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May 30, 2024

Board of Trustees
Texas Municipal Retirement System
Austin, Texas 78731

Dear Trustees:

In accordance with the Texas Municipal Retirement System (TMRS) Act, the annual actuarial valuation of the assets and liabilities of the TMRS Pension Trust Fund was completed as of December 31, 2023.

The financing objective for each TMRS participating city plan is to provide retirement, death and disability benefits for the city's employees financed by an employer contribution rate. This rate is determined annually and is expected to remain approximately level as a percentage of the city's covered payroll. In TMRS, a city's actuarially determined employer contribution rate consists of two components: the employer normal cost contribution rate and the prior service contribution rate. Both rates are determined as a level percentage of payroll. The normal cost contribution rate finances the portion of an active Member's projected retirement benefit allocated annually. The prior service contribution rate amortizes the unfunded actuarial accrued liability ("UAAL") over the applicable period for that city. Both the normal cost and prior service contribution rates include recognition of the projected impact of annually repeating updated service credits and cost of living adjustments.

The participating cities' contribution rates are certified annually by the Board of Trustees which is responsible for establishing and maintaining the funding policy. These rates are actuarially determined and are based upon the plan provisions in effect as of April 1, 2024 and the actuarial assumptions and methodology adopted by the Board. The Board's current policy is that the contribution rates determined by a given actuarial valuation become effective one year after the valuation date. For example, the rates determined by the December 31, 2023 actuarial valuation will be applicable for the calendar year beginning January 1, 2025 and ending December 31, 2025.

To test how well the financing objective for each city plan is being achieved, annual actuarial valuations are made. These actuarial valuations recognize differences in the past year between the actuarial assumptions and the actual experience, and any benefit changes for each plan. A separate actuarial valuation for each participating city was made based upon the plan of benefits in effect as of April 1, 2024.

TMRS staff supplied data for retired, active and inactive Members as of December 31, 2023. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. TMRS staff also supplied the asset data and financial information as of December 31, 2023. The amounts of the assets in the actuarial valuations agree with the amounts as reported by TMRS.

Actuary's Certification Letter (Pension Trust Fund)

CONTINUED

The current actuarial assumptions were developed from the actuarial investigation of the experience of TMRS over the period ending December 31, 2022. These assumptions were adopted by the Board in 2023 and were first used in the December 31, 2023 valuation. The Actuarial Experience Investigation Study report dated September 28, 2023 details the analysis and changes to assumptions since the prior valuation.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods.

It is our opinion that the recommended assumptions and methods are internally consistent and are reasonably based on TMRS' past and anticipated future experience and comply with the parameters for disclosure as set forth in Governmental Accounting Standards Board Statement No. 67. GRS prepared the following schedules in the Actuarial Section:

Participating Cities and Active Members
Retiree and Beneficiary Data
Summary of Actuarial Liabilities and Funding Progress
Funded Portion of Actuarial Liabilities by Type

All of our work and all of the actuarial assumptions and methods used for funding purposes conform with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of the TMRS Act and, where applicable, the Internal Revenue Code and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries and consultants. Both are Members of the American Academy of Actuaries, both meet all of the Qualification Standards of the American Academy of Actuaries, and both are experienced in performing valuations for large public retirement systems.

Respectfully Submitted,



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



Janie Shaw, MAAA, ASA, EA
Consultant



Summary of Actuarial Assumptions and Methods (Pension Trust Fund)

These actuarial assumptions were developed primarily from the actuarial investigation of the experience of TMRS as of December 31, 2022. They were adopted in 2023 and first used in the December 31, 2023 actuarial valuation. The post-retirement mortality assumption for Annuity Purchase Rates (APRs) is based on the Mortality Experience Investigation Study covering 2009 through 2011 and dated December 31, 2013. Summaries of meaningful actuarial assumptions and methods are provided below. A full description of all actuarial assumptions and methods can be found in the Actuarial Valuation Report as of December 31, 2023 (tmrs.com/actuarial_reports.php).

I. Economic Assumptions

A. General Inflation

2.50% per year.

B. Discount/Crediting Rates

1. System-wide Investment Return Assumption: 6.75% per year, compounded annually.
2. Supplemental Disability Benefits Fund and individual employee accounts: 5.00% per year, compounded annually.

C. Overall Payroll Growth

2.75% per year, adjusted lower for cities with a decrease in the number of contributing members from 2008 to 2022.

D. Individual Salary Increases

Salaries are assumed to increase once a year, on January 1, by the following graduated service-based scale.

Years of Service	Increase Rate %
1	11.85
2	7.60
3	7.10
4	6.60
5	6.35
6	6.10
7	5.85
8	5.60
9	5.35
10	5.10
11 – 12	4.85
13 – 15	4.60
16 – 20	4.35
21 – 24	4.10
25+	3.60

Summary of Actuarial Assumptions and Methods (Pension Trust Fund)

CONTINUED

E. Cost of Living Adjustments (COLAs).

The Consumer Price Index (CPI-U) is assumed to be 2.50% per year prospectively. COLAs, when applicable, are 30%, 50% or 70% of CPI-U, according to the provisions adopted by each city. The actual future assumptions for the traditional retroactive COLA are as follows: 0.87% per year for the 30% CPI provision, 1.38% per year for the 50% CPI provision and 1.86% per year for the 70% CPI provision. The future assumptions for non-retroactive COLA features are as follows: 0.75% per year for the 30% CPI provision, 1.25% per year for the 50% CPI provision, and 1.75% per year for the 70% CPI provision.

F. Load for Updated Service Credit (USC).

The USC calculation includes a load on the final average earnings of 0.1% per year into the future that the calculation is performed.

II. Demographic Assumptions

A. Termination Rates.

The base table rates vary by years of service and the number of years until retirement eligibility. For each city, the base table is then multiplied by 75% to 125% based on the experience and size of the individual city. A further multiplier is applied depending on an employee's classification: 1) Firefighter = 63%, 2) Police = 82%, or 3) Other = 116%.

The probabilities for the member's first three years of service are 22.5%, 17.5%, and 14.5%. After three years of service, base termination rates are applied. A sample of the base rates follows:

Years From Retirement	Rate
1	0.0272
2	0.0301
3	0.0332
4	0.0367
5	0.0406
6	0.0449
7	0.0496
8	0.0548
9	0.0606
10	0.0670
11	0.0741
12	0.0819
13	0.0905
14	0.1001
15	0.1106
16	0.1223

Termination rates end at first eligibility for retirement.

Summary of Actuarial Assumptions and Methods (Pension Trust Fund)

CONTINUED

B. Forfeiture Rates (withdrawal of member contributions after termination).

Forfeiture rates for vested members vary by age and employer match, and they are expressed as a percentage of the termination rates shown in Section II. A. The withdrawal rates for cities with a 2:1 match are shown below; 6% is added to the rates for 1.5:1 cities, and 12% is added for 1:1 cities.

Age	Percent of Terminating Employees Choosing to Take a Refund
25	37.9%
30	35.1%
35	32.3%
40	29.5%
45	26.7%
50	23.9%
55	21.1%

Forfeiture rates end at first eligibility for retirement.

C. Mortality Rates.

1. Service Retirees and Beneficiary Mortality Rates.

The gender-distinct 2019 Municipal Retirees of Texas mortality tables are used for calculating the actuarial liability and the retirement contribution rates. Male rates are multiplied by 103% and female rates are multiplied by 105%. The rates are projected on a fully generational basis by the Scale MP-2021 to account for future mortality improvements. An example for the life expectancies of a 65 year-old retiree (including projection) is shown below:

Proposed Life Expectancy for an Age 65 Retiree (in Years)					
Gender	Year of Retirement				
	2023	2028	2033	2038	2043
Male	19.6	20.0	20.3	20.7	21.1
Female	22.8	23.2	23.5	23.8	24.2

2. Disabled Retiree Mortality Rates.

For calculating the actuarial liability and the retirement contribution rates, the mortality tables for healthy retirees are used with a four-year set-forward for males and a three-year set-forward for females. In addition, a 3.5% and 3% minimum mortality rate is applied to reflect the impairment for younger male and female members, respectively, who become disabled. The rates are projected on a fully generational basis by Scale MP-2021 to account for future mortality improvements subject to the 3% floor.

3. Pre-Retirement Mortality Rates.

TMRS uses the PUB(10) mortality tables, with 110% of the Public Safety table used for males and 100% of the General Employee table used for females. The rates are projected on a fully generational basis by Scale MP-2021 to account for future mortality improvements.

Summary of Actuarial Assumptions and Methods (Pension Trust Fund)

CONTINUED

D. Annuity Purchase Rates (APRs).

For determining the amount of the monthly benefit at the time of retirement for both healthy and disabled retirees, the APRs until 2027 are being phased-in based on a unisex blend of the RP-2000 Combined Healthy Mortality Tables with Blue Collar Adjustment for males and females, with both rates multiplied by 107.5% and projected on a fully generational basis with scale BB. The current table of APRs is explicitly valued through 2032, and then it is assumed the APRs and the valuation mortality assumptions will be consistent over time. For retirees, a unisex blend of 70% of the males table and 30% of the females table is used, while 30% of the males table and 70% of the females table is used for beneficiaries.

E. Disability Rates.

Age	Males and Females
20	0.000002
25	0.000015
30	0.000059
35	0.000155
40	0.000296
45	0.000482
50	0.000713
55	0.000988
60	0.001308
65	0.001672

F. Service Retirement Rates.

The base table rates vary by age and are applied to both active and inactive members.

Age	Rate
<50	0.07
50-52	0.08
53	0.09
54	0.10
55	0.11
56	0.12
57	0.13
58	0.14
59	0.15
60	0.16
61	0.17
62	0.20
63-64	0.20
65-74	0.30
75 and over	1.00

III. Methods and Assumptions

A. Valuation of Assets.

The actuarial value of assets is based on the fair value of assets with a ten-year phase-in of actual investment return in excess of (less than) expected investment income. Offsetting unrecognized gains and losses are immediately recognized, with the shortest remaining bases recognized first and the net remaining bases continue to be recognized on their original timeframe. The actuarial value of assets is further adjusted by 33% of any difference between the initial value and a 12% corridor around the fair value of assets, if necessary.

B. Actuarial Cost Method.

The Entry Age Normal Actuarial Cost Method is used, which develops the annual cost of the Plan in two parts: that attributable to benefits accruing in the current year, known as the normal cost, and that due to service earned prior to the current year, known as the prior service cost or amortization of the unfunded actuarial accrued liability.

C. Amortization Policy.

For underfunded cities, the amortization as of the valuation date is a level percentage of payroll over a closed period using the process of “laddering”. Bases that existed prior to this valuation continue to be amortized on their original schedule. New loss bases for cities with fifteen or more employees are amortized over individual periods of not more than 20 years. New gains (including lump sum contributions) are offset against and amortized over the same period as the current largest outstanding loss base for the specific City.

Once a city becomes overfunded, all prior amortization bases are erased and an amount of the surplus is credited against the contribution rate to keep the funded ratio constant year-over-year.

Ad-hoc USC and COLA benefit enhancements are amortized over individual periods using a level dollar policy. The period will be based on the minimum of 12 years or the current life expectancy of the covered group.

D. Small City Methodology.

For cities with fewer than 20 employees, more conservative methods and assumptions are used, including lower termination rates, longer life expectancies and shorter amortization periods.

Definitions (Pension Trust Fund)

Actuarial accrued liability. The actuarial present value of benefits attributable to all periods prior to the valuation date.

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 Determined Employer Contribution (ADEC). The city's periodic required contributions to the defined benefit pension plan, calculated in accordance with current TMRS funding policy.

Amortization period. The period over which the existing unfunded or overfunded actuarial accrued liability is projected to be paid off, as a level percentage of payroll.

Entry Age Normal actuarial cost method. The Entry Age Normal actuarial cost method develops the annual cost of the plan in two parts: that attributable to benefits accruing in the current year, known as the normal cost, and that due to service earned prior to the current year, known as the amortization of the unfunded actuarial accrued liability. The normal cost and the actuarial accrued liability are calculated individually for each member. The normal cost rate for a member is the contribution rate which, if applied to a member's compensation throughout their period of anticipated covered service, would be sufficient to meet all benefits payable on their behalf. The salary-weighted average of these rates is the total normal cost rate. The actuarial accrued liability is based on the portion of benefits attributable to service credited prior to the valuation date. Actuarial gains (losses), as they occur, reduce (increase) the unfunded actuarial accrued liability.

Funded ratio. The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Funding policy. The program for the amounts and timing of contributions to be made by plan members and participating cities to provide the benefits specified by a pension plan.

Normal cost contribution rate. The actuarial present value of benefits allocated to a valuation year by the actuarial cost method, expressed as a percentage of the covered payroll. It is equal to the sum of the actuarial present value of benefits allocated to the year following the valuation date, divided by the compensation expected to be received during the next year for the closed group of members as of the valuation date.

Overfunded actuarial accrued liability. The excess of the actuarial value of assets over the actuarial accrued liability.

Prior service cost contribution rate. The level percentage of payroll required to amortize the unfunded or overfunded actuarial accrued liability over a specified amortization period. If the rate is negative, it is offset against the normal cost, with the limitation that the sum of the two rates cannot be negative.

Unfunded actuarial accrued liability. The excess of the actuarial accrued liability over the actuarial value of assets.

Participating Cities and Active Members (Pension Trust Fund)

Table A-1

Participating Cities and Active Members					
Valuation Date	Number of Active Cities	Active Members			
		Number	Annual Payroll	Average Annual Pay	% Increase in Average Annual Pay
12/31/2014	853	104,019	\$ 5,374,536,634	\$ 51,956	3.4%
12/31/2015	859	106,894	\$ 5,683,846,845	\$ 53,898	3.7%
12/31/2016	864	108,891	\$ 5,884,788,962	\$ 54,543	1.2%
12/31/2017	875	110,208	\$ 6,188,490,343	\$ 56,490	3.6%
12/31/2018	879	111,851	\$ 6,444,177,866	\$ 58,040	2.7%
12/31/2019	878	114,384	\$ 6,790,788,227	\$ 60,033	3.4%
12/31/2020	886	114,497	\$ 7,161,381,734	\$ 62,577	4.2%
12/31/2021	892	116,053	\$ 7,345,701,461	\$ 63,723	1.8%
12/31/2022	909	119,723	\$ 7,896,581,238	\$ 66,984	5.1%
12/31/2023	921	124,493	\$ 8,676,096,637	\$ 71,053	6.1%

As of December 31, 2023, there were 13 cities with no active contributing members and no city contributions due. Thus, there were 934 total cities, with 921 of them active.

The average annual pay was calculated by dividing the annual payroll by the average of the number of contributing members at the beginning and the end of the year.

Retiree and Beneficiary Data (Pension Trust Fund)

Table A-2

Retiree and Beneficiary Data									
Year Ended	Added to Rolls		Removed from Rolls		End of Year		% Increase in Annual Benefit	Average Annual Benefit	
	Number of Accounts	Annual Benefit	Number of Accounts	Annual Benefit	Number of Accounts	Annual Benefit			
12/31/2014	4,319	\$ 92,940,036	833	\$ 11,533,222	53,455	\$ 926,062,827	9.6%	\$ 17,324	
12/31/2015	3,916	\$ 76,796,719	890	\$ 12,357,106	56,481	\$ 990,502,440	7.0%	\$ 17,537	
12/31/2016	4,073	\$ 82,664,225	943	\$ 13,821,624	59,611	\$ 1,059,345,041	7.0%	\$ 17,771	
12/31/2017	4,198	\$ 95,727,539	1,033	\$ 14,068,157	62,776	\$ 1,141,004,423	7.7%	\$ 18,176	
12/31/2018	4,448	\$ 98,030,847	1,173	\$ 16,549,004	66,051	\$ 1,222,486,266	7.1%	\$ 18,508	
12/31/2019	4,758	\$ 107,229,230	1,184	\$ 18,442,625	69,625	\$ 1,311,272,871	7.3%	\$ 18,833	
12/31/2020	4,871	\$ 117,495,300	1,394	\$ 20,566,206	73,102	\$ 1,408,201,965	7.4%	\$ 19,264	
12/31/2021	5,115	\$ 115,206,771	1,542	\$ 23,545,014	76,675	\$ 1,499,863,722	6.5%	\$ 19,561	
12/31/2022	5,464	\$ 170,491,842	1,531	\$ 23,328,304	80,608	\$ 1,647,027,260	9.8%	\$ 20,433	
12/31/2023	4,994	\$ 164,389,250	1,447	\$ 25,069,967	84,155	\$ 1,786,346,543	8.5%	\$ 21,227	

The number of retirement accounts is greater than the number of employees who retired because some retirees worked for more than one participating city in TMRS and retired with a separate benefit from each participating city. As of December 31, 2023, there were 12,398 more retirement accounts than retirees. In addition, this schedule excludes 1,191 retirees who received a single payment in lieu of a monthly benefit. Upon their death, these retirees are still entitled to supplemental death benefits for their beneficiaries if their city provides this benefit.

The Average Annual Benefit in Table A-2 is 12 times the amount payable in January following the valuation date, including any retirement benefit increase, if applicable.

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

Table A-3

Summary of Actuarial Liabilities and Funding Progress (dollars in millions)								
Annual Report Year	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Funded Ratio (1) / (2)	Unfunded AAL (UAAL) (2) - (1)	Covered Payroll	UAAL as a % of Covered Payroll (4) / (5)	City Contributions	Average City Rate (7) / (5)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2014	\$ 22,861.0	\$ 26,647.5	85.8%	\$ 3,786.5	\$ 5,374.5	70.5%	\$ 719.2	13.4%
2015 ¹	\$ 24,347.7	\$ 28,378.9	85.8%	\$ 4,031.2	\$ 5,683.9	70.9%	\$ 750.8	13.2%
2016	\$ 25,844.0	\$ 29,963.3	86.3%	\$ 4,119.2	\$ 5,884.8	70.0%	\$ 767.1	13.0%
2017	\$ 27,813.6	\$ 31,811.6	87.4%	\$ 3,998.0	\$ 6,188.5	64.6%	\$ 837.1	13.5%
2018	\$ 29,385.1	\$ 33,731.5	87.1%	\$ 4,346.4	\$ 6,444.2	67.4%	\$ 880.1	13.7%
2019 ²	\$ 31,313.8	\$ 35,584.9	88.0%	\$ 4,271.1	\$ 6,790.8	62.9%	\$ 928.7	13.7%
2020 ³	\$ 33,609.6	\$ 37,535.9	89.5%	\$ 3,926.3	\$ 7,161.4	54.8%	\$ 1,191.7	16.6%
2021 ⁴	\$ 36,282.0	\$ 40,081.9	90.5%	\$ 3,799.9	\$ 7,345.7	51.7%	\$ 1,076.9	14.7%
2022 ⁵	\$ 38,208.7	\$ 42,597.5	89.7%	\$ 4,388.8	\$ 7,896.6	55.6%	\$ 1,144.8	14.5%
2023 ⁶	\$ 40,358.2	\$ 44,981.1	89.7%	\$ 4,622.9	\$ 8,676.1	53.3%	\$ 1,185.5	13.7%

¹Actuarial assumptions were modified as of the December 31, 2015 valuation.

²Actuarial assumptions were modified as of the December 31, 2019 valuation.

³The increase in city contributions in 2020 is primarily due to \$210.3 million in additional lump sum contributions by two cities that issued pension obligation bonds. Excluding these additional contributions, the average city rate would have been 13.7%.

⁴City contributions in 2021 include \$62.3 million in additional lump sum contributions, of which \$57.7 million was contributed by one city that issued pension obligation bonds. Excluding these additional contributions, the average city rate would have been 13.8%.

⁵City contributions in 2022 include \$76.8 million in additional lump sum contributions, of which \$67.3 million was contributed by one city that issued pension obligation bonds. Excluding these additional contributions, the average city rate would have been 13.5%.

⁶Actuarial assumptions were modified as of the December 31, 2023 valuation.

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

Columns (1) and (2) of the table also include the assets and liabilities of the Supplemental Disability Benefits Fund.

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

Table A-4

Funded Portion of Actuarial Liabilities by Type (dollars in millions)							
Valuation Date	Actuarial Liabilities for			Net Assets Available for Benefits	Portion of Actuarial Liabilities Covered by Net Assets (%)		
	Current Member Contributions	Retirees and Beneficiaries	Current Members (Employer-Financed Portion)		(1)	(2)	(3)
	(1)	(2)	(3)				
12/31/2014	\$ 5,088.20	\$ 10,768.53	\$ 10,790.77	\$ 22,860.98	100.0%	100.0%	64.9%
12/31/2015	\$ 5,312.30	\$ 11,615.49	\$ 11,451.11	\$ 24,347.73	100.0%	100.0%	64.8%
12/31/2016	\$ 5,529.96	\$ 12,478.45	\$ 11,954.89	\$ 25,844.05	100.0%	100.0%	65.5%
12/31/2017	\$ 5,747.30	\$ 13,412.03	\$ 12,652.30	\$ 27,813.57	100.0%	100.0%	68.4%
12/31/2018	\$ 5,986.10	\$ 14,403.10	\$ 13,342.30	\$ 29,385.10	100.0%	100.0%	67.4%
12/31/2019	\$ 6,210.50	\$ 15,467.50	\$ 13,906.90	\$ 31,313.81	100.0%	100.0%	69.3%
12/31/2020	\$ 6,447.73	\$ 16,508.76	\$ 14,579.37	\$ 33,609.58	100.0%	100.0%	73.1%
12/31/2021	\$ 6,691.04	\$ 17,979.79	\$ 15,411.10	\$ 36,281.97	100.0%	100.0%	75.3%
12/31/2022	\$ 6,917.90	\$ 19,694.60	\$ 15,985.00	\$ 38,208.70	100.0%	100.0%	72.5%
12/31/2023	\$ 7,259.60	\$ 20,777.00	\$ 16,944.50	\$ 40,358.20	100.0%	100.0%	72.7%

The financing objective for each TMRS participating city’s plan is to finance long-term benefit liabilities through contributions that remain approximately level from year to year as a percentage of the city’s payroll. If the contributions to each plan are level over the long term and soundly executed, each plan will pay all benefits when due — the ultimate test of financial soundness.

The table above shows one short-term means of checking a system’s funding progress. The present assets are compared with: (1) current member contributions on deposit, (2) liabilities for future benefits to present retirees and (3) the employer-financed portion of the liabilities for service already rendered by current members. In a system that has been following the discipline of level percentage of payroll financing, the liabilities for current member contributions on deposit (liability 1) and the liabilities for future benefits to present retirees (liability 2) will be fully covered by present assets, except in rare circumstances. In addition, the employer-financed portion of liabilities for service already rendered by current members (liability 3) will be at least partially covered by the remainder of present assets. Generally, if a system has been using level cost financing, and if there are no changes in benefits, actuarial assumptions, or methods, the funded portion of liability 3 will increase over time, although it is uncommon for it to be fully funded.

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

Actuary's Certification Letter (Supplemental Death Benefits Fund)



P: 469.524.0000 | www.grsconsulting.com

May 30, 2024

Board of Trustees
Texas Municipal Retirement System
Austin, Texas 78731

Dear Trustees:

The TMRS Supplemental Death Benefits Fund (SDBF) is an optional cost-sharing multiple-employer defined benefit group life insurance plan. It provides death benefits to both active and retired members, and each participating city can elect to cover just active members, or active and retired members. A supplemental death contribution rate is determined annually for each participating city as a percentage of that city's covered payroll. The contribution rate finances the expected benefit payments each year on a pay-as-you-go basis.

The death benefit for active employees provides a lump sum payment approximately equal to the employee's annual salary (calculated based on the employee's actual earnings for the 12-month period preceding the month of death). The death benefit for retirees is a fixed amount of \$7,500.

Benefits are paid to both actives and retirees from the SDBF. Therefore, it is our understanding that reporting under the Governmental Accounting Standards Board ("GASB") Statement No. 74 is not required, since the SDBF is not an OPEB trust as described in paragraph 3 of the statement. GRS will provide information to each participating city for their reporting under GASB Statement No 75.

The contribution rates for the cities participating in the SDBF are certified annually by the Board of Trustees which is responsible for establishing and maintaining the funding policy. These rates are determined actuarially, based on the plan provisions in effect as of April 1, 2024 and the actuarial assumptions and methodology adopted by the Board. The current actuarial assumptions were developed from the actuarial investigation of the experience of TMRS over the period ending December 31, 2022. These assumptions were adopted by the Board in 2023 and were first used in the December 31, 2023 valuation. The Actuarial Experience Investigation Study report dated September 28, 2023 details the analysis and changes to assumptions since the prior valuation. The Board's current policy is that the contribution rates determined by a given actuarial valuation become effective one (1) year after the valuation date. For example, the rates determined by the December 31, 2023 actuarial valuation will be applicable for the calendar year beginning January 1, 2025 and ending December 31, 2025.

TMRS staff supplied the data for active and retired Members as of December 31, 2023. We did not audit this data, but we did apply a number of tests to the data and we concluded that it was reasonable and consistent with the prior year's data. TMRS staff also supplied the asset data and financial information as of December 31, 2023.

Actuary's Certification Letter (Supplemental Death Benefits Fund)

CONTINUED

GRS prepared the following schedules in the Actuarial Section:

Participating Employers and Covered Members

Average Contribution Rates

All of our work and all of the actuarial assumptions and methods conform with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of the TMRS Act and, where applicable, the Internal Revenue Code and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries and consultants. Both are Members of the American Academy of Actuaries, both meet all of the Qualification Standards of the American Academy of Actuaries, and both are experienced in performing valuations for large public retirement systems.

Respectfully Submitted,



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



Janie Shaw, MAAA, ASA, EA
Consultant



Summary of Actuarial Assumptions (Supplemental Death Benefits Fund)

These actuarial assumptions used in the calculation of the funding valuation for the Supplemental Death Benefits Fund (SDBF) were developed primarily from the actuarial investigation of the experience of TMRS as of December 31, 2022. They were adopted in 2023 and first used in the December 31, 2023 actuarial valuation. No other demographic assumptions are applicable for purposes of developing the SDBF contribution rates.

I. Assumptions

A. Mortality Rates.

Same as for the Pension Trust Fund.

B. Discount/Crediting Rate.

The discount rate is 4.25% per year, compounded annually, and derived as a blend of the 5% statutory interest credit rate for the portion of the benefits financed by advance funding contributions and a short-term interest rate for the portion of the benefits financed by current contributions.

C. Actuarial Cost Method.

To calculate a city's actuarially determined contribution rate, the one-year term cost is used.

D. Valuation of Assets.

Assets in the SDBF are valued at fund value (or fund balance). However, since the contribution rates are based just on the one-year term cost, assets are not included in developing the rate.

E. Contribution Rate Calculation.

The contribution rate for the SDBF is equal to the expected benefit payments during the upcoming year divided by the annualized pay of current active members, and is calculated separately for actives and retirees. A load equal to 1.5 and 1.1, respectively, is applied to the term cost for active coverage and retiree coverage.

II. Benefit Provisions

A. Participation in SDBF.

Participation in the SDBF is optional and may be rescinded. Each city that chooses to participate can elect to cover just active members, or both active members and retirees.

B. Benefit Eligibility.

Benefits are payable if the death occurs during the period in which a city has elected to participate in the SDBF. For retirees who have service with multiple TMRS cities, benefits are payable only if the city from which the member retired participates in the SDBF when the death occurs.

C. Benefit Amount.

The death benefit for active members provides a lump sum payment approximately equal to the employee's annual salary (calculated based on the employee's actual earnings for the 12-month period preceding the month of death). The death benefit for retirees is a fixed amount of \$7,500.

Membership and Contribution Rate Data (Supplemental Death Benefits Fund)

Table A-5

Participating Cities and Covered Members								
Actuarial Valuation Date	Number of Participating Cities	Active Members	Retired Members	Inactive Members	Total Members	Annual Payroll	Average Annual Pay	% Increase in Average Annual Pay
12/31/2014	743	69,391	24,569	7,672	101,632	\$ 3,526,108,551	\$ 50,815	3.7%
12/31/2015	753	71,287	25,819	7,921	105,027	\$ 3,707,706,923	\$ 52,011	2.4%
12/31/2016	753	72,742	26,884	8,513	108,139	\$ 3,887,244,457	\$ 53,439	2.7%
12/31/2017	764	73,757	28,947	8,989	111,693	\$ 4,096,626,695	\$ 55,542	3.9%
12/31/2018	768	75,035	30,453	9,555	115,043	\$ 4,279,380,674	\$ 57,032	2.7%
12/31/2019	766	76,953	32,039	9,957	118,949	\$ 4,559,480,007	\$ 59,250	3.9%
12/31/2020	777	77,880	33,723	10,409	122,012	\$ 4,886,294,497	\$ 62,741	5.9%
12/31/2021	783	79,205	35,323	11,284	125,812	\$ 5,023,116,464	\$ 63,419	1.1%
12/31/2022	800	81,535	37,237	12,166	130,938	\$ 5,390,625,108	\$ 66,114	4.2%
12/31/2023	813	84,842	38,924	12,770	136,536	\$ 5,929,365,834	\$ 69,887	5.7%

Table A-6

Average Contribution Rates		
Actuarial Valuation Date	Active Coverage	Retiree Coverage
12/31/2014	0.17%	0.05%
12/31/2015	0.16%	0.05%
12/31/2016	0.17%	0.05%
12/31/2017	0.17%	0.06%
12/31/2018	0.17%	0.06%
12/31/2019 ¹	0.12%	0.16%
12/31/2020	0.12%	0.16%
12/31/2021 ²	0.25%	0.17%
12/31/2022 ²	0.25%	0.17%
12/31/2023 ³	0.19%	0.17%

¹Mortality assumptions and premium calculation methods were modified as of the December 31, 2019 valuation.

²Premium calculations determined by the December 31, 2021 and December 31, 2022 actuarial valuations include a load for adverse experience of 2.0 and 1.1 for active and retiree coverage, respectively.

³Premium calculations determined by the December 31, 2023 actuarial valuations include a load for adverse experience of 1.5 and 1.1 for active and retiree coverage, respectively.

Contribution rates are effective on January 1st, twelve months from the actuarial valuation date.

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