Tucson Supplemental Retirement System
Funding Policy

I. Intent and Summary

The Tucson Supplemental Retirement System is a defined benefit pension plan maintained for the benefit of City of Tucson employees. TSRS is governed by provisions of the Tucson City Code, the public pension protections included in the Arizona Constitution, and the Internal Revenue Code. Within that framework, the TSRS Board has adopted a Funding Policy to ensure that TSRS will remain sustainable and to assist in the accumulation of adequate resources to fund the costs of TSRS benefits.

The costs of defined benefit pension benefits generally fall into three categories:

1. The cost of pension benefits earned by employee members each year, referred to as the "normal cost" of benefits;
2. The unfunded liabilities that have accumulated in the retirement program over time, as the retirement program grows and benefit liabilities exceed the assets held in the program; and
3. The administrative costs of operating the retirement program.

These cost elements are funded on an annual basis through a combination of employer contributions, employee contributions and investment returns.

Intent

The intent of the TSRS Funding Policy is to set forth the policies and practices that will be used to determine City and employee member contributions to TSRS each year. Contributions calculated in accordance with the Funding Policy will be designed to achieve full funding of the TSRS benefit liabilities over a prudent time horizon, while balancing the goals of:

- Maintaining retirement benefit security;
- Incorporating experience based actuarial assumptions into all contribution calculations;
- Keeping contribution rates relatively stable on an annual basis; and
- Allocating contribution costs in an equitable manner to mitigate intergenerational transfers of retirement program liabilities.

Summary

It is the goal of the Board to increase the funded status (the ratio of the assets to the accrued liabilities) of TSRS. Under the TSRS Funding Policy, the Actuarially Determined Contributions (as detailed in the annual actuarial valuation report) calculated for the City and the employee members include the payment of:

a. The normal cost of benefits;
b. The annual amortized payment on TSRS' unfunded liabilities, calculated over a 20 year open, level percent of pay amortization policy;
c. The reasonable and appropriate annual administration costs of TSRS; and
d. The additional contribution element attained through the rounding of employee member and City Contribution Rates pursuant to the Board's rounding policy, which is designed to assist with the achievement of the full funding of TSRS over a reasonable timeframe.

II. Funding Policy Goals

The TSRS Funding Policy is designed to provide assurance that the Tucson Supplemental Retirement System ("TSRS") will remain viable and sustainable, and that the cost of the benefits provided by TSRS will be funded in an equitable manner. The TSRS funding policy is based on the following primary principles:

A. The Board intends to encourage the City to extinguish the TSRS unfunded liability within a target timeframe of fiscal year 2025 to 2030. While the Board recognizes that investment markets and returns have a significant impact on the funded status of TSRS and cannot be predicted, the Board intends to use the target timeframe as a tool to measure success in the reduction of the unfunded liability. If and when the TSRS actuarial valuation shows that the unfunded liability will not be extinguished within the target timeframe, the Board will review closely the actuarial assumptions and investment policies to determine if adjustments should be made.

B. The Board will work toward the extinguishment of the unfunded liability by recommending that the City contribution to TSRS exceed the amount that the City is required to appropriate and pay to TSRS pursuant to the Tucson City Code ("TCC"), and the annual City contribution to TSRS be a minimum of 27.5% of payroll.

C. The TSRS Board wishes to demonstrate accountability and transparency by communicating all of the information necessary for assessing the City's progress toward meeting its pension funding objectives.

III. Authority

The Board has been granted the power and authority necessary to effectuate the administration, management and operation of TSRS. TCC §22-44(a). The Board is required to certify to the City Manager the Actuarially Determined Contribution ("ADC"), the Required Member Contribution Rate(s) and the Required City Contribution.[1] TCC §22-35(b). The City is required, pursuant to TCC Section 22-30(t), to appropriate and pay over to TSRS 100% of the Required City Contribution.

IV. Policy:

The Board shall determine the Recommended Member Contribution Rates and the Recommended City Contribution Rates in accordance with all applicable provisions of the TCC and the terms of this Funding Policy as set forth below. The Funding Policy takes into account the following three core elements in the calculation of the recommended annual contributions to TSRS: the Actuarially Determined Contribution, administrative expenses and the Board's rounding policy.

A. **Actuarially Determined Contribution.** The ADC is the annual amount necessary to pay the sum of the employer normal cost, the employee segment normal cost amounts and the amortization

[1] The Actuarially Determined Contribution is referred to in the TCC as the "annual required contribution." The Required City Contribution Rate is referred to in the TCC as the "employer contribution."

requirements for the TSRS unfunded accrued liability, determined on a fiscal year basis by the System's actuary in accordance with the following actuarial assumptions:

1. **Actuarial Cost Method**. The actuarial cost method is the individual entry age normal cost method, level percent of pay. This method conforms to the actuarial standards of practice and allocates normal costs over a period beginning no earlier than the date of employment and does not exceed the last assumed retirement age. This cost method fully funds the long-term costs of the promised benefits of the employees' period of active service.

2. **Asset Valuation Method**. To minimize the volatility effect of contribution rates affected by investment gains or losses during the year, the Board has adopted a smoothing process that involves spreading the difference between actual and expected market returns over a five year period to determine the actuarial value of assets.

3. **Amortization Policy**. The Board has adopted a 20 year open, level percent of pay amortization policy. A single unfunded amount is determined with each actuarial valuation, and that amount is then amortized over a 20 year period, assuming that the contribution amounts will remain level as a percent of the total payroll (so the dollar amount of the contribution is assumed to grow each year). When the 20 year open amortization policy is combined with the Contribution Rounding Policy set forth in Section IV.C. below, the Board's amortization policy is a hybrid approach, designed to fully extinguish the unfunded liability in a similar but more flexible manner than a closed amortization policy. The Board's amortization policy has been in place since July 1, 2013.

B. **Administrative Expenses.** The annual administrative expenses incurred by the System, based on the administrative operating budget approved by the Board in advance of the fiscal year and determined as of the end of the fiscal year, shall be included in the calculation of the Recommended City Contribution Rate in accordance with sound actuarial principles. Administrative expenses paid by the System and included in the calculation of the ADC shall be reasonable and appropriate, and shall include staff salaries and related overhead expenses, actuarial, legal and other professional consulting fees, accounting charges, compliance expenses, and other fees and expenses necessary for the efficient administration of the System. Investment fees and expenses shall not be included in the calculation of the Recommended City Contribution Rate

C. **Contribution Rounding Policy.** The Board's rounding policy is intended to (1) minimize volatility in the Member Contribution rates and the related impact on the net take home pay of employees, (2) eliminate minor adjustments in contribution rates, and (3) recognize the inherent timing gap between actuarial valuation data and the effective date of new contribution rates.

1. **Recommended Member Contribution Rates:** Recommended Member Contribution Rates for members hired prior to July 1, 2006 (the "Legacy Members"), members hired between July 1, 2006 and June 30, 2011 ("Tier I Members"), and members hired on or after July 1, 2011 ("Tier II Members") shall be determined by the System actuary pursuant to TCC Section 22-34. The Legacy Members contribute 5% of pay, and there are no further adjustments to Legacy Member contribution rates; i.e., the Required

Member Contribution Rate and the Recommended Contribution Rate for the Legacy Members are the same.
The Tier I Members and Tier II Members are referred to collectively as the "Variable Contribution Tier Members," and they make Member Contributions equal to a percentage of the normal cost for their particular Tier. The percentage applicable to the Variable Contribution Tier Members currently is set at 50%, but can be changed by the City in accordance with Section 22-34(b) of the TCC. In no event shall the Variable Contribution Tier Members contribute less than 5% of pay as set forth in TCC §22-34(a) and (b).

The Recommended Member Contribution Rates for Variable Contribution Tier Members are subject to the Board's rounding policy. The normal cost for Tier I Member and for Tier II Members are calculated by the System actuary and then multiplied by the applicable Member Contribution Percentage (currently 50%). The result of that calculation is the Recommended Member Contribution Rate required for the Variable Contribution Tier Members under the TCC.

The Board will then review the Required Member Contribution Rates for the Variable Contribution Tier Members and apply the rounding policy. Pursuant to the rounding policy, the Required Member Contribution Rates for the Variable Contribution Tier Members will be rounded up to the nearest 0.25%. The Recommended Member Contribution Rates for Variable Contribution Tier Members shall never be less than the Required Member Contribution Rate for that member group (for that same fiscal year). The Recommended Member Contribution Rates will be recommended by the Board to the City for the upcoming fiscal year.

Examples:

Year 1:	Required Member Contribution for Tier I Member:	6.67% of pay
	Recommended (Rounded) Member Contribution for Tier I Member Contribution:	6.75% of pay
Year 2:	Required Member Contribution for Tier I Member Contribution Rate:	6.48% of pay
	Recommended (Rounded) Member Contribution for Tier I Member Contribution:	6.50% of pay

2. **Recommended City Contribution Rates**: Pursuant to TCC Section 22-30(t), the City is required to fund the Required City Contribution for a particular fiscal year, which equals the difference between the ADC and the Required Member Contribution rate(s). For purposes of determining the Recommended City Contribution Rate that will be recommended by the Board to the City, the System actuary will be asked to prepare the following calculations:

   Because there are three different Required Member Contribution Rates, the System actuary shall calculate a Required City Contribution Rate for each member group (which is the Required City Contribution Rate for each group) and a blended Required City Contribution Rate for the entire member population. In no event shall the blended Required City Contribution Rate for the entire member population be less than the Required City Contribution Rate for any member group.

The Board will then review the blended Required City Contribution Rate and set the Recommended City Contribution Rate for the upcoming fiscal year. The Recommended City Contribution Rate will equal the blended Required City Contribution Rate, rounded up to the nearest 0.50. The Recommended City Contribution Rate shall be rounded up to the nearest 0.50 instead of the nearest 0.25 because the Required City Contribution Rates are based on a blend across the three groups of members. The Recommended City Contribution Rate shall never be less than the Required City Contribution rate for any member group for that same fiscal year.

Example:

Required City Contribution Rates for three member groups:		
	Legacy Members:	27.22% of pay
	Tier I Members:	25.55% of pay
	Tier II Members:	27.08% of pay
Actuarially Calculated Blended City Contribution Rate		26.95%
Recommended (Rounded) City Contribution Rate: (Recommended Rate is not set at 27.0% because that would be less than the Required Rate for two of the member groups)		27.50% of pay

3. **Funded Status of TSRS**: It is the goal of the Board to increase the funded status of TSRS. The Board anticipates that Required Member Contribution Rates and the Required City Contribution Rates may decrease from time to time, based on various actuarial factors. The Board will not decrease its Recommended Member Contribution rates or its Recommended City Contribution Rate until such point as TSRS is fully funded. At that time, the unfunded accrued liability will have been extinguished, and the ADC will represent the payment of the normal cost of benefits only. Moreover, the Board shall decrease the Recommended Member Contribution Rates for the Variable Contribution Tier Members only to the extent that the Recommended Member Contribution Rates for Tier I Members and Tier II Members decrease simultaneously, in the same percentage of pay.

Attachments: TSRS Actuarial Assumptions Addendum to TSRS Code Sec. 22-30(d)
Glossary

Approved by TSRS Board
November 17, 2016

Tucson Supplemental Retirement System
Board of Trustees
Funding Policy

Tucson Supplemental Retirement System ("TSRS")

Addendum to TSRS Code Sec. 22-30(d)

TSRS Actuarial Assumptions

To determine the value of actuarially equivalent member benefits under TSRS, the following actuarial assumptions shall continue to be applied, effective as of July 1, 2016:

Interest Rate:	**7.25%**
Mortality Table:	**Mortality Table: RP-2000 Combined Mortality Table for males and females projected with Scale BB to 2020**

The foregoing actuarial assumptions are adopted in accordance Tucson Code Chapter 22, Section 22-30(d) and are incorporated into this Addendum as required pursuant to Section 401(a)(25) of the Internal Revenue Code of 1986, as amended.

This Addendum hereby is executed by an authorized representative of the Tucson Supplemental Retirement System Board of Trustees, pursuant to action taken at a duly called meeting of the Board held on the 24th day of September, 2015, at which a quorum was present.

By: ____________________
Name: Robert Fleming
TSRS Board of Trustees

Glossary of Terms and Concepts used in TSRS Funding Policy

Actuarial Cost Method: the method used by the actuary to allocate total benefit costs between employees' past and future service. The actuarial cost method determines the normal cost for a year.

Accrued Liability: the present value of retirement benefits earned by employees for past service.

Actuarial Value of Assets: the value of pension assets for purposes of actuarial valuations and funding calculations, which takes into account certain actuarial assumptions such as smoothing investment returns over a stated period.

Actuarially Determined Contribution: the annual contribution to the plan necessary to pay the normal cost and the annual amortization payment on any unfunded accrued liability, which may be less than the annual contribution recommended by the Board after full application of the Funding Policy.

Amortization: the process of paying off the unfunded accrued liability over time. Please refer to Section IV.A.3. of the Funding Policy for an explanation of the hybrid amortization policy used by TSRS.

Closed Amortization: using a specific number of years to determine annual payments intended to extinguish debt and the number of years remaining in the amortization schedule decline to zero.

Open Amortization: using a period of years that does not change over time to determine annual contributions to pay down the unfunded accrued liability. With each annual calculation, the period of years used to determine the payment is reset to the original period; the number of years in the amortization schedule does not decline to zero.

Example: Assume that $1,000,000 in liability is being amortized over 5 years. Following is a simplified illustration of the difference between Open and Closed Amortization Schedules:

	Closed Amortization			Open Amortization		
	Starting Liability	Amortization Payment	Ending Liability	Starting Liability	Amortization Payment	Ending Liability
Year 1	$1,000,000	$200,000	$800,000	$1,000,000	$200,000	$800,000
Year 2	$800,000	$200,000	$600,000	$800,000	$160,000	$640,000
Year 3	$600,000	$200,000	$400,000	$640,000	$128,000	$512,000
Year 4	$400,000	$200,000	$200,000	$512,000	$102,400	$409,600
Year 5	$200,000	$200,000	$0	$409,600	$81,920	$327,680

Contribution Rate: the amount to be contributed to TSRS annually, expressed as percentage of payroll.

Required City Contribution Rate: the City contribution rate calculated by the actuary in accordance with the applicable provisions of the Tucson City Code.

Recommended City Contribution Rate: the City Contribution rate recommended by the Board after the rounding policy has been applied, which may be more than the required rate.

Required Member Contribution Rate: the Member Contribution rate for a particular group of members (Legacy, Tier I or Tier II Members) calculated by the actuary in accordance with the applicable provisions of the Tucson City Code.

Recommended Member Contribution Rate: the Member Contribution rate recommended by the Board for Tier I Members or Tier II Members after the rounding policy has been applied, which may be more than the required rate.

Entry Age Normal Cost Method: the actuarial cost method which produces the normal cost of an employee's retirement benefits as a level percent of pay, beginning at the employee's age when he or she enters the plan and continuing until the employee reaches retirement age.

Full Funding: occurs when the unfunded accrued liability is $0 and the funded ratio is 100%.

Funded Ratio or Funded Status: the ratio of assets available to pay retirement benefits to accrued liability under the plan (liabilities associated with retirement benefits earned by employees).

Legacy Members: Members hired prior to July 1, 2006 and whose Required and Recommended Member Contribution Rate equals 5% of pay.

Level Percent of Pay: calculating plan contributions as a consistent percentage of annual payroll costs each year and assuming that future contributions will increase by the same rate as payroll increases.

Market Value of Assets: the value of pension assets, determined with reference to the value at which the assets would trade or could be sold on an open market.

Member Contribution Percentage: The percent of the Variable Contribution Tier Members normal cost for which the member is to contribute-effective 6/30/2014 that rate is 50%.

Normal Cost: the annual present value or costs for benefits earned by employees during the year.

Smoothing: an actuarial method of spreading out investment gains and losses over a stated period of time, used to average investment returns over the smoothing period and therefore minimize volatility in the calculation of contributions to the plan.

Example: Assume that an investment achieved the following annual returns, and that the investment returns are smoothed over a 5 year period:

Year	Investment Return (parentheses indicate loss)	Annual Amount Recognized in Actuarial Value of Assets (1/5 per year)
2012	($30,000)	($6,000)
2013	$20,000	$4,000
2014	$50,000	$10,000
2015	($20,000)	($4,000)
2016	($30,000)	($6,000)
Total	($10,000)	($2,000)

In the calculation of the actuarial value of the assets for 2016, the market value of the assets will be reduced by a $2,000 investment loss. Without smoothing the investment returns, the market value of the assets would be reduced by a $30,000 investment loss. When the market value of the assets fluctuates widely as a result of investment returns, the contribution obligation to the pension plan also fluctuates widely. Smoothing the investment returns has the effect of stabilizing contribution rates.

Tier I Members: members hired between July 1, 2006 and June 30, 2011.

Tier II Members: members hired on or after July 1, 2011.

Unfunded Accrued Liability: the difference between the assets and the accrued liability.

Variable Contribution Tier Members: TSRS members who are classified as either Tier I Members or Tier II Members and are required to make Member Contributions which may change over time in accordance with TCC Section 22-34.