



June 2, 2016

City #00143

City Official
City of Blue Mound
301 S Blue Mound Rd
Fort Worth, Tx 76131-1030

Subject: 2017 Municipal Contribution Rate

Dear City Official:

Presented below are your city's contribution requirements to the Texas Municipal Retirement System (TMRS) for Plan Year 2017 (Calendar Year 2017, PY2017) as determined by the December 31, 2015 actuarial valuation. The actuarially determined contribution rates for retirement benefits and Supplemental Death Benefits (SDB), if any, are based on your city's plan provisions in effect as of April 1, 2016 and the actuarial assumptions and methods adopted by the TMRS Board. Effective January 1, 2017, your city's monthly contribution rates will be:

	<u>Phase-in Rate</u>	<u>Full Rate</u>
Normal Cost	4.87%	4.87%
Prior Service	<u>0.16%</u>	<u>0.27%</u>
Total Retirement Rate	5.03%	5.14%
Supplemental Death Benefit	<u>0.11%</u>	<u>0.11%</u>
Total Combined Contribution	5.14%	5.25%

The Total Retirement Rate shown in the Full Rate column above represents the Actuarially Determined Employer Contribution (ADEC) for PY2017 based on current TMRS funding policy. **The Total Combined Contribution Rate shown in the Phase-in Rate column above represents the minimum required contribution rate to TMRS for PY2017.** The difference represents the portion of your Full Rate that is eligible to be phased in. **Your city must contribute at least the Phase-in Rate, though TMRS highly recommends that each city contribute as much toward the Full Rate as possible.** Please note that if your city chooses to contribute at a rate below the 2017 Full Rate, the contribution shortfall will be reflected in your city's Unfunded Actuarial Accrued Liability (UAAL) and contribution rate in subsequent years. Cities may also choose to contribute at a rate level above the Full Rate. In lieu of phasing in to the Full Rate, a one-time UAAL re-amortization option is available to certain cities that experienced a net contribution rate increase greater than 0.5% due to the 2015 actuarial changes. See the "Phase-in Rates" section for more information on the phase-in/re-amortization options.

The actuarial liabilities and contribution rates determined as part of the December 31, 2015 actuarial valuation reflect a change in actuarial assumptions based on the results of the 2015 experience study for the period ending December 31, 2014. Please see the "Actuarial Changes" section for more detailed information. Full information on your contribution rate, including an explanation of changes, is contained in the attached report.

IMPORTANT NOTE: The pension disclosure and financial statement information necessary to assist your city with the financial reporting requirements of the Governmental Accounting Standards Board (GASB) will be provided in a separate document available later this summer.



If you have questions about your rate or if you wish to evaluate potential changes in your TMRS plan, contact TMRS at 800-924-8677.

Sincerely,

Eric W. Davis
Deputy Executive Director

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Calculation of Contribution Requirements	Details the calculation of the Full Retirement Rate (TMRS Plan Year - ADEC), Minimum Required Phase-in Retirement Rate, and the Supplemental Death Rate, if applicable, for your city. Comparisons before and after the actuarial changes and to the 2014 actuarial valuation results are included.
Summary of Benefit Provisions	A summary of plan provisions for plan years 2015 and 2016.
Amortization Bases and Payments	Information on the amortization bases and payments for your city.
Historical and Projected Accumulation of the BAF Balance	This schedule provides your city with historical cash flows, interest credits and the year-end balance of its Benefit Accumulation Fund (BAF), as well as projected values for calendar/plan years 2016 and 2017.
Reconciliation of Full Retirement Rate from Prior Actuarial Valuation Report	A detailed reconciliation of changes in your city's Full Retirement Rate (ADEC) since the prior valuation.
Phase-in Rates	An explanation of "Phase-in" including a question and answer section on Phase-in contributions and how they might affect your city. Also included are details of the one-time re-amortization option available to certain cities in lieu of phase-in.

Actuarial Changes

As part of their continued effort to ensure that TMRS is well funded and that members' benefits remain secure and sustainable over generations, the TMRS Board of Trustees adopted the actuarial changes summarized below at its December 2015 Board meeting, based on the results of the 2015 experience study and the recommendations of the System's consulting actuary, Gabriel Roeder Smith & Company (GRS). The combined impact of the following changes is shown in the "Reconciliation of Full Retirement Rate from Prior Actuarial Valuation Report" section of this letter.

Actuarial Assumption Changes

The TMRS Act requires that at least once every 5 years, the System's consulting actuary perform an actuarial experience study and make recommendations to the Board based on the results of that study. Current Board policy is to conduct an actuarial experience study every four years. Accordingly, during 2015, TMRS' consulting actuary, GRS, conducted an experience study for the period ending December 31, 2014. A single set of assumptions is not expected to be suitable forever. As the actual experience of a plan unfolds or the future expectations change, the assumptions should be reviewed and adjusted accordingly. The actuarial assumptions used in the annual actuarial valuations and reviewed as part of the experience study are generally grouped into the following two major categories:

1. Economic assumptions – investment return, salary increases, overall payroll growth, inflation
2. Demographic assumptions – rates of termination, forfeiture, service retirement, disability retirement, pre-retirement mortality, post-retirement mortality

The Board adopted several changes in actuarial assumptions including:

- Reduction in the investment return assumption from 7% to 6.75%
- Reduction in the inflation assumption from 3% to 2.5%
- Reduction in individual salary increases
- Reduction in projected cost of living adjustments (COLAs) consistent with lower inflation
- Reduction to the 3% payroll growth assumption for cities with patterns of population decline
- Reduction in the rates of termination and modification of classification and city multipliers
- Reduction in forfeiture rates (withdrawal of member deposits) for vested members not eligible for retirement
- Reduction in rates of disability

Asset Valuation (Smoothing) Method Modification

An asset smoothing method is the technique used in determining the Actuarial Value of Assets (AVA) which recognizes gains or losses in pension assets over some period of time in order to reduce the effects of normal market volatility on contribution rates. In TMRS, the AVA is based on the Market Value of Assets (MVA) with ten-year smoothing applied. This is accomplished by recognizing each year 10% of the difference between the MVA and the expected AVA, based on the assumed rate of investment return. The AVA is further adjusted by 33% of any difference between the initial value and a 15% corridor

around the MVA. Effective with the December 31, 2015 actuarial valuation, a provision was added to the current 10-year smoothing method to ensure that an asset gain or loss from an individual year is fully recognized within 10 years. Also, beginning with the December 31, 2015 actuarial valuation, a System-wide calculation to determine the ratio of the smoothed value to the market value in aggregate will be performed and that ratio will then be applied to each city's MVA in determining their individual AVA. Previously, the AVA was determined for each individual city based on the cash flow and asset levels of that city.

Amortization Policy Modification

In TMRS, for underfunded plans, amortization of the Unfunded Actuarial Accrued Liability (UAAL) is a level percentage of payroll over a closed period using the process of "laddering" which separately tracks different amortization components or bases. For all new losses, including benefit enhancements, occurring after December 31, 2015, the maximum amortization period will be 25 years for all cities. Previously, some cities amortized their losses over a 30-year period. Bases created on or before December 31, 2015 will continue to be amortized on their original schedule. This change will have no impact on the December 31, 2015 actuarial valuation, but will affect future valuations for certain cities.

Executive Summary

Valuation as of TMRS Plan Year (PY) Ending	12/31/2015	12/31/2014
Membership as of the Valuation Date		
• Number of		
- Active members	23	17
- Retirees and beneficiaries	5	5
- Inactive members	<u>19</u>	<u>17</u>
- Total	47	39
• Prior year's payroll provided by TMRS	\$ 808,495	\$ 621,448
• Valuation Payroll	\$ 844,487	\$ 666,818
Benefit Accumulation Fund (BAF) Assets		
• Market BAF Balance	\$ 425,342	\$ 378,310
• BAF crediting rate for PY	0.06%	5.68%
• Interest credited on beginning BAF balance	\$ 225	\$ 19,710
• Municipal contributions	27,480	12,457
• Member contributions during year	41,068	31,072
• Benefit and refund payments	21,743	31,817
Actuarial Value of Assets (AVA)		
• Market BAF Balance	\$ 425,342	\$ 378,310
• Actuarial Value of Assets (AVA)	436,880	365,885
• AVA as a Percentage of BAF	102.7%	96.7%
• Return on AVA*	6.65%	7.42%
Actuarial Information		
• Actuarial accrued liability (AAL)	\$ 475,010	\$ 383,061
• Actuarial value of assets (AVA)	436,880	365,885
• Unfunded actuarial accrued liability (UAAL)	38,130	17,176
• UAAL as % of pay	4.7%	2.8%
• Funded ratio (AVA/AAL)	92.0%	95.5%
• Employer normal cost	4.87%	4.38%
• Prior Service Rate	0.27%	0.15%
Contribution Rates for TMRS Plan Year (PY)	2017	2016
• Member	5.00%	5.00%
• Full retirement rate (ADEC)	5.14%	4.53%
• Phase-in retirement rate (minimum)	5.03%	4.03%
• Supplemental Death rate	0.11%	0.11%
Total Employer Contribution Estimates for PY	2017	2016
• Projected payroll	\$ 869,822	\$ 686,823
• Minimum Phase-in contribution rate	5.14%	4.14%
• Estimated employer contribution	\$ 44,709	\$ 28,434

Note: TMRS Plan Year coincides with Calendar Year

Results from prior year reflect the plan provisions used in the 12/31/2015 valuation report.

* Return on AVA is calculated prior to actuarial changes.

Calculation of Contribution Requirements

		<u>December 31, 2015</u>		<u>December 31, 2014</u>	
		New Assumptions	Old Assumptions		
1.	Prior year's payroll provided by TMRS	\$ 808,495	\$ 808,495	\$	621,448
2.	Valuation payroll	844,487	844,487		666,818
3.	Employer normal cost rate	4.87%	4.37%		4.38%
4.	Actuarial liabilities				
a.	Present active members	\$ 205,693	\$ 195,490	\$	135,342
b.	Present inactive members	114,821	109,566		90,394
c.	Annuityants	<u>154,496</u>	<u>152,021</u>		<u>157,325</u>
d.	Total actuarial accrued liability	\$ 475,010	\$ 457,077	\$	383,061
5.	Actuarial value of assets	<u>436,880</u>	<u>437,007</u>		<u>365,885</u>
6.	Unfunded actuarial accrued liability (UAAL) (4d - 5)	\$ 38,130	\$ 20,070	\$	17,176
7.	Funded ratio (5 / 4d)	92.0%	95.6%		95.5%
8.	Equivalent Single Amortization Period*	26.1 years	28.0 years		28.6 years
9.	Assumed payroll growth rate	3.00%	3.00%		3.00%
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Contribution Rate for TMRS Plan Year:		2017			2016
10.	Full retirement rate				
a.	Normal cost	4.87%	4.37%		4.38%
b.	Prior service	<u>0.27%</u>	<u>0.14%</u>		<u>0.15%</u>
c.	Full retirement rate	5.14%	4.51%		4.53%
11.	Minimum phase-in retirement rate				
a.	Full retirement rate (10c)	5.14%	4.51%		4.53%
b.	Less phase-in deferral	<u>(0.11%)</u>	<u>(0.00%)</u>		<u>(0.50%)</u>
c.	Minimum phase-in retirement rate	5.03%	4.51%		4.03%
12.	Supplemental Death rate	0.11%	0.11%		0.11%
13.	Combined contribution rates				
a.	Combined full rate (10c + 12)	5.25%	4.62%		4.64%
b.	Combined phase-in rate (11c + 12)	5.14%	4.62%		4.14%

* New Losses are laddered on 25-year period.

Summary of Benefit Provisions

The plan provisions are adopted by the governing body of the City, within the options available in the state statutes governing TMRS. Plan provisions for the City were as follows:

	Plan Year 2016	Plan Year 2015
Employee deposit rate	5%	5%
Matching ratio (city to employee)	2 to 1	2 to 1
Years required for vesting	5	5
Retirement Eligibility (Age /Service)	60/5, 0/20	60/5, 0/20
Updated Service Credit	0%	0%
Annuity Increase (to retirees)	0% of CPI	0% of CPI
Supplemental Death Benefit to Active Employees	Yes	Yes
Supplemental Death Benefit to Retirees	Yes	Yes

Amortization Bases and Payments

Year Established	Description	Years Remaining	Base	Payment
2013	2013 Valuation (Fresh Start)	28	\$20,936	\$1,201
2014	2014 Experience	28	(3,574)	(205)
2015	2015 Experience	25	2,708	167
2015	2015 Actuarial Changes	25	<u>18,060</u>	<u>1,108</u>
	Total		38,130	2,271

Historical and Projected Accumulation of the BAF Balance

Year Ending December 31, (1)	Payroll for the Year (2)	Effective Retirement Contribution Rate ^a (3)	Employer Contributions for the Year (4)	Member Contributions for the Year (5)	Benefit Payments (6)	External Cash Flow for the Year (7)	Interest Credit (8)	BAF Balance ^b (9)
		(4) / (2)				(4) + (5) + (6)		
2013	\$ 602,945	2.03%	\$ 12,240	\$ 30,147	\$ (37,845)	\$ 4,542	\$ 30,284	\$ 346,888
2014	\$ 621,448	2.00%	\$ 12,457	\$ 31,072	\$ (31,817)	\$ 11,712	\$ 19,710	\$ 378,310
2015	\$ 808,495	3.40%	\$ 27,480	\$ 41,068	\$ (21,743)	\$ 46,805	\$ 225	\$ 425,342
2016	\$ 844,487	4.03%	\$ 34,033	\$ 42,224	\$ (49,410)	\$ 26,847	\$ 28,711	\$ 480,899
2017	\$ 869,822	5.03%	\$ 43,752	\$ 43,491	\$ (28,176)	\$ 59,067	\$ 32,461	\$ 572,427

a. Effective retirement contribution rate is the actual rate determined by dividing the employer contribution received by the payroll paid.

b. BAF Balance may be off a dollar due to rounding.

Reconciliation of Full Retirement Rate from Prior Actuarial Valuation Report

Actuarial valuations are based on long-term assumptions, and actual results in a specific year can, and almost certainly will, differ as actual experience deviates from the assumptions. The following table provides a detailed breakdown of changes in the retirement portion of your city's contribution rate. This analysis reconciles the change in the retirement portion (ADEC) of your city's contribution rate from 2016 to 2017, but will not reflect any change in the cost of the Supplemental Death Benefit (SDB), if your city currently has this provision. (Any changes in the cost of the SDB are primarily due to the changes in the average age of your city's employee group and/or the number of covered retirees.) Following the table below is a brief description of the common sources for deviation from the expected.

Change in Full Retirement Rate		
Full Rate from 12/31/2014 Valuation (PY 2016 Rate)		4.53 %
Benefit changes	0.00 %	
Return on Actuarial Value of Assets	0.01	
Contribution lag/phase in	0.02	
Payroll growth	(0.03)	
Normal cost	(0.01)	
Liability growth	(0.01)	
Subtotal Experience Change	(0.02) %	
Actuarial Changes	0.63	
Total change	0.61 %	
Full Rate from 12/31/2015 Valuation (PY 2017 Rate)		5.14 %

Benefit Changes - Shows the increase or decrease in the contribution rate associated with any modifications made to the member city's TMRS plan provisions. This will also include any changes to the amortization period adopted by ordinance.

Return on Actuarial Value of Assets (AVA) - Shows the change in the contribution rate associated with the return on the AVA being different than the assumed 7.0%. For the year ending December 31, 2015, the return on an AVA basis was 6.65%. The impact may show as 0.00% due to rounding.

Contribution Lag/Phase In - Shows the total increase or decrease in the contribution rate associated with the phase in of contributions and/or any additional contributions above the full rate. The effect of the "Contribution Lag" is also included here and refers to the time delay between the actuarial valuation date and the date the contribution rate becomes effective. For TMRS member cities, the

“Contribution Lag” is one year (i.e., the Actuarial Valuation as of December 31, 2015 sets the rate effective for Calendar Year 2017). **The impact of the “Contribution Lag” is expected to become immaterial once a city is contributing the Full Rate and the Full Rate stabilizes.**

If a city chooses to contribute the minimum phase-in contribution, the difference between the Full Rate and the Phase-in Rate will be reflected as an actuarial loss in the next valuation’s UAAL. This will increase the Full Rate for future valuations.

Cities should carefully consider whether to pay the minimum Phase-in Rate, the Full Rate, or a rate somewhere in between. If a city begins to contribute the Full Rate immediately, the actuarial valuation anticipates that the Full Rate will stabilize for the duration of the amortization period. However, if the minimum phase-in contribution schedule is utilized, the ultimate Full Rate would be expected to be higher than the current Full Rate. For more information on the impact of the phase-in, please refer to the “Phase-in Rates” section.

Payroll Growth - Shows the increase or decrease in the contribution rate associated with higher or lower than expected growth in the member city’s overall payroll. The amortization payments were calculated assuming payroll grows at 3.00% per year. Overall payroll growth in excess of 3.00% will typically cause a decrease in the prior service rate.

Normal Cost - Shows the increase or decrease in the contribution rate associated with changes in the average normal cost rate for the individual city’s population. 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 salary-weighted average of the individual rates is the total normal cost rate.

Liability Growth - Shows the increase or decrease in the contribution rate associated with larger or lower than expected growth in the member city’s overall plan liabilities. The most significant sources for variance will be individual salary increases compared to the assumption and turnover.

Actuarial Changes - Shows the change in the contribution rate associated with the changes in actuarial assumptions based on the results of the 2015 experience study.

Phase-in Rates

Phase-in Policy

After the actuarial changes first reflected in the December 31, 2013 actuarial valuation, any city that experienced a contribution rate increase in excess of 0.5% due to the 2013 actuarial changes was given the option to phase in contributions 0.5% per year until the full retirement rate is reached. Subsequently, at the December 2015 meeting and based on the results of the 2015 experience study, the TMRS Board of Trustees approved a new set of actuarial assumptions to be first reflected in the December 31, 2015 actuarial valuation. At the same time, the Board also approved a phase-in policy to help manage the potential impact of the 2015 actuarial changes on contribution rates. Specifically, any city that experienced a net contribution rate increase in excess of 0.5% due to the 2015 actuarial changes is eligible to phase in 0.5% per year until the full retirement rate is reached. For this purpose, the net contribution rate increase is the contribution rate increase resulting solely from the 2015 change in actuarial assumptions adjusted by the contribution rate decrease attributable to experience gains, if any. See the “Reconciliation of Full Retirement Rate from Prior Actuarial Valuation Report” section for determining your city’s net contribution rate increase.

Your city is eligible for a contribution rate phase-in due to one or both of the phase-in options discussed above. Any remaining 2013 phase-in balance will be combined with the 2015 phase-in amount in determining the final phase-in balance.

Re-Amortization Option

Finally, the TMRS Board also approved, in lieu of phase-in, a one-time re-amortization option for those cities with underfunded plans that experienced a net contribution rate increase (defined above) in excess of 0.5% due to the 2015 actuarial changes. These cities have a one-time option to instruct TMRS to aggregate and re-amortize all individual non-ad hoc UAAL bases up to a maximum of 30 years to offset any net contribution rate increases back to the limit of 0.5%. The resulting single period amortization is rounded up to the next integer, not to exceed 30 years, in determining the final contribution rate. A request for this one-time re-amortization option may be made in 2016-2018 and will be applied prospectively for the next calendar year (2017-2019, as applicable). For more details regarding the re-amortization option and its availability for your city, please contact Leslee Hardy, TMRS Director of Actuarial Services, at lh Hardy@tmrs.com.

What rate should my city pay?

Your city must contribute at least the Phase-in Rate and should consider paying more than this amount.

Can my city contribute more than the Phase-in Rate?

You may contribute at any rate you choose, but you must contribute at least the Phase-in Rate. Your city may choose to pay (1) the Full Rate, (2) a rate between the Phase-in Rate and the Full Rate, or (3) a rate above the Full Rate. The TMRS Act was amended effective January 1, 2008 to allow cities to make additional contributions to TMRS.

What is the impact of paying the Phase-in Rate or a rate below the Full Rate?

Each year that the actual contribution rate is less than the Full Rate, the difference generates an actuarial loss in the following year's actuarial valuation, which must be amortized as part of the UAAL by an increase in the Prior Service Rate. All other things being equal, the Full Rate for each successive year of the phase-in period will reflect the cumulative increases in the Prior Service Rate from all prior years. Cities that pay the Phase-in Rate or any rate less than the Full Rate are also likely to see their funding ratio decline or increase at a slower rate each year.

What is the impact of contributions in excess of the Full Rate?

Contributions above the Full Rate will have the exact opposite effect on your city as described above for contributions less than the Full Rate. Specifically, the amortization of actuarial gains created by additional contributions will decrease the Full Rate (by a decrease in the Prior Service Rate) in the following year's actuarial valuation. Cities that make contributions in excess of the Full Rate should also see their funding ratios improve more rapidly.

Can my city pay the Full Rate this year and change to the Phase-in Rate in a later year?

Yes. For any year in which your city is eligible to phase in the full retirement rate, TMRS will send you a rate letter showing both the Phase-in Rate and the Full Rate. The Phase-in Rate will be the minimum rate you must pay. As mentioned earlier, a city should consider paying more than the Phase-in Rate.

If my city makes plan changes that increase the cost of our plan (benefit improvements), can we phase in those additional costs?

No. The contribution rate increase due to benefit improvements will not change the Phase-in Amount used in determining the Phase-in Rate. The Phase-in Rate will increase by the same amount as the Full Rate. The Phase-in Rate was intended to assist those cities that needed additional time to budget for the Full Rate. Any city making plan changes should consider paying the Full Rate.

If my city makes changes that decrease the cost of our plan (benefit reductions), will our Phase-in Rate be affected?

Yes. Reductions in the Full Rate because of a plan benefit reduction will change the amount being phased in and the Phase-in Rate beginning with the year the plan changes are effective. The portion of the amount being phased in and not yet recognized will be reduced by the decrease in the Full Rate. If the decrease in the Full Rate due to reductions in plan benefits exceeds the remaining phase-in balance, your required contribution rate will be the reduced Full Rate based on the new plan provisions.

If I make a plan change in 2016, will my 2017 contribution rate be recalculated?

Yes. 2017 contribution rates will be re-determined for cities that adopt changes in plan benefits before the end of calendar year 2016.