



July 17, 2019

City # 01296

Finance Director  
City of Troup  
P.O. Box 637  
Troup, TX 75789-0637

**Subject: 2019 - Governmental Accounting Standards Board (GASB) Employer Reporting Package for Postemployment Benefits Other Than Pensions (OPEB) Based on the Actuarial Valuation dated December 31, 2018**

Dear Finance Director:

This reporting package contains data specific to your city (TMRS city or “employer”) to assist your city in complying with the reporting requirements of Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* (“GASB Statement No. 75”). As a participating municipality with the Texas Municipal Retirement System (TMRS) Supplemental Death Benefits Fund (“SDBF”) with coverage for your retirees, your city should comply with the relevant reporting and disclosure requirements of GASB Statement No. 75.

The SDBF covers both active and retiree benefits with no segregation of assets and, therefore, doesn’t meet the definition of a trust under GASB Statement No. 75 (i.e., no assets are accumulated for OPEB), and as such, the SDBF is considered to be an unfunded OPEB plan. For purposes of reporting under GASB Statement No. 75, the retiree portion of the SDBF is not considered a cost sharing plan and is instead considered a single-employer, defined benefit OPEB plan.

Please also refer to the “Eye on GASB” section of the TMRS website for additional information related to the GASB OPEB standards. The reporting and disclosures are the responsibility of the city (employer) and the city’s independent public accountant.

If you have questions or require additional assistance, please contact TMRS at 800-924-8677 or email to [pensionaccounting@TMRS.com](mailto:pensionaccounting@TMRS.com).

Sincerely,

A handwritten signature in black ink that reads 'Rhonda H. Covarrubias'.

Rhonda H. Covarrubias  
Director of Finance



# City of Troup, Texas

GASB STATEMENT NO. 75 EMPLOYER REPORTING

SUPPLEMENTAL DEATH BENEFITS FUND

ADMINISTERED BY TEXAS MUNICIPAL RETIREMENT SYSTEM

DECEMBER 31, 2018 MEASUREMENT DATE



July 17, 2019

**City # 01296**

Finance Director  
City of Troup  
P.O. Box 637  
Troup, TX 75789-0637

**Subject: GASB Statement No. 75 (GASB No. 75 or GASB 75) Employer Reporting Information**

Dear Finance Director:

As required by the Governmental Accounting Standards Board (GASB) Statement No. 75 “Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions” (GASB No. 75), your city must disclose its participation in the Texas Municipal Retirement System (TMRS) Supplemental Death Benefits Fund (SDBF) for retiree coverage. This document includes schedules and information for your city to prepare its GASB disclosures for your 2019 fiscal year, as determined by the December 31, 2018 actuarial valuation and measurement date.

Our actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB No. 75. These calculations have been made on a basis that is consistent with our understanding of these accounting standards. The SDBF covers both active and retiree benefits with no segregation of assets and, therefore, doesn’t meet the definition of a trust under GASB No. 75, paragraph 4b, (i.e., no assets are accumulated for OPEB). As such, the SDBF is considered to be a single-employer unfunded OPEB plan (and not a cost sharing plan) with benefit payments treated as being equal to the employer’s yearly contributions for retirees. In accordance with paragraph 155, the applicable discount rate for an unfunded OPEB is based on an index of tax exempt 20-year municipal bond rates rated as AA or higher. As of December 31, 2018, the discount rate used in the development of the Total OPEB Liability was 3.71% compared to 3.31% as of December 31, 2017.

This report is based upon information, furnished to us by TMRS, concerning retiree death benefits, retirement benefits, active members, deferred vested members, and retirees. If your understanding of this information is different, please let us know by contacting your TMRS representative. This information was checked for internal consistency but was not otherwise audited.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the City of Troup in its participation in the Texas Municipal Retirement System’s Supplemental Death Benefits Fund, for retiree coverage. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Mark Randall and Joe Newton are members of the American Academy of Actuaries (MAAA) and meet all of the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

*Mark R. Randall*

By

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Mark Randall, FCA, EA, MAAA  
Chief Executive Officer

*Joseph Newton*

By

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Joseph Newton, FSA, EA, MAAA  
Pension Market Leader

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## **SECTION A**

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### **ACTUARIAL AND FINANCIAL SCHEDULES**

## Actuarial and Financial Schedules

<b>Actuarial Valuation and Measurement Date, December 31,</b>		2018
<b>Membership *</b>		
Number of		
- Inactive employees currently receiving benefits		8
- Inactive employees entitled to but not yet receiving benefits		2
- Active employees		23
- Total		33
<b>Covered Payroll</b>	\$	850,390
<b>Changes in the Total OPEB Liability</b>		
Total OPEB Liability – beginning of year	\$	55,496
Changes for the year		
Service Cost		3,997
Interest on Total OPEB Liability		1,892
Changes of benefit terms including TMRS plan participation		0
Differences between expected and actual experience		(1,647)
Changes in assumptions or other inputs		(3,274)
Benefit payments **		(680)
Net changes		288
Total OPEB Liability – end of year	\$	55,784
<b>Total OPEB Liability as a Percentage of Covered Payroll</b>		6.56%

\* Membership counts for inactive employees currently receiving or entitled to but not yet receiving benefits will differ from GASB 68 as they include only those eligible for a SDBF benefit (i.e. excludes beneficiaries, non-vested terminations due a refund, etc.).

\*\*Due to the SDBF being considered an unfunded OPEB plan under GASB 75, benefit payments are treated as being equal to the employer’s yearly contributions for retirees.



### Summary of Actuarial Assumptions:

Inflation	2.50%
Salary increases	3.50% to 10.50% including inflation
Discount rate*	3.71%
Retirees' share of benefit-related costs	\$0
Administrative expenses	All administrative expenses are paid through the Pension Trust and accounted for under reporting requirements under GASB Statement No. 68.
Mortality rates – service retirees	RP2000 Combined Mortality Table with Blue Collar Adjustment with male rates multiplied by 109% and female rates multiplied by 103% and projected on a fully generational basis with scale BB.
Mortality rates – disabled retirees	RP2000 Combined Mortality Table with Blue Collar Adjustment with male rates multiplied by 109% and female rates multiplied by 103% with a 3 year set-forward for both males and females. The rates are projected on a fully generational basis with scale BB to account for future mortality improvements subject to the 3% floor.

\*The discount rate was based on the Fidelity Index's "20-Year Municipal GO AA Index" rate as of December 31, 2018.

Note: The actuarial assumptions used in the December 31, 2018 valuation were based on the results of an actuarial experience study for the period December 31, 2010 to December 31, 2014.

### Sensitivity of the Total OPEB Liability to Changes in the Discount Rate:

	1% Decrease 2.71%	Current Discount Rate 3.71%	1% Increase 4.71%
Total OPEB liability	\$64,333	\$55,784	\$48,888

### OPEB Expense:

Service cost	\$	3,997
Interest on total OPEB liability		1,892
Changes in benefit terms including TMRS plan participation		0
Employer administrative costs		0
Recognition of deferred outflows/inflows of resources:		
Differences between expected and actual experience		(246)
Changes in assumptions or other inputs <sup>1</sup>		48
Total OPEB expense	\$	5,691

1. Generally, this will only be the annual change in the municipal bond index rate.

**Deferred (Inflows)/Outflows of Resources:**

	<b>Deferred (Inflows) of Resources</b>	<b>Deferred Outflows of Resources</b>
Differences between expected and actual experience	\$ (1,401)	\$ 0
Changes in assumptions and other inputs	(264)	0
Contributions made subsequent to measurement date	N/A	[CITY TO PROVIDE]
Total (excluding contributions made subsequent to measurement date)	\$ (1,665)	\$ 0

Note: The City shall include contributions made subsequent to the measurement date through the City's fiscal year end as deferred outflows of resources. Please see page 7 for retiree rates and a description of the calculation.

## Schedule of Outflows and Inflows – Current and future expense

	Recognition Period (or amortization years) *	Total (Inflow) or Outflow of Resources	<b>2018 Recognized in current OPEB expense</b>	Deferred (Inflow)/Outflow in future expense
<b>Due to Liabilities:</b>				
Difference in expected and actual experience [actuarial (gains) or losses]	6.6900	\$ (1,647)	\$ (246)	\$ (1,401)
Change in assumptions [actuarial (gains) or losses]	6.6900	(3,274)	(489)	\$ (2,785)
Contributions made subsequent to measurement date		[Provided by City]	[Provided by City]	[Provided by City]
<b>Total (excluding city provided contributions made subsequent to measurement date):</b>				<b>\$ (4,186)</b>

### Deferred Outflows and Deferred Inflows of Resources, by year, to be recognized in future OPEB expense (excluding city-provided contributions made subsequent to the measurement date):

	Net Deferred Outflows/ (Inflows) of Resources
2019	\$ (198)
2020	(198)
2021	(198)
2022	(198)
2023	(362)
Thereafter	(511)
<b>Total</b>	<b>\$ (1,665)</b>

\* The recognition period for liability (gains) or losses may differ from GASB 68 reporting due to differences in the covered inactive populations

## Amortization Schedule - Deferred (Inflows)/Outflows of Resources

	Remaining Recognition period (or amortization years)	Total Remaining (Inflow) or Outflow of Resources	Measurement Year								
			2018	2019	2020	2021	2022	2023	Thereafter		
<b>Due to Liabilities:</b>											
difference in experiences (inflows)/outflows											
	2018	6.6900	\$ (1,647)	\$ (246)	\$ (246)	\$ (246)	\$ (246)	\$ (246)	\$ (246)	\$ (246)	\$ (171)
			<b>Total</b>	\$ (246)	\$ (246)	\$ (246)	\$ (246)	\$ (246)	\$ (246)	\$ (246)	\$ (171)
change in assumptions (inflows)/outflows											
	2018	6.6900	\$ (3,274)	\$ (489)	\$ (489)	\$ (489)	\$ (489)	\$ (489)	\$ (489)	\$ (489)	\$ (340)
	2017	5.6900	3,058	537	537	537	537	537	537	373	0
			<b>Total</b>	\$ 48	\$ 48	\$ 48	\$ 48	\$ 48	\$ 48	\$ (116)	\$ (340)

**Schedule of Contributions - (Retiree-only portion of the rate, for OPEB):**

<b>Plan/Calendar Year</b>	<b>Total SDB Contribution (Rate)</b>	<b>Retiree Portion of SDB Contribution (Rate)</b>
2019	0.28%	0.09%
2018	0.26%	0.08%
2017	0.25%	0.09%

Note 1: Due to the SDBF being considered an unfunded OPEB plan, benefit payments are treated as being equal to the employer's yearly contributions for retirees.

Note 2: In order to determine the retiree portion of the City's Supplemental Death Benefit Plan contributions (that which is considered OPEB), the City should perform the following calculation:

Total covered payroll \* Retiree Portion of SDB Contribution (Rate)

Consideration should be given to the time period of contributions incurred (i.e., City's fiscal year vs. calendar year) to ensure the proper contribution rate is utilized in the above calculation.

## **SECTION B**

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### **IMPLEMENTING AND REPORTING YOUR OPEB AMOUNTS**

# Implementing and Reporting Your OPEB Amounts

## *Benefit Plan Description*

Texas Municipal Retirement System (“TMRS”) administers a defined benefit group-term life insurance plan known as the Supplemental Death Benefits Fund (“SDBF”). This is a voluntary program in which participating member cities may elect, by ordinance, to provide group-term life insurance coverage for their active members, including or not including retirees. The death benefit for active employees provides a lump-sum payment approximately equal to the employee’s annual salary (calculated based on the employee’s actual earnings for the 12-month period preceding the month of death). The death benefit for retirees is considered an other postemployment benefit (“OPEB”) and is a fixed amount of \$7,500. As the SDBF covers both active and retiree participants with no segregation of assets, the SDBF is considered to be an unfunded OPEB plan (i.e. no assets are accumulated).

The member city contributes to the SDBF at a contractually required rate as determined by an annual actuarial valuation. The rate is equal to the cost of providing one-year term life insurance. The funding policy for the SDBF program is to assure that adequate resources are available to meet all death benefit payments for the upcoming year. The intent is not to pre-fund retiree term life insurance during employees’ entire careers.

## *Summary*

This reporting package contains data specific to your city (TMRS city or “employer”), to assist your city in complying with the reporting and disclosure requirements of Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* (“GASB No. 75”). GASB No. 75 establishes standards for OPEB accounting and financial reporting for your city as a member municipality (“employer”) of the SDBF, **with retiree coverage**, and is effective for fiscal years beginning after June 15, 2017.

Under GASB No. 75, the employer must report the total OPEB liability, OPEB expense, and related deferred inflows and outflows of resources associated with providing OPEB benefits to their employees (and former employees) in their basic financial statements as well as note disclosures and related Required Supplementary Information. The purpose of this report is to provide the employer government with the actuarially calculated OPEB amounts and disclosures in a format that complies with all GASB requirements and facilitates the auditing of those numbers.

## *Financial Accounting for OPEB*

GASB No. 75 requires employers to recognize the total OPEB liability and the OPEB expense on their financial statements. The OPEB expense recognized each fiscal year is equal to the change in the total OPEB liability from the beginning of the year to the end of the year, adjusted for deferred recognition of certain changes in the liability.

For employers first reporting under GASB No. 75 for fiscal year 2019, the employer should make a prior period adjustment for the total OPEB liability as of the 12/31/2017 measurement date (provided), and record a deferred outflow of resources for contributions recorded by the city (retiree portion of SDB rate only) from December 31, 2017 to its prior fiscal year end. TMRS has elected to not calculate other deferrals as of the December 31, 2017 measurement date.

In each year after implementation, the member government (city) will need to record the OPEB amounts for the year by:

- a. Recording the total OPEB Liability and related deferred inflows and outflows of resources on the Statement of Net Position and
- b. Recording OPEB expense in the Statement of Changes in Net Position, by:
  - (1) Eliminating the expense for the retiree portion of total Supplemental Death Benefit contributions made and recorded per the city's general ledger;
  - (2) Reflecting the change in the Total OPEB Liability from the beginning of the period to the end of the period;
  - (3) Recording current year deferral amounts for expected vs. actual experience, current year changes in assumption(s) and contributions made after the measurement date to the city's fiscal year end; and
  - (4) Amortizing any existing deferred inflows and outflows of resources from the previous year.

#### *Disclosures for OPEB*

GASB No. 75 requires the notes of the employer's financial statements to disclose the total OPEB expense, changes in the total OPEB liability, and deferred outflows of resources and inflows of resources related to OPEB.

In addition, GASB No. 75, paragraphs 165-169 require the notes to the financial statements for the employers to include such items as (list may not be all inclusive):

- The name of the OPEB plan, identification of the entity that administers the OPEB plan, and identification of the OPEB plan as a single-employer or multiple-employer defined benefit plan
- A brief description of the benefit terms and the number of employees covered
- The fact that there are no assets accumulated in a trust that meets the criteria in paragraph 4 of GASB Statement No. 75.
- Significant assumptions and other inputs used to measure the total OPEB liability as well as the dates of experience studies on which significant assumptions are based
- Measurement date of the total OPEB liability (date of the actuarial valuation)
- Schedule of changes in the total OPEB liability
- The amount of OPEB expense recognized by the employer in the reporting period
- The employer's balances of deferred outflows of resources and deferred inflows of resources related to OPEB
- A schedule presenting the following:
  - For each of the subsequent five years, and in the aggregate thereafter, the net amount of the employer's balances of deferred outflows of resources and deferred inflows of resources that will be recognized in the employer's OPEB expense.

See the TMRS GASB No. 75 Employer Reporting Guide for more specific information regarding the information required in the notes to the financial statements.



### *Required Supplementary Information for OPEB*

The financial statements of employers should also include required supplementary information showing the 10-year fiscal history (built prospectively, as the information becomes available) of:

- Changes in the total OPEB liability (as of the measurement date)
- Total OPEB liability
- Covered payroll
- Total OPEB liability as a percentage of covered payroll
- Notes to required supplementary information to include:
  - The fact that no assets are accumulated in a trust that meets the criteria in paragraph 4 of GASB Statement No. 75 to pay related benefits
  - Factors that significantly affect trends in the amounts reported

### *Timing of the Valuation*

For the employer's financial reporting purposes, the total OPEB liability and OPEB expense should be measured as of the employer's "measurement date" which may not be earlier than the employer's prior fiscal year-end date and no later than the end of the employer's current fiscal year, consistently applied from period to period. If the actuarial valuation used to determine the total OPEB liability is not calculated as of the measurement date, the total OPEB liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total OPEB liability shown in this report is based on an actuarial valuation performed as of December 31, 2018 and a measurement date of December 31, 2018; as such, no roll-forward is required.

## **SECTION C**

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### **ACTUARIAL ASSUMPTIONS**

# Actuarial Assumptions

These actuarial assumptions were developed primarily from the actuarial investigation of the experience of TMRS over the four year period from December 31, 2010 to December 31, 2014. They were adopted in 2015 and first used in the December 31, 2015 actuarial valuation. The post-retirement mortality assumption for healthy annuitants and Annuity Purchase Rate (APRs) are based on the Mortality Experience Investigation Study covering 2009 through 2011 and dated December 31, 2013.

## I. *Economic Assumptions*

- A. General Inflation – General Inflation is assumed to be 2.50% per year.
- B. Discount Rates – Because the Supplemental Death Benefits Fund is considered an unfunded trust under GASB Statement No. 75, the relevant discount rate for calculating the Total OPEB Liability is based on the Fidelity Index’s “20-Year Municipal GO AA Index” rate as of the measurement date.
- C. Individual Salary Increases – Salary increases are assumed to occur once a year, on January 1. Therefore, the pay used for the period year following the valuation date is equal to the reported pay for the prior year, increased by the salary increase assumption. Salaries are assumed to increase by the following graduated service-based scale.

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

**II. Demographic Assumptions**

**A. Termination Rates**

- For the first 10 years of service, the base table rates vary by gender, entry age, and length of service. For City of Troup the base table is then multiplied by a factor of 115.0% based on the experience of the city in comparison to the group as a whole. A further multiplier is applied depending on an employee’s classification: 1) Fire – 63%, 2) Police – 88%, or 3) Other – 108%. A sample of the base rates follows:

Males

Age	Service									
	0	1	2	3	4	5	6	7	8	9
20	0.2920	0.2623	0.2186	0.1932	0.1850	0.1673	0.1529	0.1243	0.1022	0.0816
25	0.2653	0.2269	0.1812	0.1554	0.1429	0.1267	0.1148	0.1006	0.0926	0.0757
30	0.2451	0.2052	0.1610	0.1322	0.1079	0.0998	0.0896	0.0774	0.0744	0.0621
35	0.2505	0.2070	0.1577	0.1265	0.1050	0.0994	0.0848	0.0719	0.0621	0.0567
40	0.2467	0.2060	0.1561	0.1213	0.1046	0.0943	0.0805	0.0710	0.0601	0.0577
45	0.2268	0.1934	0.1556	0.1220	0.1053	0.0926	0.0813	0.0711	0.0605	0.0575
50	0.2078	0.1731	0.1412	0.1149	0.1016	0.0887	0.0807	0.0716	0.0604	0.0578
55	0.2003	0.1668	0.1265	0.1074	0.0861	0.0864	0.0771	0.0682	0.0609	0.0560
60	0.1999	0.1542	0.1231	0.1060	0.0790	0.0868	0.0753	0.0683	0.0571	0.0549
65	0.2000	0.1463	0.1238	0.1063	0.0803	0.0867	0.0757	0.0700	0.0547	0.0551
70	0.2000	0.1477	0.1237	0.1063	0.0802	0.0867	0.0756	0.0697	0.0551	0.0551

Females

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

2. After 10 years of service, base termination rates vary by gender and by the number of years remaining until first retirement eligibility. For City of Troup the base table is then multiplied by a factor of 115.0% based on the experience of the city in comparison to the group as a whole. A further multiplier is applied depending on an employee's classification: 1) Fire – 52%, 2) Police – 79%, or 3) Other – 115%. A sample of the base rates follows:

Years from Retirement	Male	Female
1	1.72%	2.20%
2	2.29%	2.97%
3	2.71%	3.54%
4	3.06%	4.01%
5	3.35%	4.41%
6	3.61%	4.77%
7	3.85%	5.10%
8	4.07%	5.40%
9	4.28%	5.68%
10	4.47%	5.94%
11	4.65%	6.19%
12	4.82%	6.43%
13	4.98%	6.66%
14	5.14%	6.87%
15	5.29%	7.08%

Termination rates end at first eligibility for retirement

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

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

Forfeiture rates end at first eligibility for retirement.

C. Service Retirees and Beneficiary Mortality Rates

For calculating the OPEB liability and the OPEB contribution rates, the Gender-distinct RP2000 Combined Healthy Mortality Tables with Blue Collar Adjustment are used with male rates multiplied by 109% and female rates multiplied by 103%. Based on the size of the city, rates are multiplied by an additional factor of 100.0%. The rates are projected on a fully generational basis by scale BB to account for future mortality improvements.

D. Disabled Annuitant Mortality Rates

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

E. Pre-Retirement Mortality

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

F. Disability Rates

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

G. Service Retirement Rates, applied to both Active and Inactive Members

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

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

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

Plan Design Factors Applied to Base Retirement Rates

Employer Match	Employee Contribution Rate		
	5%	6%	7%
1 – 1	0.75	0.80	0.84
1.5 – 1	0.81	0.86	0.92
2 – 1	0.86	0.93	1.00

Recurring COLA: 100%

No Recurring COLA: 90%

### **III. Methods and Assumptions**

- A. Valuation of Assets – For purposes of calculating the Total OPEB Liability, the plan is considered to be unfunded and therefore no assets are accumulated for OPEB.
- B. Actuarial Cost Method: The actuarial cost method being used is known as the Entry Age Normal Actuarial Cost Method. The Entry Age Normal Actuarial Cost Method develops the annual cost of the Plan in two parts: that attributable to benefits accruing in the current year, known as the normal cost, and that due to service earned prior to the current year, known as the amortization of the unfunded actuarial accrued liability. The normal cost and the actuarial accrued liability are calculated individually for each member. The normal cost rate for an employee is the contribution rate which, if applied to a member's compensation throughout their period of anticipated covered service with the municipality, would be sufficient to meet all benefits payable on their behalf. The normal cost is calculated using an entry age based on benefit service with the current city. If a member has additional time-only vesting service through service with other TMRS cities or other public agencies, they retain this for determination of benefit eligibility and decrement rates. The salary-weighted average of these rates is the total normal cost rate. The unfunded actuarial accrued liability reflects the difference between the portion of projected benefits attributable to service credited prior to the valuation date and assets already accumulated.
- C. Supplemental Death Benefit – The contribution rate for the Supplemental Death Benefit (SDB) 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. Due to the significant reserve in the Supplemental Death Fund, the SDB rate for retiree coverage is currently only one-third of the total term cost.

### **IV. Other Assumptions**

- 1. Inactive Population: All non-vested members of a city are assumed to take an immediate refund if they are not contributing members in another city. Vested members not contributing in another city are assumed to take a deferred retirement benefit, except for those who have terminated in the past 12 months for whom one year of forfeiture probability is assumed. The forfeiture rates for inactive members of a city who are contributing members in another city are equal to the probability of termination multiplied by the forfeiture rates shown in II(A) and II(B) respectively. These rates are applied each year until retirement eligibility. Once a member is retirement eligible, they are assumed to commence benefits based on the service retirement rates shown in II(G).
- 2. There will be no recoveries once disabled.
- 3. Decrement timing: Decrements of all types are assumed to occur mid-year.



4. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
5. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
6. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report and the actual payroll payable at the time contributions are made.
7. Benefit Service: All members are assumed to accrue 1 year of eligibility service each year.
8. The decrement rates for service related decrements are based on total TMRS eligibility service.

#### **V. Participant Data**

Participant data was supplied in electronic text files. There were separate files for (i) active and inactive members, and (ii) members and beneficiaries receiving benefits.

The data for active members included birthdate, gender, service with the current city and total vesting service and salary. For retired members, the data included date of birth, gender and date of retirement.

To the extent possible we have made use of all available data fields in the calculation of the liabilities stated in this report. Adjustments are made for members who have service both in a city with “20 and out” retirement eligibility and one that hasn’t adopted it to calculate the earliest possible retirement date.

Salary supplied for the current year was based on the annualized earnings for the year preceding the valuation date.

Assumptions were made to correct for missing, bad, or inconsistent data. These had no material impact on the results presented.

## **SECTION D**

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### **GLOSSARY OF TERMS**

# Glossary of Terms

<b><i>Actuarial Assumptions</i></b>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<b><i>Actuarial Cost Method</i></b>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<b><i>Actuarial Gain (Loss)</i></b>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<b><i>Actuarial Present Value (APV)</i></b>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<b><i>Actuarial Valuation</i></b>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total OPEB liability, and related actuarial present value of projected benefit payments for OPEB.
<b><i>Actuarially Determined Contribution (ADC)</i></b>	A calculated contribution into a defined benefit OPEB plan for the reporting period, most often determined based on the funding policy of the plan.
<b><i>Covered Payroll</i></b>	The payroll of employees that are provided with OPEB.
<b><i>Deferred Inflows and Outflows</i></b>	The deferred inflows and outflows of OPEB resources are amounts used under GASB Statement No. 75 in developing the annual OPEB expense. Deferred inflows and outflows arise with differences between expected and actual experiences or changes of assumptions. The portion of these amounts not included in OPEB expense should be included in the deferred inflows or outflows of resources.

## Glossary of Terms

<b><i>Discount Rate</i></b>	The discount rate is the yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale).
<b><i>Entry Age Normal Actuarial Cost Method (EAN)</i></b>	A 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 age(s). 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.
<b><i>GASB</i></b>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<b><i>Other Postemployment Benefits (OPEB)</i></b>	Benefits (such as death benefits, life insurance, disability, and long-term care) that are paid in the period after employment and that are provided separately from a pension plan, as well as healthcare benefits paid in the period after employment, regardless of the manner in which they are provided. OPEB does not include termination benefits or termination payments for sick leave.
<b><i>Real Rate of Return</i></b>	The rate of return on an investment after adjustment to eliminate inflation.
<b><i>Service Costs</i></b>	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
<b><i>Total OPEB Liability</i></b>	The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of this Statement.
<b><i>Total OPEB Expense</i></b>	The total OPEB expense is the sum of the following items: <ol style="list-style-type: none"><li>1. Service Cost</li><li>2. Interest on the Total OPEB Liability</li><li>3. Current-Period Benefit Changes</li><li>4. Administrative Expense</li><li>5. Recognition of Outflow (Inflow) of Resources due to Liabilities</li></ol>