
King County Appraisal District
Kinney County
Kinney County Appraisal District
Kleberg County
Knox County

L

La Salle County
La Salle County Appraisal District
Laguna Madre Water District - Cameron County
Lake Cities Municipal Utility Authority
Lake Kiowa Special Utility District
Lakeway Municipal Utility District - Travis County
Lamar County
Lamar County Appraisal District
Lamb County
Lampasas Central Appraisal District
Lampasas County
Lavaca - Navidad River Authority - Jackson County
Lavaca County
Lee Central Appraisal District
Lee County
Leon County
Leon County Central Appraisal District
Liberty County
Liberty County Central Appraisal District
Limestone County
Limestone County Appraisal District
Lipscomb County
Live Oak County
Live Oak County Appraisal District
Llano Central Appraisal District
Llano County
Loving County
Loving County Appraisal District
Lower Trinity Groundwater Conservation District
Lower Valley Water District
Lubbock Central Appraisal District
Lubbock County
Lubbock County Water Control and Improvement District #1
Lubbock Emergency Communication District
Lubbock Reese Redevelopment Authority
Lumberton Municipal Utility District
Lynn County
Lynn County Appraisal District
Lynn County Hospital District

M

Macedonia - Eylau Municipal Utility District - Bowie County
Mackenzie Municipal Water Authority - Briscoe County
Madison County
Madison County Appraisal District
Marion County
Marion County Appraisal District
Marion-Cass Soil and Water Conservation District
Marshall-Harrison County Health District
Martin County
Martin County Appraisal District
Mason County
Mason County Soil & Water Conservation District #223
Matagorda County
Matagorda County Appraisal District
Matagorda County Drainage District
Matagorda County Hospital District
Matagorda County Navigation District #1
Maverick County
Maverick County Hospital District
Maverick County Water Control and Improvement District #1
McCamey County Hospital District
McCulloch County
McCulloch County Appraisal District

McLennan County
McLennan County 9-1-1 Emergency Assistance District
McLennan County Appraisal District
McLennan County Water Control and Improvement District #2
McMullen County
Medical Arts Hospital - Dawson County
Medina County
Medina County 911 District
Medina County Appraisal District
Memorial Medical Center - Calhoun County
Menard County
Menard County Underground Water District
Mesa Underground Water Conservation District
Middle Rio Grande Development Council
Midland Central Appraisal District
Midland County
Midland Emergency Communication District
Milam Appraisal District
Milam County
Mills Central Appraisal District
Mills County
Mitchell County
Mitchell County Appraisal District
Monahans Housing Authority
Montague County
Montague County Tax Appraisal District
Montgomery Central Appraisal District
Montgomery County
Montgomery County Emergency Communication District
Montgomery County Emergency Service District No. 3
Montgomery County Emergency Services District No. 4
Montgomery County Emergency Services District No. 7
Montgomery County Emergency Services District No. 8
Montgomery County Emergency Services District No. 9
Montgomery County Emergency Services District No. 10
Montgomery County ESD 1
Montgomery County Hospital District
Montgomery County Housing Authority
Moore County
Moore County Appraisal District
Moore County Hospital District
Morris County
Mustang Special Utility District

N

Nacogdoches County
Navarro Central Appraisal District
Navarro County
Newton Central Appraisal District
Newton County
Nolan County
Nortex Regional Planning Commission
North Blanco County Emergency Services District No. 1
North Central Texas Municipal Water Authority
North East Texas Regional Mobility Authority
North Hunt Special Utility District
North Plains Groundwater Conservation District
North Texas Emergency Communication Center
North Texas Tollway Authority
Northeast Texas Municipal Water District
Northeast Texas Public Health District
Northern Trinity Groundwater Conservation District
Nueces County
Nueces County Appraisal District
Nueces County Drainage District #2
Nueces County Emergency Services District #2
Nueces County Water Control and Improvement District #3
Nueces County Water Control and Improvement District #4

O

Ochiltree County
Oldham County
Oldham County Appraisal District
Orange County
Orange County Appraisal District
Orange County Drainage District
Orange County Emergency Services District # 1
Orange County Emergency Services District #2
Orange County Navigation and Port District
Orange County Water Control and Improvement District #1

P

Palo Duro Water District
Palo Pinto Appraisal District
Palo Pinto County
Palo Pinto Soil and Water Conservation District
Panola County
Parker County
Parker County Appraisal District
Parker County Emergency Services District No. 1
Parker County Hospital District
Parker County Special Utility District
Parmer County
Parmer County Appraisal District
Pecan Valley Groundwater Conservation District
Pecos County
Pecos County Appraisal District
Pecos County Water Control & Improvement District #1
Permian Basin Regional Planning Commission
Permian Regional Medical Center
Pineywoods Groundwater Conservation District
Polk Central Appraisal District
Polk County
Polk County Fresh Water Supply District #2
Port of Bay City Authority
Port of Beaumont Navigation District
Port of Corpus Christi Authority
Port of Port Arthur Navigation District
Post Oak Savannah Groundwater Conservation District
Potter - Randall County Emergency Communication District
Potter County
Prairielands Groundwater Conservation District
Presidio Appraisal District
Presidio County

R

Rains County
Rains County Appraisal District
Randall County
Randall County Appraisal District
Rankin County Hospital District - Upton County
Rayburn Country Municipal Utility District
Reagan County
Reagan Hospital District
Real County
Red Bluff Water Power Control District - Reeves County
Red River Appraisal District
Red River Authority
Red River County
Red River County Soil and Water Conservation District
Reeves County
Reeves County Appraisal District
Reeves County Hospital District
Refugio County
Refugio County Drainage District #1
Refugio Groundwater Conservation District
Rio Grande Council of Governments
Riverside Special Utility District
Roberts County
Robertson County
Robertson County Appraisal District
Robertson County Emergency Services District
Rockwall Central Appraisal District
Rockwall County
Runnels County
Rusk County
Rusk County Appraisal District
Rusk County Groundwater Conservation District

S

Sabine County
Sabine County Appraisal District
Sabine Pass Port Authority
Sabine-Neches Navigation District of Jefferson County Texas
San Augustine County
San Jacinto County
San Jacinto County Central Appraisal District
San Patricio County
San Patricio County Appraisal District
San Patricio County Drainage District
San Patricio County Navigation District #1
San Patricio Municipal Water District
San Saba County
Santo Special Utility District

PARTICIPATING COUNTIES AND DISTRICTS As of Dec. 31, 2018

Schleicher County
Scurry County
Scurry County Appraisal District
Scurry County Hospital District
Shackelford County
Shackelford County Appraisal District
Shelby County
Shelby County Appraisal District
Sherman County
Sherman County Appraisal District
Smith County
Smith County 9-1-1 Communications District
Smith County Appraisal District
Smith County Emergency Services District #2
Somervell County
Somervell County Central Appraisal District
Somervell County Water District
South Plains Association of Governments
South Rains Special Utility District
South Texas Development Council
Southeast Texas Groundwater Conservation District
STAR Transit
Starr County
Starr County Appraisal District
Stephens County
Stephens County Tax Appraisal District
Sterling County
Sterling County Appraisal District
Stonewall County
Stonewall County Appraisal District
Stonewall Memorial Hospital District
Stratford Hospital District - Sherman County
Sutton County
Sutton County Hospital District
Swisher County
Swisher County Appraisal District

T

Talty Special Utility District
Tarrant Appraisal District
Tarrant Co. 9-1-1 Emergency Assistance District
Tarrant County
Tax Appraisal District of Cottle County
Taylor County
Terrell County
Terrell County Water Control & Improvement District #1
Terry County
Terry Memorial Hospital District
Texas Association of Counties
Texas County & District Retirement System
Texas Eastern 9-1-1 Network
The City of Quanah Housing Authority
The Housing Authority of the City of Abilene
The Housing Authority of the City of Huntington
The Housing Authority of the City of Pharr
The Housing Authority of the County of Hidalgo
Throckmorton County
Titus County
Titus County Appraisal District
Titus County Fresh Water Supply District
Tom Green County
Travis Central Appraisal District
Travis County
Travis County Emergency Services District #1
Travis County Emergency Services District #2
Travis County Emergency Services District #5
Travis County Emergency Services District #11
Travis County Emergency Services District #12
Travis County Water Control and Improvement Dist. - Point Venture
Tri-County Special Utility District
Trinity Bay Conservation District
Trinity County
Trinity County Appraisal District
Trinity Glen Rose Groundwater Conservation District
Trophy Club Municipal Utility District No. 1
Two Way Special Utility District
Tyler County
Tyler County Appraisal District

U

United Irrigation District - Hidalgo County
Upper Brushy Creek Water Control and Improvement District
Upper Leon River Municipal Water District
Upper Sabine Valley Solid Waste Management District
Upper Trinity Groundwater Conservation District
Upshur County
Upton County
Upton County Appraisal District
Uvalde County

V

Val Verde County
Valley Municipal Utility District #2 - Cameron County
Valwood Improvement Authority - Dallas County
Van Zandt County
Van Zandt County Appraisal District
Velasco Drainage District - Brazoria County
Victoria County
Victoria County Drainage District #3
Victoria County Groundwater Conservation District

W

Walker County
Walker County Appraisal District
Walker County Special Utility District
Waller County
Waller County Appraisal District
Ward County
Ward County Central Appraisal District
Ward Memorial Hospital
Washington County
Webb County
Webb County Appraisal District
West Central Texas Council of Governments
West Central Texas Municipal Water District
West Jefferson County Municipal Water District
West Nueces -Las Moras Soil and Water Conservation District #236
West Travis County Public Utility Agency
Wharton County
Wharton County Central Appraisal District
Wharton County Water Control and Improvement District #1
Wharton County Water Control and Improvement District No. 2
Wheeler County
Wheeler County Appraisal District
White River Municipal Water District - Dickens County
Wichita Appraisal District
Wichita County
Wichita County Water Improvement District #2
Wichita-Wilbarger 9-1-1 District
Wickson Creek Special Utility District - Brazos County
Wilbarger County
Wilbarger County Appraisal District
Wilbarger County Hospital District
Willacy County
Willacy County Appraisal District
Willacy County Housing Authority
Williamson Central Appraisal District
Williamson County
Williamson County Emergency Services District No. 3
Williamson County Emergency Services District No. 4
Williamson County Emergency Services District No. 5
Wilson County
Wilson County Appraisal District
Winkler County
Winkler County Appraisal District
Winkler County Hospital District
Wintergarden Groundwater Conservation District
Wise County
Wise County Appraisal District
Wood County
Wood County Appraisal District
Wylie Northeast Special Utility District

Y

Yoakum County
Yoakum County Appraisal District
Young County

Z

Zapata County
Zapata County Appraisal District
Zapata Soil and Water Conservation District
Zavala County
Zavala County Appraisal District

Serving

305,000

Diverse Texans

We help more than 305,000 county and district employees in Texas save for retirement. Our members are nurses, mechanics, road crew workers, sheriffs, attorneys, office workers, jailers and judges. They work in our ports, our parks, in urban areas and rural towns by providing valuable services to Texans.

Willy Culberson, TCDRS member since 1996

KPMG LLP
Suite 1900
111 Congress Avenue
Austin, TX 78701-4091

Independent Auditors' Report

The Board of Trustees
Texas County & District Retirement System:

We have audited the accompanying financial statements of the Texas County & District Retirement System (TCDRS), as of and for the years ended December 31, 2018 and 2017, which comprise the statements of fiduciary net position as of December 31, 2018 and 2017, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements, which collectively comprise TCDRS' basic financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; 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 audits. We conducted our audits 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 County & District Retirement System as of December 31, 2018 and 2017, and the changes in fiduciary net position for the years then ended in accordance with U.S. generally accepted accounting principles.

KPMG

Other Matters

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the Texas County & District Retirement System as of and for the year ended December 31, 2018, and our report thereon, dated June 7, 2019 expressed an unmodified opinion on those financial statements.

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

Restriction on Use

Our report is intended solely for the information and use of the Texas County & District Retirement System Board of Trustees, management, participating employers and their auditors, and is not intended to be and should not be used by anyone other than these specified parties.

KPMG LLP

Austin, Texas
June 7, 2019

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FINANCIAL

INTRODUCTION

This section provides an overview and analysis of the system's financial position and performance, focusing on the current year's results, changes in those results (including three-year trends), and other currently known information. Readers are encouraged to consider this information in conjunction with information provided in other areas of the Financial Section, as well as information presented in the Letter of Transmittal in the Introductory Section.

OVERVIEW OF THE FINANCIAL STATEMENTS

The basic financial statements consist of the Statements of Fiduciary Net Position, Statements of Changes in Fiduciary Net Position and the Notes to the Financial Statements. Required Supplementary Information and Other Supplementary Information are also presented.

- The Statements of Fiduciary Net Position report the assets less liabilities and the resulting net position restricted for pension or insurance benefits at the end of 2018, compared to 2017.
- The Statements of Changes in Fiduciary Net Position report the transactions that occurred during 2018 and 2017 for which additions less deductions equal the net increase or decrease in fiduciary net position.
- Notes to the Financial Statements include additional information not readily evident in the statements themselves. The notes are considered essential to a full understanding of the information provided in the financial statements.
- Required Supplementary Information provides the money-weighted rate of return information.
- Other Supplementary Information provides detailed information, including activity by fund, administrative and investment expenses, and professional and consultant fees and services. These schedules support summary data presented in the basic financial statements.

TCDRS operates two trusts, both of which are accounted for as fiduciary funds. The Pension Trust Fund accounts for and provides retirement, disability and survivor benefits to the employees of participating employers. The Group Term Life Fund (GTLF or Group Term Life) provides a program of group term life insurance for the employees and, if covered, retirees of electing employers. No assets of the Pension Trust Fund may be used to pay any insurance benefit due from the GTLF, nor may assets of the GTLF be used to pay any benefit due from the Pension Trust Fund. Discussion and analysis is provided separately for each of the two trusts.

The Statements of Fiduciary Net Position and Statements of Changes in Fiduciary Net Position show financial information for both the Pension Trust Fund and the GTLF.

FINANCIAL ANALYSIS: PENSION TRUST FUND

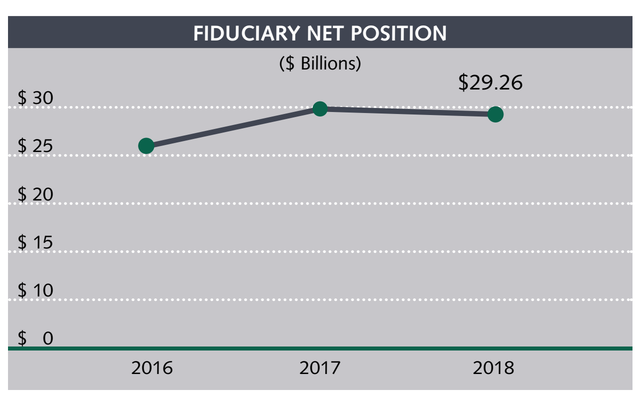
The Pension Trust Fund is comprised of six individual funds, each with a specific operational purpose. Note A in the Notes to the Financial Statements has additional information about each of these funds.

Summary information about fiduciary net position and the changes in fiduciary net position showing comparative detail for 2018, 2017 and 2016 is presented on page 23.

Net position (the amount that assets exceed liabilities) restricted for pensions at year end 2018 totaled $29.26 billion. The 2017 amount was $30.00 billion and for 2016 was $26.29 billion. In 2018 the fiduciary net position decreased by $0.74 billion, and in 2017 and 2016 increased by $3.71 billion and $1.76 billion, respectively.

The decrease in 2018 fiduciary net position was primarily due to a net investment loss of $559 million, a -1.9% overall return, net of all fees. Net investment results for 2018 consist of the depreciation in fair value of investments of $682 million, plus $156 million in interest and dividends, net income from securities-lending activity of $4 million, less $37 million of investment activity expenses. Net investment gain in 2017 and 2016 was $3.84 billion and $1.82 billion, respectively.

Return of volatility is the best overall description for markets in 2018. After a very calm 2017, market



SUMMARY INFORMATION ABOUT FIDUCIARY NET POSITION

Pension Trust Fund
($ Millions)

	Dec. 31, 2018	Dec. 31, 2017	Dec. 31, 2016	2018 – 2017 $ Change	2018 – 2017 % Change	2017 – 2016 $ Change	2017 – 2016 % Change
Assets							
Investments, at Fair Value	$ 29,156	$ 29,878	$ 26,163	$ (722)	(2.4%)	$ 3,715	14.2%
Invested Securities-Lending Collateral	349	336	5	13	3.9	331	6,620.0
Receivables, Cash and Cash Equivalents, Other	156	175	164	(19)	(10.9)	11	6.7
Capital Assets, Net	21	21	21	0	0.0	0	0.0
Total Assets	**29,682**	**30,410**	**26,353**	**(728)**	**(2.4)**	**4,057**	**15.4**
Liabilities							
Securities-Lending Collateral	349	336	5	13	3.9	331	6,620.0
Other Liabilities	72	74	61	(2)	(2.7)	13	21.3
Total Liabilities	**421**	**410**	**66**	**11**	**2.7**	**344**	**521.2**
Net Position Restricted for Benefits	**$ 29,261**	**$ 30,000**	**$ 26,287**	**$ (739)**	**(2.5%)**	**$ 3,713**	**14.1%**

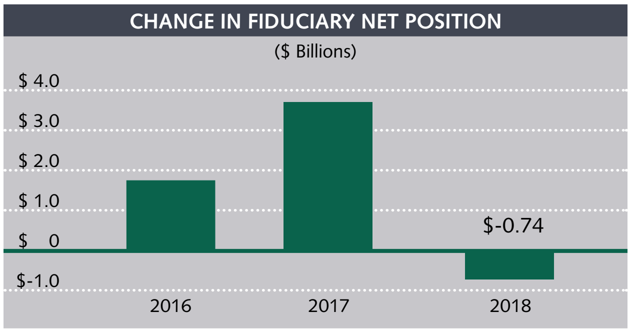
Due to rounding, totals and detail may not equal. Percentages shown are based on rounded amounts and may differ slightly from actual.

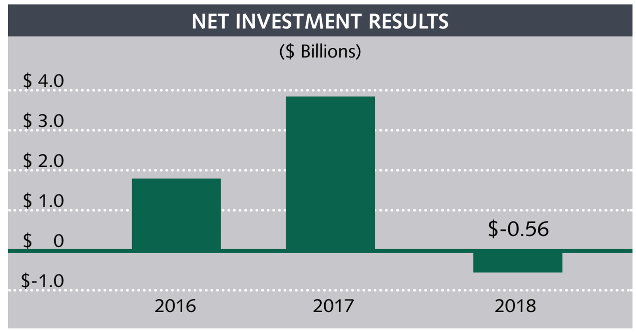
SUMMARY INFORMATION ABOUT CHANGES IN FIDUCIARY NET POSITION

Pension Trust Fund
($ Millions)

	Years Ended Dec. 31, 2018	Years Ended Dec. 31, 2017	Years Ended Dec. 31, 2016	2018 – 2017 $ Change	2018 – 2017 % Change	2017 – 2016 $ Change	2017 – 2016 % Change
Additions							
Employee Deposits	$ 470	$ 453	$ 433	$ 17	3.8%	$ 20	4.6%
Employer Contributions	870	824	772	46	5.6	52	6.7
Net Investment Results	(559)	3,837	1,816	(4,396)	(114.6)	2,021	111.3
Other Income	2	2	2	0	0.0	0	0.0
Total Additions	**783**	**5,116**	**3,023**	**(4,333)**	**(84.7)**	**2,093**	**69.2**
Deductions							
Benefits Paid	1,409	1,293	1,165	116	9.0	128	11.0
Withdrawals	86	86	77	0	0.0	9	11.7
Administrative Expenses	23	20	20	3	15.0	0	0.0
Other Expenses	4	4	4	0	0.0	0	0.0
Total Deductions	**1,522**	**1,403**	**1,266**	**119**	**8.5**	**137**	**10.8**
Net Increase (Decrease) in Fiduciary Net Position	**(739)**	**3,713**	**1,757**	**(4,452)**	**(119.9)**	**1,956**	**111.3**
Net Position Restricted for Benefits	**$ 29,261**	**$ 30,000**	**$ 26,287**	**$ (739)**	**(2.5%)**	**$ 3,713**	**14.1%**

Due to rounding, totals and detail may not equal. Percentages shown are based on rounded amounts and may differ slightly from actual.





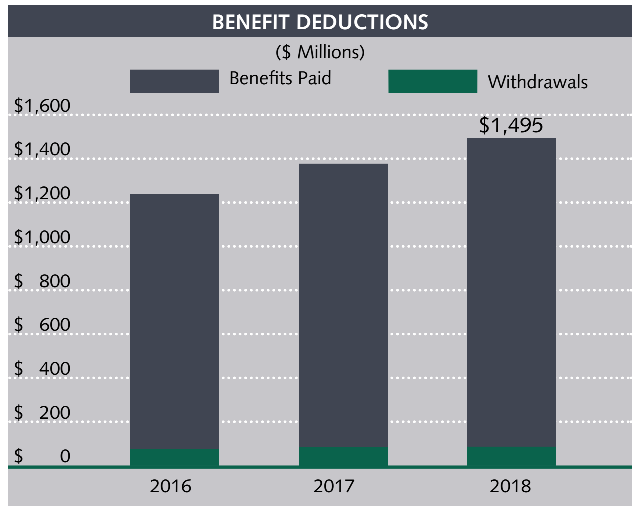
volatility spiked in the fourth quarter of 2018, erasing the gains from earlier in the year. Equities across the globe were negatively impacted by trade concerns, rising interest rates in the U.S., and concerns over global economic growth. Bond returns were close to flat while our private asset classes generated strong relative and absolute returns. The results from investing activities for all asset classes, net of all fees, are presented on page 57.

Additions to fiduciary net position in 2018 included $470 million in employee deposits and $870 million in employer contributions. Employee deposits increased $17 million and employer contributions rose $46 million over 2017 amounts. In 2017, employee deposits increased by $20 million and employer contributions rose by $52 million. Together, employee deposits and employer contributions increased during 2018 by 4.9% and in 2017 by 6.0% over the previous year's amounts, primarily due to growth in covered payroll.

Deductions for benefits paid and withdrawals for 2018 were $1.50 billion, an 8.4% increase over the previous year. These deductions for 2017 were $1.38 billion, an 11.3% increase over 2016, and in 2016, these deductions were $1.24 billion, a 7.9% increase over 2015. Higher deductions in 2018 and 2017 were due to several factors, including increases in the number of retiree and beneficiary accounts in 2018 (a 6.0% increase) and in 2017 (a 6.1% increase) along with higher average benefits. Withdrawals were flat in 2018, but increased in 2017 by 11.7% over 2016.

OTHER CURRENTLY KNOWN INFORMATION: PENSION TRUST FUND

TCDRS' investment return for 2018 was -1.9% net of fees, exceeding its benchmark return of -3.3% by 1.4%.



FINANCIAL ANALYSIS: GROUP TERM LIFE FUND (GTLF)

The GTLF provides an optional program of group term life insurance for the employees and, if covered, retirees of electing employers. An actuarial valuation is performed annually to determine employers' premium rates and to maintain adequate funding over the long term. Based on actuarial analysis, the amount of fiduciary net position is expected to be sufficient to cover any adverse experience that may occur.

Summary information about fiduciary net position and the changes in fiduciary net position showing comparative detail for 2018, 2017 and 2016 is presented on page 25.

The net position restricted for insurance benefits at year end 2018 was $38.8 million, an increase of $2.6 million (7.3%) over the 2017 amount. The increase is due to an interest allocation of $2.5 million, along with a $0.1 million increase in operating income (higher employer premiums than insurance benefits). For the year ended 2018, employer premiums

SUMMARY INFORMATION ABOUT FIDUCIARY NET POSITION

Group Term Life Fund

	Dec. 31,			2018 – 2017		2017 – 2016	
	2018	2017	2016	$ Change	% Change	$ Change	% Change
Total Assets	$ 39,458,130	$ 36,720,448	$ 33,804,538	$ 2,737,682	7.5%	$ 2,915,910	8.6%
Total Liabilities	682,681	593,065	159,022	89,616	15.1	434,043	272.9
Net Position Restricted for Benefits	**$ 38,775,449**	**$ 36,127,383**	**$ 33,645,516**	**$ 2,648,066**	**7.3%**	**$ 2,481,867**	**7.4%**

SUMMARY INFORMATION ABOUT CHANGES IN FIDUCIARY NET POSITION

Group Term Life Fund

	Years Ended Dec. 31,			2018 – 2017		2017 – 2016	
	2018	2017	2016	$ Change	% Change	$ Change	% Change
Additions							
Employer Premiums	$ 4,518,735	$ 4,467,382	$ 4,962,423	$ 51,353	1.1%	$ (495,041)	(10.0%)
Income Allocation from Pension Trust Fund	2,527,808	2,359,682	2,132,226	168,126	7.1	227,456	10.7
Total Additions	**7,046,543**	**6,827,064**	**7,094,649**	**219,479**	**3.2**	**(267,585)**	**(3.8)**
Deductions							
Insurance Benefits	4,398,477	4,345,197	3,123,197	53,280	1.2	1,222,000	39.1
Total Deductions	**4,398,477**	**4,345,197**	**3,123,197**	**53,280**	**1.2**	**1,222,000**	**39.1**
Net Increase in Fiduciary Net Position	**2,648,066**	**2,481,867**	**3,971,452**	**166,199**	**6.7**	**(1,489,585)**	**(37.5)**
Net Position Restricted for Benefits	**$ 38,775,449**	**$ 36,127,383**	**$ 33,645,516**	**$ 2,648,066**	**7.3%**	**$ 2,481,867**	**7.4%**

increased $0.1 million (1.1%), while insurance benefits rose $0.1 million (1.2%) related to active members having claims with a higher average benefit (up 5.5%).

At year end 2017, the net position restricted for insurance benefits was $36.1 million, which was an increase of $2.5 million (7.4%) over the 2016 amount.

For the year ended 2017, employer premiums declined $0.5 million while insurance benefits rose $1.2 million.

REQUESTS FOR INFORMATION

This annual report is designed to provide a general overview of TCDRS' finances. Questions concerning any of the information provided in this report or requests for additional information should be addressed to TCDRS, Finance Division, Barton Oaks Plaza IV, Ste. 500, 901 S. MoPac Expy., Austin, TX 78746.

STATEMENTS OF FIDUCIARY NET POSITION

	Dec. 31, 2018			Dec. 31, 2017		
	Pension Trust Fund	Group Term Life Fund	Total	Pension Trust Fund	Group Term Life Fund	Total
ASSETS						
Cash and Cash Equivalents	$ 34,272,648	$ —	$ 34,272,648	$ 28,922,835	$ —	$ 28,922,835
Receivables:						
Contributions	98,583,964	—	98,583,964	117,652,737	—	117,652,737
Investment Interest and Dividends	17,012,217	—	17,012,217	16,384,239	—	16,384,239
Securities-Lending Interest	245,845	—	245,845	198,981	—	198,981
Foreign Currency & Exchange Contracts	2,482,493	—	2,482,493	6,871,915	—	6,871,915
Employer Premiums	—	207,152	207,152	—	284,291	284,291
Other	226,034	—	226,034	205,556	—	205,556
Total Receivables	118,550,553	207,152	118,757,705	141,313,428	284,291	141,597,719
Prepaid Expenses and Other Assets	2,812,550	—	2,812,550	5,606,908	—	5,606,908
Investments, at Fair Value:						
U.S. Equities	3,848,616,601	—	3,848,616,601	5,115,472,692	—	5,115,472,692
International Equities	5,099,457,727	—	5,099,457,727	5,906,193,020	—	5,906,193,020
Global Equities	515,860,118	—	515,860,118	567,932,818	—	567,932,818
Hedge Funds	5,198,714,924	—	5,198,714,924	6,590,822,320	—	6,590,822,320
Credit	4,905,229,142	—	4,905,229,142	3,711,370,904	—	3,711,370,904
Private Equity	4,507,412,961	—	4,507,412,961	3,755,136,247	—	3,755,136,247
REITs	652,041,392	—	652,041,392	679,400,147	—	679,400,147
Master Limited Partnerships	1,171,877,105	—	1,171,877,105	916,335,125	—	916,335,125
Private Real Estate Partnerships	709,954,951	—	709,954,951	625,488,282	—	625,488,282
Investment-Grade Bonds	1,629,653,442	—	1,629,653,442	1,632,639,685	—	1,632,639,685
Cash and Cash Equivalents	917,519,475	—	917,519,475	377,074,344	—	377,074,344
Total Investments	29,156,337,838	—	29,156,337,838	29,877,865,584	—	29,877,865,584
Invested Securities-Lending Collateral	348,708,174	—	348,708,174	336,045,357	—	336,045,357
Funds Held by Pension Trust Fund	—	39,250,978	39,250,978	—	36,436,157	36,436,157
Capital Assets, Net	20,966,536	—	20,966,536	21,126,423	—	21,126,423
Total Assets	**29,681,648,299**	**39,458,130**	**29,721,106,429**	**30,410,880,535**	**36,720,448**	**30,447,600,983**
LIABILITIES						
Accounts and Investments Payable	33,142,889	—	33,142,889	38,028,640	—	38,028,640
Insurance Benefits Payable	—	682,681	682,681	—	593,065	593,065
Funds Held for Group Term Life Fund	39,250,978	—	39,250,978	36,436,157	—	36,436,157
Securities-Lending Collateral	348,708,174	—	348,708,174	336,045,357	—	336,045,357
Total Liabilities	**421,102,041**	**682,681**	**421,784,722**	**410,510,154**	**593,065**	**411,103,219**
Net Position Restricted for Benefits	**$ 29,260,546,258**	**$ 38,775,449**	**$ 29,299,321,707**	**$ 30,000,370,381**	**$ 36,127,383**	**$ 30,036,497,764**

See accompanying Notes to the Financial Statements.

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION

	Year Ended Dec. 31, 2018			Year Ended Dec. 31, 2017		
	Pension Trust Fund	Group Term Life Fund	Total	Pension Trust Fund	Group Term Life Fund	Total
ADDITIONS						
Contributions and Deposits						
Employee Deposits	$ 469,786,710	$ —	$ 469,786,710	$ 453,435,928	$ —	$ 453,435,928
Employer Contributions	869,683,305	—	869,683,305	823,501,201	—	823,501,201
Employer Premiums	—	4,518,735	4,518,735	—	4,467,382	4,467,382
Total	1,339,470,015	4,518,735	1,343,988,750	1,276,937,129	4,467,382	1,281,404,511
Investment Income						
From Investment Activities						
Net Appreciation (Depreciation) in Fair Value of Investments	(681,834,758)	—	(681,834,758)	3,750,784,380	—	3,750,784,380
Interest and Dividends	156,282,790	—	156,282,790	125,519,085	—	125,519,085
Total Investment Activity Income (Loss)	(525,551,968)	—	(525,551,968)	3,876,303,465	—	3,876,303,465
Less Investment Activity Expenses	37,213,170	—	37,213,170	41,184,101	—	41,184,101
Net Income (Loss) from Investment Activities	(562,765,138)	—	(562,765,138)	3,835,119,364	—	3,835,119,364
From Securities-Lending Activities						
Securities-Lending Income	11,254,347	—	11,254,347	3,406,215	—	3,406,215
Less Securities-Lending Expenses:						
Borrower Rebates and Agent Fees	7,381,566	—	7,381,566	1,464,264	—	1,464,264
Net Income from Securities-Lending Activities	3,872,781	—	3,872,781	1,941,951	—	1,941,951
Total Net Investment Income (Loss)	(558,892,357)	—	(558,892,357)	3,837,061,315	—	3,837,061,315
Building Operations and Miscellaneous Income	1,871,879		1,871,879	1,957,900	—	1,957,900
Income Allocation from Pension Trust Fund	—	2,527,808	2,527,808	—	2,359,682	2,359,682
Total Additions	**782,449,537**	**7,046,543**	**789,496,080**	**5,115,956,344**	**6,827,064**	**5,122,783,408**
DEDUCTIONS						
Benefits Paid	1,408,718,893	—	1,408,718,893	1,292,808,020	—	1,292,808,020
Withdrawals	85,652,792	—	85,652,792	85,655,873	—	85,655,873
Interest Allocation to Group Term Life Fund	2,527,808	—	2,527,808	2,359,682	—	2,359,682
Insurance Benefits	—	4,398,477	4,398,477	—	4,345,197	4,345,197
Administrative and Building Operations Expenses	25,374,167	—	25,374,167	21,911,289	—	21,911,289
Total Deductions	**1,522,273,660**	**4,398,477**	**1,526,672,137**	**1,402,734,864**	**4,345,197**	**1,407,080,061**
Net Increase (Decrease) in Net Position	**(739,824,123)**	**2,648,066**	**(737,176,057)**	**3,713,221,480**	**2,481,867**	**3,715,703,347**
Net Position Restricted for Benefits:						
Beginning of Period, Jan. 1	**30,000,370,381**	**36,127,383**	**30,036,497,764**	**26,287,148,901**	**33,645,516**	**26,320,794,417**
End of Period, Dec. 31	**$ 29,260,546,258**	**$ 38,775,449**	**$ 29,299,321,707**	**$ 30,000,370,381**	**$ 36,127,383**	**$ 30,036,497,764**

See accompanying Notes to the Financial Statements.

A: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

The Texas County & District Retirement System (TCDRS or system) was created in 1967 by the Texas Legislature. The system partners with Texas counties and districts to provide their employees with retirement, disability and survivor benefits. TCDRS is governed by the Texas Legislature and overseen by an independent board of trustees, which is responsible for the administration of the system. TCDRS does not receive state funding. Each plan is funded independently by the county or district, its employees and by investment earnings.

The TCDRS Board of Trustees provides leadership for the system, which serves more than 305,000 TCDRS members and retirees. Our independent, nine-member board is comprised of system members and retirees appointed by the governor and confirmed by the Texas Senate. TCDRS trustees serve staggered six-year terms and have oversight of all system operations, including the annual budget, policy determination, legislative proposals and investment policy. The board appoints an executive director to manage the day-to-day operations of TCDRS and chief investment officer to manage TCDRS investments.

The financial statements of TCDRS have been prepared to conform to generally accepted accounting principles as prescribed by the Governmental Accounting Standards Board (GASB). The accompanying financial statements report the operations of TCDRS, which consists of two fiduciary funds: the Pension Trust Fund and the Group Term Life Fund (GTLF). The Pension Trust Fund is used to provide retirement, survivor, disability and withdrawal benefits and to pay the operating expenses of the system. The GTLF is used to operate a voluntary program of group term life insurance benefits.

New Accounting Pronouncements

In June 2015, the GASB issued Statements No. 74, *Financial Reporting for Postemployment Benefits Other Than Pension Plans*, and No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. Postemployment benefits other than pensions are known as “OPEB”. The two new statements replace Statement No. 43, *Financial Reporting for Postemployment Benefit Plans Other than Pension Plans*, and Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. The purpose of the two new OPEB statements is to ensure consistency with the accounting and financial reporting for OPEB as promulgated by Statements No. 74 and No. 75. The requirements of Statement No. 74 are not applicable to TCDRS due to the fact that the TCDRS Group Term Life Fund is not an OPEB trust, since it covers both actives and retirees. The requirements of Statement No. 75 are implemented for employers participating in the Group Term Life Program for fiscal years beginning after June 15, 2017, and who offer coverage to their retirees. GASB Statement No. 75 information is sent directly to impacted employers and is not included in this CAFR.

In June 2017, GASB issued Statement No. 87, *Leases*, whose objective is to better meet the informational needs of financial statement users by improving accounting and financial reporting for leases by governments. The statement increases the usefulness of governments’ financial statements by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources, thereby enhancing the relevance and consistency of information about governments’ leasing activities. The requirements of this statement will be implemented for fiscal years beginning after December 15, 2019.

Basis of Accounting

The system’s funds are maintained on the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when incurred, regardless of when payment is made. Employee deposits and employer contributions are recognized in the period the employer reports compensation for its employees pursuant to statutory requirements. Benefit payments are recognized when due and payable in accordance with the plans’ terms.

The preparation of financial statements in accordance with accounting principles generally accepted in the United States 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 invests in a diversified portfolio of assets. Investments, in general, are exposed to various risks, such as interest rate, credit and market volatility. It is possible that changes in the values of investments will occur in the near term and that such changes could materially affect the amounts reported in the financial statements.

Basis of Presentation

TCDRS maintains separate funds and accounts in accordance with the TCDRS Act. This is done to help ensure observance of limitations and restrictions on the use of resources available to TCDRS.

In the Pension Trust Fund, the assets of all employer plans are pooled for investment purposes. However, each employer's plan is accounted for separately, so that each employer's assets are used only for the funding of its individual plan.

The costs of administering TCDRS are paid from investment earnings and general reserves of the pooled assets of all plans.

The TCDRS Act requires that all assets of the retirement system be credited to one of the following funds and accounts, according to the purpose for which they are held:

Employees Saving Fund

The Employees Saving Fund (ESF) contains an account for each member. Each account is increased as a member makes deposits and earns interest. Accounts are reduced for payments due to withdrawals and benefit payments.

Subdivision Accumulation Fund

The Subdivision Accumulation Fund (SAF) receives employer contributions and contains an account for each participating employer to fund retirement benefits. An account is increased as an employer makes contributions and decreased as employers pay benefits. Annually, the board decides on the income allocation to each employer's account based on investment earnings and the employer's plan assets. Employer accounts increase if there is a positive allocation of earnings; accounts decrease if there is a negative allocation.

Closed Subdivision Annuity Reserve Fund

The Closed Subdivision Annuity Reserve Fund (CSARF) is used to pay benefits to retirees of terminated plans. When a member retires from an employer that is terminated, amounts are transferred from the member's account to the CSARF to fund the member's retirement annuity.

Endowment Fund

The Endowment Fund contains accounts that hold the general reserves of the system, inactive accounts from the ESF and reserves to transfer to the Expense Fund for subsequent year operating expenses. Refer to the schedule of Changes in Endowment Fund on page 48.

General reserves are maintained in the Endowment Fund and have been used to keep rates stable and to help offset future adverse experience. The Endowment Fund may increase or decrease based on allocation decisions to or from the general reserves by the board of trustees.

Income Fund

All investment income is credited to the Income Fund. It accounts for investment earnings and expenses, and annual allocations to other funds. The fund is reduced by investment expenses and by the statutory allocation of interest to the ESF, CSARF and GTLF. In addition, the board makes an allocation to the SAF.

If any excess exists after all allocations are made, the remainder is transferred to the Endowment Fund. Refer to the Changes in Income Fund schedule on page 49 for additional information.

Expense Fund

TCDRS pays administrative and investment operating expenses from this fund. As mentioned in the Endowment Fund and the Income Fund, operating expenses are financed from general reserves at the beginning of the year, and the Income Fund finances the investment expenses.

The Group Term Life Fund reports the net position available to pay insurance benefits for covered participants. Premiums paid by employers and an annual allocation are added to the fund, while insurance benefits are paid from the fund.

Investments

Investments consist of a diversified portfolio, including equities, hedge funds, credit investments, private equity, real assets and investment-grade bonds along with cash and cash equivalents. The portfolio is further diversified within each of the asset classes.

Investment purchases and sales are recorded as of their trade dates. Separately managed fixed income, equity and debt securities are reported at fair value, and are primarily valued using ICE Data Services (formerly known as Interactive Data Corporation). U.S. and international commingled funds, hedge fund investments, real estate funds or similar private limited partnership investment vehicles that do not actively trade through established exchange mechanisms are valued by a general or managing partner. Security transactions and any resulting gains or losses are accounted for by the specific identification method on a trade-date basis.

For the years ended Dec. 31, 2018 and 2017, the annual money-weighted rate of return on investments, net of investment expenses, was -1.85% and 14.72%, respectively. The money-weighted rate of return expresses investment performance, net of investment expenses, adjusted for the changing amounts actually invested. In the Required Supplementary Information is a table of the annual money-weighted rates of return for the 10-year period ended Dec. 31, 2018.

Capital Assets

Capital assets, which consist of land, building and improvements, software, and equipment and furniture are reported at historical cost and are depreciated on a straight-line basis over the estimated useful lives. TCDRS has elected to capitalize items that individually exceed $5,000 and have a useful life of greater than one year. The estimated useful lives for building and improvements range from 5 to 40 years, for furniture, fixtures and equipment 3 to 10 years, and for leasehold improvements 3 to 40 years.

B: PLAN DESCRIPTION

Pension Trust Fund

TCDRS is a statewide, agent multiple-employer, public-employee retirement system. The system serves 781 participating counties and districts throughout Texas. Each employer maintains its own customized plan of benefits. Plan provisions are adopted by the governing body of each employer, within the options available in the TCDRS Act. Employers have the flexibility and local control to adjust benefits annually and pay for those benefits based on their needs and budgets.

Each employer has a defined benefit plan that functions similarly to a cash balance plan. The assets of the plans are pooled for investment purposes, but each employer's plan assets may be used only for the payment of benefits to the members of that employer's plan. In accordance with Texas law, it is intended that the pension plan be construed and administered in a manner that the retirement system will be considered qualified under Section 401(a) of the Internal Revenue Code. All employees (except temporary staff) of a participating employer must be enrolled in the plan. Membership in TCDRS as of Dec. 31, 2018 and 2017 is summarized in Table 1 on page 31.

Benefits

A percentage of each employee's paycheck is deposited into his or her TCDRS account.

That percentage (from 4% to 7%) is set by the employer.

The employee's savings grow, by law, at a rate of 7%, compounded annually. The employer selects a matching rate — at least "dollar for dollar," up to $2.50 per $1.00 in the employee's account. At retirement, the employee's account balance is combined with employer matching and converted into a lifetime monthly benefit.

Employees receive a month of service time for each month that they make a deposit into their account. The amount of service an employee needs to earn a future benefit is called the vesting requirement. When an employee is vested, he or she has the right to a monthly benefit, which includes employer matching, at age 60 or older. Employers may choose 5-, 8- or 10-year vesting. In addition, employees may retire before age 60 if they meet one of the following requirements, set by the employer:

- **"Rule of" eligibility:** Under these rules, a vested employee can retire if their age plus years of service time add up to at least 75 or 80.
- **20-year or 30-year retirement at any age:** This lets employees retire when they have at least 20 or 30 years of service time.

Retirees elect to receive their lifetime benefit by choosing one of seven actuarially equivalent payment options, which are detailed on page 73.

TABLE 1: MEMBERSHIP		
	Dec. 31,	
Pension Trust Fund:	**2018**	**2017**
Retirees and Beneficiaries Currently Receiving Benefits	**67,429**	**63,628**
Inactive Plan Members Entitled to But Not Yet Receiving Benefits Accounts:		
Vested	24,666	23,727
Nonvested	75,684	71,137
Total	**100,350**	**94,864**
Active Plan Members' Accounts:		
Vested	66,027	66,396
Nonvested	71,501	69,355
Total	**137,528**	**135,751**
Number of Plans:		
Counties	253	253
Districts	528	507
Inactive Plan	1	1
Total	**782**	**761**
Group Term Life Fund:		
Annuitants	**8,872**	**8,305**
Terminated Employees:		
Vested	**7,436**	**6,993**
Current Employees:		
Vested	17,367	17,249
Nonvested	19,326	18,685
Total	**36,693**	**35,934**
Number of Plans:		
Counties	128	126
Districts	201	192
Total	**329**	**318**

Employers may elect to provide other optional benefits. Prior service gives employees monetary credit for time worked for an organization before it joined the system. Buybacks allow current employees to re-establish a closed TCDRS account from previous service with an employer. Partial lump-sum payments at retirement allow employees to withdraw part of their TCDRS account balance as a lump sum at retirement with a reduced monthly benefit.

In addition, an employer may choose to adopt a cost-of-living adjustment (COLA) for its retirees. This adjusts retiree benefits to restore purchasing power lost due to the effects of inflation.

Contributions

A combination of three elements funds each employer's plan: employee deposits, employer contributions and investment income.

- The deposit rate for employees is 4%, 5%, 6% or 7% of compensation, as adopted by the employer's governing body.
- Participating employers are required, by law, to contribute at a minimum the actuarially required rates, which are determined annually.
- Investment income funds a large part of the benefits employees earn.

Employers have the option of paying more than the required contribution rate each year. Extra contributions can help employers "pre-fund" benefit increases, such as a cost-of-living adjustment to retirees, and they can be used to help offset or mitigate future increases in the required rate due to negative plan experience. There are two approaches for making extra contributions: (a) paying an elected contribution rate higher than the required rate and (b) making an extra lump-sum contribution to the employer account.

Administrative costs of TCDRS are financed through the system's general reserves, which are part of the Endowment Fund.

Group Term Life Fund (GTLF)

TCDRS also administers the Group Term Life program, a group term life insurance. The fund for this benefit is a separate trust administered by the board. The fund receives monthly participating employers' premiums and pays benefits when due. The obligations of the program are payable only from this fund, and are not an obligation of, or a claim against, the TCDRS Pension Trust Fund. The fund's assets are pooled with those of the Pension Trust Fund under provisions of the TCDRS Act and annually receive an allocation of income based on the fund value. This optional program provides group term life insurance coverage to currently employed members, and if elected by employers, to retirees. Participation in the Group Term Life program as of Dec. 31, 2018 and 2017 is summarized in Table 1.

Benefits

Current employees of participating employers are insured for an amount equivalent to the employee's current annual compensation. Employers may also choose to cover retirees.

Retirees are insured for $5,000. Life insurance proceeds are payable as a lump sum. The coverage provided to retirees is a postemployment benefit other than pension benefits (OPEB).

Contributions

Each participating employer contributes to the Group Term Life program at a contractually required rate. An annual actuarial valuation is performed and the contractual rate is equal to the cost of providing one-year term life insurance. The premium rate is expressed as a percentage of the covered payroll of members employed by the participating employer. 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 Group Term Life program is voluntary and employers can cease participation at any time. Therefore, the funding policy of the program is to ensure that adequate resources are available to meet all insurance benefit payments for the upcoming year. It is not the intent of the funding policy to pre-fund retiree term life insurance during employees' entire careers.

C: TCDRS AS EMPLOYER

Pension Trust Fund

TCDRS, as an employer, participates in the Texas County & District Retirement System. A brief description of benefit terms:

1. All full- and part-time employees in a non-temporary position participate in the plan, regardless of the number of hours they work in a year. Employees in a temporary position are not eligible for membership.
2. The plan provides retirement, disability and survivor benefits.
3. TCDRS is a savings-based plan. For TCDRS, as an employer, 7% of each employee's pay is deposited into his or her TCDRS account. By law, employee accounts earn 7% interest on the beginning of year balances annually. At retirement, the account is matched at an employer set percentage (current match is 200%) and is then converted to an annuity.
4. There are no automatic COLAs. Each year, TCDRS, as an employer, may elect an ad hoc COLA for its retirees. There are two COLA types, each limited by actual inflation.
5. Benefit terms are established under the TCDRS Act. They may be amended as of Jan. 1 each year, but must remain in conformity with the Act.

TCDRS, as an employer, has a contribution rate that is calculated annually on an actuarial basis, although the employer may elect to contribute at a higher rate. The contribution rate is based on the TCDRS funding policy adopted by the TCDRS Board of Trustees and must conform with the TCDRS Act. Contributions to the pension plan from TCDRS, as an employer, for 2018, were based on the elected rate of 10.5%, plus a one-time lump-sum amount of $350,000.

Group Term Life Fund

TCDRS participates in the Group Term Life program. For a general explanation of the Group Term Life program, turn to page 31. TCDRS provides coverage to current eligible employees and to retired employees.

TCDRS, as an employer, contributes to the Group Term Life program at a contractually required rate.

TCDRS' contributions, as an employer, to the Group Term Life program for the years ended Dec. 31, 2018 and 2017 were $29,459 and $28,078 respectively, which equaled the required contributions each year.

TCDRS Bridge Program Health Reimbursement Arrangement

TCDRS adopted the TCDRS Bridge Program Health Reimbursement Arrangement (Bridge Program) for its employees. The program is open to all former TCDRS employees who meet all three conditions: (a) employed with TCDRS on or after Jan. 1, 2007; (b) accumulated at least 10 years of full-time employment with TCDRS; and (c) an active TCDRS employee on or after attaining age 58½.

The Bridge Program is a self-insured medical expense reimbursement plan that provides a maximum credit of $550 per month for 60 consecutive months. Coverage begins on the first day of the month immediately after the eligible former employee reaches age 60 or has separated from employment with TCDRS, whichever occurs later.

As of Dec. 31, 2017, the measurement date, the Bridge Program OPEB (other postemployment benefit) liability was $994,226. The plan is unfunded and the discount rate at Dec. 31, 2017 was 3.44% with 125 active members. TCDRS' contributions as an employer pays the benefits under the Bridge

Program by reimbursing eligible expenses. For the years ended Dec. 31, 2018 and 2017, benefits paid were $76,177 and $52,377, respectively.

Deferred Compensation

The employees of TCDRS may participate in a deferred compensation plan created in accordance with Internal Revenue Code Section 457. This plan, available to all employees of TCDRS, permits the deferral of a portion of their salary until future years. The deferred compensation is not available to the employees until termination, retirement, death or certain unforeseeable emergencies. All compensation deferred under the plan is held by a custodian for the exclusive benefit of participants and beneficiaries.

D: CASH AND CASH EQUIVALENTS

Cash and cash equivalents consist of funds on deposit with a financial institution in interest-bearing demand deposit accounts. They are invested on an overnight basis (sweep) in a U.S. dollar-denominated investment under a repurchase agreement. The funds are collateralized at 102% using U.S. Treasury, government or agency securities. Cash held in (1) demand deposit accounts, (2) the overnight sweep, and (3) the JPMorgan U.S. Government Money Market Fund (an open-end institutional money market fund) is available to pay benefits, operational expenses and funds awaiting transfer to investment management.

Custodial credit risk is the risk that in the event of a bank failure, the system's deposits may not be returned to it. A discussion of custodial credit risk pertaining to cash and cash equivalents can be found in Note G, beginning on page 35.

E: INVESTMENTS

Investment decisions of the board are subject to Section 67, Article XVI of the Texas Constitution, and to the applicable statutory provisions of the Texas Trust Code that provide for a "prudent person" standard of care. Investment authorization is restricted by the investment policy adopted by the board that emphasizes the importance of a long-term investment philosophy with minimization of risk while targeting a long-term investment return of 8%. The board has determined that a diversified portfolio will offer the best opportunity to produce the desired 8% investment return. Accordingly, the TCDRS investment portfolio includes investments in the following asset classes:

Equity Holdings

The system's U.S. equities and a portion of its developed international and emerging market equities are passively managed in commingled index funds designed to replicate the performance of broad market indices. The remaining developed international, emerging market and global equities are actively managed in commingled funds or limited partnerships.

Hedge Funds

The vehicles for hedge fund investments are typically commingled vehicles, such as limited partnerships, limited liability companies or offshore corporations. At Dec. 31, 2018, the system's hedge fund portfolio consisted of 31 partnerships with a fair value totaling $5.2 billion.

Credit Investments

The board has divided the credit asset class into three portions.

- The strategic credit portfolio is driven primarily by credit risk and includes a combination of traded non-investment-grade bonds and private credit opportunities. These assets provide potential for high returns and exhibit low correlation to the broader credit markets. As the market environment changes, various credit strategies move in and out of favor. TCDRS alters investment concentration among strategies to optimize the opportunity set for any given market environment.
- Distressed debt partnerships invest in securities of companies whose debt has declined in value because they are experiencing financial stress. Typical holdings are senior and subordinated debt instruments.
- Direct lending partnerships consist of privately originated debt made to small and medium-sized companies or to real estate investors in order to take advantage of dislocations in the capital markets.

Table 2, on page 34, lists the committed and unfunded capital to strategic credit, distressed debt and direct lending investments at Dec. 31, 2018.

Private Equity

TCDRS' private equity investments consist of partnerships that (a) take public companies private in order to improve their operations and then resell them in the future; (b) invest in start-up companies with new ideas or technologies; (c) invest in both traditional and renewable energy discovery and production; and (d) invest in real estate. As of Dec. 31, 2018, TCDRS had committed $8.2 billion of capital to 212 private equity partnerships.

TABLE 2: SCHEDULE OF UNFUNDED COMMITMENTS			
	Dec. 31, 2018		
Investment Category	Total Commitment	Unfunded Commitment	Fair Value
Strategic Credit	$ 3,247,978,231	$ 648,018,049	$ 2,720,597,736
Distressed Debt	1,588,678,005	511,451,220	495,377,559
Direct Lending	3,257,173,607	1,654,509,044	1,689,253,847
Private Equity	8,198,340,383	3,156,055,563	4,507,412,961
Private Real Estate	2,531,462,832	1,578,776,539	709,954,951
Total Contingent Commitments	**$ 18,823,633,058**	**$ 7,548,810,415**	**$ 10,122,597,054**

Table 2 lists the committed and unfunded capital to private equity investments at Dec. 31, 2018. During the first quarter of 2019, an additional $311 million has been committed to private equity partnerships.

Real Assets

- Real estate investment trusts (REITs) are companies that own and operate income-producing real estate, such as commercial office buildings, apartments, malls, warehouses and storage facilities. Under provisions of the U.S. tax law, if REITs pay out most of their income in dividends, they are not required to pay income taxes. Consequently, substantial amounts of income can be received from investing in REITs.
- Private real estate partnerships acquire and operate commercial properties including office buildings, apartments, hotels, malls and residential real estate. Private real estate investments are illiquid and typically have expected holding periods of 10 to 12 years. As reported in Table 2, at Dec. 31, 2018, TCDRS had committed $2.5 billion to 45 private real estate partnerships.
- Master Limited Partnerships (MLPs) are publicly traded partnership interests authorized by Congress to encourage investment in domestic energy infrastructure. At the entity level, these interests are tax free provided that 90% of their income comes from natural resources such as oil, natural gas, coal, timber and other depletable resources.

Investment-Grade Bonds

The investment-grade bond portfolio consists of debt instruments issued by the United States Treasury and governmental agencies, asset-backed securities, and corporate bonds that are rated investment grade by the major ratings agencies. Additionally, this portfolio may contain minimal investments in short-term instruments, non-rated securities, private placement securities, convertible bonds and preferred stock.

The portfolio should exhibit an overall dollar-weighted average quality rating of AA with no investment rated lower than BBB- or equivalent as rated by Standard & Poor's (S&P), Moody's Investor Service or Fitch Investor's Service at the time of purchase or, if not rated, be deemed by the manager to be of similar quality.

Cash and Cash Equivalents

The TCDRS Board of Trustees may select one or more commercial banks, depository trust companies or other entities to serve as custodian or custodians of the system's cash, cash equivalents and short-term investments, and may authorize the custodian to invest the cash in such short-term investments as the board determines. TCDRS has authorized its custodian to invest cash, on an overnight basis, in the custodian's Collective Trust Government Short-Term Investment Fund (STIF). The investment objective of the STIF is to provide safety of principal, daily liquidity and competitive returns. The STIF owns high-quality debt instruments (which include U.S. government or U.S. government agencies, repurchase agreements, floating-rate notes, etc.). At Dec. 31, 2018, the dollar-weighted average maturity of the STIF was 33 days with an average current yield of 2.04%.

The investment officer manages cash in the STIF together with new contributions until they are allocated to a portfolio.

F: SECURITIES LENDING

State statutes and the board's policies permit TCDRS to use its investments to enter into securities-lending transactions — loans of securities to broker-dealers and other entities in exchange for collateral with a simultaneous agreement to return the collateral for the same securities in the future. The system's custodian, The Bank of New York Mellon Corp. (BNY Mellon), is engaged as the lending agent to lend securities from the system's REITs, MLPs, High-Yield and Investment-Grade Bond portfolios for collateral of a minimum of 102% of the fair value of securities loaned.

Collateral, either cash or U.S. government securities, is initially pledged for the securities on loan and additional collateral is required from the borrower by the close of the next business day if its value falls to less than 100% of the fair value of the securities on loan. TCDRS does not have the ability to pledge or sell securities received as collateral unless the borrower defaults. At Dec. 31, 2018 and 2017, BNY Mellon held $35,347,800 and $115,809,856 of non-cash collateral, respectively.

Cash collateral is invested in short-term fixed-income instruments in accordance with the system's securities-lending guidelines. Table 3 lists the categories of cash-collateral investments at Dec. 31, 2018 and 2017.

At the end of years 2018 and 2017, TCDRS had no credit risk exposure to borrowers because the amounts the system owed to borrowers (cash plus non-cash collateral) exceeded the amounts the borrowers owed to TCDRS. The contract with the lending agent requires the agent to indemnify TCDRS if borrowers fail to return the securities (and if the collateral is inadequate to replace the securities on loan) or fail to pay TCDRS for income distributions while the securities are on loan. At Dec. 31, 2018 and 2017, the fair value of securities on loan for cash and non-cash collateral was $374,607,249 and $440,791,750, respectively.

Additionally, TCDRS invests in two commingled domestic and international equity portfolios that participate in securities-lending programs managed by State Street Global Advisors. TCDRS receives a proportionate share of the securities-lending income generated from these activities.

G: DEPOSIT AND INVESTMENT RISK

Identification of credit risk, custodial credit risk, concentration of credit risk, interest rate risk and foreign currency risk is mandated by GASB Statement No. 40.

Credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized statistical rating

TABLE 3:
INVESTED SECURITIES-LENDING CASH-COLLATERAL

	Dec. 31,	
Investment Type	**2018**	**2017**
Cash and Other Liquid Assets	$ 884,667	$ 618,618
Asset-Backed Securities	48,153,074	298,149,714
Agencies	286,200,691	—
Commercial Paper	—	3,492,514
Repurchase Agreements	13,469,742	32,885,028
Certificates of Deposit	—	899,483
Total Invested Securities-Lending Collateral	**$ 348,708,174**	**$ 336,045,357**

organization. At both Dec. 31, 2018 and 2017, according to Standard and Poor's (S&P) evaluations, the investment-grade bond portfolio exhibited an overall quality rating of AA-. The Bloomberg Barclays U.S. Aggregate Bond Index is the benchmark for performance measurement of the investment-grade bond portfolio. At both Dec. 31, 2018 and 2017, the Bloomberg Barclays U.S. Aggregate Bond Index had an average S&P quality rating of AA.

At both Dec. 31, 2018 and 2017, according to S&P evaluations, the high-yield portion of the credit portfolio exhibited an overall quality rating of B+. The FTSE High-Yield Cash-Pay Capped Index is the benchmark for performance measurement of the credit portfolio. At both Dec. 31, 2018 and 2017, according to S&P evaluations, the benchmark exhibited an average quality rating of B+.

The investment policy does not explicitly outline an acceptable level of credit risk for the investment-grade bond or credit portfolios, but the board's adoption of their respective benchmark indices is an implicit adoption of the market risk inherent in these portfolios.

Table 4, on page 36, lists the credit risk associated with the investment-grade bond portfolio and the high-yield bond portion of the credit investments portfolio.

At Dec. 31, 2018, according to Moody's Investors Service evaluations, the BNY Mellon STIF contained short-term securities with quality ratings of P-1/P-2 (Prime-1 and Prime-2), which exhibit a superior ability for repayment of senior short-term debt obligations, and long-term investments (maturity date greater than one year) with an average quality rating of Aaa. Based upon the fair value of the fund at Dec. 31, 2018, 75% of the instruments were rated P-1, 25% of the instruments were rated Aaa and less than 1% was held in cash.

TABLE 4: CREDIT RISK BY QUALITY

Dec. 31,

Based on Moody's ratings	Investment-Grade Fixed Income				High-Yield Bonds[1]			
	2018		2017		2018		2017	
Rating	Fair Value ($ Millions)	% of Total	Fair Value ($ Millions)	% of Total	Fair Value ($ Millions)	% of Total	Fair Value ($ Millions)	% of Total
Governments	$ —	0%	$ —	0%	$ —	0%	$ —	0%
Aaa	967.5	59	964.1	59	—	0	—	0
Aa	66.2	4	51.6	3	—	0	—	0
A	166.9	10	188.2	12	—	0	—	0
Baa	319.1	20	305.1	19	0.6	1	0.3	<1
Ba	43.1	3	22.7	1	26.9	23	75.3	28
B	—	0	—	0	62.8	54	142.4	53
Less than B	—	0	0.2	0	14.8	13	29.6	11
Not Rated — Bonds	66.8	4	100.7	6	10.4	9	21.5	8
Total	**$ 1,629.7**	**100%**	**$ 1,632.6**	**100%**	**$ 115.5**	**100%**	**$ 269.1**	**100%**

[1] Included in the fair value of Credit investments reported in Statements of Fiduciary Net Position on pg. 26.

At Dec. 31, 2017, according to Moody's Investors Service evaluations, the BNY Mellon STIF exhibited average short-term quality ratings of P-1/P-2 and an average long-term quality rating of Aaa with 76% of the instruments rated P-1, 24% of the instruments rated Aaa and less than 1% was held in cash.

Custodial credit risk is the risk that, in the event of the failure of a depository financial institution, TCDRS will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party. TCDRS requires that demand deposit accounts be fully collateralized. Funds received by its master custodian are invested on an overnight basis or, if the funds are received late during a business day, are maintained in a U.S. dollar-denominated interest-bearing deposit account insured by the FDIC.

TCDRS investments, evidenced by securities in physical or book entry form and not on loan, are registered and held in safekeeping for TCDRS by its custodian bank.

Concentration of credit risk is the risk of loss attributed to the magnitude of investment in a single issuer. Investment guidelines established with the individual investment managers generally address concentration risk limits. At Dec. 31, 2018 and 2017, TCDRS did not have investments in any one issuer which were greater than 5% of net investments.

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. The values of portfolios of longer duration are more affected by interest rate changes than are those of shorter duration. Increases in bond market yields result in fair value losses; decreases result in fair value gains. Multiplying the change in market yield by the duration of the portfolio can approximate the size of the gain or loss in fair value. For example, if one owned a portfolio of investment-grade bonds that had a duration of 6.5 years and if the yields within the bond market were to immediately fall 1%, the fair value gain of the portfolio would approximate 6.5%. This change in fair value indicates the level of interest rate risk inherent in the portfolio.

Table 5, on page 37, discloses the level of interest rate risk inherent in the TCDRS fixed-income portfolios by reporting the effective duration of those portfolios.

The effective duration of the Bloomberg Barclays U.S. Aggregate Bond Index at Dec. 31, 2018 and 2017 was 5.7 and 5.9 years, respectively.

The high-yield bond portion of the credit portfolio is measured against the FTSE High-Yield Cash-Pay Capped Index. The effective duration of the FTSE High-Yield Cash-Pay Capped Index at Dec. 31, 2018 and 2017 was 4.2 and 3.8 years, respectively.

TCDRS does not have a formal policy governing interest rate risk, but the board's adoption of the respective benchmark indices used to measure the investment-grade bond and credit portfolios against is an implicit adoption of the market risk inherent in these portfolios.

TABLE 5: INTEREST RATE RISK — FIXED-INCOME PORTFOLIOS

Dec. 31,

	2018		2017	
Asset Class	**Fair Value**	**Effective Duration in Years**	**Fair Value**	**Effective Duration in Years**
Investment-Grade Bonds	$ 1,629,653,442	5.2	$ 1,632,639,685	5.6
High-Yield Bonds[1]	115,480,535	4.1	268,979,046	2.3

[1] Included in the fair value of Credit Investments reported in the Statements of Fiduciary Net Position on pg. 26.

The maturities of the investments made with cash collateral may not match the maturities of securities on loan. Any material interest rate risk on investments from cash collateral received from securities lending is mitigated by maintaining an investment yield higher than the rebate rate owed to borrowers. Further, to reduce risk, investment guidelines require floating-rate instruments to reset no less frequently than 90 days or limit maturity of fixed-rate instruments to no more than 18 months.

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or deposit. The asset allocation plan adopted in the investment policy includes a 20.5% allocation to international and global equities, a 2% allocation to distressed debt, a 2% allocation to REITs, a 3% allocation to MLPs, a 10% allocation to direct lending, a 6% allocation to private real estate partnerships and a 16% allocation to private equity, all of which allow non-U.S. dollar-denominated investments. TCDRS does not have a formal policy governing foreign currency risk. Accordingly, the foreign currency risks inherent in the benchmark indices assigned to these asset classes have been implicitly adopted as an acceptable level of foreign currency risk.

Table 6 lists the foreign currency risk associated within the REITs, MLPs, credit investments, private equity and private real estate partnerships portfolios.

Additionally, at Dec. 31, 2018 and 2017, the international equity portfolio contained nine commingled funds subject to foreign currency risk with an aggregate fair value of $5,099,457,727 and $5,906,193,020, respectively.

Derivative instruments are financial contracts whose values depend on the values of one or more underlying assets, reference rates or financial indexes. The investment policy does not explicitly outline the use of derivatives, but investment guidelines allow the investment-grade bond managers the use of exchange-traded treasury futures to replicate cash investments or to manage yield curve or other risk positions within their portfolio. In 2015, the board approved the implementation of a currency overlay program to the passive developed international equity and emerging

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TABLE 6: FOREIGN CURRENCY RISK

Dec. 31,

	REITs / MLP		Credit Investments*		Private Equity & Private Real Estate		Total	
	2018	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**
AUSTRALIAN DOLLAR	1,663	1,848	-	-	-	-	1,663	1,848
BRAZIL REAL	0	2,575	-	-	-	-	-	2,575
BRITISH POUND STERLING	0	30,189	3,516,719	15,181,916	55,803,004	44,074,984	59,319,723	59,287,089
CANADIAN DOLLAR	72,140	103,445	-	-	-	-	72,140	103,445
EURO CURRENCY UNIT	29,332	40,985	75,898,163	45,057,919	389,433,368	315,727,672	465,360,863	360,826,576
JAPANESE YEN	0	8,713	-	-	-	-	-	8,713
NORWEGIAN KRONE	7,006	8,912	-	-	-	-	7,006	8,912
SWISS FRANC	26,232	26,536	-	-	-	-	26,232	26,536
Total subject to currency risk	**$ 136,373**	**$ 223,204**	**$ 79,414,882**	**$ 60,239,835**	**$ 445,236,373**	**$ 359,802,656**	**$ 524,787,627**	**$ 420,265,695**

*High-Yield Asset class was changed to Credit Investments in 2018.
Due to rounding, totals and detail may not equal.

market allocations managed by State Street Global Advisors using foreign currency forward contracts which are over-the-counter (OTC) instruments used to hedge volatility in currency exchange rates on assets held within these portfolios. TCDRS' derivative instruments are considered investments and not hedges for accounting purposes. In 2016, the overlay program was suspended but may be re-engaged at a future date.

Table 7 lists TCDRS' exposure to derivative instruments at Dec. 31, 2018.

H: FAIR VALUE MEASUREMENT AND APPLICATION

TCDRS categorizes fair value measurements of investment assets and liabilities within the fair value hierarchy established by generally accepted accounting principles as mandated by GASB Statement No. 72. These investments are valued through industry standard practices for the respective type of security at a price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The hierarchy classifications are based on the transparency of inputs to the valuation techniques used and should not be perceived as the particular investment's risk. These classifications are summarized into three broad levels, arranged from highest to lowest:

Level 1 - Unadjusted inputs using quoted prices in active markets or exchanges for identical investments.

Level 2 - Other significant observable inputs including quoted prices of securities that are comparable in coupon, rating, maturity and industry. Inputs other than quoted prices that are observable take into account operational, market, financial and non-financial factors (interest rates, yield curves, credit risk, and default rates) or other market corroborated inputs that are observable at commonly quoted intervals for the full term of the investment.

Level 3 – Significant inputs that are not observable and cannot be corroborated by observable market data (assumptions, cash flows or earnings multiples).

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The assessment of the significance of particular inputs to their fair value measurements requires judgment and considers factors specific to each asset.

In 2018 and 2017, there were no changes in valuation techniques that had a significant impact on the result.

Short-Term Securities

Holdings in short-term securities at Dec. 31, 2018

TABLE 7: FUTURES CONTRACTS

Dec. 31, 2018

Futures Contract	Expiration Date	Contracts	Value Per Point	Price Per Contract	Exposure	Base Notional Cost	Unrealized Gain/(Loss)
U.S. 10-Yr Ultra	Mar 2019	-22.00	1,000	130.0781	$(2,861,719)	$(2,778,359)	$(83,359)
U.S. 10-Yr Ultra	Mar 2019	45.00	1,000	130.0781	5,853,516	5,755,328	98,188
U.S. Treasury Bond	Mar 2019	-437.00	1,000	146.0000	(63,802,000)	(60,910,289)	(2,891,711)
U.S. Treasury Bond	Mar 2019	-166.00	1,000	146.0000	(24,236,000)	(23,432,219)	(803,781)
U.S. 10-Yr Note	Mar 2019	-727.00	1,000	122.0156	(88,705,359)	(86,980,799)	(1,724,561)
U.S. 10-Yr Note	Mar 2019	350.00	1,000	122.0156	42,705,469	41,693,750	1,011,719
U.S. 5-Yr Treasury Notes	Mar 2019	-193.00	1,000	114.6875	(22,134,688)	(21,915,793)	(218,895)
U.S. 5-Yr Treasury Notes	Mar 2019	244.00	1,000	114.6875	27,983,750	27,568,398	415,352
U.S. 2-Yr Treasury Notes	Mar 2019	95.00	2,000	106.1563	20,169,688	20,051,571	118,116
U.S. 2-Yr Treasury Notes	Mar 2019	635.00	2,000	106.1563	134,818,438	134,010,713	807,724
U.S. Ultra Bond	Mar 2019	8.00	1,000	160.6563	1,285,250	1,286,169	(919)
U.S. Ultra Bond	Mar 2019	276.00	1,000	160.6563	44,341,125	42,237,414	2,103,711
Total					**$ 75,417,469**	**$ 76,585,885**	**$ (1,168,417)**

Due to rounding, totals and detail may not equal.

and 2017 consist of a Government Short-Term Investment Fund (STIF) which invests principally or entirely in securities or other obligations issued by or guaranteed by the U.S. government or its agencies and repurchase agreements collateralized by securities or other obligations issued by or guaranteed by the U.S. government. The value of the fund is reported at cost plus accrued interest which approximates fair value. TCDRS classifies the STIF at level 2 based on the availability of a daily value, traded in an inactive market.

Equity, Debt and Other Securities

Equity and debt securities classified in level 1 are valued using prices quoted in active markets. Investments classified in level 2 are derived using either a bid evaluation or a matrix pricing technique. Bid evaluations may include market quotations, yields, maturities, call features and ratings. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Index-linked securities are valued by using multiples of the external market price and the index ratio. Level 3 debt securities at Dec. 31, 2018 and 2017 are impaired assets and are valued using unobservable inputs in inactive markets, such as proprietary information or single source pricing.

Commingled funds are valued daily or monthly through an exchange or provided by the investment manager. Funds where pricing is obtained daily are considered to be in an active market and are listed in level 1, and monthly priced funds are listed in level 2.

Investments Measured at the Net Asset Value (NAV)

For assets that are measured at the NAV per share (or its equivalent), the non-lagged year-end valuation provided by the fund manager is used. All partnerships provide audited financial statements with unmodified opinions, along with unaudited quarterly reports. In addition, as part of the annual audit, a confirmation is obtained which includes additional information regarding the underlying holdings and TCDRS' ownership percentage of the total limited partnership.

Commingled Funds

The commingled funds with fair values reported at NAV per share (or its equivalent), such as member units or an ownership interest in partners' capital to which a proportionate share of net assets is attributed, are reported in Tables 8 and 9 disclosures on pages 40–43, along with their redemption restrictions.

Hedge Funds & Strategic Credit Funds

Most hedge funds and strategic credit funds are organized as limited partnerships under the laws of Delaware and use partnership accounting methodologies. These partnerships may invest their assets directly or through a master fund and may also use a wider range of investment techniques such as leverage, short selling and derivatives to achieve their objectives. The fair value of these investments has been determined using the NAV per share or its equivalent. Due to the inherent uncertainty of valuations of investments that are determined to be illiquid and/or do not have readily ascertainable fair values, the estimates of fair value may differ from the values ultimately realized by the partnership, and those differences can be material. The amount of notice the investor is required to give to the general partner in order to redeem ranges from two to one hundred eighty days. For hedge funds, investors are generally able to sell their interest in the partnerships at regular intervals ranging from monthly to every two years. Strategic credit funds can be organized using a traditional hedge fund structure, which provides investors regular intervals to sell their interest in the partnership ranging from quarterly to every two years, or organized using a shorter duration, private equity structure which allows for a two-year investment period, one-year harvest period, and an optional one- to two-year extension. Certain funds may allow for the creation of "special investments," which are investments the investment manager believes lack a readily ascertainable fair value, are illiquid, or should be held until the resolution of a special event or circumstance.

TCDRS targets 25% of its hedge fund allocation to equity long/short funds in which the equity securities maintain some level of market exposure (either net long or net short); however, the level of exposure may vary through time. TCDRS targets 5% of its hedge fund allocation to a market neutral strategy designed to maintain no net exposure to the overall direction of the equity market. Event-driven funds, which are targeted at 20% of TCDRS' hedge fund allocation, focus on identifying and analyzing securities that can benefit from the occurrence of an extraordinary corporate transaction or event such as mergers, acquisitions, buyouts, stock splits and bankruptcies. Credit/distressed debt funds can come in the form of bonds, mutual funds or the distressed firm itself. TCDRS targets 25% of its hedge fund allocation to this strategy which has a low correlation with factors that affect the stock markets. The global macro strategy structures its holdings, such as long

TABLE 8: INVESTMENTS AND DERIVATIVE INSTRUMENTS MEASURED AT FAIR VALUE

			Fair Value Measurements Using		
Investment Description	**Investment Portfolio**	**Fair Value 12/31/2018**	**Quoted Prices in Active Markets for Identical Assets Level 1**	**Significant Other Observable Inputs Level 2**	**Significant Unobservable Inputs Level 3**
Short-Term Securities					
Collective US Gov. STIF	Investment-Grade Bonds	$ 62,660,823	$ —	$ 62,660,823	$ —
	Master Limited Partnerships	6,946,198	—	6,946,198	—
	Credit	3,101,462	—	3,101,462	—
	REITs	6,281,141	—	6,281,141	—
	Cash and Cash Equivalents	917,219,483	—	917,219,483	—
Commercial Paper	Investment-Grade Bonds	450,302	—	450,302	—
Total Short-Term Securities		996,659,408	—	996,659,408	—
Equity Securities					
Corporate Stock - Preferred	Investment-Grade Bonds	7,893,774	—	7,893,774	—
	Credit	214,200	—	214,200	—
Corporate Stock - Common	Master Limited Partnerships	1,167,184,158	1,167,184,158	—	—
	Credit	1,542,471	1,542,471	—	—
	REITs	399,338,368	399,338,368	—	—
Domestic Equity/Commingled	US Equities	3,848,616,601	3,848,616,601	—	—
Internat'l Equity/Commingled Funds	Credit	4,652,814	4,652,814	—	—
	REITs	247,397,263	247,397,263	—	—
	Hedge Funds	190,928,797	190,928,797	—	—
	International Equities	4,632,693,028	4,279,217,566	353,475,462	—
Total Equity Securities		10,500,461,474	10,138,878,038	361,583,436	—
Debt Securities					
Corp. Debt Instruments	Investment-Grade Bonds	752,309,479	—	752,266,054	43,425
	Credit	107,038,469	—	107,001,600	36,869
Government Non-US	Investment-Grade Bonds	13,602,092	—	13,602,092	—
Municipals	Investment-Grade Bonds	21,795,175	—	21,795,175	—
US Government Securities	Investment-Grade Bonds	820,625,832	—	820,625,832	—
Bond Futures/Swaps	Investment-Grade Bonds	(1,168,417)	(1,168,417)	—	—
Total Debt Securities		1,714,202,631	(1,168,417)	1,715,290,753	80,294
Other Investments					
Invested Securities-Lending Collateral		348,708,174	—	348,708,174	—
		348,708,174	—	348,708,174	—
Leveled Assets at Fair Value		$ 13,560,031,687	$ 10,137,709,621	$ 3,422,241,772	$ 80,294
Investments Measured at the Net Asset Value (NAV)					
Internat'l Equity/Commingled Funds	Emerging	466,764,699			
	Global	515,860,118			
Private Real Estate Partnerships		709,954,951			
Private Equity Partnerships		4,507,412,961			
Hedge Funds		5,007,786,127			
Strategic Credit		2,605,117,201			
Distressed Debt		495,377,559			
Direct Lending		1,689,253,847			
Total Investments Measured at the NAV		15,997,527,463			
Investment-related Cash, Receivables and Payables Not Included Above		(52,513,138)			
Total Investments and Securities-Lending Collateral Reinvested		$ 29,505,046,012			

Due to rounding, totals and detail may not equal.

TABLE 8: LIQUIDITY INFORMATION FOR INVESTMENTS MEASURED AT THE NET ASSET VALUE (NAV)

		Fair Value 12/31/2018	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Internat'l Equity/Commingled Funds	Emerging	$ 466,764,699		Monthly, Quarterly	15-60 days
	Global	515,860,118		Monthly	45 days
Private Real Estate Partnerships		709,954,951	1,578,776,539	Not eligible	
Private Equity Partnerships	Buyout	2,441,785,868	2,201,457,035	Not eligible	
	Venture Capital	1,600,943,480	646,820,903	Not eligible	
	Real Assets	464,683,613	307,777,625	Not eligible	
Hedge Funds	Equity Long/Short	1,237,959,618		Monthly, Quarterly	30-65 days
	Market Neutral	107,108,753		Quarterly	60 days
	Event Driven	789,417,525		Quarterly, Semi-annual, Annually	30-65 days
	Credit/Distressed	1,524,213,065		Monthly, Quarterly, Annually	60-180 days
	Global Macro	828,478,022		Monthly, Quarterly	2-90 days
	Multi-Strategies	509,076,370		Monthly, Quarterly, Semi-annual	45-180 days
	Terminating Funds/In Liquidation	11,532,774			
Strategic Credit		2,361,938,027	325,137,492	Monthly,Quarterly, Annually	60-90 days
Strategic Credit - not eligible for redemption		243,179,174	322,880,557	Not eligible	
Distressed Debt		495,377,559	511,451,220	Not eligible	
Direct Lending		1,689,253,847	1,654,509,044	Not eligible	
Total Investments Measured at the NAV		$ 15,997,527,463	$ 7,548,810,415		

Due to rounding, totals and detail may not equal.

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TABLE 9: INVESTMENTS AND DERIVATIVE INSTRUMENTS MEASURED AT FAIR VALUE

			Fair Value Measurements Using		
Investment Description	**Investment Portfolio**	**Fair Value 12/31/2017**	**Quoted Prices in Active Markets for Identical Assets Level 1**	**Significant Other Observable Inputs Level 2**	**Significant Unobservable Inputs Level 3**
Short-Term Securities					
Collective US Gov. STIF	Investment-Grade Bonds	$ 108,564,900	$ —	$ 108,564,900	$ —
	Master Limited Partnerships	10,634,537	—	10,634,537	—
	Credit	6,143,197	—	6,143,197	—
	REITs	14,576,715	—	14,576,715	—
	Cash and Cash Equivalents	376,593,198	—	376,593,198	—
Total Short-Term Securities		516,512,547	—	516,512,547	—
Equity Securities					
Corporate Stock - Preferred	Investment-Grade Bonds	15,903,490	—	15,903,490	—
	Credit	484,937	—	484,937	—
Corporate Stock - Common	Master Limited Partnerships	906,490,823	906,490,823	—	—
	Credit	2,431,427	1,146,398	—	1,285,029
	REITs	406,706,128	406,706,128	—	—
Domestic Equity/Commingled	US Equities	5,115,472,692	5,115,472,692	—	—
Internat'l Equity/Commingled Funds	Credit	13,394,878	13,394,878	—	—
	REITs	258,117,769	258,117,769	—	—
	Hedge Funds	210,320,285	210,320,285	—	—
	International Equities	5,328,125,447	4,961,485,146	366,640,301	—
Total Equity Securities		12,257,447,876	11,873,134,119	383,028,728	1,285,029
Debt Securities					
Corp. Debt Instruments	Investment-Grade Bonds	640,722,025	—	640,610,485	111,540
	Credit	247,956,518	—	247,383,752	572,766
Government Non-US	Investment-Grade Bonds	12,655,090	—	12,655,090	—
Municipals	Investment-Grade Bonds	27,717,575	—	27,717,575	—
US Government Securities	Investment-Grade Bonds	935,521,950	—	935,521,950	—
Bond Futures/Swaps	Investment-Grade Bonds	(337,408)	(337,408)	—	—
	Credit	(79,200)	—	(79,200)	—
Total Debt Securities		1,864,156,550	(337,408)	1,863,809,652	684,306
Other Investments					
Invested Securities-Lending Collateral		336,045,357	—	336,045,357	—
		336,045,357	—	336,045,357	—
Leveled Assets at Fair Value		$ 14,974,162,330	$ 11,872,796,711	$ 3,099,396,284	$ 1,969,335
Investments Measured at the Net Asset Value (NAV)					
Internat'l Equity/Commingled Funds	Emerging	578,067,573			
	Global	567,932,818			
Private Real Estate Partnerships		625,488,282			
Private Equity Partnerships		3,755,136,132			
Hedge Funds		6,380,502,035			
Strategic Credit		1,979,344,663			
Distressed Debt		510,299,072			
Direct Lending		952,748,123			
Total Investments Measured at the NAV		15,349,518,698			
Investment-related Cash, Receivables and Payables Not Included Above		(109,770,087)			
Total Investments and Securities-Lending Collateral Reinvested		$ 30,213,910,941			

Due to rounding, totals and detail may not equal.

TABLE 9: LIQUIDITY INFORMATION FOR INVESTMENTS MEASURED AT THE NET ASSET VALUE (NAV)

		Fair Value 12/31/2017	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Internat'l Equity/Commingled Funds	Emerging	$ 578,067,573		Monthly, Quarterly	15-60 days
	Global	567,932,818		Monthly	45 days
Private Real Estate Partnerships		625,488,282	972,615,063	Not eligible	
Private Equity Partnerships	Buyout	2,045,713,391	2,058,279,734	Not eligible	
	Venture Capital	1,248,092,567	577,770,598	Not eligible	
	Real Assets	461,330,173	400,420,395	Not eligible	
Hedge Funds	Equity Long/Short	1,713,298,260		Monthly, Quarterly	30-65 days
	Market Neutral	290,239,635		Quarterly	60 days
	Event Driven	1,254,849,264		Quarterly, Semi-annual, Annually	30-65 days
	Credit/Distressed	1,602,002,737		Quarterly, Annually	60-90 days
	Global Macro	918,698,991		Monthly, Quarterly	2-90 days
	Multi-Strategies	471,496,014		Monthly, Quarterly, Semi-annual	45-180 days
	Terminating Funds/In Liquidation	129,917,133			
Strategic Credit		1,863,837,173	143,033,381	Monthly,Quarterly, Annually	60-90 days
Strategic Credit - not eligible for redemption		115,507,490	98,179,230	Not eligible	
Distressed Debt		510,299,072	370,352,628	Not eligible	
Direct Lending		952,748,123	1,373,815,298	Not eligible	
Total Investments Measured at the NAV		$ 15,349,518,698	$ 5,994,466,327		

Due to rounding, totals and detail may not equal.

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and short positions, in order to take advantage of shifts in macroeconomic trends; TCDRS allocates 20% of hedge funds to this strategy. The remaining 5% uses a multi-strategy approach, which represents a mix of the other hedge fund strategies.

Private Equity

Private equity is risk capital provided outside of the public markets. Investments are illiquid and traded only on acquisition or exit. The term private equity is very broad and includes many types of investments. TCDRS targets 50% of its private equity allocation to buyout funds which include investments in acquisitions, growth equity, recovery investments, and special situations (a class which represents a diversified strategy across many sub-classes). Buyouts use leverage (debt), aggressive restructuring and the purchase of large controlling stakes in the portfolio companies. Venture capital includes funds that invest in companies in a range of stages of development from start-up/seed-stage, early stage, and later/expansion stage. TCDRS targets 20% of its private equity allocation to venture capital funds. TCDRS targets 10% of its private equity allocation to real assets. Funds that invest in real assets have a return linked to inflation, such as energy or other commodity-based investments. The remaining allocation to private equity targets non-U.S. investments. These may be buyout, venture capital or real assets.

Fair value for these funds is determined by reference to observable valuation measures for comparable companies or transactions, adjusted for differences between the investment and the referenced comparable, and in some instances by reference to option pricing models or other similar methods. Inputs may include, but are not limited to, significant developments such as meaningful third-party transactions, material progress or slippage in the development of the investee company's business, a change in the cash or debt on a company's balance sheet, dividend accretion on certain types of securities, valuation of comparable publicly traded companies, significant changes in the overall market environment and discounts for lack of marketability.

Private equity investments are illiquid and typically have expected holding periods of 10 to 12 years. These investments are not eligible for redemption. Distributions from each fund are received as the underlying investments in the funds are liquidated.

Distressed Debt

Distressed debt includes investments in the debt instruments of companies which may be publicly traded or privately held that are financially distressed and are either in bankruptcy or likely candidates for bankruptcy. Typical holdings are senior and subordinated debt instruments and bank loans. Gains can be realized by holding the debt until there are some payments by the company at maturity or through distributions of cash, restructured debt or equity resulting from the bankruptcy process. Distressed debt investments are not eligible for redemption. Distributions are received as the underlying investments in the funds are liquidated. Investments are typically made in years one through five with capital typically returned in years three through ten.

Direct Lending

Direct lending partnerships invest primarily in privately originated debt and preferred equity instruments to small and mid-sized companies and privately originated senior and mezzanine debt for real estate. Direct lending investments may also include other types of yield-oriented non-correlated funds including, but not limited to, royalty streams and aviation leases. Direct lending investments are not eligible for redemption. Distributions are received as the underlying investments in the funds are liquidated, which may take up to three to five years.

Private Real Estate

Private real estate may behave as highly debt-like securities or as highly equity-like securities, depending on the characteristics of the property. Core properties tend to be held for a long time to take full advantage of the lease and rental cash flows that they provide. Value-added and opportunistic real estate achieve a substantial portion of their return from appreciation in value. Value-added real estate can involve repositioning, renovation, and redevelopment of existing properties while opportunistic real estate includes all of these activities as well as the purchase of raw land and ground-up development. These investments are not eligible for redemption. Distributions from each fund will be received as the underlying investments in the funds are liquidated. As a private, non-exchange-traded asset, private real estate funds are illiquid. The life of a private real estate fund is typically 10 to 12 years.

TABLE 10: MONEY-WEIGHTED RATES OF RETURN (UNAUDITED)

The money-weighted rates of return are presented to provide information regarding investment performance, net of investment expenses, adjusted for the changing amounts actually invested.

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Annual money-weighted rate of return, net of investment expenses	-1.85%	14.72%	7.48%	-0.66%	6.84%	16.39%	12.63%	-1.15%	12.67%	26.54%

See accompanying independent auditor's report.

Table 10 presents the money-weighted rate of return which provides information regarding TCDRS' investment performance, net of investment expenses, adjusted for the changing amounts actually invested.

CHANGES IN FIDUCIARY NET POSITION BY FUND AND INTERFUND TRANSFERS

Pension Trust Fund
Year Ended Dec. 31, 2018

	Employees Saving Fund	Subdivision Accumulation Fund
ADDITIONS		
Employee Deposits and Employer Contributions	$ 469,786,710	$ 869,683,305
Investment Income		
Net Depreciation in Fair Value of Investments	—	—
Interest and Dividends	—	—
Total Investment Activity Loss	—	—
Less Investment Activity Expenses	—	—
Net Loss from Investment Activities	—	—
Net Income from Securities-Lending Activities	—	—
Total Net Investment Loss	—	—
Building Operations and Miscellaneous Income	—	—
Total Additions	**469,786,710**	**869,683,305**
DEDUCTIONS		
Benefits Paid	—	1,407,378,211
Withdrawals	85,652,792	—
Interest Allocation to Group Term Life Fund	—	—
Administrative and Building Operations Expenses	—	92
Total Deductions	**85,652,792**	**1,407,378,303**
TRANSFERS OF FUNDS		
Retirement Transfers	(594,307,865)	593,505,194
Income Allocation	463,210,118	(1,337,143,205)
Expense Fund Transfer	—	—
Escheated Accounts, Net	(854,122)	—
Employer Plan Terminations	473	(13,402)
Net Transfers	(131,951,396)	(743,651,413)
Net Increase (Decrease) in Fiduciary Net Position	**252,182,522**	**(1,281,346,411)**
NET POSITION RESTRICTED FOR PENSION BENEFITS		
Beginning of Period	**6,901,266,872**	**22,272,844,527**
End of Period	**$ 7,153,449,394**	**$ 20,991,498,116**

See accompanying independent auditor's report.

CHANGES IN FIDUCIARY NET POSITION BY FUND AND INTERFUND TRANSFERS, continued

Pension Trust Fund
Year Ended Dec. 31, 2018

Closed Subdivision Annuity Reserve Fund	Endowment Fund	Income Fund	Expense Fund	Total
$ —	$ —	$ —	$ —	$ 1,339,470,015
—	—	(681,834,758)	—	(681,834,758)
—	—	156,282,790	—	156,282,790
—	—	(525,551,968)	—	(525,551,968)
—	—	37,213,170	—	37,213,170
—	—	(562,765,138)	—	(562,765,138)
—	—	3,872,781	—	3,872,781
—	—	(558,892,357)	—	(558,892,357)
—	—	—	1,871,879	1,871,879
—	**—**	**(558,892,357)**	**1,871,879**	**782,449,537**
1,322,604	18,078	—	—	1,408,718,893
—	—	—	—	85,652,792
—	—	2,527,808	—	2,527,808
—	—	—	25,374,075	25,374,167
1,322,604	**18,078**	**2,527,808**	**25,374,075**	**1,522,273,660**
802,671	—	—	—	—
842,972	311,669,950	561,420,165	—	—
—	(22,000,000)	—	22,000,000	—
—	854,122	—	—	—
12,929	—	—	—	—
1,658,572	290,524,072	561,420,165	22,000,000	—
335,968	**290,505,994**	**—**	**(1,502,196)**	**(739,824,123)**
12,258,306	**779,100,650**	**—**	**34,900,026**	**30,000,370,381**
$ 12,594,274	**$ 1,069,606,644**	**$ —**	**$ 33,397,830**	**$ 29,260,546,258**

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OTHER SUPPLEMENTARY INFORMATION

CHANGES IN ENDOWMENT FUND

Pension Trust Fund
Year Ended Dec. 31, 2018

	General Reserves Account	Perpetual Endowment Account	Reserve for Expense Fund	Total
ADDITIONS				
Transfer from Income Fund	$ 311,669,950	—	—	$ 311,669,950
Escheated Accounts	—	2,907,013	—	2,907,013
Total Additions	**311,669,950**	**2,907,013**	**—**	**314,576,963**
DEDUCTIONS				
Transfer to Expense Fund	—	—	22,000,000	22,000,000
Uncollectible Benefits	18,078	—	—	18,078
Reinstatements of Escheated Accounts	—	2,052,891	—	2,052,891
Total Deductions	**18,078**	**2,052,891**	**22,000,000**	**24,070,969**
TRANSFERS				
Expense Allocation	(12,000,000)	—	12,000,000	—
Total Transfers	**(12,000,000)**	**—**	**12,000,000**	**—**
Net Increase (Decrease) in Fund	**299,651,872**	**854,122**	**(10,000,000)**	**290,505,994**
Beginning of Year	**753,347,531**	**3,753,119**	**22,000,000**	**779,100,650**
End of Year	**$ 1,052,999,403**	**$ 4,607,241**	**$ 12,000,000**	**$ 1,069,606,644**

See accompanying independent auditor's report.

CHANGES IN INCOME FUND

Pension Trust Fund
Year Ended Dec. 31, 2018

INVESTMENT RESULTS	
Net Depreciation in Fair Value of Investments	$ (681,834,758)
Interest and Dividends	156,282,790
Net Income from Securities-Lending Activities	3,872,781
Investment Activity Expenses	(37,213,170)
Net Investment Results	**(558,892,357)**
STATUTORY ALLOCATIONS	
Allocation of Current Year Income:	
Employees Saving Fund	463,210,118
Closed Subdivision Annuity Reserve Fund	842,972
Group Term Life Fund	2,527,808
Total Statutory Allocations	**466,580,898**
BOARD OF TRUSTEES' ALLOCATIONS	
Allocation to the Subdivision Accumulation Fund	(1,337,143,205)
Transfer to General Reserves Account	311,669,950
Total Board of Trustees' Allocations	**(1,025,473,255)**
Net Change in Fund[1]	**—**
Beginning of Year	**—**
End of Year	**$ —**

[1] Net Change in Fund is equal to: Net Investment Results less Total Statutory Allocations less Total Board of Trustees' Allocations.
See accompanying independent auditor's report.

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ADMINISTRATIVE REVENUES AND EXPENSES

Year Ended Dec. 31, 2018

	Administrative Operations	Building Operations	Combined Operations
Administrative Revenues:			
Rental Income	$ —	$ 1,861,579	$ 1,861,579
Other Income	10,300	—	10,300
Total Administrative Revenues	**10,300**	**1,861,579**	**1,871,879**
Administrative Expenses:			
Payroll and Temporary Employees	9,199,175	—	9,199,175
Payroll Taxes	632,136	—	632,136
Pension Contributions	2,306,755	—	2,306,755
Employee Insurance and Benefits	1,403,012	—	1,403,012
Professional Fees/Outsourced Services	2,396,336	—	2,396,336
Software Support & Equipment Service	1,180,308	—	1,180,308
Building Operations	—	1,539,945	1,539,945
Office Supplies	21,043	—	21,043
Postage	254,451	—	254,451
Telephone	84,088	—	84,088
Printing	230,532	—	230,532
Records Management	12,815	—	12,815
Reference Materials and Memberships	60,267	—	60,267
Education and Training	90,811	—	90,811
Travel	370,339	—	370,339
Organization and Meetings	263,890	—	263,890
General Insurance	228,580	—	228,580
Depreciation and Amortization	4,484,931	614,753	5,099,684
Total Administrative Expenses	**$ 23,219,469**	**$ 2,154,698**	**$ 25,374,167**

See accompanying independent auditor's report.

INVESTMENT EXPENSES

Year Ended Dec. 31, 2018

INVESTMENT-ACTIVITY EXPENSES	
Department Operating Expenses	
Salaries	$ 3,355,644
Payroll Taxes	207,905
Pension Contributions	580,334
Employee Insurance and Benefits	340,042
Professional Fees/Outsourced Services	1,211,468
Investment Data Systems	111,125
Equipment Service and Repairs	4,705
Office Supplies	40,368
Telephone	9,430
Reference Materials and Memberships	23,829
Education and Travel	156,930
Depreciation	4,394
Total Department Operating Expenses	6,046,174
Nondepartment Managers' Fees:	
Equities/Hedge Funds	12,023,830
REITs	2,956,237
Master Limited Partnerships	6,438,743
Private Real Estate Partnerships	2,500,250
Investment-Grade Bonds	2,691,980
Credit	1,198,828
Private Equity	120,769
Total Nondepartment Managers' Fees	27,930,637
Total Department Operating Expenses and Managers' Fees	33,976,811
Custodial Fees — Mellon Trust	486,359
Investment Consultant Fees — Cliffwater LLC	2,750,000
Total Investment-Activity Expenses	**$ 37,213,170**
SECURITIES-LENDING EXPENSES	
Borrower Rebates and Agent Fees	$ 7,381,566

See accompanying independent auditor's report.

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PROFESSIONAL FEES AND SERVICE EXPENSES

Year Ended Dec. 31, 2018

Professional/Consultant	Nature of Service	Administrative Operations	Investment Department[1]	Totals
Vinson & Elkins, LLP	Legal		$ 978,450	$ 978,450
Milliman, Inc.	Actuary	470,398		470,398
Phidiax, LLC	Software consulting	413,750		413,750
iBridge Group, Inc.	Software consulting	381,525		381,525
KPMG, LLP	Auditing services (annual and SOC 1)	238,890		238,890
Data Foundry, Inc.	Technology services	164,263		164,263
Icon Integration & Design, Inc.	Software consulting	148,125		148,125
Fiserv Solutions, Inc.	Annual statement & 1099 support	140,989		140,989
Gartner, Inc.	Software consulting	131,747		131,747
DLA Piper US, LLP	Legal		109,670	109,670
Agile Progress, LLC	Software consulting	107,998		107,998
Presidio Networked Solutions, LLC	Technology services	99,497		99,497
8X8, Inc.	Telecommunications	95,008		95,008
Bluelock, LLC	Software services	89,564		89,564
Binary Defense Systems, LLC	Software services	85,000		85,000
McElvaney Public Affairs, LLC	Consultant	80,000		80,000
Bradshaw & Bickerton, PLLC	Legal		74,685	74,685
Oshyn, Inc.	Software consulting	62,720		62,720
Sungard Availability Services, LP	Technology services	51,674		51,674
Texhahn Media, Inc.	Media support	49,705		49,705
CEM Benchmarking, Inc.	Human Resource consulting	45,000		45,000
Jackson Walker, LLP	Legal		43,842	43,842
Whitehat Virtual Technologies	Software services	42,761		42,761
Xerox Corporation	Print management services	40,351		40,351
Tierpoint, LLC	Technology services	40,165		40,165
SHI Government Solutions, Inc.	Technology services	39,049		39,049
Diligent Corporation	Software services	34,626		34,626
Southern Computer Warehouse	Technology services	32,060		32,060
Adjacent Technologies, Inc.	Software consulting	30,736		30,736
General Datatech, LP	Technology services	24,558		24,558
LogicMonitor, Inc.	Technology services	23,940		23,940
CDW Government, Inc.	Technology services	23,157		23,157
ICE Miller, LLP	Legal	22,449		22,449
ADP, LLC	Payroll services	21,463		21,463
Other		345,476	4,821	350,297
Total Professional/Consultant Fees and Services		**$ 3,576,643**	**$ 1,211,468**	**$ 4,788,111**

[1] Pursuant to GFOA guidelines, investment advisor expenses are shown only on the investment expenses schedule on the preceding page. The members of the TCDRS Board of Trustees serve without compensation and are reimbursed for actual out-of-pocket travel expenses incurred.

See accompanying independent auditor's report.

30-Year
Horizon

We take a long-term view when it comes to managing our investments. Our 30-year investment horizon helps us weather short-term storms in the market. Because members and employers save for benefits in advance, investments fund nearly 80 cents of every benefit dollar paid.

Julie Diaz (right), TCDRS member since 2012

CLIFFWATER LLC

May 2019

Board of Trustees
Texas County and District Retirement System
P.O. Box 2034
Austin, Texas 78768-2034

To the members of the Board:

It is our pleasure to be the investment consultant for the Texas County and District Retirement System (hereinafter referred to as "TCDRS") and to report on your investment performance and activities for the year ending 2018. Retained in 2005, Cliffwater LLC provides investment policy development and review, asset allocation analysis, asset class structure analysis, investment manager searches and investment performance monitoring and evaluation to the Board and its staff. In calculating investment performance, TCDRS uses the industry standard time-weighted rate of return methodology (net of fees) based upon market values.

2018 was a good year for US-based risk assets until the fourth quarter. Concerns about a global economic slowdown, potential trade conflicts, and tightening Federal Reserve policies resulted in the S&P 500 having the worst December since 1931 and the worst year since 2008. In spite of S&P 500 earnings per share that climbed 14% in 2018 compared to a 6.4% average over the past 66 years, the S&P 500 had a price decline of 6% in 2018 resulting in a total return of -4.4%. Outside of the US, developed non-US and emerging market equities were affected by the same trends as well as the end of ECB quantitative easing. Entering the year with tight credit spreads, the high yield market also suffered in the fourth quarter due to spread widening and was particularly affected by the drop in oil prices that negatively affected a large portion of the high yield market. US bonds were buffeted throughout the year as the Federal Reserve raised rates several times and continued to shrink its balance sheet. There were periods of time in 2018 when US Treasuries and US stocks both suffered losses, but this changed in the fourth quarter during a period of flight to quality. As a result, the 10 Year US Treasury yield did a round trip, starting the year at 2.41%, reaching 3.06% at the end of September and ending the year back down at 2.68%. Oil traded down and REITs were negatively affected by rising interest rates and the year-end sell off. Private assets performed better as company fundamentals remained strong and real estate vacancy rates remained low.

TCDRS' diversified investment portfolio decreased in total assets from $29.9 billion to $29.2 billion. The one-year total fund return was -1.9% after fees which was above the Board's Total Fund Policy Benchmark return of -2.6%. Over 10 years, the fund's 9.0% return exceeded the Board's Total Fund Policy Benchmark return of 8.1%. At the asset class level, TCDRS' passively-managed US equities portfolio returned -5.2% for the year. TCDRS' balance of active and passive developed international managers resulted in a -14.0% return, similar to the benchmark return while the active global equity portfolio returned -9.2% vs. -8.7% for the benchmark. Emerging market equities had a -14.9% return compared to the benchmark of -14.6% with the underperformance due to active management. The active REIT portfolio's return of -3.9% exceeded the benchmark's -5.0% return while the MLP portfolio returned -13.8% compared to the benchmark's -12.4% return. The active core fixed income portfolio returned -0.2% relative to 0% for the benchmark and the hedge fund portfolio returned -2.0% compared to its benchmark return of -4.0%. The strategic credit asset class returned 5.0% relative to the benchmark's -2.3% return. The private equity program returned 13.8%, distressed debt returned 6.1%, direct lending returned 7.4% and the real estate program returned 6.5% for the year. Overall, aggregate manager outperformance contributed to the plan outperforming the total policy benchmark.

In terms of asset allocation, the TCDRS Board consolidated the high yield and opportunistic credit exposure into one, strategic credit, and shifted 2% into it from the hedge fund portfolio. Overall public equity exposure remained the same, but non-US and emerging markets were each increased by 1% while US equity was lowered by 2%. The fund added several hedge funds and strategic credit managers to increase diversification. The fund also committed to new private equity, private real estate, distressed debt and direct lending partnerships in accordance with its annual commitment budget.

Respectfully submitted,

Kathleen K. Barchick

Kathleen K. Barchick, Sr. Managing Director

A: THE TCDRS ACT AND INVESTMENT POLICY

Investment decisions of the TCDRS Board of Trustees (board) are subject to the Texas Constitution, the TCDRS Act and the applicable statutory provisions of the Texas Trust Code that provide for a “prudent person” standard of care.

Additionally, the board has adopted, and reviews at least annually, an investment policy that defines investment authority and emphasizes the importance of a long-term investment philosophy with minimization of risk.

B: INVESTMENT PHILOSOPHY AND STRATEGY

The board has established a long-term target investment return of 8% and has diversified the TCDRS portfolio to include:

- Equities
  - U.S., international developed, emerging markets, and global equities
- Hedge funds
- Credit investments
  - Strategic credit, distressed debt and direct lending
- Private equity
- Real assets
  - Real estate investment trusts (REITs), commodities, private real estate partnerships, Treasury Inflation-Protected Securities (TIPS) and Master Limited Partnerships (MLPs)
- Investment-grade bonds

(For more information on these types of securities, please see the Glossary on page 87.)

The board uses a long-term, strategic approach to asset allocation based upon capital market assumptions that are reviewed and adopted annually. The assumptions in effect as of January 2018 are shown in Table 1 and include the long-term expected return and risk (standard deviation) for each asset class.

C: ASSET ALLOCATION

The board has established asset allocation targets for each asset class within the TCDRS portfolio. Table 2 shows the target allocations in effect during 2018 for each asset class.

TABLE 1: CAPITAL MARKET ASSUMPTIONS

As of Jan. 1, 2018

Asset Category (Portfolio)	Expected Return	Standard Deviation
Equities		
U.S. Equities	6.50%	17.00%
International Equities — Developed	6.50	18.00
International Equities — Emerging	7.50	26.00
Global Equities	6.80	18.00
Hedge Funds	6.05	5.27
Credit Investments		
Strategic Credit	6.07	6.47
Distressed Debt	8.25	11.00
Direct Lending	10.01	14.00
Private Equity	9.50	20.00
Real Assets		
REIT Equities	6.00	22.00
Commodities	2.25	18.00
Private Real Estate Partnerships	8.20	30.00
TIPS	2.50	7.00
Master Limited Partnerships (MLPs)	7.95	17.00
Investment-Grade Bonds	2.70	4.00
Cash and Cash Equivalents[1]	2.25	2.00

[1] Money awaiting allocation to an asset category and deposited with the system’s custodian.

TABLE 2: ASSET ALLOCATION TARGETS

	Target Allocation Percentages in Effect at:	
Asset Category	Jan. 1, 2018	Dec. 31, 2018
Equities		
U.S. Equities	13.5%	11.5%
International Equities — Developed	10.0	11.0
International Equities — Emerging	7.0	8.0
Global Equities	1.5	1.5
Hedge Funds	20.0	18.0
Credit Investments		
Strategic Credit	5.0	8.0
Distressed Debt	3.0	2.0
Direct Lending	10.0	10.0
Private Equity	16.0	16.0
Real Assets		
REIT Equities	2.0	2.0
Private Real Estate Partnerships	6.0	6.0
Master Limited Partnerships	3.0	3.0
Investment-Grade Bonds	3.0	3.0

The target allocation for TIPS and Commodities at 12/31/18 was 0.0%.

TABLE 3: BENCHMARK PORTFOLIOS FOR PERFORMANCE MEASUREMENT

Asset Category	Benchmark Portfolio
Equities	**U.S. Equity Index** *Dow Jones U.S. Total Stock Market Index* **Developed International Equity Index** *MSCI World ex U.S. Index (net)* **Emerging Market International Equity Index** *MSCI EM (Emerging Markets) Index (net)* **Global Equity Index** *MSCI World Index (net)*
Hedge Funds	*Hedge Fund Research, Inc. (HFRI) Fund of Funds Composite Index*
Credit Investments	**Strategic Credit Index** *FTSE High-Yield Cash-Pay Capped Index* **Distressed Debt Index** *Cambridge Associates Distressed Securities Index*[1] **Direct Lending Index** *S&P/LSTA Leveraged Loan Index*
Private Equity	*Cambridge Associates Global Private Equity & Venture Capital Index*[2]
Real Assets	**REIT Index** *67% FTSE NAREIT Equity REIT Index* *33% S&P Global REIT (net) Index* **Commodities Index** *Bloomberg Commodities Index* **TIPS Index** *Bloomberg Barclays U.S. 10-Year Breakeven Inflation Index* **Private Real Estate Partnerships** *Cambridge Associates Real Estate Index*[3] **MLP Index** *Alerian MLP Index*
Investment-Grade Fixed-Income	*Bloomberg Barclays U.S. Aggregate Bond Index*

[1] Includes vintage years 2005–present of Quarter Pooled Horizon IRRs.
[2] Includes vintage years 2006–present of Quarter Pooled Horizon IRRs.
[3] Includes vintage years 2007–present of Quarter Pooled Horizon IRRs.

D: ASSET CLASSES, INVESTMENT STYLES AND INVESTMENT MANAGERS

TCDRS uses both active and passive styles of investment management. The passive style seeks to match the performance of an established market index by holding the same securities as the index. An active style seeks to exceed the performance of a benchmark by allowing the manager to actively trade securities that may be different from the index.

Asset classes managed actively are hedge funds, strategic credit, distressed debt, direct lending, private equity, REITs, TIPS, commodities, MLPs, private real estate partnerships, investment-grade bonds, global equities, and a portion of the developed international and emerging market equities portfolios. Asset classes managed passively are U.S. equities and the remainder of the developed international and emerging market equities.

The investment manager responsible for an externally managed portfolio holds any cash that portfolio generates in interest-bearing instruments or accounts until it is reinvested. The TCDRS Investment Officer manages cash as well as new contributions in a short-term investment fund until allocated to a portfolio.

E: INVESTMENT RESULTS

TCDRS retains a professional performance measurement analyst that regularly reports investment performance to the board for each investment manager, for the aggregate of all managers in each asset class and for the total portfolio.

Performance Reporting

Performance of each investment manager is measured against the performance of similar assets contained within a benchmark portfolio, as represented by a specific index. Comparisons indicate the value added by each manager, if any, in excess of the performance that was experienced by the specific benchmark index. When multiple investment managers are retained within a particular asset class, a benchmark portfolio is selected for measurement of the performance of the entire asset class. Table 3 identifies the benchmark portfolio associated with each asset class contained within the TCDRS investment portfolio.

A policy benchmark portfolio consisting of individual asset class benchmarks, weighted by asset class target allocation, is constructed for measurement of the performance of the entire portfolio.

Performance Results

The TCDRS 2018 portfolio returned -1.9% net of fees, outperforming its benchmark return of -3.3% by 1.4%. Return of volatility is the best overall description for markets in 2018. After a very calm 2017, market volatility spiked in the fourth quarter of 2018 erasing the gains from earlier in the year. TCDRS' U.S. equities (-5.2%), developed international equities (-14.0%), global equities (-9.2%), and emerging market equities (-14.9%) were all down significantly. Bond returns were close to flat (-0.2%). Strategic credit was up 5.0%. The private asset classes also produced strong returns with private equity (+13.8%), distressed debt (+6.1%), private real estate (+6.5%) and direct lending (+7.4%). The hedge fund portfolio was down modestly (-2.0%). REITs were modestly down (-3.9%) and MLPs were also down on the year (-13.8%). Cash returned +2.2%.

TABLE 4: RESULTS FROM INVESTING ACTIVITIES, NET OF ALL FEES[1]

Periods Ended Dec. 31, 2018

TCDRS Portfolio/Benchmark Portfolio	2018 Return	Annualized Returns 3-Year	5-Year	10-Year	20-Year	30-Year
Total Fund	-1.9	6.6	5.1	9.0	6.4	8.0
Policy Benchmark Portfolio	-3.3	6.2	4.1	8.1	5.6	6.9
Equities						
U.S. Equities	-5.2	9.0	8.0	13.4	6.1	—
U.S. Equity Index Benchmark Portfolio	-5.3	8.9	7.9	13.2	6.0	—
International Equities - Developed	-14.0	2.2	1.1	6.9	—	—
Developed Intl Equity Index Benchmark Portfolio	-14.1	3.1	0.3	6.2	—	—
International Equities - Emerging	-14.9	6.4	1.0	6.9	—	—
Emerging Intl Equity Index Benchmark Portfolio	-14.6	9.3	1.6	8.0	—	—
Global Equity	-9.2	6.2	8.1	—	—	—
Global Equity Benchmark Portfolio	-8.7	6.3	4.6	—	—	—
Hedge Funds	-2.0	2.5	2.2	6.3	—	—
Hedge Fund Benchmark Portfolio	-4.0	1.3	1.4	3.1	—	—
Credit Investments						
Strategic Credit	5.0	10.5	7.3	12.6	—	—
Strategic Credit Index Benchmark Portfolio	-2.3	7.0	3.4	10.8	—	—
Distressed Debt	6.1	11.6	8.5	12.5	—	—
Distressed Debt Index Benchmark Portfolio	2.1	8.7	4.4	11.3	—	—
Direct Lending	7.4	9.1	5.5	—	—	—
Direct Lending Index Benchmark Portfolio	0.4	4.8	2.1	—	—	—
Private Equity	13.8	15.3	14.0	13.2	—	—
Private Equity Benchmark Portfolio	10.9	13.5	12.2	12.5	—	—
Real Assets						
REITs	-3.9	2.8	6.7	11.5	9.7	—
REIT Index Benchmark Portfolio	-5.0	3.1	6.8	11.6	9.6	—
Private Real Estate Partnerships	6.5	10.8	12.8	—	—	—
Private Real Estate Benchmark Portfolio	7.1	9.8	11.0	—	—	—
MLPs	-13.8	-1.0	-4.4	—	—	—
MLP Index Benchmark Portfolio	-12.4	-1.1	-7.3	—	—	—
Investment-Grade Bonds	-0.2	2.9	3.1	4.7	5.1	7.1
Investment-Grade Bond Index Benchmark Portfolio	0.0	2.1	2.5	3.5	4.7	6.2

[1] Calculations of performance were prepared using time-weighted rates of return calculations and are reported net of all fees.
Source: BNY Mellon Performance and Risk Analytics Fund Analysis, Fourth Quarter 2018

INVESTMENT

TABLE 5: LIST OF LARGEST EQUITY HOLDINGS[1]

Dec. 31, 2018 ($ Millions)

Company	Portfolio	Fair Value
Energy Transfer LP	MLP	$227.9
Enterprise Products Partners LP	MLP	160.0
Microsoft Corp.	U.S. Equities	118.5
Plains All American Pipeline LP	MLP	117.1
Apple Inc.	U.S. Equities	107.2
The Williams Cos. Inc.	MLP	97.6
Amazon.Com Inc.	U.S. Equities	93.0
Berkshire Hathaway Inc.	U.S. Equities	59.8
Magellan Midstream Partners LP	MLP	59.3
Targa Resources Corp.	MLP	57.8

[1] TCDRS invests in equity securities through separately managed and commingled equity vehicles. At Dec. 31, 2018, the largest equities contained in the U.S. Equities portfolio represent TCDRS' investment in a State Street U.S. Total Stock Market Index Fund which TCDRS owns a 94% undivided interest in. The remaining securities are individual shares held in the MLP portfolio.

F: LISTS OF LARGEST HOLDINGS[1]

Equity Holdings

The system's exposure to equity markets is achieved through participation in commingled investment pools, such as State Street Global Advisors (SSgA) U.S. equity and international equity index funds, and direct investment in separately managed REIT and MLP portfolios. At Dec. 31, 2018, TCDRS' largest equity holdings were in the U.S. equity and MLP portfolios. Table 5 displays our exposure to the 10 largest equity holdings.

Fixed-Income Holdings

Table 6 presents the top 10 fixed-income securities owned by TCDRS. The securities are contained within the investment-grade bond portfolio. At Dec. 31, 2018, the aggregate fair value of the investment-grade bond portfolio was $1,629 million.

[1] A complete listing of all securities TCDRS owned at Dec. 31, 2018, is available upon written request.

G: RESULTS OF SECURITIES-LENDING ACTIVITIES

TCDRS retains The Bank of New York Mellon Corp. as securities-lending agent to engage in lending securities from its portfolios. Securities-lending transactions consist of loans of securities to broker-dealers and other entities in exchange for collateral with a simultaneous agreement to return the collateral for the same securities in the future. The

TABLE 6: LIST OF LARGEST FIXED-INCOME HOLDINGS

Dec. 31, 2018 ($ Millions)

Description	Maturity	Interest Rate	Fair Value
US Treasury Note	8/31/2021	2.000%	$56.56
US Treasury Note	8/31/2020	1.375%	30.68
US Treasury Note	8/15/2028	2.875%	29.70
Fannie Mae Single-Family Mortgage*	1/01/2049	4.000%	27.05
Fannie Mae Single-Family Mortgage*	1/01/2049	4.500%	25.83
US Treasury Bond	5/15/2046	2.500%	24.50
US Treasury Bond	2/15/2045	2.500%	22.12
FNMA Pool #0AS9618	5/01/2047	4.500%	20.69
US Treasury Note	6/30/2022	1.750%	20.23
US Treasury Bond	2/15/2046	2.500%	18.67

*Commitment to purchase

TABLE 7: SECURITIES-LENDING ACTIVITY

Year Ended Dec. 31, 2018

Elements of Securities-Lending Activity	Amount
Gross Earnings	$ 9,686,967
Less Rebates from Lenders and Lending Agent's Share of Income	7,381,566
Net Securities-Lending Income (Separately Managed Accounts)	2,305,401
Securities-Lending Income (Commingled Funds)	1,567,379
Net Securities-Lending Income	**$ 3,872,781**

gross income and expenses attributable to securities-lending activity and net lending income of $2.3 million are shown in Table 7.

Additionally, SSgA passively manages the U.S. and international equity portfolios of TCDRS in commingled funds. The securities in these funds participate in the securities-lending program of SSgA with TCDRS receiving a proportionate share of the securities-lending income generated from this activity. Also shown in Table 7 is income of $1.6 million representing TCDRS' share of the 2018 equity portfolios' securities-lending income.

H: FEES AND COMMISSIONS

Table 8 presents the 2018 investment managers' fees TCDRS incurred, excluding securities-lending fees.

Note that all returns presented throughout this CAFR are reported net of the amounts reported in Table 8, on page 59.

TABLE 8: INVESTMENT MANAGERS' FEES					
Year Ended Dec. 31, 2018					
	Fees Paid from the Pension Trust Fund[1]		Fees Netted Against Returns		
Asset Class	**Management Fees**	**Performance Fees**	**Management Fees**	**Performance Fees**	**Fair Value at Dec. 31, 2018**
Equities	$ 9,963,899	$ 2,059,893	—	—	$ 9,463,934,446
MLPs	6,438,743	—	—	—	1,171,877,105
REITs	2,956,237	—	—	—	652,041,392
Investment-Grade Bonds	2,691,980	—	—	—	1,629,653,442
Cash & Equivalents	—	—	—	—	917,519,475
Alternative Investments	**Management Fees**	**Performance Fees**	**Management Fees**	**General Partner Carried Interest**	**Fair Value at Dec. 31, 2018**
Private Equity	120,769	—	84,655,881	163,432,711	4,507,412,961
Private Real Estate Partnerships	2,500,250	—	16,636,326	11,404,619	709,954,951
Hedge Funds	38	—	73,363,695	20,532,709	5,198,714,924
Strategic Credit	1,198,828	—	21,169,277	18,943,462	2,720,597,736
Distressed Debt	—	—	8,326,433	6,437,725	495,377,559
Direct Lending	—	—	15,718,470	6,305,886	1,689,253,847
Total	**$ 25,870,744**	**$ 2,059,893**	**$ 219,870,082**	**$ 227,057,112**	**$ 29,156,337,838**

[1] See Nondepartment Managers' Fees on page 51.

Alternative Investment Fees

The investment management fees included in Investment Activity Expenses presented in the Statement of Changes in Fiduciary Net Position represent only those paid directly from the Pension Trust Fund and do not include fees incurred and charged by general partners in partnerships investing in private equity, distressed debt, direct lending, strategic credit, private real estate and hedge funds as these types of fees are netted directly against returns for those investments in accordance with FASB ASC 820. In the interest of greater transparency, fees and profit shares associated with these types of investments are disclosed in Table 8, based on information requested and received from fund general partners in conjunction with the annual audit.

The investment expenses related to TCDRS' investments in partnerships investing in private equity, distressed debt, direct lending, strategic credit, private real estate and hedge funds fall into the categories of management fees and profit share (also called "carried interest").

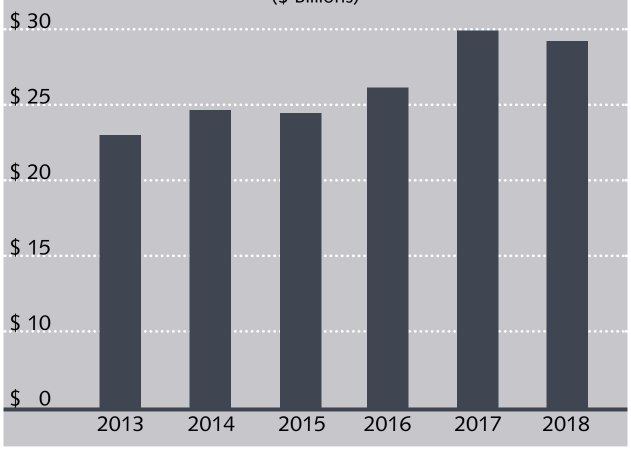
Management fees typically range from 1.5% to 2% of the value of invested assets (hedge funds and strategic credit) or committed capital (private equity, private real estate, distressed debt and direct lending) and are intended to compensate the general partner for its costs in operating the partnership.

Profit sharing or carried interest incentivizes and aligns the general partner's interest with TCDRS' interest. The carried interest represents the general partner's share of the partnership's profits, typically 20%, with 80% going to the limited partners such as TCDRS. Carried interest earned by hedge funds and strategic credit funds is generally accrued monthly and paid annually since the underlying investments are relatively liquid and more easily valued. Due to the long-term nature of private equity, private real estate, distressed debt and direct lending partnerships (typically 8 to 12 years) and the illiquidity associated with the underlying investments, carried interest is accrued over the life of the partnership but is usually not finalized until the fund is fully liquidated. Generally, an agreed rate of return, or preferred return, must first be surpassed before carried interest is earned by the general partner. To incentivize general partners to maintain performance over the life of a partnership, periods of negative performance may result in previously accrued carried interest being reduced or "clawed back". During such periods, negative carried interest expense would be reported.

The fees reported in Table 8 are those that directly impact TCDRS' various partnership investments.

FIGURE 1: GROWTH IN INVESTMENT ASSETS

($ Billions)



General partners may receive additional economic benefits from their management of the partnerships in accordance with the partnerships' governing documents.

Table 9 presents the commissions paid to brokers by the system's equity managers. The managers executed trades of 73.5 million shares through 40 brokers. The $1,131,000 in commissions earned by these brokers represents a cost of $.02 per share traded.

I: ASSET GROWTH OF THE SYSTEM

As shown in Figure 1, the total value of TCDRS' investment assets, including accrued interest and dividends, has increased by $6.1 billion over the past five years (from $23.07 billion at Dec. 31, 2013 to $29.17 billion at Dec. 31, 2018). The decline of investment assets in 2018 was attributable to a -1.9% investment return along with net cash outflows as the system has reached a stage in its maturity where cash flow from employee deposits and employer contributions is slightly less than the amounts required to meet annual benefits, withdrawals and administrative expenses.

J: INVESTMENT SUMMARY

The total value of the portfolio and each asset class at Dec. 31, 2018 is shown in Table 10 and is composed of the fair value of the underlying investments plus the amount of accrued interest and dividends, if any. The values shown in each asset class under the column labeled "Fair Value" are the investment amounts presented in the Statements of Fiduciary Net Position shown on page 26 in the Financial Section of this CAFR.

TABLE 9: BROKER COMMISSIONS PAID BY EQUITY MANAGERS

Year Ended Dec. 31, 2018

	Shares Traded	Commissions	
Brokerage Firm	**(Thousands)**	**(Thousands)**	**Per Share**
B. Riley and Co. LLC, New York	6,591	$198	$0.03
Friedman, Billings and Ramsey, New York	5,667	166	0.03
Goldman Sachs & Co., NY	3,601	127	0.04
Wells Fargo Securities, LLC, New York	12,454	81	0.01
Sanford C. Bernstein & Co., New York	9,901	71	0.01
Jefferies & Co. Inc., New York	10,101	62	0.01
Merrill Lynch Pierce Fenner Smith Inc., NY	3,356	54	0.02
RBC Capital Markets LLC, New York	6,098	51	0.01
J.P. Morgan Clearing Corp., New York	2,520	49	0.02
Citigroup Gbl. Mkts. Inc., New York	1,181	37	0.03
National Finl. Svcs. Corp., New York	1,274	29	0.02
UBS Securities LLC, Stamford	953	28	0.03
Cantor Fitzgerald & Co. Inc., New York	2,617	22	0.01
Morgan Stanley & Co. Inc., NY	686	21	0.03
Barclays Capital Inc., New York	412	15	0.04
Raymond James & Assoc. Inc., St. Petersburg	574	15	0.03
Stifel Nicolaus	431	14	0.03
Summary of Remaining Firms	5,137	92	0.02
Totals	**73,554**	**$ 1,131**	**$ 0.02**

TABLE 10: INVESTMENTS BY ASSET SUBCLASS

Dec. 31, 2018

Type of Investment	Fair Value	Interest, Dividends and Other Receivables[1]	Total Value	% of Total Value
Equities				
US Equities	$ 3,848,616,601	$ 0	$ 3,848,616,601	13.2%
International Equities	5,099,457,727	0	5,099,457,727	17.5%
Global Equities	515,860,118	0	515,860,118	1.8%
Hedge Funds	5,198,714,924	0	5,198,714,924	17.8%
Credit Investments				
Strategic Credit	2,720,597,736	1,800,320	2,722,398,056	9.3%
Distressed Debt	495,377,559	0	495,377,559	1.7%
Direct Lending	1,689,253,847	0	1,689,253,847	5.8%
Private Equity	4,507,412,961	553	4,507,413,514	15.5%
Real Assets				
REITs	652,041,392	2,790,428	654,831,820	2.2%
Private Real Estate Partnerships	709,954,951	0	709,954,951	2.4%
MLPs	1,171,877,105	84,533	1,171,961,638	4.0%
Investment-Grade Bonds	1,629,653,442	10,632,392	1,640,285,834	5.6%
Cash and Cash Equivalents	917,519,475	1,705,241	919,224,716	3.2%
Total Investments Shown on Statements of Fiduciary Net Position	**$ 29,156,337,838**	**$ 17,013,467**	**$ 29,173,351,305**	**100.0%**

[1] $1,250 of foreign currency forwards payable included in Investment Interest and Dividends on page 26.

READER'S NOTES

Putting
$1.5 Billion
Back into the economy

TCDRS is an economic engine for Texas. In 2018, TCDRS paid a total of $1.5 billion in benefits to retirees and former members, and 96% of those payments went to Texas residents. Because most retirees continue to live in Texas after retirement, their benefits help enrich their local communities.

Patsy Berry, TCDRS member since 1975

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May 10, 2019

Board of Trustees
Texas County & District Retirement System
Austin, Texas

Dear Trustees:

In accordance with the Texas County & District Retirement System (TCDRS) Act, the annual actuarial valuation of the assets and liabilities of TCDRS has been completed as of December 31, 2018. This valuation was performed using actuarial assumptions that were adopted by the Board in December 2018.

We believe the assumptions individually and collectively represent reasonable expectations of experience over the long-term future and that all methods and assumptions used for funding and financial reporting are in compliance with the relevant Actuarial Standards of Practice. Nevertheless, the emerging costs of the TCDRS employers will vary from those presented to the extent that actual experience differs from that projected by the actuarial assumptions.

To test how well the financing objective for each plan is being achieved, annual actuarial valuations are made. These valuations recognize differences in the past year between the actuarial assumptions and the actual experience, and any benefit changes for each plan.

The financing objective for each TCDRS plan is to provide retirement, death and disability benefits for a county's or a district's employees financed by an employer contribution rate. This rate is determined annually and is designed to remain approximately level from year to year as a percent of the employer's covered payroll. The employer contribution rate consists of the normal cost contribution rate plus the unfunded actuarial accrued liability (UAAL) contribution rate. The UAAL as of December 31, 2008 and any subsequent gains and losses are amortized over closed 20-year periods (open 30-year period if the employer is in an overfunded position). Benefit increases are amortized over closed 15-year periods. The methods for calculating the required contribution rates are specified in the funding policy which has been adopted by the Board.

A separate actuarial valuation for each participating county and district was performed based on the plan benefits in effect on January 1, 2019. The aggregate results of the actuarial valuation of system-wide assets and liabilities are presented in the Actuarial Section in the Summary Actuarial Valuation Results schedule. The assumptions and methods used in this valuation are summarized in the actuarial section. The member, annuitant and asset data used in the valuation were all prepared and furnished by TCDRS. We relied on that data after examining it for general reasonableness and year-to-year consistency. Please refer to the December 31, 2018 System-wide Actuarial Valuation Report for further disclosures.

Milliman provided the information that TCDRS used in preparing Table 1 and the TCDRS Bridge Program Health Reimbursement Arrangement section of the Notes to the Financial Statements in the financial section, Tables 1-14 and the Funded Status and Funding Progress supporting schedules in the actuarial section and Tables 3, 4, and 5 and Figure 4 of the statistical section.

Sincerely,

Mark C Olleman

Mark C. Olleman, FSA, EA, MAAA
Consulting Actuary

Nick Collier

Nick J. Collier, ASA, EA, MAAA
Consulting Actuary

A: ACTUARIAL ASSUMPTIONS

The actuarial assumptions for funding valuation purposes described below were developed from an actuarial experience investigation of TCDRS over the years 2013-2016. They were recommended by Milliman, Inc., adopted by the TCDRS Board of Trustees in 2017 and first used in the Dec. 31, 2017 actuarial valuation. For new plans joining TCDRS, employer-specific assumptions for termination rates and payroll increases are assigned based on the size of the employer and other relevant factors.

Termination Rates

The termination rates are used to estimate future terminations of employment for reasons other than death, disability or retirement. The rates vary by length of service, entry-age group (age at hire), gender and termination group assignments, and do not apply after an employee is eligible for retirement. Sample rates for three of the seven termination groups are shown in Table 1.

Each employer was assigned to a termination group based primarily upon the termination characteristics of the members of that employer's plan during the years 2013-2016 relative to the termination characteristics of TCDRS membership system-wide during the same period.

For plans that have adopted the partial lump-sum payment option, adjustments are made to the termination rates. Rates are reduced at ages near retirement as it is anticipated that if the partial lump sum is available, members are less likely to terminate employment so they can withdraw their accounts.

Withdrawal Rates

Members who terminate employment with the county or district may either elect to leave their accounts with TCDRS or withdraw their accounts. The likelihood that an active member who terminates employment will elect to withdraw varies by length of service and vesting requirement. Sample withdrawal rates are shown in Table 2.

Members who have already terminated employment and are neither vested nor active with another TCDRS employer are assumed to withdraw their accounts. Otherwise, they are assumed to defer their benefit until retirement eligible.

Disability Rates

There are two types of disability rates, occupational disability rates (predicts disabilities that occur during the performance of job duties) and all-other-causes disability rates (predicts all disabilities that are not occupational). Sample disability rates are shown in Table 3. Before a member is vested, only the occupational disability rates are applicable. For members who are vested, but not eligible for service retirement, the rate of disablement is the sum of the occupational rate and the all-other-causes rate. Rates are assumed to be zero after the member is eligible for service retirement.

TABLE 1: SELECT TERMINATION RATES

Entry Age	Years of Service	Male Low	Male Mid	Male High	Female Low	Female Mid	Female High
20 to 29	0	.267	.334	.401	.290	.362	.434
	3	.108	.135	.162	.117	.146	.175
	6	.070	.088	.106	.076	.095	.114
	9	.050	.062	.074	.054	.067	.080
	12	.035	.044	.053	.038	.047	.056
	15	.024	.030	.036	.026	.033	.040
30 to 39	0	.222	.278	.334	.242	.302	.362
	3	.092	.115	.138	.100	.125	.150
	6	.062	.077	.092	.066	.083	.100
	9	.045	.056	.067	.048	.060	.072
	12	.032	.040	.048	.035	.044	.053
	15	.023	.029	.035	.025	.031	.037
40 to 49	0	.190	.237	.284	.205	.256	.307
	3	.078	.098	.118	.085	.106	.127
	6	.052	.065	.078	.057	.071	.085
	9	.038	.047	.056	.041	.051	.061
	12	.027	.034	.041	.030	.037	.044
	15	.019	.024	.029	.022	.027	.032

TABLE 2: RATES OF WITHDRAWAL UPON TERMINATION

Years of Service	Vesting Requirement: 5 Years	8 Years	10 Years
0	100%	100%	100%
4	100	100	100
6	49	100	100
8	47	47	100
10	45	45	45
15	40	40	40
20	28	28	28
25	18	18	18
30 and over	0	0	0

TABLE 3: DISABILITY RATES

Age	Male and Female Occupational	Male and Female All Other Causes
35	.00001	.00018
40	.00002	.00042
45	.00004	.00069
50	.00010	.00125
55	.00018	.00222
60 and above	.00018	.00000

Service Retirement Rates

Retirement rates predict when active retirement eligible members will commence receiving benefit payments and are based on age. Retirement eligible members age 75 or older are assumed to commence receiving benefits immediately. Sample rates are shown in Table 4, and vary by age.

Non-depositing members are assumed to retire at the later of first retirement eligibility or age 60.

TABLE 4: SERVICE RETIREMENT RATES

Age	Male and Female
40–44	0.045
45–49	0.090
50–51	0.100
52–53	0.090
54–57	0.100
58–61	0.120
62	0.200
63–64	0.150
65–66	0.250
67	0.220
68–69	0.200
70–74	0.220
75 & Over	1.000

Mortality Rates

Depositing members:

90% of the RP-2014 Active Employee Mortality Table for males and 90% of the RP-2014 Active Employee Mortality Table for females, both projected from 2014 using 110% of the MP-2014 Ultimate scale.

Service retirees, beneficiaries and non-depositing members:

130% of the RP-2014 Healthy Annuitant Mortality Table for males and 110% of the RP-2014 Healthy Annuitant Mortality Table for females, both projected from 2014 using 110% of the MP-2014 Ultimate scale.

Disabled retirees:

130% of the RP-2014 Disabled Mortality Table for males and 115% of the RP-2014 Disabled Mortality Table for females, both projected from 2014 using 110% of the MP-2014 Ultimate scale.

Investment Return

An 8% annual discount rate is used in the valuation based on the expected long-term investment return of 8%. The components of the 8% investment return assumption are a 2.75% rate of inflation and a 5.25% real rate of return. This rate of 8% is net of investment and administrative expenses.

Salary Increases

The salary increase assumption predicts salary increases for individuals over their projected careers. These rates vary by the employee's service and age at hire (entry age). Annual increase percentages consist of a general wage inflation component of 3.25% and a merit, promotion and longevity component that varies from 0.50% to 5.00% based on entry age and service. The 3.25% wage inflation component is based on the underlying price inflation assumption of 2.75% and 0.5% for assumed increases in productivity. The salary scale varies by entry age, with an approximately 4.9% average annual increase over a typical employee's entire career. Because the TCDRS benefit is not based on final average salary, this assumption is generally not as significant as for other defined benefit retirement systems. Refer to Table 5 for sample salary increase rates.

TABLE 5: ANNUAL RATE OF SALARY INCREASE

Years of Service	Entry-Age Group			
	< 30	30-39	40-49	> 50
1	7.6%	7.1%	6.6%	6.1%
3	6.9	6.3	5.8	5.3
5	6.2	5.9	5.5	5.0
10	5.3	5.0	4.7	4.3
15	4.8	4.5	4.2	4.1
20	4.4	4.1	3.9	3.8
25	4.1	3.9	3.8	3.8

Payroll Increase

The payroll increase assumption projects the rate of growth of the employer's aggregate payroll. The rate varies by employer, with a maximum of 3.25%, or a smaller percentage as considered appropriate based on the employer's number of employees and prior experience. It also assumes no future growth in the number of employees.

Cost-of-Living Adjustment

An annual increase of 0% cost-of-living adjustment for retirees and beneficiaries is assumed. Within certain parameters, employers may elect cost-of-living adjustments for retirees and beneficiaries on an ad hoc basis.

B: ACTUARIAL METHODS

Actuarial Cost Method

For funding calculations, TCDRS uses an entry-age actuarial cost method assuming the current plan provisions have always been in place. The goal of this cost method is to fund benefits in an orderly manner for each participant over his or her career so that sufficient funds are accumulated by the time benefit payments begin. Under this approach, benefits are funded in advance as a level percentage of pay. This portion of the contribution rate is called the normal cost rate and generally remains stable from year to year. The actuarial cost method used for funding purposes as described above differs from the actuarial cost method used for financial reporting purposes.

Amortization Policy

The portion of the contribution rate that funds any remaining unfunded amounts for benefits that are not covered by the normal cost is called the unfunded actuarial accrued liability (UAAL) rate. UAAL amounts occur when benefit enhancements are adopted when actual investment or demographic experience varies from the actuarial assumptions (actuarial gains and losses), or when there are changes in actuarial assumptions or methods.

UAAL amounts are amortized on a level-percentage-of-covered-payroll basis over a closed period with a layered approach. The closed periods ensure all unfunded liabilities are financed over no more than a 20-year period. Each year, new layers are established to amortize changes in the UAAL due to actuarial gains or losses, as well as any plan benefit changes elected by an employer for that year.

Benefit enhancements are amortized over a 15-year closed period. All other changes in the UAAL except for changes due to scheduled amortization are amortized over 20-year closed periods.

For newly participating districts that have five or fewer employees who are all within five years of retirement eligibility, any initial UAAL and any subsequent adoption of prior service credits are amortized over a five-year closed amortization period. This ensures that benefits are appropriately funded over the current generation of employees.

Extra contributions may be made by employers by choosing to pay an elected rate that is greater than the required funding rate or making ad hoc lump-sum contributions. If extra contributions over the required amount are made to a plan during the year, any extra contributions made as lump sums are first used to offset the UAAL increase, if any, related to plan changes elected during the current year. Any remaining extra contribution amounts are then used to pay down existing loss bases, in the order of oldest to most recent. After all existing loss bases have been paid off, any remaining extra contributions are incorporated into the actuarial gains or losses for the current year.

Notwithstanding the layered approach, the total UAAL payment may not be less than the required payment obtained by amortizing the entire UAAL over a 20-year period.

If a plan is overfunded, the overfunded actuarial accrued liability (OAAL) is calculated annually using a 30-year open amortization period.

Under this amortization policy, the value of assets for each employer is projected to meet or exceed the actuarial accrued liability over a period of not more than 20 years, and the actuarially determined contribution rates are expected to remain relatively level.

Asset Valuation Method

When determining the actuarial value of assets, used for determining required plan funding, TCDRS smooths each year's actuarial investment gains and losses in the following manner. First to the extent that there is a loss for the year and there are unrecognized gains from previous years, or to the extent that there is a gain for the year and there are unrecognized losses from previous years, the gain or loss for the year shall be used to offset unrecognized gains or losses from previous years in the order of oldest to most recent. Any remaining gain or loss for the year is recognized over a five-year period. This better reflects the system's long-term investment horizon and keeps employer contribution rates more stable. As actuarial asset investment gains and losses are recognized, they become part of the actuarial gains and losses for the year and are funded according to the amortization policy. This method ensures that an investment gain or loss for a year will be recognized within five years, helping to stabilize employer rates while still resulting in rates that are reasonably reflective of current market conditions. In addition, the board has the ability to set aside reserves from investment earnings that are used to help offset future negative economic cycles. These reserves are held separately and are not counted as part of a participating employer's plan assets until they are passed through to employers when determined necessary by the board. Reserves help maintain rate stability for employers. In addition, reserves ensure that employers do not adopt benefit increases based on a temporarily lower plan cost at a high point in a market cycle and, conversely, are not as pressured to immediately reduce benefit levels during a low point in a market cycle.

C: CHANGES IN ACTUARIAL ASSUMPTIONS AND METHODS

There were no changes in assumptions or methods reflected in the Dec. 31, 2018 actuarial valuation.

SUMMARY ACTUARIAL DATA

FUNDED STATUS AND FUNDING PROGRESS

Pension Trust Fund

The funded status of the pension plan as of Dec. 31, 2018, the most recent actuarial valuation date is:

	($ Millions)
Actuarial Value of Assets (a)	$ 30,553.8
Actuarial Accrued Liability (AAL) – Entry Age (b)	$ 34,541.1
Unfunded AAL (UAAL) (b-a)	$ 3,987.3
Funded Ratio (a/b)	88.5%
Covered Payroll (c)	$ 6,921.0
UAAL as a Percentage of Covered Payroll [(b-a) / c]	57.6%

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment and mortality. Actuarially determined amounts are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress presents multi-year trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

Actuarial calculations reflect a long-term perspective. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial values of assets, consistent with the long-term perspective of the calculations.

Additional information as of the latest actuarial valuation for the retirement plan follows:

Valuation Date:	Dec. 31, 2018
Actuarial Cost Method:	Entry age
Amortization Method:	Level percent
Unfunded AAL	Closed
Overfunded AAL	Open
Remaining Amortization Period:	
Unfunded AAL	20 years or less (varies by plan)
Overfunded AAL	30 years
Asset Valuation Method:	
SAF	5-year smoothed value
ESF	Fund value
CSARF	Fund value
Actuarial Assumptions:	
Investment Return	8%
Career Average Projected Salary Increases	4.9% avg.[1]
Payroll Increase (varies by plan)	3.25% or less
Inflation	3.0%
Cost-of-Living Adjustments	0.0%

[1] Includes inflation at the indicated rate

TABLE 6: FUNDING PROGRESS

($ Millions)

Actuarial Valuation Date[1]	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)[2] (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Annual Covered Payroll[3] (c)	UAAL as a Percentage of Covered Payroll [(b-a)/c]
12/31/2009[4]	$ 16,564.2	$ 18,448.1	$ 1,883.9	89.8%	$ 5,168.0	36.5%
12/31/10	17,808.6	19,931.2	2,122.6	89.4	5,213.9	40.7
12/31/11	19,016.4	21,409.5	2,393.1	88.8	5,205.5	46.0
12/31/12	20,250.2	22,953.0	2,702.7	88.2	5,283.6	51.2
12/31/2013[4]	21,912.7	24,514.8	2,602.1	89.4	5,483.8	47.5
12/31/14	23,751.8	26,252.8	2,501.0	90.5	5,779.0	43.3
12/31/15	25,398.8	28,632.5	3,233.7	88.7	6,122.3	52.8
12/31/16	26,951.9	30,473.9	3,522.0	88.4	6,378.4	55.2
12/31/2017[4]	28,975.7	32,539.9	3,564.3	89.0	6,676.5	53.4
12/31/18	30,553.8	34,541.1	3,987.3	88.5	6,921.0	57.6

[1] Each county and district participating in TCDRS is financially responsible for its own plan. Therefore, the aggregate numbers shown above reflect only the aggregate condition of TCDRS and are not indicative of the status of any one plan. The valuations above reflect changes in benefits elected by individual employers.
[2] The entry-age actuarial cost method is used for all plans. Each valuation above reflects the actuarial cost method, assumptions and benefits in effect as of the valuation date.
[3] The annual covered payroll is based on the employee deposits received by TCDRS for the year ending with the valuation date.
[4] Revised economic and demographic assumptions due to an experience review were first used in this valuation.

TABLE 7: EMPLOYER CONTRIBUTIONS

($ Millions)

	Actuarial Minimum Required Contributions (ARC)		Actual Contributions		
Plan Year Ended Dec. 31	Average Rate*	Dollar Amount	Average Rate*	Dollar Amount	Percentage of ARC Contributed
2009	9.28%	$ 479.8	9.87%	$ 510.3	104%
2010	10.20	531.8	10.55	550.1	102
2011	9.89	514.6	10.97	570.6	109
2012	10.32	545.2	11.05	583.9	106
2013	10.93	599.4	11.75	644.5	106
2014	11.36	656.7	11.84	684.2	103
2015	11.42	699.0	12.14	743.1	104
2016	11.20	714.2	12.10	771.7	108
2017	11.36	758.4	12.33	823.5	109
2018	11.68	808.1	12.56	869.7	108

* System average weighted by payroll

RETIREMENT PLAN: SUMMARY ACTUARIAL DATA

TABLE 8: RETIREE AND BENEFICIARY DATA — ACCOUNTS*

Year Ended	New Accounts Added	Accounts Removed	Net Change in Accounts	Total Number of Accounts	Percent Change in Number of Accounts
12/31/09	2,748	807	1,941	37,979	5.4%
12/31/10	3,654	797	2,857	40,836	7.5
12/31/11	3,682	883	2,799	43,635	6.9
12/31/12	4,099	933	3,166	46,801	7.3
12/31/13	3,961	942	3,019	49,820	6.5
12/31/14	4,504	1,155	3,349	53,169	6.7
12/31/15	4,277	1,084	3,193	56,362	6.0
12/31/16	4,783	1,160	3,623	59,985	6.4
12/31/17	4,689	1,046	3,643	63,628	6.1
12/31/18	5,024	1,223	3,801	67,429	6.0

* Accounts reflect the total number of members being paid by separate employers.

TABLE 9: RETIREE AND BENEFICIARY DATA — AMOUNTS

Year Ended	New Annual Benefits Added	Annual Benefits Removed	Net Change in Annual Benefits Amount	Annual Benefits	Percent Change in Annual Benefits	Average Annual Benefit*
12/31/09	$ 56,323,360	$ 9,407,651	$ 46,915,709	$ 597,080,162	8.53%	$ 15,721
12/31/10	86,661,972	11,490,572	75,171,400	672,251,562	12.59	16,462
12/31/11	83,906,489	8,997,023	74,909,466	747,161,028	11.14	17,123
12/31/12	94,155,638	10,559,930	83,595,708	830,756,736	11.19	17,751
12/31/13	91,413,679	10,968,524	80,445,155	911,201,891	9.68	18,290
12/31/14	114,372,968	13,737,044	100,635,924	1,011,837,815	11.04	19,031
12/31/15	108,470,125	12,908,359	95,561,766	1,107,399,581	9.44	19,648
12/31/16	129,666,055	13,856,779	115,809,276	1,223,208,857	10.46	20,392
12/31/17	125,169,416	15,890,364	109,279,052	1,332,487,909	8.93	20,942
12/31/18	162,174,909	18,552,675	143,622,234	1,476,110,143	10.78	21,891

* The average annual benefits are based on the regular benefits paid in January following the valuation date.

TABLE 10: SOLVENCY TEST

($ Millions)

Valuation Date	Actuarial Accrued Liabilities for: (1) Current Member Deposits	(2) Retirees and Beneficiaries	(3) Current Members (Employer-Financed Portion)	Actuarial Value of Assets	Portion of Actuarial Accrued Liabilities Covered by Net Position: (1)	(2)	(3)
12/31/09	$ 4,518.3	$ 5,710.5	$ 8,219.3	$16,564.2	100%	100%	77.1%
12/31/10	4,810.3	6,459.3	8,661.6	17,808.6	100	100	75.5
12/31/11	5,090.7	7,202.8	9,116.0	19,016.4	100	100	73.7
12/31/12	5,364.3	8,014.5	9,574.2	20,250.3	100	100	71.8
12/31/13	5,668.9	8,796.9	10,049.0	21,912.7	100	100	74.1
12/31/14	5,931.8	9,785.8	10,535.2	23,751.8	100	100	76.3
12/31/15	6,264.8	10,552.7	11,815.0	25,398.8	100	100	72.6
12/31/16	6,563.4	11,601.0	12,309.5	26,951.9	100	100	71.4
12/31/17	6,901.3	12,713.5	12,925.1	28,975.7	100	100	72.4
12/31/18	7,153.4	14,099.6	13,288.2	30,553.8	100	100	70.0

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 current retirees and beneficiaries; 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 percent of payroll financing, the liabilities for current member contributions on deposit (liability 1) and the liabilities for future benefits to current retirees and beneficiaries (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, the funded portion of liability 3 will move toward 100% over time if there are no changes in the plan benefits.

Each employer participating in TCDRS is financially responsible for its own plan. Therefore, the aggregate numbers shown above reflect only the aggregate condition of TCDRS and are not indicative of the status of any one plan.

TABLE 11: CONTRIBUTION RATE INFORMATION FOR PARTICIPATING EMPLOYERS

Distribution of TCDRS Plans by Year 2020 Employer Actuarially Determined Contribution Rate

Number of Depositing Members as of 12/31/2018	Year 2020 Employer Actuarial Determined Contribution Rate Based on the Plan of Benefits in Effect 1/1/2019						
	Under 5.00%	5.00% – 6.99%	7.00% – 8.99%	9.00% – 10.99%	11.00% – 12.99%	Over 12.99%	Total
1 – 5	44	22	24	14	18	18	140
6 – 15	43	27	23	28	12	29	162
16 – 30	17	11	18	13	12	13	84
31 – 50	11	15	13	13	10	14	76
51 – 85	17	18	18	8	13	8	82
86 – 150	18	10	16	17	13	9	83
151 – 250	9	8	11	14	9	13	64
251 – 500	3	6	9	8	9	10	45
Over 500	1	0	6	5	15	18	45
Total	**163**	**117**	**138**	**120**	**111**	**132**	**781**

TABLE 12: PARTICIPATING EMPLOYERS AND DEPOSITING MEMBERS

Valuation Date	Number of Participating Employers	Depositing Members		Average Annual Pay	Percent Increase in Average Annual Pay	Employer Contributions[1]	Average Employer Rate Paid
		Number	Annual Payroll				
12/31/09	601	123,446	$ 5,167,980,232	$ 41,864	4.3%	$ 510,261,262	9.87%
12/31/10	618	122,889	5,213,892,696	42,428	1.3	550,102,572	10.55
12/31/11	624	121,919	5,202,460,203	42,671	0.6	570,562,898	10.97
12/31/12	641	121,963	5,283,625,749	43,322	2.1	583,902,381	11.05
12/31/13	656	124,525	5,483,787,404	44,038	1.7	644,462,694	11.75
12/31/14	677	125,860	5,779,022,617	45,916	4.3	684,212,315	11.84
12/31/15	701	129,717	6,122,322,455	47,380	3.2	743,149,234	12.14
12/31/16	737	131,140	6,378,374,324	48,638	2.7	771,701,126	12.10
12/31/17	760	135,751	6,676,520,194	49,182	1.1	823,501,201	12.33
12/31/18	781	137,528	6,921,029,795	50,325	2.3	869,683,305	12.57

[1] Employer contributions includes additional contributions.

TABLE 13: ANALYSIS OF FINANCIAL EXPERIENCE

Gains and Losses in Actuarial Accrued Liabilities During 2017–18
Resulting from Differences Between Assumed Experience and Actual Experience
($ Millions)

	$ Gain (or Loss) for Year	
Source of Change	**2018**	**2017**
Age and Service Retirements	$ 25.0	$ 24.3
Death In-Service Benefits	11.5	12.5
Other Termination	32.3	53.2
Pay Increases	23.6	28.6
Contribution Income	25.5	29.0
Investment Income	(577.1)	(25.0)
Death After Retirement	20.4	(5.3)
Other	14.7	5.3
Gain (Loss) During Year from Financial Experience	**(424.1)**	**122.6**
Non-Recurring Items		
Plan Changes	(47.5)	(29.2)
Assumption and Method Changes	0.0	(138.9)
Gain (or Loss) from Non-Recurring Items	**(47.5)**	**(168.1)**
Composite Gain (or Loss) for Year	**$ (471.6)**	**$ (45.5)**
Composite Gain (or Loss) as a % of Actuarial Accrued Liabilities	**(1.4%)**	**(0.9%)**

RETIREMENT PLAN: SUMMARY OF PLAN PROVISIONS

A: ORGANIZATION

TCDRS is a statewide, agent multiple-employer, public-employee retirement system that provides the employees of participating counties and districts with retirement, disability and survivor benefits. Each county and district that participates in TCDRS maintains its own customized plan of benefits which may be changed annually. The governing body of each employer has the option to adopt or change plan provisions based on their needs and budget.

Each employer has a savings-based defined benefit plan where member benefits are based on each member's account balance at retirement and employer matching. All plan assets are pooled for investment purposes, but each employer's plan assets may be used only for the payment of benefits to the members of that employer's plan. This summary describes the plan provisions in general terms. Any questions related to the actual administration, provisions or policies of the retirement plans should be directed to TCDRS.

B: MEMBERSHIP

All full- and part-time non-temporary employees become members in TCDRS, regardless of the number of hours they work in a year. Employees in a temporary position are not eligible for membership.

C: TERMINATION OF MEMBERSHIP

TCDRS membership is terminated by a member's death, retirement, or withdrawal of a member's account.

D: MEMBER DEPOSITS

TCDRS is a savings-based plan. Every paycheck, a portion of each employee's pay — from 4% to 7% as set by the employer — is deposited into his or her TCDRS account. By law, member accounts earn 7% interest annually.

E: SERVICE

Members receive a month of service for each month that they make a deposit into their account. Service may also be granted for periods of employment prior to the employer joining TCDRS, and for military and certain other service.

Within TCDRS, all periods of service with any TCDRS participating employers are combined. Also, service periods with other Texas public retirement plans participating with TCDRS in the Texas Proportionate Retirement Program are combined to satisfy TCDRS retirement eligibility and vesting requirements.

F: ELIGIBILITY REQUIREMENTS

Service Retirement Benefits

The amount of service a member needs to earn a future monthly benefit is called the vesting requirement. When a member is vested, he or she has the right to a monthly benefit at age 60 or older. Employers may choose 5-, 8- or 10-year vesting. In addition, members may retire before age 60 if they meet one of the following requirements, set by the employer:

- "Rule of" eligibility: Under these rules, vested members can retire if their age plus years of service time add up to at least 75 or 80.
- 20-year or 30-year retirement at any age: This lets members retire when they have at least 20 or 30 years of service time.

Disability Retirement Benefits

A member who is vested and who is totally and permanently disabled is eligible for an immediate disability retirement benefit. A member who is not vested is eligible for an immediate disability retirement benefit if the total and permanent disability was a result of an on-the-job injury.

Survivor Benefits

Benefits are payable to the beneficiaries or estate of a deceased member. The eligibility requirement for an employer-provided survivor benefit is four years of TCDRS service. Otherwise the survivor benefit is the deceased member's account balance.

G: DETERMINATION OF RETIREMENT BENEFITS

The service or disability retirement benefit is calculated based on the member's account balance and employer matching as selected by the employer, and may include other employer provided funds. The employer matching can range from a "dollar for dollar," up to $2.50 per $1.00 in the member's account. The member's account and employer provided funds are combined and converted to a lifetime annuity. The retiree receives a payment every month for the rest of his or her life. Conversions to a lifetime annuity are based on a 7% discount rate and the following mortality assumptions:

- The portion of the benefit that accrues before 2018, including member deposits made before 2018 and interest and employer matching on those deposits, shall be calculated based on the UP-1984 table with an age setback of five years for retirees and an age setback of 10 years for beneficiaries, with a 30% reserve refund assumption for the single life option.
- The portion of the benefit that accrues after 2017, including member deposits made after 2017 and interest and employer matching on those deposits, shall be calculated on a generational mortality basis using the RP-2000 Combined Mortality Table, with a one-year set-forward for males and no set-forward for females, projected to 2014 using Scale AA and for projections after 2014 using 110% of MP-2014 Ultimate Projection Scale, with a 32.79% reserve refund assumption for the single life option. Mortality assumptions for these calculations are blended 50% male and 50% female for retirees, and blended 30% male and 70% female for beneficiaries.

Retirees elect to receive their monthly lifetime benefit by choosing from one of the following seven actuarially equivalent payment options.

- **Single Life option** – Monthly payments cease upon death of the retiree. This option provides the highest monthly benefit.
- **Guaranteed Term Benefit options** – The two guaranteed term benefit options are 10-year guaranteed term and 15-year guaranteed term. These options provide a lifetime monthly benefit to the retiree. In addition, if the retiree passes away within 10 or 15 years of the retirement date, the beneficiary will receive the monthly benefit until the end of the guaranteed term.
- **Dual Life options** – The four dual life options are 100% to beneficiary, 75% to beneficiary, 50% to beneficiary and 100% to beneficiary with pop-up. Under each of these options, after the death of the retiree, the beneficiary receives a monthly lifetime benefit equal to the selected percentage of the retiree's benefit payment. Under the 100% to beneficiary with pop-up option, if the beneficiary dies before the retiree, the monthly benefit amount will "pop up" to a higher monthly amount, as if the retiree had retired under the single life option.

All options pay a death benefit equal to the excess of the person's account at retirement over the total monthly benefits that have been paid.

Each employer may allow partial lump-sum payments. This allows the retiring member to receive an immediate lump-sum payment not to exceed his or her account balance, and choose a reduced monthly lifetime benefit from any of the payment options.

H: FUNDING PROVISIONS

Contributions are made monthly by both the employees and the employers based on covered payroll.

Each year the actuary determines the required contribution rate for the following year to adequately fund each employer's benefit plan using the actuarial methods described beginning on page 65. Employers may also elect to fund at a rate higher than the required rate, and may also make additional lump-sum contributions.

I: CHANGES IN PROVISIONS

There were no system-wide changes in plan provisions reflected in the Dec. 31, 2018 actuarial valuation.

Effective each Jan. 1 and within the parameters described previously in the summary of plan provisions, each TCDRS plan may make certain changes to their benefit levels, vesting, retirement eligibility and other plan provisions. The Dec. 31, 2018 actuarial valuation reflects plan provisions in effect for each plan as of Jan. 1, 2019.

RETIREMENT PLAN: SUMMARY ACTUARIAL VALUATION RESULTS

TABLE 14: SUMMARY ACTUARIAL VALUATION RESULTS

		Dec. 31, 2018		Dec. 31, 2017	
Valuation Results for Employer Plans					
1	Actuarial present value of future benefits				
	Annuitants	$ 14,086,985,996		$ 12,701,244,647	
	Members	27,935,212,175		27,074,685,578	
	Total	42,022,198,171		39,775,930,225	
2	Actuarial present value of future normal cost contributions	7,493,636,727		7,248,289,360	
3	Actuarial accrued liability [1 - 2]		34,528,561,444		32,527,640,865
4	Actuarial value of assets				
	Employees Saving Fund	7,153,449,393		6,901,266,871	
	Subdivision Accumulation Fund	23,387,803,040		22,062,126,508	
	Total		30,541,252,433		28,963,393,379
5	Total unfunded actuarial accrued liability (UAAL)	4,030,911,407		3,610,232,752	
6	Total overfunded actuarial accrued liability (OAAL)	(43,602,396)		(45,985,266)	
7	Unfunded actuarial accrued liability (UAAL), net of overfunded actuarial accrued liability (OAAL) [5 + 6]. Also equals [3 - 4].		3,987,309,011		3,564,247,486
Valuation Results for Pooled Benefits					
8	Actuarial present value of future benefits from the Closed Subdivision Annuity Reserve Fund for annuities in effect	12,610,021		12,285,202	
9	Actuarial value of assets of the Closed Subdivision Annuity Reserve Fund	12,594,274		12,258,304	
10	Underfunded actuarial accrued liability (UAAL) [8 - 9]		15,747		26,898
11	**System-wide UAAL [7 + 10]**		**$ 3,987,324,758**		**$ 3,564,274,384**
12	**System-wide Funded Ratio [(4 + 9) / (3 + 8)]**		**88.5%**		**89.0%**

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May 10, 2019

Board of Trustees
Texas County & District Retirement System
Austin, Texas

Dear Trustees:

The Group Term Life Fund (GTLF) is an optional cost-sharing multiple-employer defined benefit plan that is administered by the Texas County & District Retirement System. It provides death benefits to active and, if elected, retired employees of participating employers. The financing objective of the GTLF is to operate as a group term insured benefit, charging each employer its premium based on current actuarial assumptions and its own demographic membership (number of active and retired members covered by GTLF). The funding of the GTLF is in accordance with Section 845.406 of the TCDRS statute. Contribution rates are established as a percentage of pay.

Milliman annually determines contribution rates for those employers that elect to participate in the GTLF for the Group Term Life Fund (GTLF). Additionally, Milliman performs GASB 75 financial reporting valuations of employers participating in the GTL who have elected both active and retiree coverage. It is our understanding that GASB 74 reporting is not required for the GTLF as it is not an Other Post-Employment Benefit (OPEB) trust, because it covers both actives and retirees.

The GTLF provides death benefits to both active and retired members. Each participating employer can elect to cover just active members, or active and retired members. The required contribution rates for funding purposes are equal to a premium rate that is individually determined for each participating employer annually, and is based on the mortality and service experience of all employees and retirees covered by the fund and the demographics specific to the workforce of the participating employer. The rate is expressed as a percentage of the compensation of members employed by the participating employer. The required contributions are determined using a one-year term cost funding method.

Milliman provided the summarized information about the GTLF that TCDRS has used in preparing Tables 15, 16, and 17 in the actuarial section. The assumptions and methods used in the funding calculations are also summarized in the actuarial section.

Sincerely,

Mark C. Olleman

Mark C. Olleman, FSA, EA, MAAA
Consulting Actuary

Nick Collier

Nick J. Collier, ASA, EA, MAAA
Consulting Actuary

GTLF: SUMMARY OF ACTUARIAL ASSUMPTIONS, METHODS AND DATA

A: ACTUARIAL ASSUMPTIONS AND METHODS

The actuarial assumptions for funding valuation purposes described below were developed from an actuarial experience investigation of TCDRS over the years 2013-2016. They were recommended by Milliman, Inc., adopted by the TCDRS Board of Trustees in 2017 and first used in the Dec. 31, 2017 actuarial valuation.

Mortality Rates

Same as for retirement plan.

Actuarial Value of Assets

All assets are valued at fund value. The fund's assets are pooled with those of the Pension Trust Fund under provisions of the TCDRS Act.

Actuarial Cost Method

For funding purposes, the unit credit cost method is used for determining the cost of one-year term life insurance for both active employees and retirees. The only demographic assumptions used for determining funding requirements are active employee mortality rates and retiree mortality rates.

Under this actuarial cost method, the actuarially determined contributions are expected to fully fund the value of benefits each year. The actuarially determined contribution rates are expected to remain relatively level.

Changes in Actuarial Assumptions and Methods

The were no changes in assumptions or methods reflected in the Dec. 31, 2018 actuarial valuation.

B: PLAN PROVISIONS

Participation in the Group Term Life Plan

Employers who participate in the TCDRS retirement plan may elect to participate in the Group Term Life plan. Employers may elect to cover members who are active employees only or both members who are active employees and retirees, and may elect to change or discontinue coverage annually.

Benefit Eligibility

The county or district must have elected the applicable Group Term Life coverage for the calendar year in which a member who is an active employee or retiree dies.

Amount of Insurance Benefit

If death occurs while the member is actively employed, the benefit is an amount equal to the employee's most recent regular annualized salary. The insurance benefit payable to retirees is $5,000.

TABLE 15: GTLF — RETIREES COVERED

Year Ended	New Retirees Added	Retirees Removed	Net Change in Retirees	Total Number of Retirees[1]	Percent Change in Number Covered
12/31/11	555	4,806	(4,251)	5,814	(42.2)%
12/31/12	623	136	487	6,301	8.4
12/31/13	618	196	422	6,723	6.7
12/31/14	676	183	493	7,216	7.3
12/31/15	639	203	436	7,652	6.0
12/31/16	797	254	543	8,195	7.1
12/31/17[2]	652	542	110	8,305	1.3
12/31/18	799	232	567	8,872	8.3

[1] A single individual may have coverage with more than one participating employer.
[2] An adjustment is included to combine retirees with multiple benefits paid by a single employer.

TABLE 16: GTLF — RETIREES COVERAGE AMOUNTS

Year Ended	New Annual Coverage Added	Annual Coverage Removed	Net Change in Annual Coverage Amount	Annual Coverage Amount[1]	Percent Change in Annual Coverage	Average Annual Coverage Per Retiree
12/31/11	$ 2,775,000	$ 24,030,000	$ (21,255,000)	$ 29,070,000	(42.2)%	$ 5,000
12/31/12	3,115,000	680,000	2,435,000	31,505,000	8.4	5,000
12/31/13	3,090,000	980,000	2,110,000	33,615,000	6.7	5,000
12/31/14	3,380,000	915,000	2,465,000	36,080,000	7.3	5,000
12/31/15	3,195,000	1,015,000	2,180,000	38,260,000	6.0	5,000
12/31/16	3,985,000	1,270,000	2,715,000	40,975,000	7.1	5,000
12/31/17[2]	3,260,000	2,710,000	550,000	41,525,000	1.3	5,000
12/31/18	3,995,000	1,160,000	2,835,000	44,360,000	8.3	5,000

[1] A single individual may have coverage with more than one participating employer.
[2] An adjustment is included to combine retirees with multiple benefits paid by a single employer.

TABLE 17: GTLF PARTICIPATING EMPLOYERS AND COVERED MEMBERS[1]

Valuation Date	Number of Participating Employers	Covered Members		Average Annual Pay	Percent Increase in Average Annual Pay	Employer Contributions	Average Employer Rate
		Number	Annual Payroll				
12/31/11	269	32,499	$ 2,064,853,871	$ 39,190	(10.5)%	$ 5,927,549	0.29%
12/31/12	276	32,579	1,293,840,378	39,714	1.3	3,949,356	0.31
12/31/13	279	33,118	1,343,369,311	40,563	2.1	4,203,456	0.31
12/31/14	289	33,394	1,419,012,335	42,493	4.8	4,510,866	0.32
12/31/15	298	34,548	1,502,084,556	43,478	2.3	4,766,129	0.32
12/31/16	312	34,800	1,561,487,281	44,870	3.2	4,962,423	0.32
12/31/17	318	35,934	1,605,566,274	44,681	-0.4	4,467,382	0.28
12/31/18	329	36,693	1,693,759,626	46,160	2.9	4,518,735	0.27

[1] Includes only employers that participate in the Group Term Life program.

READER'S NOTES

5

STATISTICAL

0.23%

Operating Costs

Since we've brought more than 780 counties and districts together to administer retirement benefits, they benefit from economies of scale. Our operating costs are less than one-quarter of one percent of assets using a five-year average. We do not charge fees to employers or members.

Alberto Renteria, TCDRS member since 1979

INTRODUCTION

The Statistical Section provides additional detail to assist you in interpreting the information in the Financial Statements, Notes to Financial Statements and Required Supplementary Information. The information is presented in two main categories: Financial Trends Data and Demographic and Operating Information.

The Financial Trends Data illustrates how TCDRS' financial position has changed over time. The changes in net position for the last 10 fiscal years show additions by source, deductions by type and the total change in Pension Trust Fund and Group Term Life Fund (GTLF) net position for each year. The pension benefit expenses by type gives data on benefits paid and withdrawal deductions for the last 10 fiscal years.

The Demographic and Operating Information provides details about TCDRS' operations and membership. The schedule of New Retiree Average Benefits gives the average monthly benefit and number of retired members, organized by five-year increments of credited service, for the last 10 fiscal years. Data is given for both pension benefits and for GTLF benefit payments. This section also includes information on the number of annuitants grouped by age and by type of benefits, along with a description of the retirement payment options. The schedule of largest participating employers compares the number of current members for those employers for the most recent year-end and as of nine years ago.

TABLE 1: CHANGES IN NET POSITION, LAST TEN FISCAL YEARS

Pension Trust Fund	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Additions										
Employee Deposits	$ 354,627,084	$ 357,797,427	$ 347,995,322	$ 353,349,948	$ 367,313,130	$ 383,186,524	$ 414,806,917	$ 432,765,143	$ 453,435,928	$ 469,786,710
Employer Contributions	510,261,262	550,102,572	570,562,898	583,902,381	644,462,694	684,212,315	743,149,234	771,701,126	823,501,201	869,683,305
Total Net Investment Income (Loss)	3,285,201,407	1,980,909,842	(208,287,663)	2,212,163,773	3,239,794,960	1,568,660,707	(172,638,528)	1,816,576,383	3,837,061,315	(558,892,357)
Other Additions	1,357,102	1,410,153	1,402,399	1,465,105	1,524,722	1,588,730	2,475,483	1,858,748	1,957,900	1,871,879
Total Additions	**4,151,446,855**	**2,890,219,994**	**711,672,956**	**3,150,881,207**	**4,253,095,506**	**2,637,648,276**	**987,793,106**	**3,022,901,400**	**5,115,956,344**	**782,449,537**
Deductions										
Benefits Paid:										
Service Retirements	564,892,564	619,134,926	701,095,589	774,927,826	864,546,467	948,890,194	1,053,112,636	1,149,053,001	1,276,444,848	1,392,219,836
Disability Retirements	13,870,874	14,176,535	14,702,551	15,112,328	15,400,094	15,566,244	15,996,931	16,069,755	16,363,172	16,499,057
Total Benefits Allowances	578,763,438	633,311,461	715,798,140	790,040,154	879,946,561	964,456,438	1,069,109,567	1,165,122,756	1,292,808,020	1,408,718,893
Withdrawals:										
Separation	55,060,952	63,952,250	79,979,067	80,628,521	89,227,565	81,243,255	80,373,804	74,737,725	84,208,957	84,596,757
Death / Ineligible	777,907	1,221,183	1,203,984	1,321,511	1,791,138	959,497	1,685,020	1,845,188	1,446,916	1,056,035
Total Withdrawals	55,838,859	65,173,433	81,183,051	81,950,032	91,018,703	82,202,752	82,058,823	76,582,913	85,655,873	85,652,792
Administrative and Building Operations Expenses	15,202,472	16,362,612	17,009,339	18,116,762	19,816,891	20,048,081	20,215,681	21,592,272	21,909,103	25,374,075
Interest Allocation to Group Term Life Fund	920,949	1,152,389	1,376,030	1,524,820	1,625,589	1,738,911	1,889,834	2,132,226	2,359,682	2,527,808
Payments to Terminating Employers	—	—	—	—	46,835	—	—	—	2,186	92
Total Deductions	**650,725,718**	**715,999,895**	**815,366,560**	**891,631,768**	**992,454,579**	**1,068,446,182**	**1,173,273,905**	**1,265,430,167**	**1,402,734,864**	**1,522,273,660**
Change in Net Position	**$3,500,721,137**	**$2,174,220,099**	**$ (103,693,604)**	**$ 2,259,249,439**	**$ 3,260,640,927**	**$ 1,569,202,094**	**$ (185,480,799)**	**$ 1,757,471,233**	**$ 3,713,221,480**	**$ (739,824,123)**
Group Term Life Fund										
Additions										
Employer Premiums	$ 7,130,058	$ 7,340,463	$ 5,927,549	$ 3,949,356	$ 4,203,456	$ 4,510,866	$ 4,766,129	$ 4,962,423	$ 4,467,382	$ 4,518,735
Income Allocation from Pension Trust Fund	920,949	1,152,389	1,376,030	1,524,820	1,625,589	1,738,911	1,889,834	2,132,226	2,359,682	2,527,808
Total Additions	**8,051,007**	**8,492,852**	**7,303,579**	**5,474,176**	**5,829,045**	**6,249,777**	**6,655,963**	**7,094,649**	**6,827,064**	**7,046,543**
Deductions										
Insurance Benefits	4,946,963	4,537,617	4,852,898	3,878,859	4,318,663	4,637,239	3,404,592	3,123,197	4,345,197	4,398,477
Total Deductions	**4,946,963**	**4,537,617**	**4,852,898**	**3,878,859**	**4,318,663**	**4,637,239**	**3,404,592**	**3,123,197**	**4,345,197**	**4,398,477**
Change in Net Position	**$ 3,104,044**	**$ 3,955,235**	**$ 2,450,681**	**$ 1,595,317**	**$ 1,510,382**	**$ 1,612,538**	**$ 3,251,371**	**$ 3,971,452**	**$ 2,481,867**	**$ 2,648,066**

FIGURE 1: ADDITIONS BY SOURCE — 2018

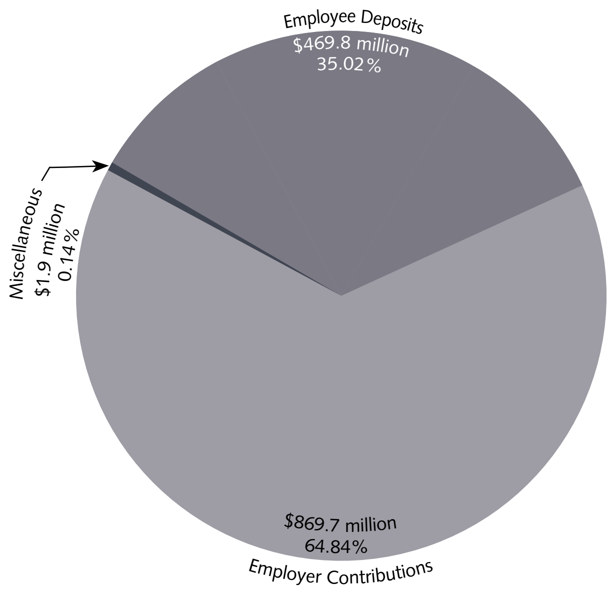

FIGURE 2: DEDUCTIONS BY TYPE — 2018

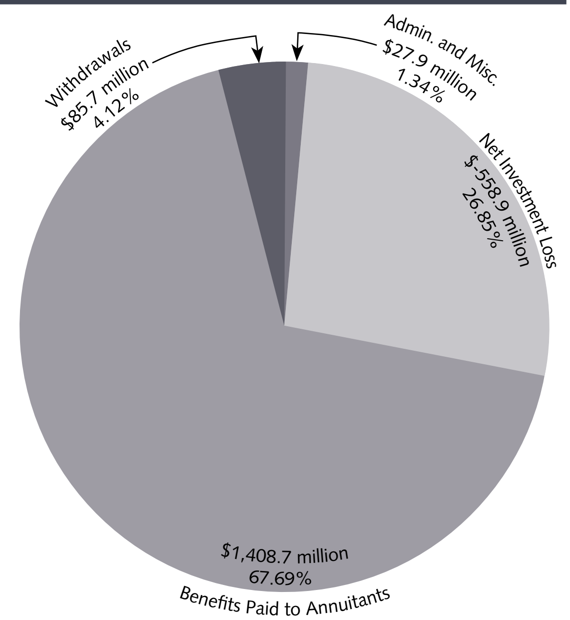

FIGURE 3: BENEFIT EXPENSES BY TYPE

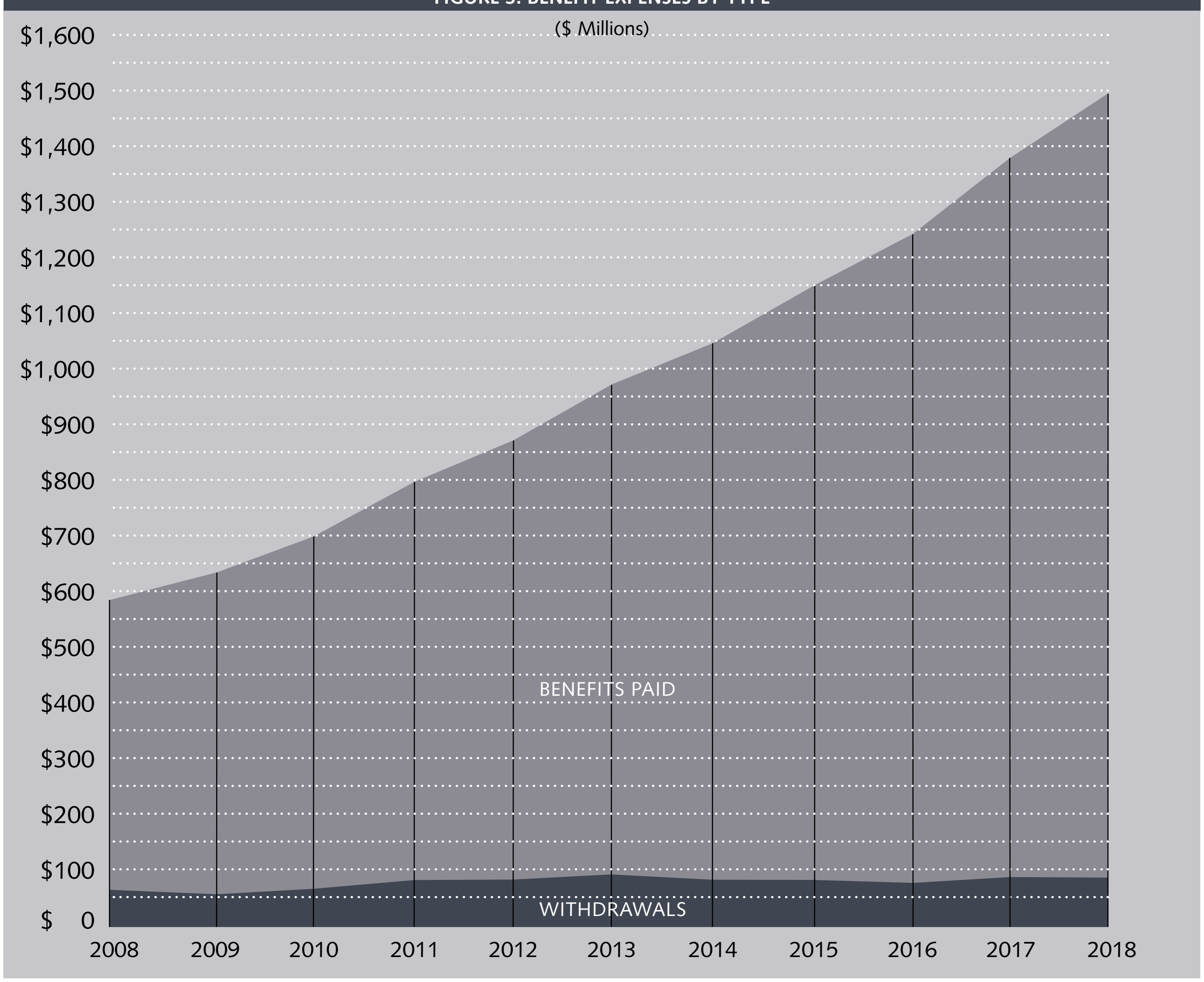

TABLE 2: BENEFIT AT RETIREMENT FOR RECENT RETIREES

This schedule reports the number and average monthly benefit at retirement for recent retirees grouped by years of credited service and year of retirement.

	Years of Credited Service						
	0–5	5–10	10–15	15–20	20–25	25–30	30+
2009							
Average Monthly Benefit	$230	$608	$1,009	$1,503	$1,998	$3,059	$4,096
Number of Annuitants	268	421	513	439	474	392	220
2010							
Average Monthly Benefit	$237	$731	$1,026	$1,604	$2,190	$3,192	$4,463
Number of Annuitants	400	538	639	557	616	573	342
2011							
Average Monthly Benefit	$256	$683	$1,064	$1,558	$2,376	$3,206	$4,712
Number of Annuitants	412	569	651	546	652	477	356
2012							
Average Monthly Benefit	$253	$649	$1,125	$1,626	$2,250	$3,220	$4,841
Number of Annuitants	484	687	717	590	700	508	411
2013							
Average Monthly Benefit	$235	$668	$1,210	$1,648	$2,247	$3,396	$4,735
Number of Annuitants	449	671	684	575	642	462	415
2014							
Average Monthly Benefit	$253	$708	$1,228	$1,707	$2,423	$3,691	$5,002
Number of Annuitants	459	782	761	677	745	599	512
2015							
Average Monthly Benefit	$289	$756	$1,239	$1,841	$2,518	$3,462	$5,390
Number of Annuitants	450	733	741	626	674	495	492
2016							
Average Monthly Benefit	$254	$765	$1,301	$1,875	$2,590	$3,792	$5,420
Number of Annuitants	483	786	891	722	735	608	593
2017							
Average Monthly Benefit	$321	$854	$1,322	$1,971	$2,756	$4,043	$5,805
Number of Annuitants	480	744	833	658	700	583	503
2018							
Average Monthly Benefit	$300	$963	$1,381	$2,174	$2,973	$4,208	$6,507
Number of Annuitants	582	743	959	817	710	688	663

Note: TCDRS is an account-based plan similar to a cash balance plan, and final average salary data is not used to determine benefits, therefore final average salary data is not presented.

TABLE 3: AVERAGE BENEFITS

This schedule reports the average benefit for retirees and for all retirees and beneficiaries.[1]

	Retirees Only		All Payees	
As of Dec. 31,	Monthly	Annually	Monthly	Annually
2010	$ 1,465	$ 17,580	$ 1,372	$ 16,464
2011	1,526	18,312	1,427	17,124
2012	1,581	18,972	1,479	17,748
2013	1,629	19,548	1,524	18,288
2014	1,693	20,316	1,586	19,032
2015	1,752	21,024	1,637	19,644
2016	1,817	21,804	1,699	20,388
2017	1,897	22,764	1,745	20,940
2018	1,981	23,772	1,824	21,888

[1] In cases of retirees with multiple accounts from a single employer, the accounts are considered as a single benefit. Benefits from multiple employers to a single retiree are calculated as multiple benefits.

TABLE 4: AVERAGE BENEFIT PROFILE BY EMPLOYER TYPE

As of Dec. 31, 2018

	Retirees Only		All Payees	
	Monthly	Annually	Monthly	Annually
Counties	$ 2,018	$ 24,216	$ 1,853	$ 22,236
Districts	1,691	20,292	1,588	19,056

TABLE 5: ANNUITANTS BY TYPE OF BENEFIT

	Annuitants		Retirement Option Selected									
Amount of Monthly Benefit	Retiree	Beneficiary[1]	Single Life	100% to Beneficiary	100% to Beneficiary with Pop-up	75% to Beneficiary	50% to Beneficiary	25% to Beneficiary[2]	15-year Guarantee	10-year Guarantee	5-year Guarantee[2]
$ 0 - 499	9,339	4,311	5,282	2,894	1,567	336	1,155	164	1,504	638	110
500 - 999	11,552	2,957	5,746	2,959	1,929	445	1,344	62	1,177	724	123
1,000 - 1,499	8,821	1,481	3,876	2,002	1,552	405	1,108	63	737	467	92
1,500 - 1,999	6,404	829	2,749	1,307	1,064	397	840	39	429	346	62
2,000 - 2,499	5,071	494	2,124	1,003	847	251	752	17	297	241	33
2,500 - 2,999	3,621	315	1,509	698	630	181	511	7	227	153	20
3,000 - 3,499	2,735	223	1,087	517	436	170	444	10	150	126	18
3,500 - 3,999	2,088	127	893	370	320	108	303	3	119	88	11
4,000 - 4,499	1,573	84	617	320	249	102	216	2	66	81	4
4,500 - 4,999	1,152	53	470	186	174	77	197	2	47	48	4
5,000 - 5,499	986	47	387	186	128	72	157	2	40	59	2
5,500 - 5,999	682	19	271	128	96	59	101	0	26	20	0
6,000 - 6,499	557	14	221	97	77	38	96	2	15	25	0
6,500 - 6,999	361	16	144	63	45	28	54	0	24	18	1
7,000 & Over	1,475	42	512	297	174	123	289	2	57	63	0
Subtotals	56,417	11,012	25,888	13,027	9,288	2,792	7,567	375	4,915	3,097	480
Totals	**67,429**		**67,429**								

[1] Includes Alternate Payees of Retirees.
[2] Retirement payment option is no longer available to new retirees.

RETIREMENT BENEFIT PAYMENT OPTIONS

All options pay the retiree a monthly benefit for life and, when a retiree passes away, guarantee that the total benefit paid will equal, at a minimum, the total accumulated contributions of the retiree.

Single Life

Payments cease upon the death of the retiree.

15-year Guaranteed Term

If the retiree dies within 15 years of retirement, the beneficiary will receive the same monthly payment as the retiree for the balance of the 15-year period, at which time payments cease.

10-year Guaranteed Term

If the retiree dies within 10 years of retirement, the beneficiary will receive the same monthly payment as the retiree for the balance of the 10-year period, at which time payments cease.

50% to Beneficiary

At the death of the retiree, the beneficiary will receive 50% of the retiree's monthly payment throughout the beneficiary's life.

75% to Beneficiary

At the death of the retiree, the beneficiary will receive 75% of the retiree's monthly payment throughout the beneficiary's life.

100% to Beneficiary

At the death of the retiree, the beneficiary will receive 100% of the monthly amount paid to the retiree throughout the beneficiary's life.

100% to Beneficiary with Pop-up

If the beneficiary survives the retiree, monthly payments equal to 100% of the monthly amount paid to the retiree continue to the beneficiary for life. If the retiree outlives the beneficiary, the monthly payment amount will increase (pop up) after the beneficiary's death to the higher amount of the Single Life option.

FIGURE 4: NUMBER OF ANNUITANTS GROUPED BY AGE

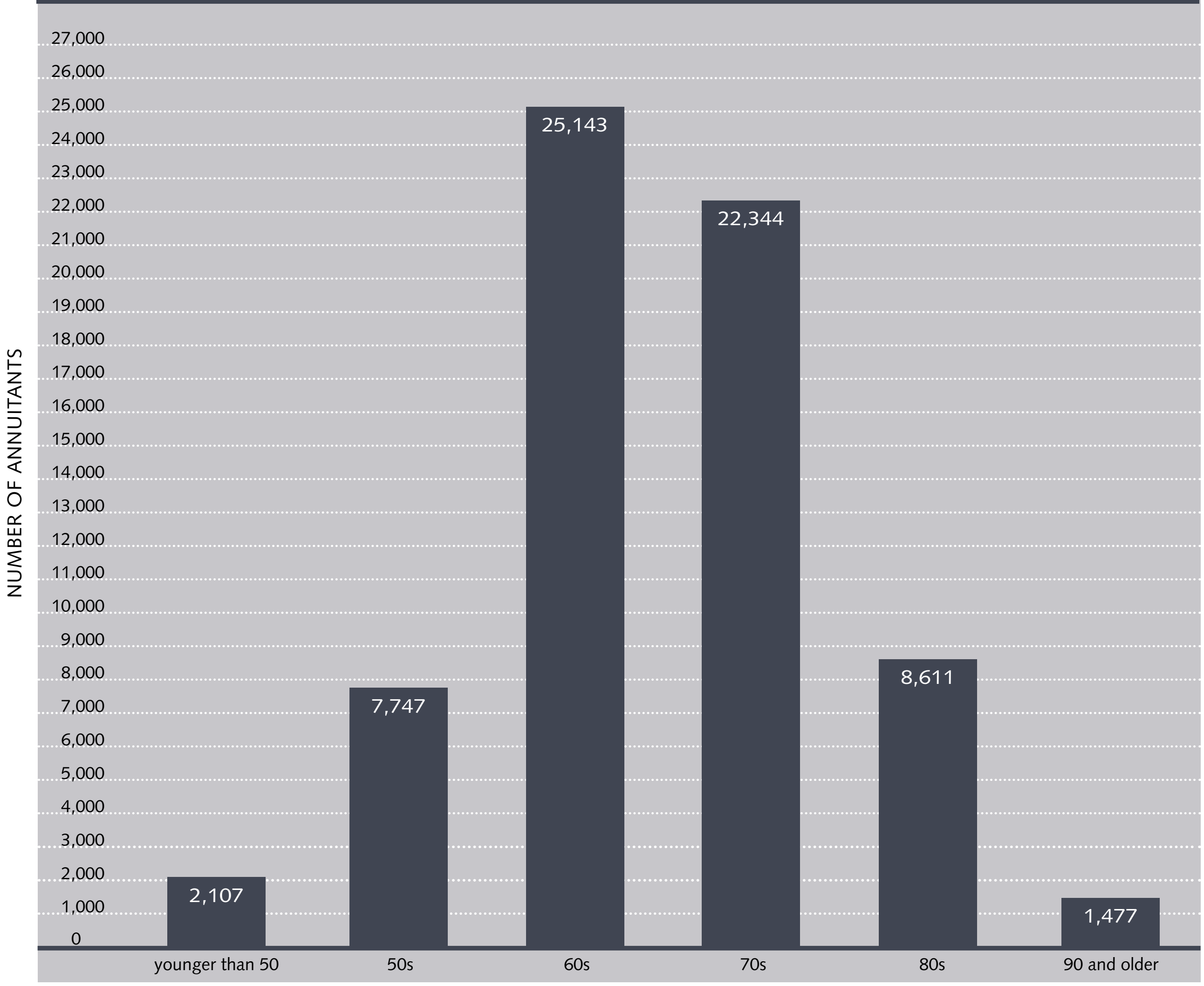

TABLE 6: LARGEST PARTICIPATING EMPLOYERS — CURRENT YEAR AND NINE YEARS AGO

	2018			2009		
Employer	**Number of Current Employee Accounts**	**Rank**	**% of Total System**	**Number of Current Employee Accounts**	**Rank**	**% of Total System**
Harris County	18,082	1	13.1%	16,755	1	13.6%
Dallas County	6,583	2	4.8%	7,066	2	5.7%
Bexar County	5,635	3	4.1%	5,044	3	4.1%
Travis County	5,374	4	3.9%	5,015	4	4.1%
Tarrant County	4,465	5	3.2%	4,426	5	3.6%
Hidalgo County	3,090	6	2.2%	2,955	6	2.4%
El Paso County	2,969	7	2.2%	2,868	7	2.3%
Fort Bend County	2,903	8	2.1%	2,252	8	1.8%
El Paso Co. Hospital District	2,684	9	2.0%	2,076	9	1.7%
Montgomery County	2,415	10	1.8%	2,038	10	1.7%
All others	83,328		60.6%	72,951		59.0%
Totals	**137,528**		**100.0%**	**123,446**		**100.0%**

STATISTICAL

TABLE 7: GROUP TERM LIFE FUND — AVERAGE BENEFITS PAID

This schedule reports the number of GTLF insurance payments and the average benefits paid.

	Active	Retirees
2007		
Average Benefit Payment	$36,459	$5,000
Number of Payments	89	267
2008		
Average Benefit Payment	$37,068	$5,000
Number of Payments	111	231
2009		
Average Benefit Payment	$39,161	$5,000
Number of Payments	93	261
2010		
Average Benefit Payment	$36,918	$5,000
Number of Payments	90	243
2011		
Average Benefit Payment	$30,026	$5,000
Number of Payments	113	292
2012		
Average Benefit Payment	$35,890	$5,000
Number of Payments	83	180
2013		
Average Benefit Payment	$38,659	$5,000
Number of Payments	83	222
2014		
Average Benefit Payment	$41,205	$5,000
Number of Payments	89	194
2015		
Average Benefit Payment	$36,819	$5,000
Number of Payments	63	217
2016		
Average Benefit Payment	$38,763	$5,000
Number of Payments	54	206
2017		
Average Benefit Payment	$41,175	$5,000
Number of Payments	81	202
2018		
Average Benefit Payment	$43,446	$5,000
Number of Payments	75	228

ACTUARIAL ACCRUED LIABILITY

The portion, as determined by the actuarial cost method, of the Actuarial Present Value of pension plan benefits and expenses that is not provided for by future Normal Costs.

ACTUARIAL ASSUMPTIONS

In order to estimate the cost of funding benefits, the actuaries use long-term assumptions. Examples include mortality, termination, disablement and retirement; changes in salary; payroll growth; investment returns and other relevant items. Actuarial assumptions are adopted by the board of trustees upon recommendation of the consulting actuaries. The assumptions are reviewed every four years.

ACTUARIAL GAIN (LOSS)

The difference between actual results and what was projected to happen based on Actuarial Assumptions during the period between annual Actuarial Valuations.

ACTUARIAL PRESENT VALUE

The calculated value of a series of projected cash flows expressed in present day dollars as of the valuation date using actuarial assumptions.

ACTUARIAL VALUATION

The process to calculate the employer contribution rate. This process determines the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets and Actuarial Present Values.

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.

ACTUARIALLY EQUIVALENT PAYMENT OPTIONS

Different benefit payment options that pay different amounts per month, but are of equal value at the time the option is selected.

ALERIAN MLP INDEX

This index is a composite of the 50 most prominent energy Master Limited Partnerships. The index is calculated using a float-adjusted, capitalization-weighted methodology.

BASIC BENEFIT

Benefits attributable to the member's accumulated deposits and an equal matching amount provided by the employer.

BENCHMARK PORTFOLIOS

Portfolios represented by specific indices that are created for the purpose of measuring the relative performance of investment managers, asset classes and, in the case of the Policy Benchmark Portfolio, the entire TCDRS portfolio. Data regarding performance of these benchmark portfolios during any period indicate the returns that were available during the period for comparable investments that were passively managed. Comparisons indicate the value added by each manager, if any, in excess of the performance that was experienced by the specific benchmark index.

BLOOMBERG BARCLAYS U.S. AGGREGATE BOND INDEX

This index incorporates all domestic debt issues with maturities greater than one year and in amounts greater than $1 million. Included are publicly issued, nonconvertible, domestic debt issues of the U.S. government and its agencies and corporations in industrial, utility or financial segments.

BLOOMBERG BARCLAYS U.S. 10-YEAR BREAKEVEN INFLATION INDEX

This index is designed to provide access to 10-year breakeven inflation by capturing the returns of a simultaneous long position in 10-year inflation linked securities and a short position in suitable nominal comparator U.S. Treasury bonds.

BLOOMBERG COMMODITIES INDEX

This index is composed of futures contracts on physical commodities. It provides broad-based exposure to commodities, with no single commodity or sector dominating the index. The liquidity and diversity of the benchmark makes it suitable for institutional investment.

CAMBRIDGE ASSOCIATES DISTRESSED SECURITIES INDEX

A custom benchmark index provided by Cambridge Associates based on data compiled from more than 200 distressed debt funds, including fully liquidated partnerships with first cash flows beginning in 2005. The benchmark return is net of fees, expenses and carried interest.

GLOSSARY

CAMBRIDGE ASSOCIATES GLOBAL PRIVATE EQUITY & VENTURE CAPITAL INDEX

A custom benchmark index provided by Cambridge Associates based on data compiled from more than 1,500 global private equity and venture capital funds, including fully liquidated partnerships, with first cash flows beginning 2006. The benchmark return is net of fees, expenses and carried interest.

CAMBRIDGE ASSOCIATES REAL ESTATE INDEX

A custom benchmark index provided by Cambridge Associates based on data compiled from nearly 400 global private real estate funds, including fully liquidated partnerships with first cash flows beginning 2007. The benchmark return is net of fees, expenses and carried interest.

COMMODITIES

Investment in resources that can be perishable (grains, sugar, etc.) and non-perishable (metals, energy, etc.). Commodities provide protection against inflation and have low correlation to stocks and other asset classes.

DIRECT LENDING

Privately originated debt made to small to medium-sized companies or to real estate investors in order to take advantage of disruptions in the banking system.

DISTRESSED DEBT

Distressed debt investments are investments in partnerships that purchase the debt of companies experiencing financial distress ranging from deteriorating financial conditions to bankruptcy. Strategies employed include trading, participating in restructuring transactions and controlling bankruptcy proceedings.

DOW JONES U.S. TOTAL STOCK MARKET INDEX

This index is one of the broadest measures of domestic equity performance since it is computed based upon all equity trades of U.S. stocks during any day. Each company included within the index is not equally weighted within the index, but rather is weighted according to its market value among the market values of all U.S. companies.

EMPLOYER REQUIRED CONTRIBUTION RATE

The percentage of payroll the employer is required to contribute to fund future benefits for their current employees, former employees and retirees. It is the sum of the Normal Cost Contribution Rate and the Unfunded Actuarial Accrued Liability Contribution Rate.

ENTRY-AGE ACTUARIAL COST METHOD

An actuarial cost method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit ages. The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion of this Actuarial Present Value not provided for at a Valuation Date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.

FOREIGN CURRENCY FORWARD CONTRACTS

Forward contracts are over-the-counter agreements between two parties to buy and sell a currency at a set price on a future date. The contracts are marked-to-market on each valuation date with any resulting unrealized appreciation or depreciation recorded on such date. Realized gains or losses equal to the value of the contract when it was opened and the settlement amount at the time the contract is closed (or rolled) are recorded upon receipt of the currency.

FTSE HIGH-YIELD CASH-PAY CAPPED INDEX

This index includes cash-pay bonds with a below-investment-grade rating by both Moody's Investor Services and Standard & Poor's. The bonds must have a maturity of at least one year and a minimum amount outstanding of $100 million. The par value of individual issuers is capped at $5 billion par outstanding.

FTSE NAREIT ALL EQUITY REIT INDEX

This index gives a broad exposure to U.S. publicly traded equity REITs in every property sector.

FTSE NAREIT EQUITY REITS INDEX

This index contains all Equity REITs across the US economy not designated as Timber REITs or Infrastructure REITs.

GLOBAL EQUITY

Investments in stocks included in all public markets, both domestic and international.

HEDGE FUND RESEARCH INSTITUTE (HFRI) FUND OF FUNDS COMPOSITE INDEX

This index consists of more than 650 funds with each managing a group of diverse hedge funds. Each fund of funds has at least $50 million under management or has been actively trading for at least twelve months. The index includes both domestic and offshore funds that offer diverse strategies. All constituent funds report returns net of fees on a monthly basis.

HEDGE FUNDS

An investment strategy applied to a variety of different investments to help manage risk within the entire portfolio. Over a full market cycle, hedge funds produce equity-like returns with less than half the risk of stocks. Hedge funds do well when markets are up and mitigate losses during market downturns.

HIGH-YIELD BONDS

Domestic fixed-income securities that have not been highly rated by national rating agencies, such as Moody's Investors Service (Moody's) or Standard & Poor's (S&P). A security is considered a high-yield bond if it is rated below Baa3 by Moody's or below BBB- by S&P. To pay for the risk, the interest rates earned are higher than investment-grade bonds.

INVESTMENT-GRADE BONDS

The investment-grade bonds portfolio consists of debt securities issued by the U.S. Treasury or an agency or government-sponsored entity (GSE) of the United States (U.S. governments); mortgage-related instruments, U.S. dollar-denominated fixed-income securities issued by U.S. and foreign corporations; and U.S. dollar-denominated debt issued by foreign governments and supranationals. Additionally, these portfolios may contain minimal investments in short-term instruments, non-rated securities, private placement securities, convertible bonds and preferred stock. The portfolio should exhibit an overall dollar-weighted average quality rating of AA.

MASTER LIMITED PARTNERSHIPS (MLPS)

Publicly traded partnership interests created by Congress to encourage investment in domestic energy infrastructure. At the entity level, these interests are tax free provided that 90% of their income comes from natural resources such as oil, natural gas, coal, timber and other depletable resources.

MSCI EAFE INDEX (EUROPE, AUSTRALASIA, FAR EAST)

This index, prepared by Morgan Stanley Capital International (MSCI), is designed to measure developed market equity performance excluding the United States and Canada.

MSCI EMERGING MARKETS (EM) INDEX

This index, prepared by Morgan Stanley Capital International (MSCI), captures large and mid-cap performance across 24 emerging market countries with more than 1100 constituents.

MSCI WORLD EX U.S.

This index, prepared by Morgan Stanley Capital International (MSCI), is designed to measure developed market equity performance excluding the United States.

MSCI WORLD INDEX (NET)

This index, prepared by Morgan Stanley Capital International (MSCI), is a broad global equity index that represents large and mid-cap equity performance across developed markets countries.

NORMAL COST

The portion of the Actuarial Present Value of pension plan benefits and expenses that is allocated to a valuation year by the actuarial cost method.

NORMAL COST CONTRIBUTION RATE

This is the rate required to fund current employees' benefits over their projected careers. It is equal to the Actuarial Present Value at hire of Projected Benefits divided by the Actuarial Present Value at hire of anticipated future compensation. It is calculated for each contributing member and the average is weighted by compensation.

OPPORTUNISTIC CREDIT

Comprises investments primarily in debt instruments that provide return opportunities resulting from dislocations in capital markets.

OVERFUNDED ACTUARIAL ACCRUED LIABILITY (OAAL)

The excess, if any, of the Actuarial Value of Assets over the Actuarial Accrued Liability.

PLAN YEAR

The period from Jan. 1 to Dec. 31 inclusive.

PRIOR SERVICE

Benefits attributable to an amount provided by the employer for service rendered by an employee prior to employer participation in TCDRS.

PRIVATE EQUITY

Private partnerships that (a) take public companies private in order to improve their operations and resell them in the future; (b) invest in start-up companies with new ideas or technologies; and (c) invest in both traditional and renewable energy discovery and production.

PRIVATE REAL ESTATE

Non-publicly traded vehicles that invest in a broad array of real estate properties and ventures. Private real estate investments are expected to be very illiquid and long term in nature. The vehicles for private real estate investments are typically partnerships, but may also include other entities such as limited liability companies or offshore corporations.

PROJECTED BENEFITS

Retirement benefit amounts that are estimated to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such factors as the effect of advancement in age, and past and anticipated future compensation and service time.

REITS

Real estate investment trusts are companies that own and operate income-producing real estate, such as commercial office buildings, apartments, malls, warehouses and storage facilities. Under provisions of the U.S. tax law, if REITs pay out most of their income, they do not pay income taxes. This means higher income earnings along with any increase in the value of the real estate.

S&P GLOBAL REIT INDEX (NET)

This index serves as a comprehensive benchmark of publicly traded equity REITs listed in both developed and emerging markets.

S&P/LSTA LEVERAGED LOAN TOTAL RETURN INDEX

This index is a market value-weighted index designed to measure the performance of the U.S. leveraged loan market based upon market weights, spreads and interest payments.

STRATEGIC CREDIT

Portfolio comprised of high-yield bond and opportunistic credit portfolios.

TIPS

Treasury Inflation-Protected Securities are bonds issued by the U.S. Treasury just like other U.S. government bonds. However, the principal amount of TIPS increases with the rate of inflation so that inflation does not decrease the value of the bond. They provide a way to protect against inflation.

UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)

The excess, if any, of the Actuarial Accrued Liability over the Actuarial Value of Assets.

UNFUNDED ACTUARIAL ACCRUED LIABILITY CONTRIBUTION RATE

The amount needed to amortize the Unfunded Actuarial Accrued Liability over a closed period of 20 years, expressed as a percent of payroll. If the plan has an Overfunded Actuarial Accrued Liability, it is amortized over an open period of 30 years, and the resulting negative Unfunded Actuarial Accrued Liability Contribution Rate is offset against the Normal Cost Contribution Rate.

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