



P R B
Pension
Review
Board

PAGES FROM:

***Study of the Financial Health
of Texas Public Retirement Systems***

December 2014

Study can be found at:

http://www.prb.state.tx.us/files/reports/Financial_Health_Study_Final.pdf

APPENDIX A-1
Current Actuarial Valuation Information
As of December 2014

Plan Name	Plan Status ¹	AV Effective Date	Current Amort Period	Funded Ratio	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAAL)	Percent of ARC Funded Since 2007
Employees Retirement System of Texas	Active	8/31/2014	Infinite	77.24%	\$ 25,431,922,496	\$ 32,924,737,211	\$ 7,492,814,715	67.07%
Law Enforcement and Custodial Officer Sup. Ret. Fund	Active	8/31/2014	Infinite	73.22%	\$ 883,594,932	\$ 1,206,769,921	\$ 323,174,989	59.94%
Judicial Retirement System of Texas Plan Two	Active	8/31/2014	Infinite	90.20%	\$ 348,430,575	\$ 386,286,372	\$ 37,855,797	88.37%
Texas Emergency Services Retirement System	Active	8/31/2012	Infinite	66.75%	\$ 67,987,487	\$ 101,856,042	\$ 33,868,555	136.23%
Galveston Employees' Retirement Fund	Active	1/1/2014	Infinite	81.40%	\$ 43,289,975	\$ 53,181,429	\$ 9,891,454	88.24%
Odessa Firemen's Relief & Retirement Fund	Active	1/1/2013	Infinite	48.82%	\$ 42,756,974	\$ 87,585,700	\$ 44,828,726	71.41%
Harlingen Firemen's Relief and Retirement Fund	Active	12/31/2011	Infinite	65.07%	\$ 22,270,694	\$ 34,223,995	\$ 11,953,301	84.37%
Greenville Firemen's Relief and Retirement Fund	Active	12/31/2012	Infinite	47.44%	\$ 12,201,104	\$ 25,717,409	\$ 13,516,305	82.56%
Atlanta Firemen's Relief and Retirement Fund	Active	12/31/2012	Infinite	72.98%	\$ 2,983,348	\$ 4,087,887	\$ 1,104,539	86.06%
Lufkin Firemen's Relief and Retirement Fund	Active	12/31/2012	89.6	38.81%	\$ 11,265,138	\$ 29,027,659	\$ 17,762,521	83.12%
Orange Firemen's Relief and Retirement Fund	Active	12/31/2012	82.3	57.25%	\$ 8,766,374	\$ 15,311,319	\$ 6,544,945	88.32%
University Park Firemen's Relief and Retirement Fund ²	Active	12/31/2012	81.3	44.26%	\$ 8,556,364	\$ 19,333,125	\$ 10,776,761	83.40%
Sweetwater Firemen's Relief and Retirement Fund ²	Active	12/31/2012	70.3	69.52%	\$ 7,217,289	\$ 10,380,983	\$ 3,163,694	96.09%
Irving Firemen's Relief and Retirement Fund ³	Active	1/1/2014	63.4	73.10%	\$ 156,223,428	\$ 213,725,584	\$ 57,502,156	76.84%
Longview Firemen's Relief and Retirement Fund	Active	12/31/2013	63.3	56.22%	\$ 46,326,150	\$ 82,401,773	\$ 36,075,623	85.97%
Wichita Falls Firemen's Relief and Retirement Fund	Active	12/31/2012	63.2	63.00%	\$ 41,964,674	\$ 66,606,163	\$ 24,641,489	91.14%
Midland Firemen's Relief and Retirement Fund	Active	1/1/2014	59.1	66.82%	\$ 78,481,491	\$ 117,444,545	\$ 38,963,054	89.10%
Galveston Employees Retirement Plan for Police	Active	1/1/2012	53.5	46.90%	\$ 22,695,097	\$ 48,389,593	\$ 25,694,496	100.69%
Dallas Employees' Retirement Fund ⁴	Active	12/31/2013	51.0	85.14%	\$ 3,074,284,000	\$ 3,610,845,000	\$ 536,561,000	89.29%
Galveston Firefighter's Relief & Retirement Fund	Active	1/1/2014	50.2	69.65%	\$ 39,591,204	\$ 56,839,842	\$ 17,248,638	97.96%
Beaumont Firemen's Relief and Retirement Fund	Active	12/31/2012	49.6	68.25%	\$ 92,033,413	\$ 134,837,879	\$ 42,804,466	87.21%
Fort Worth Employees Retirement Fund	Active	1/1/2014	49.3	63.86%	\$ 1,995,112,935	\$ 3,124,079,563	\$ 1,128,966,628	93.76%
McAllen Firemen's Relief and Retirement Fund	Active	9/30/2012	43.9	66.15%	\$ 37,841,858	\$ 57,217,569	\$ 19,360,417	91.94%
Amarillo Firemen's Relief and Retirement Fund ⁵	Active	1/1/2012	41.0	78.19%	\$ 120,396,531	\$ 153,978,252	\$ 33,581,721	93.60%
San Angelo Firemen's Relief and Retirement Fund	Active	12/31/2013	40.9	65.01%	\$ 54,227,452	\$ 83,416,973	\$ 29,189,521	88.29%
Marshall Firemen's Relief and Retirement Fund	Active	12/31/2012	38.6	44.18%	\$ 6,990,904	\$ 15,822,990	\$ 8,832,086	89.07%
Conroe Fire Fighters' Retirement Fund	Active	12/31/2013	37.4	61.77%	\$ 18,126,626	\$ 29,344,347	\$ 11,217,721	97.91%
Killeen Firemen's Relief and Retirement Fund	Active	9/30/2012	36.1	66.91%	\$ 27,528,834	\$ 41,142,502	\$ 13,613,668	98.64%
Plainview Firemen's Relief and Retirement Fund	Active	12/31/2011	35.2	39.13%	\$ 4,969,795	\$ 12,699,308	\$ 7,729,513	80.60%
Houston Municipal Employees Pension System ⁶	Active	7/1/2013	35.0	57.70%	\$ 2,382,585,000	\$ 4,129,583,000	\$ 1,746,998,000	80.57%
Cleburne Firemen's Relief and Retirement Fund	Active	12/31/2012	34.1	57.36%	\$ 16,293,411	\$ 28,404,229	\$ 12,110,818	98.44%
Texas City Firemen's Relief and Retirement Fund	Active	12/31/2012	33.6	52.95%	\$ 14,859,762	\$ 28,063,375	\$ 13,203,613	89.95%
Abilene Firemen's Relief and Retirement Fund	Active	10/1/2013	33.5	57.49%	\$ 52,920,100	\$ 92,054,430	\$ 39,134,330	98.25%
El Paso Police Pension Fund	Active	1/1/2014	32.0	78.23%	\$ 696,437,201	\$ 890,192,914	\$ 193,755,713	70.82%
Brownwood Firemen's Relief and Retirement Fund	Active	12/31/2011	31.8	39.91%	\$ 2,848,174	\$ 7,137,177	\$ 4,289,003	99.22%
Temple Firemen's Relief and Retirement Fund	Active	9/30/2012	30.8	76.19%	\$ 34,400,736	\$ 45,148,511	\$ 10,747,775	99.71%
Big Spring Firemen's Relief and Retirement Fund	Active	1/1/2013	30.8	56.73%	\$ 9,889,540	\$ 17,433,912	\$ 7,544,372	103.76%
Houston Firefighter's Relief and Retirement Fund	Active	7/1/2013	30.0	86.56%	\$ 3,430,436,708	\$ 3,963,082,000	\$ 532,645,292	98.17%
Dallas Co. Hospital Dist. Retirement Income Plan	Active	1/1/2014	30.0	82.53%	\$ 670,795,379	\$ 812,780,867	\$ 141,985,488	103.62%

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University Health System Pension Plan	Active	1/1/2013	30.0	73.16%	\$ 205,905,204	\$ 281,433,759	\$ 75,528,555	110.92%
DART Employees' Defined Benefit Retirement Plan	Closed	10/1/2013	30.0	70.73%	\$ 142,663,799	\$ 201,705,745	\$ 59,041,946	117.55%
Galveston Wharves Pension Plan	Frozen	1/1/2014	30.0	81.85%	\$ 11,492,112	\$ 14,039,689	\$ 2,547,577	100.00%
Colorado River Municipal Water Dist. Pension Trust	Active	1/1/2012	30.0	86.89%	\$ 8,273,581	\$ 9,521,444	\$ 1,247,863	105.34%
Cypress-Fairbanks ISD Pension Plan	Active	1/1/2010	30.0	70.79%	\$ 5,109,884	\$ 7,218,036	\$ 2,108,152	100.00%
Judicial Retirement System of Texas Plan One ⁷	Closed	8/31/2014	30.0	0.00%	\$ -	\$ 245,474,274	\$ 245,474,274	-
Teacher Retirement System of Texas	Active	8/31/2014	29.8	80.23%	\$ 128,397,777,855	\$ 160,035,600,826	\$ 31,637,822,971	86.35%
Laredo Firefighters Retirement System	Active	9/30/2012	29.8	54.07%	\$ 95,140,202	\$ 175,957,832	\$ 80,817,630	100.00%
Paris Firefighters' Relief and Retirement Fund	Active	1/1/2013	29.2	44.94%	\$ 6,111,951	\$ 13,600,300	\$ 7,488,349	105.17%
Houston MTA Workers Union Pension Plan	Closed	1/1/2014	29.0	73.60%	\$ 206,052,122	\$ 279,959,125	\$ 73,907,003	100.00%
Houston MTA Non-Union Pension Plan	Active	1/1/2014	29.0	80.17%	\$ 129,398,834	\$ 161,398,434	\$ 31,999,600	100.00%
Austin Police Officers' Retirement Fund	Active	12/31/2013	28.9	66.39%	\$ 604,841,897	\$ 911,044,154	\$ 306,202,257	106.78%
Corisicana Firemen's Relief and Retirement Fund	Active	12/31/2012	28.6	47.90%	\$ 6,956,513	\$ 14,524,415	\$ 7,567,902	100.00%
San Antonio Metro. Transit Retirement Plan (VIA)	Active	10/1/2013	28.0	56.97%	\$ 192,730,010	\$ 338,329,011	\$ 145,599,001	82.11%
Nacogdoches County Hosp. District Retirement Plan	Active	7/1/2011	27.8	54.77%	\$ 28,293,893	\$ 51,662,354	\$ 23,368,461	110.87%
Irving Supplemental Benefit Plan	Active	1/1/2014	27.2	78.88%	\$ 47,689,367	\$ 60,458,351	\$ 12,768,984	57.83%
Weslaco Firemen's Relief and Retirement Fund	Active	9/30/2012	26.8	63.33%	\$ 6,985,491	\$ 11,030,766	\$ 4,045,275	98.91%
Corpus Christi Fire Fighters' Retirement System	Active	12/31/2012	26.7	55.00%	\$ 105,753,324	\$ 192,269,360	\$ 86,516,036	111.09%
Dallas Police and Fire Pension System-Combined Plan	Active	1/1/2014	26.0	75.59%	\$ 3,877,321,261	\$ 5,129,195,887	\$ 1,251,874,626	96.82%
Austin Employees' Retirement Fund	Active	12/31/2013	26.0	70.38%	\$ 2,047,929,504	\$ 2,909,917,750	\$ 861,988,246	83.00%
Capital Metro Retirement Plan for Bargaining Units	Frozen	1/1/2014	25.0	44.08%	\$ 26,656,933	\$ 60,467,879	\$ 33,810,946	100.00%
Lubbock Fire Pension Fund	Active	1/1/2013	24.3	74.50%	\$ 161,745,303	\$ 217,103,746	\$ 55,358,443	103.51%
Denton Firemen's Relief and Retirement Fund	Active	12/31/2013	24.0	77.14%	\$ 62,089,743	\$ 80,490,694	\$ 18,400,951	101.55%
Denison Firemen's Relief and Retirement Fund	Active	1/1/2012	23.9	71.13%	\$ 13,680,826	\$ 19,233,493	\$ 5,552,667	140.66%
Houston Police Officers Pension System ⁸	Active	7/1/2014	23.0	80.96%	\$ 4,342,936,000	\$ 5,363,992,000	\$ 1,021,056,000	65.19%
El Paso Firemen's Pension Fund	Active	1/1/2014	23.0	80.69%	\$ 479,228,995	\$ 593,936,328	\$ 114,707,333	76.57%
Lower Colorado River Auth. Retirement Plan and Trust	Closed	4/1/2014	23.0	74.69%	\$ 382,104,178	\$ 511,580,272	\$ 129,476,094	110.76%
Plano Retirement Security Plan	Active	12/31/2011	23.0	97.15%	\$ 84,500,525	\$ 86,978,777	\$ 2,478,252	100.00%
Tyler Firemen's Relief and Retirement Fund	Active	12/31/2013	22.9	73.61%	\$ 56,547,675	\$ 76,823,319	\$ 20,275,644	105.02%
Port Arthur Firemen's Relief and Retirement Fund	Active	1/1/2012	22.5	72.76%	\$ 36,116,894	\$ 49,639,831	\$ 13,522,937	114.40%
Texas Municipal Retirement System ⁹	Active	12/31/2013	21.9	84.10%	\$ 21,293,624,657	\$ 25,320,767,136	\$ 4,027,142,479	95.30%
Dallas/Ft. Worth Airport Board Retirement Plan	Active	1/1/2014	21.0	77.10%	\$ 364,042,882	\$ 472,189,314	\$ 108,146,432	100.00%
Dallas/Ft. Worth Airport Board DPS Retirement Plan	Active	1/1/2014	21.0	72.38%	\$ 126,911,130	\$ 175,332,225	\$ 48,421,095	130.09%
City Public Service of San Antonio Pension Plan	Active	1/1/2012	20.0	85.66%	\$ 1,185,076,518	\$ 1,383,413,018	\$ 198,336,500	101.85%
Harris County Hospital District Pension Plan	Closed	1/1/2014	20.0	75.99%	\$ 499,862,057	\$ 657,816,628	\$ 157,954,571	99.51%
Capital Metro Retirement Plan for Admin Employees	Active	1/1/2014	20.0	75.59%	\$ 16,883,852	\$ 22,334,650	\$ 5,450,798	101.42%
Waxahachie Firemen's Relief and Retirement Fund	Active	10/1/2012	19.8	64.48%	\$ 10,462,784	\$ 16,226,624	\$ 5,763,840	163.52%
Texarkana Firemen's Relief and Retirement Fund	Active	12/31/2013	19.6	84.62%	\$ 30,058,082	\$ 35,519,165	\$ 5,461,083	100.00%
Brazos River Authority Retirement Plan	Frozen	3/1/2014	18.0	73.75%	\$ 20,626,849	\$ 27,970,438	\$ 7,343,589	99.28%
El Paso City Employees' Pension Fund	Active	9/1/2013	17.0	73.76%	\$ 608,509,997	\$ 825,027,005	\$ 216,517,008	96.46%

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Physicians Referral Service Retirement Benefit Plan	Active	9/1/2013	15.0	66.84%	\$ 372,273,776	\$ 556,953,250	\$ 184,679,474	100.00%
San Benito Firemen's Pension Fund	Active	12/31/2011	14.8	59.47%	\$ 2,523,198	\$ 4,242,759	\$ 1,719,561	100.00%
Refugio Co. Memorial Hosp. Dist. Retirement Plan ¹⁰	Frozen	11/1/2012	13.6	100.00%	\$ 1,889,626	\$ 1,889,626	\$ -	152.33%
Corpus Christi Regional Transportation Authority	Active	1/1/2013	11.0	91.49%	\$ 25,566,845	\$ 27,944,142	\$ 2,377,297	100.29%
Texas County & District Retirement System	Active	12/31/2013	10.8	89.39%	\$ 21,912,711,318	\$ 24,514,806,684	\$ 2,602,095,366	106.44%
Austin Fire Fighters Relief and Retirement Fund	Active	12/31/2013	10.5	91.75%	\$ 742,073,494	\$ 808,771,153	\$ 66,697,659	107.05%
Dallas Police and Fire Pension System-Supp	Active	1/1/2014	10.0	61.99%	\$ 24,036,845	\$ 38,777,014	\$ 14,740,169	100.00%
Northeast Medical Center Hospital Retirement Plan	Frozen	7/1/2013	10.0	79.08%	\$ 9,321,452	\$ 11,787,769	\$ 2,466,317	100.00%
Guadalupe-Blanco River Authority	Closed	1/1/2014	9.6	83.41%	\$ 22,736,935	\$ 27,259,178	\$ 4,522,243	154.63%
Northwest Texas Healthcare System Retirement Plan	Frozen	10/1/2013	7.4	61.40%	\$ 17,736,458	\$ 28,885,608	\$ 11,149,150	N/A
Travis Cty ESD #6 Firemen's Relief & Retirement Fund	Active	1/1/2014	7.3	55.97%	\$ 7,554,521	\$ 13,496,644	\$ 5,942,123	178.43%
San Antonio Fire and Police Pension Fund	Active	10/1/2013	7.3	91.75%	\$ 2,588,307,109	\$ 2,821,195,803	\$ 232,888,694	103.87%
Port of Houston Authority Retirement Plan	Closed	8/1/2013	4.0	98.06%	\$ 151,454,771	\$ 154,450,530	\$ 2,995,759	100.00%
Arlington Employees Deferred Income Plan	Active	7/1/2013	0.0	117.43%	\$ 2,448,438	\$ 2,085,050	\$ (363,388)	100.00%
Subtotal: Plans with infinite amortization periods								
Subtotal: Plans with amortization periods > 40 years, but not infinite								
Subtotal: Plans with amortization periods > 25 years < 40 years								
Subtotal: Plans with amortization periods > 15 years < 25 years								
Subtotal: Plans with amortization periods > 0 years < 15 years								
Subtotal: Plans with amortization periods = 0 years								
Grand Totals								
					\$ 26,855,437,585	\$ 34,824,445,966	\$ 7,969,008,381	
					\$ 5,794,983,398	\$ 7,823,835,822	\$ 2,028,837,130	
					\$ 143,495,508,974	\$ 181,157,231,074	\$ 37,661,722,100	
					\$ 29,801,665,880	\$ 35,996,842,542	\$ 6,195,176,662	
					\$ 25,878,186,348	\$ 29,010,460,160	\$ 3,132,273,812	
					\$ 2,448,438	\$ 2,085,050	\$ (363,388)	
					\$ 231,825,782,185	\$ 288,812,815,564	\$ 56,987,018,085	

Notes:

- [1] Plan status indicates whether plan is active (admitting new hires), closed to new hires (but still accruing benefits), or frozen (not accruing benefits).
- [2] Amortization period calculated by the PRB in consultation with the plan actuary, reflecting a future contribution increase.
- [3] Amortization period calculated by the PRB in consultation with the plan actuary, reflecting a future contribution increase.
- [4] Dallas Employees' amortization period calculated assuming a total contribution rate of 26.08% of payroll, and projecting the contribution rate at the pension obligation bond payoff in 2035.
- [5] Amortization period calculated by the PRB in consultation with the plan actuary, reflecting a future contribution increase.
- [6] Houston Municipal Employees amortization period calculated by the PRB assuming a total contribution rate of 26.32% of payroll, with future increases under the Meet and Confer agreement.
- [7] JRS is a pay-as-you-go system with no assets devoted to the plan.
- [8] Houston Police amortization period calculated assuming a total contribution rate of 37.66% of payroll, with future increases under the Meet and Confer agreement.
- [9] Amortization period is a weighted average amortization period of member cities.
- [10] Refugio County Memorial Hospital District uses the individual aggregate method. The plan's amortization period is derived from the normal cost, the present value of future normal costs, and the plan's assumed pre-retirement interest rate of 6%.

APPENDIX C-1

Texas County and District Retirement System (TCDRS) Summary Overview¹

The Texas County and District Retirement System (TCDRS) was established in 1967 and provides retirement, disability and survivor benefits to 656 Texas counties and districts, including water, hospital, appraisal and emergency service districts, covering approximately 250,000 participants in the state. Although created by the Texas Legislature, TCDRS does not receive funding from the State of Texas. Each plan in TCDRS is funded independently by the county or district, its employees and investment earnings. All plan assets of TCDRS are pooled for investment purposes, but each plan sponsor's assets may be used only for the payment of benefits to the members of that sponsor's plan. Participating counties and districts (plan sponsors) are required to pay 100% of their required contribution every year. Plan sponsors select their benefits within the general framework of the TCDRS Act and have the ability to adjust benefits and costs annually based on their local needs and budgets.

Plan design: TCDRS is a cash-balance or savings-based plan. Members save for their retirement over the length of their careers. A percentage of each employee's paycheck is deposited into his or her TCDRS account. That percentage is set by the plan sponsor and can range from 4% to 7%. The account earns 7% interest annually and that rate can only be changed by the Texas Legislature. At retirement, the benefit is based on the final employee savings balance and plan sponsor matching. Plan sponsors matching options range from 100% to 250%. Retirement eligibility provisions vary by employer; e.g., Age 60 with 5, 8 or 10 years of service; Rule of 75 or 80; or 20 or 30 years of service at any age. Plan sponsors may also grant members monetary credit for prior service for the time employees worked for the county or district prior to participation in TCDRS. Plan sponsors may also adopt ad-hoc COLAs for retirees to offset the effects of inflation. The ad-hoc COLA may either be a flat-rate COLA or a CPI-COLA, which is related to the increase in the CPI-U index. Retirement benefits are paid in the form of a lifetime monthly benefit for the member. Retirees may choose from several payout options including some that provide income to surviving beneficiaries. Plan sponsors may also authorize partial lump sum payments at retirement with a reduced monthly benefit.

Funding policy: TCDRS does not receive funds from the State, and administrative costs are paid from the investment earnings of the fund. Benefits are funded by employees, plan sponsors and investment earnings. Investment earnings are allocated to plan sponsor accounts annually by TCDRS after member accounts and retirement reserves are credited statutory interest. Employer contributions are determined annually using the entry-age cost method. Plan sponsors must pay 100% of their required contributions. TCDRS requires full funding of each plan's normal cost and amortization of the unfunded actuarial accrued liability over a 20-year closed period. Any benefit changes are amortized over a 15-year period.

Flexibility for plan sponsors in benefits & contributions: Each plan sponsor in TCDRS maintains its own customized plan benefits. The governing body of each plan sponsor has the option to adopt or change plan benefit provisions based on their needs and budget through local action. Contribution rates for each plan within TCDRS will vary depending upon, among other things, the benefit options selected by a plan sponsor. A plan sponsor can increase or lower the required contribution rate by making changes to the plan benefit options. Plan benefit options include changes in the member contribution rates and/or the plan sponsor matching, prior service credits and ad-hoc COLAs.

Key actuarial assumptions & methods:

- Investment return: 8.00%
- Discount rate (used to discount liabilities for the following funds)
 - Subdivision Accumulation Fund 9.00%
 - Employee Savings Fund 7.00%
 - Current Service Annuity Reserve Fund 7.00%
- Payroll growth (used for amortization): Varies by plan from 0.00% to 3.50%
- Actuarial Value of Assets: Five-year smoothing
- Actuarial Cost Method: Entry Age Normal

¹ Information is based on the 12/31/2013 actuarial valuation unless otherwise noted.

APPENDIX C-2
General Information on Each County and District Plan in TCDRS

Name	Benefits/ Employer Match	2015 Contribution Rate			Funded Ratio	Amortization Period (Years)	Social Security
		Employee	Employer	Total			
Southeast TX GCD	250%	7%	12.66%	19.66%	97.90%	12.7	Yes
Starr Co. AD	200%	7%	13.78%	20.78%	89.60%	15.9	Yes
Stephens Co. Tax AD	180%	7%	9.70%	16.70%	86.40%	19.3	No
Sterling Co. AD	175%	4%	5.06%	9.06%	45.20%	19.6	Yes
Stonewall Co. AD	125%	7%	4.50%	11.50%	170.80%	0	Yes
Stonewall Memorial HD	100%	4%	2.46%	6.46%	96.60%	17.6	Yes
Stratford HD — Sherman Co.	150%	5%	2.50%	7.50%	117.90%	0	Yes
Sutton Co. HD	200%	7%	7.41%	14.41%	97.40%	12.3	Yes
Swisher Co. AD	175%	7%	18.16%	25.16%	85.80%	16.1	Yes
Tarrant AD	225%	7%	13.08%	20.08%	89.60%	13.3	No
Tarrant Co. 911 EAD	200%	7%	5.23%	12.23%	107.60%	0	No
Tax AD of Cottle Co.	100%	7%	5.74%	12.74%	98.70%	3	Yes
TCDRS	200%	7%	10.12%	17.12%	89.50%	12.5	Yes
Terrell Co. WCID #1	115%	7%	1.98%	8.98%	130.50%	0	Yes
Terry Memorial HD	180%	5%	3.44%	8.44%	104.70%	0	Yes
Texas Assoc. of Counties	220%	7%	3.36%	10.36%	122.30%	0	Yes
Texas Eastern 911 Network	150%	7%	7.27%	14.27%	101.00%	0	Yes
Titus Co. AD	100%	7%	3.55%	10.55%	107.50%	0	Yes
Titus Co. Fresh WSD	200%	7%	9.65%	16.65%	93.70%	14.7	Yes
Travis CAD	225%	7%	14.07%	21.07%	85.40%	6.6	No
Travis Co. ESD #1 North Lake F&R	150%	5%	4.16%	9.16%	102.40%	0	Yes
Travis Co. ESD #4	100%	4%	2.74%	6.74%	11.00%	19.8	Yes
Travis Co. WCID — Point Venture	100%	5%	3.51%	8.51%	101.50%	0	Yes
Tri-County SUD	100%	6%	3.98%	9.98%	98.70%	14.1	Yes
Trinity Bay Conservation Dist.	200%	7%	14.62%	21.62%	75.50%	14.9	Yes
Trinity Co. AD	175%	6%	6.80%	12.80%	52.60%	18.1	No
Trophy Club MUD #1	200%	7%	8.69%	15.69%	105.10%	0	Yes
Two Way SUD	200%	7%	9.81%	16.81%	97.90%	10.4	Yes
Tyler Co. AD	250%	7%	10.39%	17.39%	96.90%	18.5	No
United ID — Hidalgo Co.	150%	7%	6.36%	13.36%	97.40%	5.1	Yes
Upper Brushy Creek WCID	250%	4%	7.33%	11.33%	104.30%	0	No
Upper Trinity GCD	100%	5%	3.91%	8.91%	108.00%	0	Yes
Upton Co. AD	150%	7%	7.30%	14.30%	98.60%	0.1	No
Valley MUD #2 — Cameron Co.	100%	7%	5.00%	12.00%	85.70%	13.4	Yes
Valwood Improvement Auth. — Dallas Co.	200%	4%	7.82%	11.82%	90.00%	15.2	Yes
Van Zandt Co. AD	175%	7%	8.30%	15.30%	93.50%	15.3	Yes
Velasco DD — Brazoria Co.	100%	7%	10.08%	17.08%	77.30%	16.9	Yes
Victoria Co. DD #3	200%	7%	15.16%	22.16%	91.20%	16.2	Yes
Victoria Co. GCD	150%	5%	5.70%	10.70%	94.50%	19.7	Yes
Walker Co. SUD	180%	6%	5.54%	11.54%	103.40%	0	Yes
Waller Co. AD	225%	7%	8.00%	15.00%	103.50%	0	No
Ward Co. CAD	140%	6%	7.34%	13.34%	95.20%	15.5	No
Ward Memorial Hospital	200%	7%	8.93%	15.93%	93.40%	16.9	Yes
Webb Co. AD	135%	7%	6.10%	13.10%	93.00%	15.3	No
West Central TX COG	250%	7%	13.44%	20.44%	85.40%	16.5	Yes
West Central TX MWD	150%	7%	9.64%	16.64%	84.90%	15.9	Yes
West Jefferson Co. MWD	200%	6%	12.19%	18.19%	89.50%	15.4	Yes
West Nueces-Las Moras Soil & WCD #236	100%	7%	3.31%	10.31%	104.30%	0	Yes
Wharton Co. WCID #1	140%	5%	5.15%	10.15%	97.80%	0.2	No

4. The table below shows the number of TCDRS plans within employer contribution rate ranges.

Total Contribution Rates of Employers		
Employer Contribution Rates	Number of Plans	Percent of Total
At least 20% but less than 25%	4	1%
At least 15% but less than 20%	47	7%
At least 10% but less than 15%	230	35%
At least 5% but less than 10%	277	42%
Less than 5%	98	15%
Total	656	100%

5. The table below shows the number of TCDRS plans within employee contribution rate ranges.

Total Contribution Rates of Employees		
Employee Contribution Rates	Number of Plans	Percent of Total
Equal to 7%	521	79%
Equal to 6%	50	8%
Equal to 5%	55	8%
Equal to 4%	30	5%
Total	656	100%

APPENDIX D-1 Texas Municipal Retirement System (TMRS) Summary Overview¹

The Texas Municipal Retirement System (TMRS) was established in 1947 and is an agent multiple-employer retirement system which provides retirement, disability and survivor benefits for employees of 844 municipalities, covering approximately 200,000 participants and retirees in the state.² Although created by the Texas Legislature, TMRS does not receive funding from the State of Texas. Each plan in TMRS is funded independently by the municipalities, its employees and investment earnings. Separate accounting and actuarial records are maintained for each participating municipality's plan in TMRS. Except for those eligible to phase in the contribution rate increases resulting from the 2007 and 2013 actuarial changes, all participating municipalities are required to pay 100% of the annual required contribution each year. All plan assets of TMRS are pooled for investment purposes, but each participating municipality's (plan sponsor) plan assets may be used only for the payment of benefits to the members of that sponsor's plan.

Plan design: Each plan sponsor in TMRS has its own retirement plan within the general framework of the TMRS Act. Member benefits in each plan are based on the employee contributions and interest credit combined with plan sponsor matching. A percentage of each employee's paycheck is credited to an "individual account" (as defined by the TMRS Act) for the member. That percentage is set by the plan sponsor. Plan provisions may vary by plan sponsors depending on the options selected. Retirement eligibility provisions vary; e.g., age 60 with 5 years of service, or 20 years of service regardless of age. Upon retirement, benefits derive from the employee's contributions with credited interest, and plan sponsor-financed monetary credits with interest. Interest credit is determined annually by TMRS, and members' individual accounts are guaranteed a rate of at least 5%. The available employee contribution rates options are 5%, 6% and 7% (some plan sponsors grandfathered at 3%), and a plan sponsor's matching ratio options are 100%, 150% or 200%. Prior service credits and updated service credits can be provided by the plan sponsor in addition to the current matching service credits. A plan sponsor may adopt an annually repeating or ad-hoc COLA of 30%, 50% or 70% of the increase in the CPI-U. Retirement benefits are paid in the form of an annuity, and a partial lump sum option may be available.

Funding policy: TMRS does not receive funds from the State, and administrative costs are paid from the investment earnings of the fund. TMRS requires full funding of each employer's normal cost and amortization of the unfunded actuarial accrued liability over a closed 25 or 30 year period, subject to a phase-in described below.

Amortization policy: Existing amortization schedules for plans in TMRS reflect the following changes:

- December 2007 actuarial cost method change to projected unit credit (generally increasing contributions), and a phase-in (2009-2016, inclusive) to help eligible participating cities absorb associated cost increases;
- December 2010 fund restructuring and assumption changes, which generally decreased contributions and eliminated the phase-in for some cities; and
- December 2013 change in assumptions and method (to entry age normal). Plans with resulting rate increases were allowed to extend non-ad hoc bases up to 25 or 30 years to stabilize the contribution rate and any remaining rate increases are to be phased in at 0.5% per year.

Plans with an unfunded liability continue to be amortized on their existing schedule, with new experience losses amortized over either 25 or 30 years. Experience gains are used to reduce existing amortization bases. Ad hoc benefit increases are amortized over 15 year periods using a level dollar policy. For plan sponsors with fewer than twenty employees, more conservative amortization periods are used.

Contribution phase-in: Some plans in TMRS are still phasing in cost increases that date back to December 2007; these will be fully phased in by 2016.

Flexibility for plan sponsors in benefits & contributions: Each plan sponsor in TMRS maintains its own customized plan benefits. The governing body of each plan sponsor has the option to adopt or change plan benefit provisions, on a prospective basis, based on their needs and budget through local action. Plan benefit options include changes

¹ Information is based on the 12/31/2013 actuarial valuation unless otherwise noted.

² TMRS has an additional six inactive municipalities with no active members or employee contributions.

APPENDIX D-2
General Information on Each City Plan in TMRS

Employer Name	Benefits/ Employer Match ¹	Contribution Rate			Funded Ratio	Amortization Period (Years)	Social Security
		Employee	Employer	Total			
Sunset Valley	2-1	7%	9.79%	16.79%	87.1%	30.0	NO
Surfside Beach	1-1	5%	0.76%	5.76%	127.6%	0.0	NO
Sweeny	2-1	7%	17.86%	24.86%	74.0%	26.0	YES
Sweetwater	2-1	7%	19.19%	26.19%	75.0%	22.0	YES
Taft	2-1	7%	11.27%	18.27%	72.1%	30.0	YES
Tahoka	2-1	5%	0.00%	5.00%	120.4%	0.0	YES
Tatum	1-1	5%	1.97%	6.97%	87.2%	25.0	YES
Taylor	1.5-1	7%	12.56%	19.56%	75.2%	30.0	YES
Teague	2-1	7%	11.26%	18.26%	83.1%	30.0	YES
Temple	2-1	7%	16.73%	23.73%	80.1%	26.0	NO
Tenaha	1-1	5%	0.60%	5.60%	113.2%	0.0	YES
Terrell	2-1	7%	17.41%	24.41%	78.5%	26.0	YES
Terrell Hills	2-1	6%	12.93%	18.93%	81.3%	30.0	YES
Tex Municipal League IEBP	2-1	6%	3.93%	9.93%	100.2%	0.0	NO
Tex Municipal League IRP	2-1	7%	13.02%	20.02%	94.0%	10.0	NO
Texarkana	2-1	7%	15.70%	22.70%	81.8%	26.0	YES
Texarkana Police Dept	2-1	7%	17.38%	24.38%	82.2%	30.0	YES
Texarkana Water Utilities	2-1	7%	16.71%	23.71%	76.0%	22.0	YES
Texas City	2-1	7%	17.59%	24.59%	80.1%	23.0	NO
Texas Municipal League	2-1	6%	15.49%	21.49%	83.3%	22.0	NO
Texhoma	1-1	5%	0.00%	5.00%	118.5%	0.0	NO
The Colony	2-1	7%	12.48%	19.48%	86.4%	26.0	YES
Thompsons	1-1	5%	2.87%	7.87%	87.5%	17.0	NO
Thorndale	1.5-1	5%	6.84%	11.84%	94.9%	10.0	YES
Three Rivers	1-1	5%	5.19%	10.19%	87.4%	16.0	YES
Throckmorton	1.5-1	5%	6.44%	11.44%	94.4%	30.0	YES
Tiki Island	1-1	6%	2.70%	8.70%	86.0%	20.0	YES
Timpson	1-1	5%	2.51%	7.51%	96.1%	21.0	YES
Tioga	1-1	5%	0.37%	5.37%	116.9%	0.0	YES
TMRS	2-1	7%	16.76%	23.76%	77.8%	26.0	YES
Tolar	2-1	7%	6.28%	13.28%	95.7%	30.0	NO
Tom Bean	1-1	5%	2.04%	7.04%	94.4%	25.0	YES
Tomball	2-1	7%	12.93%	19.93%	81.0%	30.0	YES
Trent	1.5-1	7%	6.57%	13.57%	96.3%	4.0	NO
Trenton	1.5-1	5%	3.19%	8.19%	102.9%	0.0	YES
Trinidad	1-1	5%	4.01%	9.01%	81.4%	20.0	YES
Trinity	2-1	5%	5.55%	10.55%	82.4%	30.0	YES
Trophy Club	2-1	7%	15.56%	22.56%	74.1%	30.0	NO
Troup	1.5-1	5%	4.08%	9.08%	87.9%	30.0	YES
Troy	1.5-1	6%	5.92%	11.92%	88.2%	30.0	YES
Tulia	2-1	6%	13.09%	19.09%	88.8%	19.0	YES
Turkey	1-1	5%	5.64%	10.64%	75.6%	30.0	YES
Tye	1.5-1	7%	6.14%	13.14%	75.4%	30.0	YES

Contribution Rates

3. The table below shows the number of TMRS plans within total contribution rate (employer and employee rate) ranges.

Total Contribution Rates of Employees and Employers		
Total (Employee + Employer) Contribution Rates	Number of Plans	Percent of Total
At least 30% but less than 35%	1	<1%
At least 25% but less than 30%	32	4%
At least 20% but less than 25%	161	19%
At least 15% but less than 20%	169	20%
At least 10% but less than 15%	217	26%
At least 5% but less than 10%	264	31%
Less than 5%	0	0%
Total	844	100%

4. The table below shows the number of TMRS plans within employer contribution rate ranges.

Total Contribution Rates of Employers		
Employer Contribution Rates	Number of Plans	Percent of Total
At least 25% but less than 30%	1	<1%
At least 20% but less than 25%	11	1%
At least 15% but less than 20%	113	14%
At least 10% but less than 15%	203	24%
At least 5% but less than 10%	226	27%
Less than 5%	290	34%
Total	844	100%

5. The table below shows the number of TMRS plans within employee contribution rate ranges.

Total Contribution Rates of Employees		
Employee Contribution Rates	Number of Plans	Percent of Total
Equal to 7%	368	44%
Equal to 6%	102	12%
Equal to 5%	371	44%
Equal to 4%	0	0%
Equal to 3%	3	<1%
Total	844	100%