# CITY OF TUCSON, ARIZONA



# **TUCSON SUPPLEMENTAL RETIREMENT SYSTEM**

A Component of the City of Tucson

# COMPREHENSIVE ANNUAL FINANCIAL REPORT

FISCAL YEAR JULY 1, 2014 - JUNE 30, 2015

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# INTRODUCTORY SECTION



Introductory Section



December 30, 2015

To the Chairman and Members of the Retirement Board, Tucson Supplemental Retirement System

The Comprehensive Annual Financial Report (CAFR) of the Tucson Supplemental Retirement System ("TSRS" or the "System") for the year ended June 30, 2015, is herewith submitted. Responsibility for both the accuracy of the data and the completeness and fairness of the presentation rests with the management of TSRS. A narrative introduction to financial statement highlights, overview and analysis for fiscal year 2015 can be found in the Management's Discussion and Analysis beginning on page 3 of the Financial Section.

The Tucson Supplemental Retirement System was established in 1953 to provide a monthly retirement supplement to social security benefits and to the personal retirement savings of its members. The benefits provided to members are supported by payroll contributions made by active members, City contributions and investment returns from retirement system asset portfolio.

For the third consecutive year, the System's funded status improved, rising from 64.8% to 69.2% for the year ended June 30, 2015. The latest increase is primarily due to asset gains on the smoothed or actuarial value of assets, as well as liability gains due to salary increases coming in less than expected.

The TSRS Board of Trustees (the "Board") has recommended changes during the past several years specifically aimed at improving the financial sustainability of the System. In 2006, the Board initiated variable contribution rates for employees hired after June 30, 2006. In 2011, the Board implemented a reduced cost Tier II plan design for all new employees hired after June 30, 2011. In 2013, the Board adopted a funding policy that changed the amortization period from 15 to 20 years. In 2014, the Board added a rounding policy designed to pay-off the unfunded liability sooner, and reduced the assumed investment rate of return from 7.75% to 7.25%.

Record keeping is the responsibility of the Human Resource Department, Employee Benefits and Retirement Section. Preparation of financial statements and control over investment responsibilities for TSRS are performed by the Accounting and Treasury Divisions of the City's Finance Department. TSRS uses the accrual basis of accounting. This CAFR was prepared in conformance with principles of governmental accounting and reporting set forth by the Governmental Accounting Standards Board (GASB). Internal control is the responsibility of management, with an objective that they are responsible for an accounting of their stewardship of the resources entrusted to their care. Internal accounting controls provide reasonable, but not absolute, assurance that the financial statements are free of any material misstatements because the cost of a control should not exceed the benefits to be derived, the objective is to provide reasonable, rather than absolute assurance the financial statements are free of any material misstatement.

Introductory Section

Annually, the budget for the System must be approved by the Board. The budget is also included in the City of Tucson annual budget which is recommended by the City Manager for adoption by the Mayor and Council.

Provisions of the Tucson City Code require unanimous approval of all System expenses by the Board. Quarterly, the Board reviews the financial report and expenses listing and ratifies all expenses.

Contributions to the System are based on principles of level-cost financing with current service financed as a level percent of payroll on a current basis and prior service amortized as a level percent of payroll over a fixed period of twenty years beginning July 1, 2014.

# **Funding Status**

Analysis of the funding progress for TSRS measures the net assets available for benefits against the actuarial accrued liability, in order to arrive at the System's percent funded ratio. As of June 30, 2015, the System's funded ratio increased from 64.8% to a 69.2% funded level on an actuarial basis. On a market basis, the System's funded ratio slightly decreased from 72.7% to 72.4%. The actuarial accrued liability increased from \$1,012,393,337 to \$1,021,377,564, an increase of .01%. The actuarial value of assets allocated to funding and available for benefits increased by 7.74%, from \$655,997,802 to \$706,773,630. The unfunded actuarial accrued liability decreased by \$41,791,601, or 11.7% in the current year. The System experienced an asset gain of \$50.8 million during fiscal year 2015. Although the market value of assets returned less than 7.25% during the year, there were deferred gains in the actuarial value of assets as of June 30, 2014 which were partially recognized in the June 30, 2015 valuation, creating the observed gain. The changes in accrued actuarial liability are primarily due to salary increases less than expected.

### **Investment Activities**

Net investment income amounted to \$30,802,435. The net investment income or loss is comprised of bond interest, dividend income, real estate income, security lending income, investment expenses and realized and unrealized gains and losses on securities. The rate of return for the total fund for the year was 4.6% (gross of fees). For the last five and ten years, the System had annualized returns of 12.6% and 7.1%, respectively.

TSRS asset allocation targets are 46% U.S. equities, 15% foreign equities, 8% real estate, 26% fixed income and 5% infrastructure. These percentages reflect the current diversification posture as of June 30, 2015 and represent the Board's prudent judgment in the pursuit of maximum returns at acceptable levels of risk.

In accordance with current investment policy, the System's asset classes were rebalanced throughout the fiscal year. Due to ongoing liquidity requirements needed to pay retiree pensions, \$28.4 million was moved out of various asset classes, in monthly increments, to the City's investment pool account. This amount was utilized throughout the fiscal year to make up the shortfall between pension contributions and distributions. This movement of funds had a "self-balancing" effect between equities, fixed income, real estate and infrastructure which helped to keep those asset classes within their current target allocation percentage ranges.

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# **Major Initiatives**

Every five years the System's investment consultant and actuary complete an asset/liability and experience study. These were both completed during the fiscal year ended June 30, 2014, based on data from the June 30, 2013 plan year end. As a result of these studies, a significant reallocation of assets were recommended by the investment consultant and approved in principle by the Board. It is expected that a new investment policy will be approved and implemented during the plan year ended June 30, 2016, which will reduce target allocations to U.S. equities by 12% and increase target allocations to international equities, fixed income and real estate by 10%, 1% and 1%, respectively.

In 2015, the Board recommended to Mayor and Council the inclusion of the administrative expenses in the contribution rate and recommended that the employer rate remain at a minimum of 27.50% until the System reaches full funding. These recommendations will be reviewed by Mayor and Council in January 2016, during the fiscal year 2017 budget development process.

Similar to previous years, tight budgets continue to be the norm, restricting the number of employees hired since 2008, thereby reducing the number of employees hired to replace those from attrition. It is anticipated that the City will explore retirement incentives during fiscal year 2016, as part of the budget development process for fiscal year 2017.

#### **Professional Services**

The Retirement Board retains money managers and other professionals to prudently discharge its fiduciary responsibility for the proper administration of the System. Opinions of the independent auditors and the actuary are included in this report. The professionals retained by the Board are listed on page vii of this report.

# **Acknowledgments**

This report is intended to provide information as a means for making management decisions, complying with statutory provisions, and demonstrating responsible stewardship for assets of the System. The preparation of this report reflects the combined efforts of TSRS staff, the City of Tucson Finance Department, and others that have worked diligently to assure the successful operation of TSRS. Special words of appreciation are due to: Silvia Navarro, Treasury Administrator, Allan Bentkowski, CPA, Finance Manager, Art Cuaron, Finance Manager, Dennis Woodrich, Lead Pension Analyst, Bob Szelewski, Management Analyst, Dawn Davis, Administrative Assistant, Shane Oman, Accounting Administrator, Aaron Williams, Finance Manager and David Roels, Principal Accountant. The direction and support extended by the Board of Trustees is also greatly appreciated.

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Tucson Supplemental Retirement System for its comprehensive annual financial report for the fiscal year ended June 30, 2014. This was the 19<sup>th</sup> consecutive year that the Tucson Supplemental Retirement System has achieved this prestigious award. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

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A Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

Respectfully submitted,

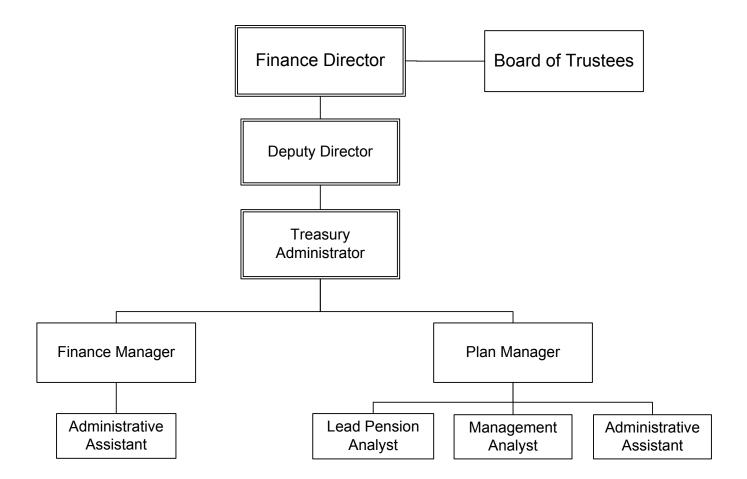
Silvia Amparano, CPA

Finance Director

**Tucson Supplemental Retirement System** 

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# **Organization Chart**



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# **Administrative Organization**

**BOARD OF TRUSTEES** 

Robert Fleming Chairman

**Kevin Larson** 

City Manager's Appointee

Silvia Amparano Finance Director

Curry Hale

**Human Resources Director** 

Jorge Hernández

**Employee Representative** 

Michael Coffey

**Employee Representative** 

John O'Hare

Retiree Representative

FINANCE DEPARTMENT

Karen Tenace, Deputy Director

TREASURY DIVISION STAFF

Silvia Navarro

Treasury Administrator

Allan Bentkowski, CPA Finance Manager

Deborah Gagnier-Campbell Administrative Assistant

**RETIREMENT STAFF** 

Michael A. Hermanson, CPA

Plan Administrator

Dennis Woodrich Lead Pension Analyst

Bob Szelewski

Management Analyst

Dawn Davis

Administrative Assistant

**ACCOUNTING** 

**David Roels** 

**Principal Accountant** 

**LEGAL** 

David Deibel

Principal Assistant City Attorney

**External Counsel** 

Yoder & Langford, P.C.

Phoenix, AZ

**ACTUARY** 

Gabriel, Roeder, Smith & Company

Denver, CO

**AUDITOR** 

CliftonLarsonAllen LLP

Tucson, AZ

**INVESTMENT MANAGERS** 

Aberdeen Asset Management

Philadelphia, PA

Alliance Capital Management Corporation

New York, NY

BlackRock Institutional Trust Company, N.A.

San Francisco, CA

Causeway Capital Management

Los Angeles, CA

Pyramis Global Advisors

Smithfield, RI

JP Morgan Asset Management

San Francisco, CA

LaSalle Investment Management

Chicago, IL

Pacific Investment Management Company

Newport Beach, CA

**Champlain Investment Partners** 

Burlington, VT

Macquarie Capital (USA), Inc.

New York, NY

SteelRiver Infrastructure

New York, NY

T. Rowe Price Associates

Baltimore, MD

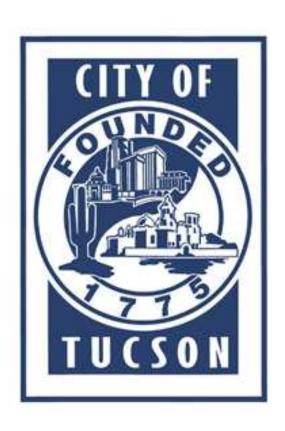
**INVESTMENT CONSULTANT** 

Callan Associates, Inc. San Francisco. CA

**CUSTODIAN BANK** 

BNY Mellon - New York, NY

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# FINANCIAL SECTION



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#### INDEPENDENT AUDITORS' REPORT

The Board of Trustees Tucson Supplemental Retirement System Tucson, Arizona

#### Report on the Financial Statements

We have audited the accompanying statement of fiduciary net position of Tucson Supplemental Retirement System (the System), as of June 30, 2015 and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

#### Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

#### Auditors' Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

### Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Tucson Supplemental Retirement System as of June 30, 2015, and the changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.



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Board of Trustees Tucson Supplemental Retirement System

#### Other Matters

#### Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3-7 and the required supplementary information on pages 25-28 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

#### Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Tucson Supplemental Retirement System's basic financial statements. The supporting schedules of administrative expenses and investment services expense on page 29 are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The supporting schedules of administrative expenses and investment services expense are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supporting schedules of administrative expenses and investment services expense are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory section, the investment section, the actuarial section, and the statistical section have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

#### Other Reporting Required by Government Auditing Standards

In accordance with Government Auditing Standards, we have also issued our report dated December 30, 2015, on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the result of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards in considering the System's internal control over financial reporting and compliance.

Tucson, Arizona December 30, 2015

Clifton Larson Allan LLP

# MANAGEMENT'S DISCUSSION AND ANALYSIS

We are pleased to provide this overview and analysis of the financial activities of the Tucson Supplemental Retirement System (TSRS) for the plan year ended June 30, 2015. We encourage readers to consider the information presented here in conjunction with additional information that we have furnished in our Letter of Transmittal, which begins on page ii of this report.

### Financial Highlights

- The net position of TSRS as of the close of the plan year ended June 30, 2015 was \$739,793,547 (net position held in Trust for Pension Benefits). The net position is available to meet TSRS's ongoing obligations to plan participants and their beneficiaries.
- TSRS's increase in total net position held in trust for pension benefits was \$4,057,047, a slight increase of .6% over the prior year.
- TSRS's funding objective is to establish and receive contributions, which will remain approximately level from year to year and thereby minimize inter-generational cost transfers. As of June 30, 2015, the date of our last actuarial valuation, the funded ratio for TSRS was 69.2% on an actuarial basis, 72.4% using the market value basis.
- Revenues (Additions to Plan Net Position) for the year were \$72,319,803, which includes
  member and employer contributions plus transfers from other systems and contributions
  from other sources totaling \$41,538,151, investment earnings income and securities
  lending income and expense of \$12,427,745 and a net gain in fair value of investments of
  \$22,467,139 reduced by investment expenses of \$4,092,449.
- Expenses (Deductions from Plan Net Position) increased from \$66,737,752 in the prior year to \$68,262,756 or approximately 2.2%. The net increase in deductions resulted from an increase in pension benefits paid of \$1,739,384, offset by a net decrease in refunds and transfers of \$129,046 and a decrease in administrative expenses of \$85,334.

# Overview of the Financial Statements

The following discussion and analysis is intended to serve as an introduction to TSRS's financial statements, which are comprised of these components:

- 1. Statement of Fiduciary Net Position
- 2. Statement of Changes in Fiduciary Net Position
- Notes to the Financial Statements

Please note that this report also contains other supplementary information in addition to the basic financial statements themselves, including details of the system's investments, actuarial analysis, and various statistical information found in sections under those names.

The Statement of Fiduciary Net Position is a snapshot of account balances at year-end. It indicates the assets available for future payments to retirees and any current liabilities that are owed at this time.

The Statement of Changes in Fiduciary Net Position, on the other hand, provides a view of current year additions to and deductions from the plan.

Both statements comply with applicable Governmental Accounting Standards Board (GASB) Statements. These pronouncements require certain disclosures and require state and local governments to report using the full accrual method of accounting. TSRS complies with all material requirements of these pronouncements.

The Statement of Fiduciary Net Position and the Statement of Changes in Fiduciary Net Position report information about TSRS's activities. These statements include all assets, deferred outflows, liabilities and deferred inflows, using the full accrual basis of accounting, which is similar to the accounting used by most private-sector companies. All of the current year's revenues and expenses were taken into account regardless of when cash is received or paid. All investment gains and losses are shown at trade date, not settlement date. In addition, both realized and unrealized gains and losses are shown on investments, and all capital assets (fixed assets) are depreciated over their useful lives.

These two statements report TSRS's net position held in trust for pension benefits (net position) – the difference between assets and liabilities – measures the system's financial position. Over time, increases and decreases in TSRS's net position is one indicator of whether its financial condition is improving or deteriorating. (See TSRS's financial statements on pages 8 and 9 of this report).

Notes to the Financial Statements provide additional information that is essential to a full understanding of the data provided in the financial statements. (See Notes to Financial Statements on pages 10-24 of this report).

The Required Supplementary Information that follows immediately after the notes to financial statements provides new information and schedules due to the GASB 67 implementation in fiscal year 2014. These schedules will start with one year as of June 30, 2014, but eventually will need to build up to ten years of information.

# Financial Analysis

As previously noted, net position may serve over time as a useful indication of TSRS's financial position (see table on page 5). The total assets of TSRS exceeded its liabilities at the close of the plan year ended June 30, 2015 with \$739,793,547 in net position held in trust for payment of ongoing obligations to plan participants and their beneficiaries.

### Net Position of the Plan

Assets	6/30/15	6/30/14	% change
Cash, Cash Equivalents and Receivables	6,759,380	6,040,327	11.9%
Investments	735,578,360	731,839,755	0.5%
Securities Lending Cash Collateral	19,876,248	13,985,775	42.1%
Total Assets	\$ 762,213,988	\$ 751,865,857	1.4%
Liabilities			
Accounts Payable and Other Payables	400,538	518,017	-22.7%
Due to Securities Lending Borrowers	19,876,248	13,985,775	42.1%
Due to Brokers	2,143,655	1,625,565	31.9%
Total Liabilities	\$ 22,420,441	\$ 16,129,357	39.0%
Total Net Position	\$ 739,793,547	\$ 735,736,500	0.6%

At June 30, 2015, the Total Net Position of Assets held in the Trust of \$739,793,547 was available for payment of pension benefits, as shown in the Statement of Plan Position on page 8. This amount represents an increase of .6% from June 30, 2014.

## Additions to Plan Net Position

	Additions to Net Assets - TSRS			
		6/30/15	6/30/14	% change
Employer Contributions		33,985,523	34,189,288	-0.6%
Employee Contributions		6,512,180	6,636,833	-1.9%
Purchase of Service Credit		1,019,665	701,711	45.3%
Net gain (loss) in Fair Value of Investments		22,467,139	111,063,362	-79.8%
Investment and securities lending income (net)		8,335,296	8,836,868	-5.7%
Total Additions	\$	72.319.803	\$ 161.428.062	-55.2%

Employer contributions decreased by \$203,765; or .60%, and employee contributions decreased by \$124,653, or 1.9%. A total of \$1,019,665 was received from employees purchasing service credits, which was \$317,954 more than the prior fiscal year or 45.3% higher. There were no transfers into the Plan from other systems during this fiscal year. Net gain in Fair Value of Investments decreased by \$88,596,223, or 79.8% over the prior year; and income from investment and securities lending decreased for the current year by \$501,572 or 5.7%, resulting primarily from lower dividends and interest income received during the fiscal year.

## Deductions from Plan Net Position

The principal purpose for which the System was created was to provide supplemental retirement annuities, survivor benefits, and total and permanent disability benefits to qualified members and their beneficiaries. The costs of such programs include recurring benefit payments as required by the plan design, refunds of contributions to terminated employees, the cost of administering the System and expenses incurred in the investment of the Systems assets.

Total deductions for fiscal year 2015 were \$68,262,756 representing an increase of 2.3% from fiscal year 2014 expenses. The largest contributors to the increase in deductions for this year were attributed to new retirements, which increased the amount of retirement benefit payments paid by \$1,739,384. Additional deductions were transfers to other systems in the amount of \$141,708 and member contribution refunds in the amount of \$2,254,185.

## Deductions from Plan Net Position

	06/30/15	06/30/14	% change
Retirement Benefits	65,216,458	63,477,074	2.7%
Refund of Contributions	2,254,185	2,084,024	8.2%
Transfers to Other Retirement Plans	141,708	440,915	-67.9%
Administrative Expenses	650,405	735,739	-11.6%
Total Deductions	\$ 68,262,756	\$ 66,737,752	2.3%
Net Increase/(Decrease) in Plan Position	\$ 4,057,047	\$ 94,690,310	-95.7%

# <u>Reserves</u>

Within net position, the System internally places an amount into a separate Reserve for Employee Contributions for all amounts contributed by members. Deductions are made from this account when the member retires, transfers balances to other retirement systems, or when a member terminates employment and requests a refund. As of the plan year ended June 30, 2015, the balance in this reserve account increased by \$1,230,044 to \$143,648,835.

Upon retirement, the system places an amount in Reserves for Retirement Benefits equivalent to the present value of the actuarial benefit selected by the member. When the present value is determined, amounts are added to this reserve from amounts in the Reserve for Employee Contributions and from the Unreserved Net Position balance to fully fund the expected liability. As a result of the change in market value of the system assets, the reserve increased for the plan year ended June 30, 2015 by \$13,480,373 to \$661,292,061.

The impact of gains or losses recognized during the plan year ended June 30, 2015 affects the amount remaining in the Unreserved Net Position. Employer funding is added to the Unreserved Net Position balance. At retirement, amounts needed to fully fund retirement benefits are transferred from the Unreserved Net Position to the Reserves for Retirement Benefits. As a result of the change in market values of the system's assets, the Unreserved Net Position increased by \$4,057,047 to a negative ending balance of \$65,147,349.

#### TSRS's Fiduciary Responsibilities

TSRS's Board of Trustees and management staff are fiduciaries of the pension trust fund. Under the City of Tucson Code the assets can only be used for the exclusive benefit of plan participants and their beneficiaries.

# Requests for Information

This financial report is designed to provide the Retirement Board of Trustees, our membership, taxpayers, investment managers and other interested parties with a general overview of TSRS's finances and to account for the money it receives. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to:

Tucson Supplemental Retirement System Attention: TSRS Plan Administrator City Hall, 5<sup>th</sup> floor – Finance Administration Office 255 West Alameda Street Tucson, Arizona 85701 (520) 791-4598

# Tucson Supplemental Retirement System Statement of Fiduciary Net Position June 30, 2015

	P	ension Trust
<u>ASSETS</u>		
Cash and Cash Equivalents	\$	2,567,105
Employer Contributions Receivable		1,281,772
Employee Contributions Receivable		255,796
Interest & Dividends Receivable		1,707,713
Due from Brokers		946,994
Short Term Investments		8,958,665
Securities Lending Cash Collateral		19,876,248
U.S. Treasuries, Agencies & Other Governmental Bonds		62,887,490
Bonds and Preferred Stock		55,247,455
U.S. Equity		372,249,062
International Bonds & Other Fixed Income Instruments		39,885,129
International Equity & Comingled Equity Funds		97,369,073
Real Estate & Comingled Real Estate Funds		58,761,226
Infrastructure Investment Funds		40,220,260
Total assets		762,213,988
LIABILITIES		
Accounts Payable		384,773
Accrued Payroll Liabilities		15,459
Due to Securities Borrowers		19,876,248
Due to Brokers		2,143,655
Refundable Deposits		306
Total liabilities		22,420,441
NET POSITION		
Held in Trust for Pension Benefits	\$	739,793,547

**See Accompanying Notes to Financial Statements** 

# Tucson Supplemental Retirement System Statement of Changes in Fiduciary Net Position Year Ended June 30, 2015

	 Pension Trust
Additions:	
Employer Contributions	\$ 33,985,523
Employee Contributions	7,531,845
Net Increase in Fair Value of Investment	22,467,139
Interest, Dividends and Other Income	12,309,498
Securities Lending Income	163,140
Less: Investment Activity Expense	(4,092,449)
Less: Securities Lending Expense	(65,676)
Miscellaneous Additions	20,783
Total additions	 72,319,803
Deductions: Payments to Participants Refunds and Transfers to Other Plans	65,216,458 2,395,893
Administrative Expense	650,405
Total deductions	68,262,756
Changes in net position	 4,057,047
Net position, beginning of year	735,736,500
Net position, end of year	\$ 739,793,547

**See Accompanying Notes to Financial Statements** 

# Tucson Supplemental Retirement System Notes to Financial Statements Year Ended June 30, 2015

# 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND DISCUSSION OF PLAN NET POSITION

- **A. Reporting Entity** Due to the extent of the System's financial and operational relationship with the City of Tucson, the System is considered a component unit of the City's financial reporting entity and is included in its Comprehensive Annual Financial Report as a pension trust fund.
- **B.** Basis of Accounting The System's financial statements are prepared using the accrual basis of accounting and economic resources measurement focus. Employee and employer contributions are recognized when due, pursuant to formal commitments. Benefits and refunds are recognized when due and payable in accordance with the plan provisions.
- **C.** Investments Investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. The fair value of real estate investments is based on independent appraisals. Investments that do not have an established market are reported at estimated fair value, which is determined by the System custodian in consultation with the System's investment managers.

The cost of common stock sold is determined on the average cost method. Realized and unrealized gains or losses are reflected in revenues.

- **D. Deposits** In accordance with the City Charter and state statutes, the System is authorized to deposit money in certificates of deposit and interest-bearing accounts provided that deposits in excess of the insured amount are collateralized. State statutes require collateral pledged for deposits to be held in the System's name by a bank other than the pledging bank or by the pledging bank's trust department.
- **E.** Capital Assets Capital assets of the System currently include moveable equipment items and the capitalized cost of pension administration software, stated at historical cost net of accumulated depreciation. The straight-line method of depreciation for capitalized equipment and software is used over an estimated useful life of 6 years. The capitalization threshold is \$5,000. The capital assets were fully depreciated as of June 30, 2015.
- **F.** Benefit Changes The TSRS Board of Trustees shall determine, pursuant to its formal policy and in its discretion whether the System shall fund an annual supplemental post-retirement benefit payment to retired members and beneficiaries.
- **G.** Administrative Costs All costs of administering the plan are financed by the employer and member contributions made, based upon recommended contribution rates in effect for the year, applied on active member covered payroll.

**H. Net Pension Liability** – The components of the net pension liability as of June 30, 2015 are as follows:

Total Pension Liability	\$ 1,021,377,564
Plan's Fiduciary Net Position	<u>739,793,547</u>
Net Pension Liability	281,584,017
<ul> <li>Plan Fiduciary Net Position as a Percentage</li> </ul>	
of Total Pension Liability	72.43%
Covered Employee Payroll	\$ 123,414,560
<ul> <li>Net Pension Liability as a Percentage of</li> </ul>	
Covered Employee Payroll	228.16%

 Tax Status of the Plan – The System applied for an IRS determination letter in November 2008, and received a favorable determination (qualified status) from the IRS July 19, 2012.

#### 2. DESCRIPTION OF THE PLAN

- **A.** Authorization, Purpose, and Administration of the System The Tucson Supplemental Retirement System (the "System" or "TSRS") is a single-employer defined benefit plan for City of Tucson ("City") employees. It was established in the City Charter to provide its members with a supplement to the retirement and disability benefits of the social security system. The System is governed by a seven member Board of Trustees: a chairman who is appointed by the Mayor and Council, the City's directors of human resources and of finance, two members elected by the membership of the System, a retired member elected by the System's retirees, and one member appointed by the City Manager. Benefit provisions and changes in benefits or funding are recommended by the Board of Trustees and must be approved by Mayor and Council.
- **B.** *Plan Membership* The System covers substantially all City of Tucson, Arizona, employees, except for appointed officials and staff who may elect not to join, commissioned police and fire personnel, and elected officials, who are covered under other plans. Employees participate in the System immediately upon beginning employment with the City. Employee membership data as of June 30, 2015 is as follows:

Membership – number of:	
Retirees and Beneficiaries	2,809
Inactive, Non-retired Members (44 non vested)	328
Active plan participants	<u>2,665</u>
Total Membership	5,802

#### C. Plan Benefits

#### 1. Retirement Benefits

- Tier I benefit plan: Any employee hired prior to July 1, 2011, who has attained the earlier of age 62, or a combination of the employee's age and years of creditable service equaling the sum of 80, is entitled to receive monthly retirement benefits calculated at 2.25% of average final monthly compensation multiplied by the number of years of creditable service. Employees hired after July 1, 2009 receive the same benefit, but are required to have a minimum of five years accrued service. Average final monthly compensation is defined as the highest compensation of 36 consecutive months during the 120 months immediately preceding retirement. Accrued unused sick leave and vacation leave at the final salary is included in the member's service period and is substituted for an equal number of hours at the beginning of the 36 month period for determining the average final salary calculation.
- Tier II benefit plan: Any employee hired after June 30, 2011, who has attained the minimum retirement age of age 60, and who also has a combination of employee age and years of service equaling the sum of 85, is entitled to receive monthly retirement benefits calculated at 2.00% of average final monthly compensation multiplied by the number of years of creditable service. Average final monthly compensation is defined as the highest compensation of 60 consecutive months during the 120 months immediately preceding retirement. Accrued unused sick leave and vacation leave at the final salary is not included for member service credits or as a substitution for an equal number of hours at the beginning of the 60 month period final average salary calculation.

An employee who retires after attaining age 55 with 20 or more years of creditable service under Tier I; or after attaining age 60 with 20 or more years of credited service under Tier II, is entitled to early retirement benefits reduced to the actuarial equivalent of the amount to which the employee would have been entitled upon attaining normal retirement.

An employee is always fully vested in his/her individual contributions. Upon termination of employment for reasons other than retirement, employees having five or more years of creditable service (terminated vested participants) may leave their contributions in the System as a deferred retirement, and begin drawing a retirement allowance when they reach either their normal or early retirement eligibility date.

- 2. Disability Benefits Employees with ten or more years of accrued service, who are not yet eligible to retire and who have a total and permanent disability may apply for disability retirement.
- 3. Death Benefits The beneficiary of an employee who pre-selected a retirement option and died while eligible to retire, shall receive a benefit based upon the selected option if the member has made such an election by June 30, 2009.

The spousal beneficiary of an employee who died while eligible to receive benefits but who had not pre-selected a benefit option by June 30, 2009, may choose to receive a benefit equal to a 100% joint and survivor annuity based on the member's years of credited service and average final monthly compensation at the time of the member's death, or may elect to receive a lump sum payment of twice the members account balance plus interest, measured on the date of death.

The named beneficiary of an employee who is other than the spouse of the employee who died while eligible to receive benefits but who had not pre-selected a benefit option by June 30, 2009, may choose to receive a benefit equal to a 15 year term certain benefit to the named beneficiary, or the beneficiary may elect to receive a lump sum payment of twice the members account balance plus interest, measured on the date of death.

Multiple designated beneficiaries of an employee who died while eligible to receive benefits but who had not pre-selected a benefit option by June 30, 2009, receive a lump sum payment of twice the member's account balance plus interest, measured on the date of death.

The beneficiary of an employee who was not eligible for any retirement benefits, but had more than five years of creditable service, may receive a lump sum payment of twice the member account balance plus interest, measured on the date of death.

#### 3. CONTRIBUTIONS AND RESERVES

### A. Funding Requirements

1. Employee Contributions - Employee contributions are 5% of active member covered payroll for employees hired prior to July 1, 2006. Employees hired after June 30, 2006 are contributing an amount equal to 40% of the actuarially required contribution rate determined annually by the system Actuary. For the fiscal year ended June 30, 2015, the employee blended contribution rate was 5.17%. All member contributions are made by payroll deductions applied to regular pay, based on the approved contribution rates established by the system Actuary, applied as a percent of payroll.

Effective July 1, 2013, the funding policy changed for employees hired after June 30, 2006; requiring a contribution rate that is equal to a range of between 50% and 100% of the normal cost of the members benefit Tier. For Tier I members (hired between July 1, 2006 and June 30, 2011), the contribution rate for fiscal year 2015 was 6.75%. For Tier II members (hired after July 1, 2011), the contribution rate for fiscal year 2015 was 5.25%. A reserve is established for contributions and earnings allocations, less amounts transferred to the reserve for retirement benefits which includes retirement and disability and amounts reserved for terminated employees. If an employee leaves covered employment before attaining five years service credit, the accumulated contributions plus interest are refunded to the employee or his designated beneficiary. There are no long-term contracts for employee contributions to the plan, and all contributions are made on a bi-weekly basis.

2. Employer Contributions – Employer contributions are based on the annual required contribution rate determined by the Actuary, and are equal to the difference between the recommended total contribution rate and the employee rates, based on a level percentage of payroll method. The contribution rate is determined by the actuary at a level necessary to finance employee participation in the System and to fund the costs of administering the System. The annual rate determined by the Actuary is recommended to the Board of Trustees and considered for approval and adoption by Mayor and Council. There are no long-term contracts for employer contributions to the plan, and all contributions are made on a bi-weekly basis.

#### B. Net Position

Two general types of net position reserves are maintained within the System. The Reserve for Employee Contributions contains the employee contributions for all contributing members of the System, plus allocated interest earnings. At the time an employee retires or defers retirement, the actuarial value of the individual's retirement benefits is transferred to the Reserve for Retirement Benefits, which is decreased by payments to retirees and increased by interest earnings. The reserves are fully funded.

Earnings of the System are allocated semi-annually (at June 30 and December 31) to the reserves which comprise net position. For the year ended June 30, 2015, allocations were based on rates of return of 6.00% per annum. Any unallocated earnings remain in unreserved net position.

The net position at June 30, 2015, consisted of the following components:

Reserved for employee contributions	\$	143,648,835
Reserved for retirement benefits		661,292,061
Unreserved net position (deficit)	_	(65,147,349)
Net Position	\$	739,793,547

#### 4. INVESTMENTS

The System is governed by a Board of Trustees. The Board of Trustees is required by City Code, in making investment decisions, to exercise the judgment and care under the circumstances then prevailing which persons of ordinary prudence, discretion and intelligence exercise in management of their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income there from, as well as the probable safety of the capital. Investments of the System are held and managed by investment professionals separately from those of other City funds. Quoted market prices have been used to value investments as of June 30, 2015.

For those investments that do not have established market exchanges, the fair value is estimated as objectively as possible by third party appraisals. Real Estate and Infrastructure investment managers utilize third party appraisals to determine fair value of assets under investment. Infrastructure investments pertain to forms of "real" property used for general public purposes that typically involve partnerships between governmental and private entities. Examples of infrastructure investments are toll roads, bridges, pipelines, airports, shipping ports, etc. The System currently participates in two pooled infrastructure funds as well as three real estate funds.

The System's investments at June 30, 2015 are listed below. These investments are either held by the System or its agent in the System's name and are insured, registered or collateralized. A portion of these investments is subject to credit risk (including custodial credit risk and concentrations of credit risk), interest rate risk and/or foreign currency risk. The Government Accounting Standards Board (GASB) Statement 40 requires the System to disclose such risks which are all discussed in the sections that follow.

All System investments are reflected in the following schedule with the exception of amounts held in the City's investment pool account and certain deposits of \$111,680. The City maintains an investment pool account for City funds. Bi-weekly contributions for the Tucson Supplemental Retirement System are held in the City's investment pool account and are used to pay recurring expenditures. The \$2,567,105 cash balance in the investment pool account, as well as, current deposits to the City's investment pool account are invested in money market funds consisting of U.S. Treasuries and Agencies and separately held issues of federal agency and U.S. corporate bonds with ratings no lower than A2 as reported by Moody's.

Investments	Fair Value
U.S. Issues not on Securities Loan:	
U.S. Treasuries, Agencies & Other Governmental Bonds	\$ 62,587,503
Corporate Bonds & Other Fixed Income Instruments	49,826,076
U.S. Equity & Commingled Equity Funds	359,633,881
Non-U.S. Issues not on Securities Loan:	
International Bonds & Other Fixed Income Instruments	39,885,129
International Equity & Commingled Equity Funds	96,492,560
Subtotal	608,425,149
Investments Held by Preker Deglers Under	
Investments Held by Broker-Dealers Under Securities Loans with Cash Collateral:	
U.S. Treasuries, Agencies & Other Governmental Bonds	299,987
U.S. Corporate Bonds & Other Fixed Income Instruments	5,421,379
U.S. Equity	12,615,181
International Equity	876,513
Subtotal	19,213,060
Subtotal	19,213,000
Securities Lending Short-Term Collateral Investment Pool	19,876,248
Money Market Funds/Short-Term Investments	8,846,986
Real Estate & Commingled Real Estate Funds	58,761,226
Infrastructure Investment Funds	40,220,260
Subtotal	127,704,720
Total Deposits and Investments	\$ 755,342,929

Investment Policy – TSRS Investment Policy and asset class allocations are established by the TSRS Board of Trustees and may be amended by majority vote of its members. The TSRS Board establishes investment policies to pursue an investment strategy that reduces risk through prudent diversification of the portfolio across a broad selection of distinct asset classes.

Long-term Expected Return on Plan Assets - Expected rates of return are determined using a building-block method in which best-estimated ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return were adopted by the Plan's trustees after considering input from the Plan's investment consultant and actuary. For each major asset class that is included in the Plan's adopted target asset allocation as of June 30, 2015, these best estimates are summarized in the table shown on the following page:

Long term expected return on Plan Assets:

Asset Class	Target Allocation	Expected Arithmetic Returns
Large Cap U.S. Equities	36%	8.90%
Small/Mid Cap U.S. Equities	10%	10.15%
International Equities	15%	9.25%
Fixed Income	26%	3.05%
Real Estate	8%	7.35%
Infrastructure	5%	8.90%
Total	100%	
Weighted Average Arithmetic Returns, in proportion to asset allocation		7.43%

Concentrations – TSRS did not hold investments (other than those explicitly guaranteed by the U.S. Government) in any one organization that represents 5 percent or more of the Plan's fiduciary net position at June 30, 2015.

Rate of Return – For the year ended June 30, 2015, the annual money-weighted rate of return on the Plan's investments, net of pension plan investment expenses, was 4.17%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

# Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

Below is a table providing the sensitivity of the net pension liability to changes in the discount rate. In particular, the table presents the plan's net pension liability, if it were calculated using a single discount rate that is 1 percentage-point lower or 1 percentage-point higher than the single discount rate:

Current Single Discount						
1% Decrease	Rate Assumption	1% Increase				
6.25%	7.25%	8.25%				
\$ 387,785,524	\$ 281,584,017	\$ 192,147,703				

Credit Risk – As defined by GASB Statement 40, credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Associated with credit risk is concentration of credit risk and custodial credit risk. Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. Custodial credit risk for deposits and investments is the risk that, in the event of the failure of a depository financial institution or the counterparty to a transaction, a government will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party.

The System presently maintains two externally managed fixed income (bond) accounts which are exposed to some form of credit risk. The assets in the first account are actively managed while the assets in the second account are invested in a commingled bond index fund (passively managed).

The TSRS Board has given the actively managed account manager discretion to invest in a broad array of public and private asset classes, instruments and investment vehicles in order to meet or exceed the agreed upon investment return custom benchmark. However, the following specific investment policy guidelines pertain to this manager:

- The maximum position in a single issuer (excluding obligations of U.S. Government and its Agencies) should not exceed 5% of the portfolio's assets at current market value
- The portfolio should maintain an average quality of at least "BB+"
- Money market instruments must be rated in one of the two highest categories by a nationally recognized rating agency
- The minimum rating of individual issues should be CCC (based on market value) as rated by Moody's, Standard & Poor's or Fitch

The passive fund is expected to replicate, as close as possible, the characteristics, quality and performance of its underlying index, the BC Aggregate Bond Index.

The System currently does not have a policy regarding custodial credit risk for deposits or investments as defined in the Credit Risk section above.

The System had the following credit risk structure as of June 30, 2015:

Investment Type	Holdings	Average Credit Rating (1)		air Value	Percent of Total	
Cash and Cash Equivalents:	Tioldings	- Nating (1)	i all value		TOtal	
Cash & Short Term Investment Funds	-	٨٥٥	æ	0 450 044		
	5	Aaa	\$	8,452,241	E 000/	
Subtotal	5			8,452,241	5.08%	
U.S. Agency & Other Governmental Obligations:						
Municipal Bonds	3	В3		1,438,453		
BlackRock U.S. Debt Fund	1	Aa2		61,449,036		
Subtotal	4			62,887,489	37.78%	
U.S. Corporate Bonds & Other Fixed Income Instruments:						
Asset Backed Securities	3	Baa2		433,450		
Collateralized Mortgage Obligations	5	Baa2		713,539		
Fixed Income Swaps & Options	64	Baa2		(1,001,520) (2	2)	
Futures	2	Aaa		(101,408) <b>(</b> 2	2)	
Banking & Finance	14	Ba2		5,046,023		
Health Care	2	Ba2		1,104,750		
Oil, Gas & Chemicals	15	Ba2		2,562,601		
Communications	3	Baa2		809,664		
Utilities	9	BBB+		3,476,253		
Other Corporate Issues	36	BBB+		13,340,637		
PIMCO Private Mortgage Sector Fund	9	Baa2		28,863,466		
Subtotal	162			55,247,455	33.19%	
International Bonds & Other Fixed Income Instruments:	180	Ba1		39,885,129	23.95%	
TOTAL	351		\$	166,472,314	100%	

## Footnotes

<sup>(1)</sup> Per Moody's Investors Service, Inc. (Moody's)

<sup>(2)</sup> A negative value in any of the instruments noted above is the result of netting long and short positions against each other. This strategy is utilized as a means to mitigate interest rate risk from holding long positions in mortgages and / or corporate bonds.

Interest Rate Risk – As defined by the Government Accounting Standards Board (GASB) in Statement 40, interest rate risk is the risk that changes in interest rates will adversely affect the fair value of investments. For fixed income securities, there is an inverse relationship between the change in interest rates and their fair value. For example, in a rising interest rate environment the value of fixed income securities will tend to fall by varying degrees depending on the length of their maturities. In general, the value of fixed income securities with a longer duration will tend to decrease more than shorter duration securities in a rising interest rate environment.

The System's investment policy regarding interest rate risk for the actively managed fixed income account, is to limit duration to within 30% of the custom benchmark which is defined as 25% BC Mortgage Index, 25% BC Credit Index, 25% BC High Yield Index and 25% JPM EMBI Global Index. The passive fund should match, as close as possible, the maturity structure and duration of the BC Aggregate Bond Index.

The System had the following maturity structure as of June 30, 2015:

# Maturity Structure Investment Maturities (in Years)

Investment Type	Les	ss Than 1	1 - 5		6 - 10		More Than 10		Fair Value	
Cash & Short Term Investment Fund	\$	8,452,241	\$	-	\$	-	\$	-	\$	8,452,241
U.S. Agency & Other Governmental Obligations		-		-		-		1,438,453		1,438,453
BlackRock U.S. Debt Fund		-		-		61,449,036		-		61,449,036
U.S. Corporate & Other Fixed Income Instruments		1,587,259		37,955,112		6,552,303		9,152,781		55,247,455
International Bonds & Other Fixed Income Instruments		142,091		16,414,650		11,183,394		12,144,994		39,885,129
TOTAL	\$	10,181,591	\$	54,369,762	\$	79,184,733	\$	22,736,228	\$	166,472,314

Effective Duration:

Active Account 4.9 years
Passive Account 5.23 years

Note: The information indicated has been presented using the specific identification method

**Foreign Currency Risk** – As defined by the Governmental Accounting Standards Board (GASB) in Statement 40, foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit.

The TSRS Board has given the System's international equity managers discretion to invest in a broad array of common and preferred stocks, convertibles and warrants of companies headquartered outside of the United States in order to meet or exceed their agreed upon investment return benchmarks. However, the following specific investment policy guidelines pertain to these managers:

- Investments in any single country market should not exceed more than 4 times the weight of the country in the benchmark index or 50% of portfolio assets, whichever is lower
- If a country has a greater than 50% weight in the index, the maximum exposure to that country in the portfolio may be as high as its weight in the index
- No more than 35% of each manager's portfolio should be invested in "emerging markets" (i.e., markets that are not included in the Morgan Stanley Capital International Europe, Australia and Far East Index)
- Managers are permitted to enter into hedging strategies, including cross-currency hedges, using forward currency exchange contracts and currency options
- Derivatives should not be used for the purpose of speculation or for leveraging the portfolio

# Foreign Currency Risk (continued from previous page)

The TSRS fund had the following foreign currency risk exposure as of June 30, 2015:

# Foreign Currency Risk Exposure

Currency Type	Cash & Cash Equivalents (1)	Fixed Income (1)	Equity	Real Estate	Infra- structure	Foreign Exchange Contracts (2)	Fair Value	Percent of Total
Australian Dollar	\$ (15,744)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (15,744)	-0.002%
Brazil Real	15,949	262,489				(285,126)	(6,688)	-0.001%
Canadian Dollar	410	-	1,577,768	-	-	-	1,578,178	0.215%
Euro Currency Unit	5,649,816	9,180,109	17,428,648	-	20,839,504	(15,677,073)	37,421,004	5.100%
Hong Kong Dollar	-	-	4,273,802	-	-	-	4,273,802	0.582%
Indian Rupee	-	-	-	-	-	(30,582)	(30,582)	-0.004%
Japanese Yen	19,018	-	9,036,536	-	-	(1,003,122)	8,052,432	1.097%
Mexican New Peso	23	-	-	-	-	-	23	0.000%
Polish Zloty	12,285	-	-	-	-	-	12,285	0.002%
British Pound Sterling	10,393	5,254,153	11,841,930	-	-	(5,403,875)	11,702,601	1.595%
S. African Comm Rand	9,904	-	-	-	-	-	9,904	0.001%
South Korean Won	-	-	3,140,118	-	-	-	3,140,118	0.428%
Swiss Franc	754	-	7,466,704	-	-	(99,665)	7,367,793	1.004%
Currency Subtotals	5,702,808	14,696,751	54,765,506	-	20,839,504	(22,499,443)	73,505,126	10.017%
U.S. Dollar	(5,247,302)	153,197,495	412,975,192	58,761,226	19,380,756	21,244,235	660,311,602	89.983%
TOTAL	\$ 455,506 0.06%	\$ 167,894,246 22.88%	\$ 467,740,698 63.74%	\$ 58,761,226 8.01%	\$ 40,220,260 5.48%	\$ (1,255,208) -0.17%	\$ 733,816,728 100%	100%

#### Footnotes

<sup>(1)</sup> A negative value in the instruments noted above is the result of netting long and short positions against each other. This strategy is utilized as a means to mitigate interest rate risk obtained from holding long positions in mortgages and/or corporate bonds.

<sup>(2)</sup> A negative currency position is obtained by accepting an obligation to deliver the designated currency to a counterparty at a specified date in the future. This position is favorable for portfolio returns if the currency depreciates in value versus the U.S. dollar over the period of the contract.

#### 5. SECURITIES LENDING

The Board of Trustees for the Tucson Supplemental Retirement System permits the custodian bank, BNY Mellon, to lend securities to broker-dealers and other entities. Each loan is executed with a simultaneous agreement to return the collateral for the same securities in the future. The custodian bank lends U.S. securities for collateral initially valued at 102% of the fair value of the securities plus any accrued interest. Non-U.S. securities are loaned for collateral initially valued at 105% of the fair value of the securities plus any accrued interest. Collateral is marked-to-market daily. As of June 30, 2015, the carrying amount and fair value of securities on loan was \$19,213,060. If the fair value of the pledged collateral falls below the specified levels, additional collateral is required to be pledged by the close of the next business day.

In the event of a borrower's default, the custodian bank is obligated to indemnify the lender if, and to the extent that, the fair value of the collateral is insufficient to replace the loaned securities. BNY Mellon's responsibilities include performing appropriate borrower and collateral investment credit analysis, demanding adequate types and levels of collateral, and complying with applicable Department of Labor and Federal Financial Institutions Examination Council regulations covering securities lending.

Although the average term of the security loans is one week, each loan can be terminated at will by either the lender or the borrower. Cash collateral is invested in a short-term investment pool, which on average had a weighted maturity of 30 days. The relationship between the maturities of the investment pool and the security loans are affected by the maturities of the loans made by other entities that use the agent's pool.

The lender cannot pledge or sell collateral securities received until, and unless, a borrower defaults. There were no significant violations of legal or contractual provisions and no borrower or lending agent default losses known to the securities lending agent. As of June 30, 2015, the lenders had no credit risk exposure to borrowers because the fair value of collateral held exceeded the fair value of securities loaned.

## 6. DERIVATIVES

The Tucson Supplemental Retirement System permits the limited use of derivatives by its international equity and external fixed income managers. Examples of derivative instruments permitted, but not limited to, are forward foreign currency exchange contracts, financial futures, options, swaps and swaptions. All derivative instruments utilized are considered "Investment Derivative Instruments" as defined in GASB 53 "Accounting and Financial Reporting for Derivative Instruments." The statement addresses the recognition, measurement, and disclosure regarding derivative instruments entered into by the System.

The following table is a summary of the various derivative instruments utilized by the System's external fixed income manager as of June 30, 2015. Changes in Fair Value is included as part of the overall Increase (Decrease) in Fair Value of Investments in the Statement of Changes in Plan Net Position. Fair Value is included as part of investments listed under Corporate Bonds & Other Fixed Income Instruments in the Statement of Plan Net Position.

#### **Derivatives**

Investment Derivative Instrument	Notional Amount (1)	Changes in Fair Value	Fair Value	Principal Risk
Government Futures	6,600,000	\$ (18,000,887)	\$ 7,920,152	Interest Rate
Options	(12,100,000)	\$ (63,509)	\$ (63,509)	Credit
Currency Forwards (Net)	143,140,120	\$ 6,062,589	\$ 22,487,786	Foreign Currency
Forward Transactions (2)	300,000	\$ 300,797	\$ 300,797	Credit
Credit Default Swaps	12,530,000	\$ (1,318,107)	\$ (930,106)	Credit
Interest Rate Swaps	(14,650,000)	\$ 317,048	\$ (42,841)	Interest Rate

#### Footnotes:

Whenever possible, the investment manager bases the valuation of derivatives on market information; however, where market quotes are not readily available, an independent third party pricing vendor is utilized. Exchange traded derivatives are an example of derivatives where market quotes are available, whereas over-the counter (OTC) derivatives are not traded over standardized markets.

In addition to the principal risks noted above, Forward Foreign Currencies, Credit Default Swaps and Interest Rate Swaps are also subject to counterparty risk. In general, counterparty risk is the risk of loss of an amount expected to be delivered under an agreement in the event of the default or bankruptcy of the counterparty. Generally, counterparty risk is controlled through dealing with a number of different counterparties reasonably deemed to be creditworthy by the investment manager and using agreements with counterparties that permit netting of obligations. Counterparty risk with swaps is limited by execution under standardized International Swap and Derivatives Association Agreements. These contracts allow for the mutual exchange of collateral should an overall unsecured market value exceed a certain threshold (e.g., \$250,000).

Credit, interest rate and foreign currency risks are addressed in previous sections of Note 4. These risks, applicable to other fixed income and foreign investments, are not substantially different from principal risks associated with derivative instruments.

<sup>(1)</sup> The Notional Amount is the number of currency units (stated in U.S. and/or foreign currencies), shares or other units specified in the derivative instrument. It is a stated amount on which payments depend.

<sup>(2)</sup> Not including Morgage TBA

#### 7. ACTUARIAL METHODS AND ASSUMPTIONS

The total pension liability was determined by an actuarial valuation as of June 30, 2015, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation 3.00%

Salary increases 3.00% to 6.50% including inflation

Investment Rate of Return 7.25%

Mortality rates were based on the RP-2000 Combined Mortality Table for males and females, projected with Scale BB to 2020. The actuarial assumptions used in the June 30, 2015 valuation were based on the results of an actuarial experience study for period July 1, 2008 – June 30, 2013.

Additional Details: In the June 30, 2015 actuarial valuation, the level-percent contribution requirements and actuarial present values are calculated using the entry age actuarial cost method. The actuarial assumptions included (a) 7.25 percent investment rate of return (net of administrative expenses); (b) projected salary increases at 3.00% compounded annually; and (c) additional projected salary increases of 0.00% to 3.50% attributable to seniority / merit. The assumptions do not include postretirement benefit increases or inflation assumptions, because there is no guarantee or requirement that future increases will be granted.

The projection of benefits for financial accounting purposes also does not explicitly incorporate the potential effects of legal or contractual funding limitations, since they do not apply. The actuarial value of assets was determined using techniques that spread the effects of short term volatility in the market value of assets over a five-year smoothing period, which was first adopted for the plan year ended June 30, 2009. The Unfunded Actuarial Accrued Liability is being amortized as a level percentage of payroll on an open period of 20 years; the new amortization period was first adopted for the plan year ended June 30, 2013. There were no benefit changes during the year ended June 30, 2015.

The assumptions are selected based upon the recommendation of the plan's actuary and adopted by the Board of Trustees.

Measurement of Net Pension Liability: The net pension liability is measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this will be the accrued liability less the market value of assets not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirements.

A single discount rate of 7.25% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.25%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investment was applied to all period of projected benefit payments to determine the total

### REQUIRED SUPPLEMENTARY INFORMATION

## SCHEDULE OF CHANGES IN THE CITY'S NET PENSION LIABILITY AND RELATED RATIOS YEAR ENDED JUNE 30, 2015

				2015
Total Pension Liability				_
Service Cost Interest Cost Differences Between Expected and Actual Experience Changes of Assumptions Benefit Payments, Including Refunds of Member Contributions Net Change in Total Pension Liability	\$	14,825,019 66,915,612 325,889 76,945,563 (66,002,013) 93,010,070	\$	15,753,944 70,688,775 (7,815,270) (31,210,057) (67,612,351) (20,194,959)
Total Pension Liability - Beginning		948,562,453		1,041,572,523
Total Pension Liability - Ending	\$	1,041,572,523	\$ <i>′</i>	1,021,377,564
Plan Fiduciary Net Position Contributions - Employer Contributions - Member Net Investment Income Benefit Payments, Including Refunds of Member Contributions Administrative Expense Other Net Change in Plan Fiduciary Net Position	\$	34,189,288 7,338,543 119,729,154 (66,002,013) (735,739) 171,077 94,690,310	\$	33,985,523 7,531,845 30,684,188 (67,612,351) (650,405) 118,247 4,057,047
Plan Fiduciary Net Position - Beginning		641,046,190	_	735,736,500
Plan Fiduciary Net Position - Ending  Net Pension Liability - Ending	<u>\$</u>	735,736,500 305,836,023	\$	739,793,547 281,584,017
Plan Fiduciary Net Position as a Percentage of the Total Pension Liab	)	70.64%		72.43%
Covered Employee Payroll	\$	126,639,423	\$	123,414,560
Net Pension Liability as a Percentage of Covered Employee Payroll		241.50%		228.16%

### CITY OF TUCSON, ARIZONA REQUIRED SUPPLEMENTARY INFORMATION SCHEDULE OF PENSION INVESTMENT RETURNS

	2014	2015
Annual Money-Weighted Rate of Return,		
Net of Investment Expense	19.11%	4.17%

### Schedule of Contributions

### **Schedule of Employer Contributions**

Fiscal Year Ending June 30,	Actuarial Valuation Date June 30,	Actuarially Determined Rate (%)	Actual Contribution Rate (%)	Actual Contribution	Rate Deficiency (Excess) (%)	Contribution Deficiency (Excess)	Covered Payroll at Val Date	Covered Payroll during FY
2006	2004	14.83	14.83	23,643,630	0.00	n/a	149,781,753	149,781,753
2007	2005	15.04	15.04	25,958,330	0.00	n/a	162,149,200	162,149,200
2008	2006	15.21	15.21	25,232,745	0.00	n/a	155,855,162	155,855,162
2009	2007	14.67	14.67	24,358,460	0.00	n/a	159,249,822	159,249,822
2010	2008	16.84	16.84	27,601,156	0.00	n/a	153,982,399	153,982,399
2011	2009	18.02	18.02	28,756,890	0.00	n/a	149,924,649	149,924,649
2012	2010	23.38	23.38	34,824,621	0.00	n/a	141,459,257	141,459,257
2013	2011	28.77	28.77	34,523,315	0.00	n/a	121,631,362	121,631,362
2014	2012	27.09	27.09	34,189,288	0.00	\$ (94,382)	125,003,023	125,857,903
2015	2013	26.95	27.50	33,985,523	-0.55	\$ 143,801	125,857,903	126,639,423

### Summary of Actuarial Methods and Assumptions

### NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date: June 30, 2015

Notes Actuarially determined contribution rates are calculated for the fiscal year

beginning one year after the valuation date (one year lag).

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method Entry Age Normal

Level Percentage of Payroll, Open Amortization Method

Remaining Amortization

Period 20 years

Asset Valuation Method 5 Year smoothed market

3.00% Inflation

3.00% to 6.50% including inflation Salary Increases

Investment Rate of Return 7.25%

Age-based table of rates that are specific to the type of eligibility condition. Retirement Age

Last updated for the 2009 valuation pursuant to an experience study of the

period 2009 - 2013.

Pre and Post-retirement: RP-2000 Combined Mortality Table for males and

females projected with Scale BB to 2020.

Mortality

Disabled retirement: RP-2000 Disabled Mortality Table for males and

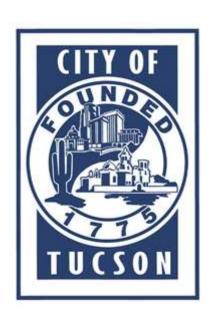
females.

Other Information:

Notes There were no benefit changes during the year.

### June 30, 2015 Schedule of Administrative Expenses

Personal Services		
Staff Salaries	\$	188,861
Fringe Benefits		85,570
Total Personal Services		274,431
Professional Services		40-000
Accounting		185,200
Actuary		57,408
Physician Services		30,331
Legal		19,449
Total Professional Services		292,388
Other Administrative Expenses		
Computer Software Maint. & Hosting		13,862
Insurance		28,880
Other		4,587
Postage		10,973
Printing and Supplies		14,298
Professional Development		10,986
Total Other Administrative Expense		83,586
Total Administrative Frances	_	CEO 40E
Total Administrative Expenses		650,405
Schedule of Investment Services Expense		
Trust & Custody	\$	296,098
Investment Consultant		243,481
Investment Management		3,552,870
Total Investment Expenses	\$	4,092,449





# INVESTMENT SECTION



Callan Associates Inc. 1660 Wynkoop Street Suite 950 Denver, CO 80202 l

Main 303.861.1900 Fax 303.832.8230

www.callan.com

November 23, 2015

The Board of Trustees Tucson Supplemental Retirement System 255 W. Alameda Street Tucson, AZ 85701

Dear Board Members.

This letter reviews the general economic environment, capital markets and investment performance of the Tucson Supplemental Retirement System ("TSRS") for the fiscal year ended June 30, 2015.

### Economic Overview as of June 30, 2015

The global economic outlook demonstrated increasing dispersion the second half of 2014, with growth in the U.S. solidifying while economic progress in Europe and Japan stalled. The first half of 2015, quantitative easing in Europe and Abenomics in Japan bolstered those regions' economies while growth expectations in the U.S. have been revised downward. The Fed has maintained a zero rate policy since the end of their quantitative easing program in October 2014. They are expected to raise rates towards the end of 2015, but have yet to meet their dual mandate of a 2% inflation rate and full employment. Core inflation, which excludes food and energy prices, increased 1.8% year over year in June. Since the collapse of oil prices in late 2014, headline inflation figures, which include food and energy prices, have been mostly flat. The U.S. unemployment rate fell to 5.3% in June from the 6.1% mark at the start of the fiscal year. An average of 205,000 jobs was added to payrolls each month the first half of 2015. While the headline employment rate is impressive, the labor force participation rate reached a 38-year low of 62.6% at the end of June.

U.S. GDP has been volatile over the course of the past fiscal year. Strong figures wrapped up 2014, while the first two quarters of 2015 yielded 0.6% and 2.3% annualized growth. Furthermore, revisions of GDP between 2012 and 2014 reveal average annual growth of only 2%, 0.3% weaker than previously estimated.

Greece and China stole most of the global spotlight starting in June, ushering increased volatility into world markets. Greece began negotiations with creditors when it became clear they were not going to be able to make debt repayments due at the end of June. After tumultuous negotiations, Greece officially defaulted when it missed a \$1.73 billion payment to the IMF on June 30th. A third bailout deal has been proposed to Greece. China has been experiencing issues relating to its slowing growth rate. Officials have attempted to prop up the country's consumption by reducing reserve requirements, interest rates, and import duties. Despite these efforts, the Shanghai Composite Index fell nearly 20% between June 12th and June 30th.

### **Domestic Equity Overview**

The fiscal year ended June 30, 2015 brought positive returns across the domestic equity market. The S&P 1500 Index, a broad market indicator for the U.S. stock market, finished the fiscal year with a return of +7.31%. Large cap stocks performed better than small cap stocks during fiscal year 2015. The S&P 600, a gauge of small cap stock performance, underperformed its large cap peer (the S&P 500 Index), +6.72% to +7.42%. Growth stocks outperformed value stocks. The Russell 3000 Growth Index advanced 10.69% versus a gain of 3.86% for the Russell 3000 Value Index.

During the fiscal year ended June 30, 2015 the TSRS domestic equity investments returned 9.01%



Tucson Supplemental Retirement System November 23, 2015 **2** 

### **International Equity Overview**

Developed International equity markets, as represented by the MSCI EAFE Index, fell in fiscal year 2015. The index returned -4.22%, lagging the +23.57% performance in fiscal year 2014. Growth fared better than Value in the international developed equity space. For the trailing twelve-months ended June 30, 2015, the MSCI EAFE Growth Index lost 1.33% while the MSCI EAFE Value Index fell 7.09%. Emerging market returns trailed developed market returns in as the MSCI Emerging Markets Index dipped 5.12%. Overall, it was a lackluster year for international stock markets.

For the fiscal year of 2015, the international equity asset class returned -5.79% for TSRS.

#### **Domestic Fixed Income Overview**

The U.S. bond market, as measured by the Barclays Capital Aggregate Bond Index, returned 1.86%. The yield curve flattened then steepened again during fiscal year 2015, taking longer duration bond prices on a ride. The Barclays Capital Government Index rose 2.27% over the fiscal year. Long duration bond yields were lower than in June 2014 which boosted the Barclays Capital Government Long Index 6.20%. The Barclays Capital Credit Index rose a modest 0.93% for the trailing twelve-months as spreads widened to end the fiscal year. High yield bonds, except for those at the very end of the curve, suffered as the Barclays Capital Corporate High Yield Index fell 0.40% for the year ended June 30, 2015.

For the fiscal year 2015, TSRS' domestic fixed income investments returned 0.78%.

#### **Real Estate Overview**

The NCREIF Property Index, a measure of the private real estate market, gained 12.98% during the 2015 fiscal year. The index was positive in each of the four quarters, extending its positive streak to 22 straight quarters. The FTSE NAREIT Equity Index, a measure of the public securities real estate market, gained 4.11%.

During the year ended June 30, 2015 TSRS' real estate portfolio returned 13.92%

### **Infrastructure Overview**

By definition, infrastructure assets are essential to the economic health and productivity of civilized society. They include the basic facilities, services, and installations needed for the functioning of a community, such as transit and communications systems; both potable and sewage water lines; and electricity access. They also include such public entities as schools, post offices, and incarceration facilities. Most of these facilities have traditionally been owned and regulated by municipalities and states. The private sector's participation has been limited, to varying degrees, to the areas of design, construction, and operation. Budget and fiscal pressures limit the ability of public authorities to maintain existing infrastructure, much less to build the new facilities required by a growing population. In response to these problems, many municipalities and states have sold or are contemplating the sale of their infrastructure assets to private investors.

Over the one-year period ended June 30, 2015, the infrastructure investment program for TSRS returned -2.75%.

#### **Total Fund Review**

The Tucson Supplemental Retirement System gained 4.63% for the fiscal year, above the benchmark return of 4.34% and ranked in the 8th percentile versus other public defined benefit plans.

Cordially,

Paul Erlendson Senior Vice President Gordon Weightman, CFA

Vice President

### **Outline of Investment Policies**

The asset allocation policy includes a 61% allocation to equity securities: 36% to large U.S. stocks; split among S&P 500 index, enhanced index, large capitalization growth and value accounts; 10% to mid-cap and small-cap U.S. stock accounts; and 15% to foreign stock accounts. There is also an allocation of 26% to fixed income, 8% to equity real estate and 5% to infrastructure.

The Board has set an asset allocation target range on each asset class, sub-class, and manager. The Board of Trustees has adopted a policy of rebalancing the portfolio when the actual allocation falls above or below the target range.

Over the long term, asset allocation policy will be the primary determinant of the returns generated by the TSRS pension fund and the associated volatility of returns. In particular, the level of equity exposure is the key element within the TSRS pension investment policies.

In developing asset allocation policies for its pension plan, the Board examined asset and liability projections to evaluate possible results over the next ten years. These projections examined the risk/return tradeoffs of alternative asset classes, as well as alternative levels of equity exposure. Through incorporating the results of these projections with its risk posture, as well as considering typical practices and practical investment issues, the Board has developed the following asset mix guidelines:

	Percent of Total Pension Fund				
	Minimum	Target	Maximum		
Equities:					
Large Capitalization	31%	36%	41%		
Small/Mid Capitalization	6%	10%	14%		
International	13%	15%	17%		
Total Equities	56%	61%	66%		
Fixed Income	21%	26%	31%		
Real Estate	6%	8%	10%		
Infrastructure	3%	5%	7%		

Separate target ranges are also set for each investment manager within an asset class and are monitored in conjunction with the overall asset allocation. TSRS monitors its asset mix and rebalances its portfolio mix at any time that a primary asset class (i.e., equities, fixed-income, and real estate), secondary asset class (i.e., domestic equities, international equities), portfolio style, or manager reaches the minimum or maximum allocation specified. Staff is authorized to direct rebalancing and report to the Board.

### **Investment Objectives**

Total Pension Fund Performance Objectives:<sup>1</sup>

The TSRS Pension Fund's return will be, in part, a function of the capital market environment in which the plan's investment managers operate. Therefore, regardless of whether or not the market environment permits the achievement of substantial real returns, the TSRS expects any active investment managers that it retains to produce results that are above average relative to other actively-managed funds and relative to passive alternatives. Investment managers should cover the fees paid and provide a return increment that justifies the risk assumed in active management.

On a rolling three-year basis, the annualized total return of the portfolio should exceed the annualized total return of the following custom index:

- Standard & Poor's 500 Stock Index (36% weight)
- Russell 2500 Stock Index (10% weight)
- MSCI All Country World, ex-U.S. Stock Index (15% weight)
- Barclays Capital Aggregate Bond Index (23% weight)
- Barclays Capital High Yield Bond Index (3% weight)
- NCREIF ODCE Real Estate Index (8% weight)
- CPI + 4% (5% weight)

The investment objectives defined herein assume that performance comparisons will be based on a before-fee analysis, unless otherwise indicated.

### **Individual Managers Performance Objectives**

On a rolling three-year basis, the annualized total return earned by an actively managed portfolio should place the account in a competitive ranking (i.e., top 40%) relative to a peer group of managers. In addition, the managers should outperform the following market index benchmarks:

### T. Rowe Price (Large Cap Growth Equity)

Exceed the annualized total return of the Russell 1000 Growth Index

### BlackRock Value (Russell 1000 Value Index)

Match the annualized total return of the Russell 1000 Value Index

### Alliance Capital (S&P 500 Index)

Match the annualized total return of the S&P 500 Index

### PIMCO StocksPlus (Enhanced Index)

• Exceed the annualized total return of the S&P 500 Index

### Champlain Investment Partners (Mid Cap Core Equity)

• Exceed the annualized total return of the Russell Mid Cap Index

### Pyramis Global Advisors (Small Cap Equity)

• Exceed the annualized total return of the Russell 2000 Stock Index

### <u>Aberdeen Asset Management (International Core Equity)</u>

• Exceed the annualized total return of the MSCI AC World ex-U.S. Index

### Causeway Capital Management (International Value Equity)

Exceed the annualized total return of the MSCI EAFE Index

### PIMCO (Custom Fixed Income)

 Exceed the annualized total return of a customized fixed income benchmark composed of 25% BC Mortgage, 25% BC Credit, 25% BC High Yield and 25% JP Morgan EMBI index

### BlackRock U.S. Debt Index Fund (U.S. Investment Grade Fixed Income)

Match the annualized total return of the BC Aggregate Bond Index

### JP Morgan Strategic Property Fund (Core Real Estate)

Exceed the annualized total return of the NCREIF ODCE Real Estate Index

### LaSalle Income & Growth Fund IV (Value Added Real Estate)

Exceed the annualized total return of the NCREIF ODCE Real Estate Index

### JP Morgan Income & Growth Fund (Value Added Real Estate)

• Exceed the annualized total return of the NCREIF ODCE Real Estate Index

### Macquarie European Infrastructure Fund 3 (European Infrastructure)

• Exceed the annualized total return of the CPI + 4%

### SteelRiver Infrastructure Fund North America (North America Infrastructure)

• Exceed the annualized total return of the CPI + 4%

### Investment Results by Year Last Ten Fiscal Years Ended June 30, 2015

		3-Year	5-Year	10-Year
Year	Annual	Annualized	Annualized	Annualized
Ended	Return	Return	Return	Return
6/30/15	4.6%	12.9%	12.6%	7.1%
6/30/14	19.6%	12.1%	14.1%	7.5%
6/30/13	14.8%	13.2%	5.0%	7.4%
6/30/12	2.4%	12.1%	1.2%	6.2%
6/30/11	23.2%	2.8%	4.0%	5.1%
6/30/10	11.6%	-5.6%	1.8%	2.1%
6/30/09	-21.0%	-4.1%	1.3%	2.0%
6/30/08	-4.6%	7.3%	9.8%	5.5%
6/30/07	17.2%	12.3%	11.5%	7.8%
6/30/06	10.7%	12.5%	6.2%	7.8%

### **Schedule of Investment Results** For Periods Ended June 30, 2015

		Annualized Returns (1)		
	One	Three	Five	
	<u>Year</u>	<u>Years</u>	<u>Years</u>	
TOTAL PORTFOLIO				
TSRS	4.63%	12.86%	12.64%	
Custom Benchmark (2)	4.34%	11.27%	11.70%	
EQUITY FUNDS				
Alliance S&P 500 Index	7.43%	17.25%	17.26%	
S & P 500 Index	7.42%	17.31%	17.34%	
PIMCO StocksPlus	7.57%	19.56%	19.74%	
S & P 500 Index	7.42%	17.31%	17.34%	
BlackRock Russell 1000 Value Index	4.34%	17.46%	16.61%	
Russell 1000 Value Index	4.13%	17.34%	16.50%	
T. Rowe Price Large Cap Growth (Inception date: 2/12)	12.35%	21.55%	20.60%	
Russell 1000 Growth Index	10.56%	17.99%	18.59%	
Champlain Investment Partners (Inception date: 7/10)	10.27%	19.58%	18.62%	
Russell Mid Cap Index	6.63%	19.26%	18.23%	
Pyramis Small Cap	15.07%	22.65%	21.92%	
Russell 2000 Index	6.49%	17.81%	17.08%	
Causeway International Value Equity	-2.38%	13.83%	12.28%	
MSCI EAFE Index	-4.22%	11.97%	9.54%	
Aberdeen EAFE Plus Equity (Inception date: 4/12)	-10.16%	5.85%	8.39%	
MSCI All Country World ex-U.S. Index (Net)	-5.26%	9.44%	7.76%	
FIXED INCOME FUNDS				
BlackRock U.S. Debt Fund (Inception date: 1/12)	1.99%	1.98%	3.49%	
Barclays Aggregate Bond Index	1.86%	1.83%	3.35%	
PIMCO Custom Fixed Income	0.05%	4.23%	5.56%	
Custom Index (3)	0.75%	3.83%	4.99%	
REAL ESTATE FUNDS				
JP Morgan Strategic Property Fund	13.37%	13.84%	14.47%	
NCREIF ODCE Index	14.43%	13.11%	14.41%	
JP Morgan Income and Growth Fund	16.19%	17.64%	20.79%	
NCREIF ODCE Index	14.43%	13.11%	14.41%	

Notes: All data provided by independent investment consultant, Callan Associates Inc.

Geometrically compounded, time-weighted rates of return (all returns reported gross of fees)
 Custom Benchmark = 36% S&P 500 Index + 10% Russell 2500 + 15% MSCI ACWI ex-U.S (Net) 26% Barclays Capital Aggregate + 8% NCREIF ODCE + 5% CPI+4%
 Custom Index = 25% Barclays Capital Mortgage + 25% Barclays Capital Credit + 25% Barclays Capital High Yield + 25% JP Morgan EMBI Global

## Schedule of Investment Results For Periods Ended June 30, 2015 (Continued)

		Annualized Returns (		
	One	Three	Five	
	<u>Year</u>	<u>Years</u>	<u>Years</u>	
INFRASTRUCTURE FUNDS				
Macquarie European Infrastructure Fund 3 (Funding Completed)	-9.64%	5.47%	7.96%	
CPI + 4%	3.62%	5.14%	5.80%	
SteelRiver Infrastructure Fund North America (Funding in progress)	5.97%	5.22%	7.01%	
CPI + 4%	3.62%	5.14%	5.80%	

Notes: All data provided by independent investment consultant, Callan Associates Inc.

<sup>(1)</sup> Geometrically compounded, time-weighted rates of return (all returns reported gross of fees)

## By Manager and Type of Investment (in thousands) June 30, 2015

Manager	Style	Large U.S. Stocks	Small/Mid U.S. Stocks	Foreign Stocks	Fixed Income	Real Estate	Infra- structure	Short Term	Total
Alliance Capital	S & P 500 Index	\$ 86,313	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 489	\$ 86,802
T. Rowe Price	Large Cap Growth	78,497	-	-	-	-	-	323	78,820
BlackRock Russell Value	Large Cap Value Index	78,628	-	-	-	-	-	-	78,628
PIMCO StocksPlus	Enhanced Index	42,899	-	-	-	-	-	-	42,899
Champlain Investments	Mid-Cap Core	-	42,488	-	-	-	-	652	43,140
Pyramis Global Advisors	Small-Cap Core	-	43,308	-	-	-	-	586	43,894
Causeway Capital	Foreign Stocks- Value	-	-	56,220	-	-	-	1,376	57,596
Aberdeen Asset Mgmt	Foreign Stocks- Core	-	-	41,264	-	-	-	-	41,264
BlackRock U.S. Debt	U.S. Govt/Credit Bonds	-	-	-	61,449	-	-	-	61,449
PIMCO Custom Fixed Income	U.S. & Foreign Bonds	-	-	-	96,571	-	-	4,928	101,499
JPM Strategic Property Fund	Core Real Estate	-	-	-	-	42,273	-	-	42,273
LaSalle Income & Growth Fund	Value Added Real Estate	-	-	-	-	62	-	-	62
JPM Income & Growth Fund	Value Added Real Estate	-	-	-	-	16,627	-	-	16,627
Macquarie (MEIF3)	European Infrastructure	-	-	-	-	-	20,840	-	20,840
SteelRiver IFNA	North American Infrastructure	-	-	-	-	-	19,381	-	19,381
Liquidity Fund	Cash & Cash Equivalents	-	-	-	-	-	-	493	493
	TOTAL	\$ 286,337	\$ 85,796	\$ 97,484	\$ 158,020	\$ 58,962	\$ 40,221	\$ 8,847	\$ 735,667

### Notes:

<sup>(1)</sup> The Asset Summary does not include the City pooled investment account. (2) Assets are reflected on a trade date basis.

<sup>(3)</sup> Short-term investments have been adjusted for the net impact of unsettled transactions in order to report on a trade date basis. (4) Each asset class includes receivables and payables.

# Manager and Asset Diversification (in thousands) June 30, 2015

	Actual		Target			
<u>Manager</u>	<u>Amount</u>	Percentage	<u>Amount</u>	<u>Percentage</u>		
Alliance Capital	\$ 86,802	11.8%	\$ 80,923	11.0%		
T. Rowe Price	78,820	10.7%	73,567	10.0%		
BlackRock Russell Value	78,628	10.7%	73,567	10.0%		
PIMCO StocksPlus	42,899	5.8%	36,783	5.0%		
Large U.S. Stocks	287,149	39.0%	264,840	36.0%		
Champlain Investment Partners	43,140	5.9%	36,783	5.0%		
Pyramis Global Advisors	43,894	6.0%	36,783	5.0%		
Small/Mid-Cap U.S. Stocks	87,034	11.9%	73,566	10.0%		
Causeway Capital	57,596	7.8%	55,175	7.5%		
Aberdeen Asset Management	41,264	5.6%	55,175	7.5%		
Foreign (International) Stocks	98,860	13.4%	110,350	15.0%		
Total Equities	473,043	64.3%	448,756	61.0%		
BlackRock U.S. Debt	61,449	8.4%	73,566	10.0%		
PIMCO Custom Fixed Income	101,499	13.8%	117,707	16.0%		
Fixed Income (Bonds)	162,948	22.2%	191,273	26.0%		
JPM Strategic Property Fund	42,273	5.7%	36,783	5.0%		
LaSalle Income & Growth Fund	62	0.0%	11,035	1.5%		
JPM Income & Growth Fund	16,627	2.3%	11,035	1.5%		
Real Estate	58,962	8.0%	58,853	8.0%		
Macquarie (MEIF3)	20,840	2.8%	18,392	2.5%		
SteelRiver IFNA	19,381	2.6%	18,393	2.5%		
Infrastructure	40,221	5.4%	36,785	5.0%		
Liquidity Fund	493	0.1%		0.0%		
Total	\$ 735,667	100%	\$ 735,667	100%		

# Asset Allocation by Asset Class Last Five Fiscal Years

Asset Class	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>
U.S. Stocks	51%	50%	48%	46%	46%
Foreign (International) Stocks	13%	14%	14%	13%	15%
Total Equities	64%	64%	62%	59%	61%
Fixed Income (Bonds)	22%	22%	24%	26%	26%
Real Estate	8%	8%	8%	8%	6%
Infrastructure	6%	6%	6%	7%	6%
Cash	0%	0%	0%	0%	1%
	100%	100%	100%	100%	100%

### Ten Largest Bond Holdings (By Market Value) June 30, 2015

(dollars in thousands)

Par	Value	Bond	Coupon Rate	<u>Due</u>	Rating (1)	Fair Value
\$	1,200	ROCKIES EXPRESS PIPELINE 144A	6.850%	07/15/18	Ba2	1,280
	1,100	PETROBRAS GLOBAL FINANCE BV	5.375%	01/27/21	Ba2	1,058
	1,000	INTERNATIONAL LEASE FINAN 144A	6.750%	09/01/16	Ba2	1,052
	900	HCA INC	6.500%	02/15/20	B1	1,006
	887	RBSCF TRUST 2010 RR4 CMLA 144A	Variable	12/16/49	Aaa	921
	500	CO-OPERATIVE GROUP HOLDIN REGS	Variable	09/08/20	Aaa	847
	791	CSMC SERIES 2010-UD UD1 A 144A	Variable	12/16/49	Aaa	823
	400	BARCLAYS BANK PLC REGS	10.000%	05/21/21	Aaa	818
	800	CREDIT AGRICOLE SA REGS	Variable	01/29/49	Ba1	818
	800	BARCLAYS PLC	2.875%	06/08/20	Aaa	794

<sup>(1)</sup> Per Moody's Investors Service, Inc.

### Ten Largest Stock Holdings (By Market Value) June 30, 2015

(dollars in thousands)

		Fair
Shares	<u>Stock</u>	 alue
38,193	APPLE INC	\$ 4,790
10,825	AMAZON.COM INC	4,699
56,420	VISA INC	3,789
25,134	THE BOEING CO	3,487
2,766	PRICELINE GROUP INC	3,184
5,579	GOOGLE INC	3,013
66,618	MICROSOFT CORP	2,897
33,250	DANAHER CORP	2,846
32,464	FACEBOOK INC	2,784
11,950	MCKESSON CORP	2,686

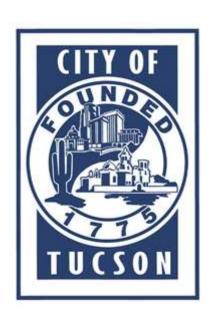
A complete list of portfolio holdings is available by contacting the City of Tucson, Treasury Division, 255 W. Alameda Street, 5 West, Tucson, AZ 85701-1303

### Schedule of Fees June 30, 2015

	ssets Under anagement	<u>Fees</u>
Investment Manager Fees		
Fixed Income Managers		
BlackRock U.S. Debt	\$ 61,449,037	\$ 33,854
PIMCO (Custom Fixed Income) Total Fixed Income	\$ 101,498,576 162,947,613	\$ 493,793 527,647
Equity Managers		
Alliance Capital Management	\$ 86,801,249	\$ 34,774
BlackRock Russell Value Index	78,627,940	31,585
T. Rowe Price	78,820,457	388,469
Causeway Capital Management	57,595,871	371,025
Pyramis Global Advisors	43,894,702	295,366
Aberdeen Asset Management	41,264,449	346,956
PIMCO StocksPlus	42,899,177	186,625
Champlain Investment Partners	 43,140,326	 351,884
Total Equity	\$ 473,044,171	\$ 2,006,684
Liquidity Account	493,410	-
Real Estate Managers		
JPM Strategic Property Fund	\$ 42,272,631	\$ 399,767
JPM Income & Growth Fund	16,426,595	194,099
LaSalle Income & Growth Fund IV	 62,000	 2,300
Total Real Estate	\$ 58,761,226	\$ 596,166
Infrastructure Managers		
Macquarie (MEIF3)	\$ 20,839,504	\$ 187,779
SteelRiver IFNA	19,380,756	 234,594
Total Infrastructure	\$ 40,220,260	\$ 422,373
Total Assets (Trade date basis)	\$ 735,466,680	
Total Investment Management Fees		\$ 3,552,870
Other Investment Service Fees		
Trust & Custodian Fees		
BNY Mellon		\$ 296,098
Security Lending - Bank & Administration Fees		
BNY Mellon		65,676
Consulting & Performance Management		
Callan Associates Inc.		243,481

### Schedule of Commissions June 30, 2015

Broker Description	Shares	Commissions	Commissions Per Share	
MORGAN STANLEY & CO INC, NY	432,056	8,145	0.018	9
MERRILL LYNCH INTL LONDON EQUITIES	538,628	7,996	0.014	8
CREDIT SUISSE, NEW YORK (CSUS)	379,831	7,419	0.019	15
GOLDMAN SACHS & CO, NY	416,023	7,029	0.016	9
J.P. MORGAN CLEARING CORP, NEW YORK	320,109	6,064	0.018	9
UBS WARBURG, LONDON	268,081	5,777	0.021	6
STIFEL NICOLAUS	129,137	3,870	0.030	0
RBC CAPITAL MARKETS LLC, NEW YORK	216,564	3,387	0.015	6
BARCLAYS CAPITAL, LONDON (BARCGB33)	163,363	3,356	0.020	15
JEFFERIES & CO INC, NEW YORK	140,357	3,248	0.023	1
CITIGROUP GLOBAL MARKETS LTD, LONDON	98,453	3,035	0.030	18
RAYMOND JAMES & ASSOC INC, ST PETERSBURG	88,235	3,029	0.034	3
MERRILL LYNCH PIERCE FENNER SMITH INC NY	139,663	2,962	0.021	2
DEUTSCHE BK SECS INC, NY (NWSCUS33)	157,055	2,854	0.018	32
INVESTMENT TECHNOLOGY GROUP, NEW YORK	113,215	2,654	0.023	5
UBS SECURITIES LLC, STAMFORD	111,860	2,185	0.019	15
CITIGROUP GBL MKTS INC, NEW YORK	117,827	2,152	0.018	3
STATE STREET BROKERAGE SVCS, BOSTON	98,800	2,050	0.020	)7
BNY CONVERGEX, NEW YORK	132,320	1,961	0.014	8
LIQUIDNET INC, BROOKLYN	81,850	1,951	0.023	8
WILLIAM BLAIR & CO, CHICAGO	45,950	1,746	0.038	0
INSTINET EUROPE LIMITED, LONDON	61,740	1,541	0.025	0
BAIRD, ROBERT W & CO INC, MILWAUKEE	39,600	1,412	0.035	57
DAIWA SECS AMER INC, NEW YORK	70,600	1,295	0.018	3
GOLDMAN SACHS EXECUTION & CLEARING, NY	43,657	1,179	0.027	0'
PIPER JAFFRAY & CO, MINNEAPOLIS	31,900	1,118	0.035	i1
ITG INC, NEW YORK	82,645	1,102	0.013	3
J P MORGAN SECS LTD, LONDON	59,188	1,072	0.018	31
MORGAN STANLEY & CO INTL LTD, SEOUL	21,099	1,056	0.050	)1
VARIOUS BROKERS - LESS THAN \$1000	1,527,695	27,161		
TOTAL	6,127,501	119,806		
AVERAGE COMMISSION RATE			\$ 0.0196	6





# **ACTUARIAL SECTION**



Gabriel Roeder Smith & Company Consultants & Actuaries 7900 East Union Avenue Suite 650 Denver, CO 80237-2746 720.274.7270 phone 303.694.0633 fax www.gabrielroeder.com

October 21, 2015

The Board of Trustees

Tucson Supplemental Retirement System Tucson, Arizona

## Re: Actuarial Valuation of the Tucson Supplemental Retirement System as of June 30, 2015

**Dear Board Members:** 

We are pleased to present the Report on the actuarial valuation of the Tucson Supplemental Retirement System as of June 30, 2015.

This Report presents the results of the June 30, 2015 actuarial valuation of the Tucson Supplemental Retirement System. The Report describes the current actuarial condition of the Tucson Supplemental Retirement System, determines recommended annual employer and employee contribution rates, and analyzes changes in these required rates. This report should not be relied on for any purpose other than the purpose described in the primary communication. Information needed to comply with Statements No. 67 and 68 is provided in a separate accounting report.

We certify that the information included herein and contained in the June 30, 2015 Actuarial Valuation Report is accurate and fairly presents the actuarial position of the Tucson Supplemental Retirement System as of the valuation date.

### **Contribution Rates**

There are no recommended changes to the contribution rates for FY 2017. Based on the TSRS funding policy, the recommended employer rate will remain at 27.5%, and the recommended employee rates by tier will remain at 5.00%, 6.75% and 5.25%. Full details of these calculations are in the report.

### Financing Objectives

The employer contributions, when combined with the contributions made by members, are intended to cover the Actuarially Determined Contribution (ADC)), which is the sum of the Normal Cost plus a 20-year open level percent-of-pay amortization payment of the Unfunded Actuarial Accrued Liability (UAAL). If the contributions made are equal to the ADC, and if all actuarial assumptions are met, there will still be an unfunded accrued liability at the end of the 20-year period. This is due to "open" amortization — an amortization method that resets the payment period to 20 years with each valuation. However, the Board has adopted a funding policy which rounds up the employee and City contribution rates, and in addition, sets a 27.50% minimum on the City contribution rate until full funding is reached. Based on this funding policy, the System is projected to reach full funding in 2031.

### **Progress Toward Realization of Financing Objectives**

The UAAL/(surplus) and the funded ratio (ratio of the actuarial value of assets to the actuarial accrued liability) illustrate the progress toward the realization of certain financing objectives. Based on the actuarial valuation as of June 30, 2015, the Plan has an unfunded liability of \$314.6 million and a funded ratio of 69.2%.

The increase in the funded ratio, from 64.8% to 69.2%, is primarily due to asset gains on the smoothed or actuarial value of assets as well as liability gains from salary increases less than expected. A funded ratio less than 100% indicates an actuarially determined contribution that will require a normal cost and an amortization payment. If the contributions equal the ADC, and if all assumptions are met, the funded ratio should improve over time.

The Total Actuarially Determined Contribution as a percentage of pay based on the actuarial valuation as of July 1, 2015 is 30.69% compared to the total contribution rate in the prior year of 32.23%. This total rate, net of the employee contributions, is used in setting City rates for the fiscal year beginning July 1, 2016 (FY 2017).

### **Benefit Provisions**

All of the benefit provisions reflected in this valuation are those which were in effect on June 30, 2015. There were no changes to the benefit provisions since the prior valuation. The benefit provisions are summarized in Section D of this Report.

### Assumptions and Methods

Since the prior valuation, the investment return assumption was changed to be net of only investment expenses, instead of investment and administrative expenses. The administrative expenses are now an explicit charge in the contribution rate calculation. There were no other changes in actuarial methods and assumptions since the prior report. The Board has sole authority to determine the actuarial assumptions used for the Plan. The assumptions that are based upon the actuary's recommendations are internally consistent and are reasonably based on the actual past experience of the Plan.

The mortality tables include projection to 2020 to provide margin for future mortality improvement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The actuarial calculations presented in this Report are intended to provide information for rational decision making.

#### Data

The valuation was based upon information as of June 30, 2015, furnished by Tucson Supplemental Retirement System staff, concerning Plan benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by Tucson Supplemental Retirement System staff.

### Certification

All of our work conforms with generally accepted actuarial principles and practices, and to the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of, where applicable, the Internal Revenue Code, and ERISA.

The signing actuaries are independent of the plan sponsor. Leslie Thompson and Dana Woolfrey are Enrolled Actuaries and are Members of the American Academy of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries. Finally, both of the undersigned are experienced in performing valuations for large public retirement systems.

Respectfully submitted,

Gabriel, Roeder, Smith & Company

Les W. Shrmston

Dana Worlfrey

Leslie Thompson, FSA, FCA, EA, MAAA Senior

Consultant

Dana Woolfrey, FSA, FCA, EA, MAAA Consultant

#### SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

### I. <u>Valuation Date</u>

The valuation date is July 1st of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

### II. Actuarial Cost Method

The actuarial valuation uses the Entry Age Normal actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial liability.

- 1. The valuation is prepared on the projected benefit basis. The present value of each participant's expected benefit payable at retirement or termination is determined, based on age, service, sex, compensation, and the interest rate assumed to be earned in the future (7.25%). The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service benefit. Future salary increases are also anticipated. The present value of the expected benefits payable on account of the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Plan on account of the present group of participants and beneficiaries.
- 2. The employer contributions required to support the benefits of the Plan are determined following a level funding approach, and consist of a normal cost contribution and an accrued liability contribution.
- 3. The normal contribution is determined using the Entry Age Normal method. Under this method, a calculation is made to determine the average uniform and constant percentage rate of employer contribution which, if applied to the compensation of each new participant during the entire period of his anticipated covered service, would be required in addition to the contributions of the participant to meet the cost of all benefits payable on their behalf. Effective July 1, 2013 the TSRS funding policy requires the computation of normal cost separately for those members in Tier 1 and Tier 2 (the variable rate tiers).
- 4. The unfunded accrued liability contributions are determined by subtracting the actuarial value of assets from the actuarial accrued liability and amortizing the result over 20 years from the valuation date as a level percentage of pay. It is assumed that payments are made throughout the year.

5. Administrative expenses for the recent year will be added to the employer normal cost in the current valuation and will be reflected in the recommended employer rate for the upcoming fiscal year.

### III. Actuarial Value of Assets

The actuarial value of assets is based on recognizing gains and losses over a five-year period where gains and losses are determined by comparing the projected market value return (based on the prior year's market value of assets, cash flows during the year and expected investment returns on those amounts) to the actual market investment return.

### IV. Actuarial Assumptions

### A. <u>Economic Assumptions</u>

1. Investment return: 7.25% per annum, compounded annually, composed of an assumed 3.00% inflation rate and a 4.25% real rate of return. This rate represents the assumed return, net of all investment expenses.

### 2. Salary increase rate:

Sample Attained	Percentage Increase in Salary with Less than Five Years of Service			
Age	Merit	Merit Inflation Total		
0	3.50 %	3.00 %	6.50 %	
1	3.00	3.00	6.00	
2	2.50	3.00	5.50	
3	2.00	3.00	5.00	
4	1.50	3.00	4.50	

Sample Attained		Percentage Increase in Salary with Five or More Years of Service			S	
Age	Merit	Inflation	Total			
25	1.50 %	3.00 %	4.50 %			
30	1.50	3.00	4.50			
35	1.50	3.00	4.50			
40	1.00	3.00	4.00			
45	0.50	3.00	3.50			
50	0.25	3.00	3.25			
55	0.25	3.00	3.25			
60	0.25	3.00	3.25			
65	0.00	3.00	3.00			

3. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.00% per year. This increase rate is primarily due to the effect of inflation on salaries, with no allowance for future membership growth.

### B. Demographic Assumptions

- 1. Mortality rates (pre- and post-retirement) RP-2000 Combined Mortality Table for males and females projected with Scale BB to 2020. Mortality rates were adjusted to include margin for future mortality improvement as described in the table name above.
- 2. Mortality rates (post-disablement) RP-2000 Disabled Mortality Table for males and females.

Sample Attained	Probability of Death Pre- and Post-Retirement		
Ages	Men	Women	
20	0.03 %	0.02 %	
25	0.04	0.02	
30	0.04	0.02	
35	0.07	0.04	
40	0.10	0.07	
45	0.14	0.11	
50	0.20	0.16	
55	0.34	0.25	
60	0.59	0.41	
65	1.00	0.76	
70	1.64	1.32	
75	2.80	2.21	
80	4.76	3.60	
85	8.19	6.08	
90	14.70	10.55	

Sample Attained	Probability of Death Post-Disability	
Ages	Men	Women
20	2.26 %	0.75 %
25	2.26	0.75
30	2.26	0.75
35	2.26	0.75
40	2.26	0.75
45	2.26	0.75
50	2.90	1.15
55	3.54	1.65
60	4.20	2.18
65	5.02	2.80
70	6.26	3.76
75	8.21	5.22
80	10.94	7.23
85	14.16	10.02
90	18.34	14.00

3. Disability rates. Sample rates shown below:

Sample Attained	Probability of Disablement Next Year		
Ages	Men	Women	
25	0.01 %	0.01 %	
30	0.07	0.07	
35	0.09	0.09	
40	0.14	0.14	
45	0.17	0.17	
50	0.25	0.25	
55	0.36	0.36	
60	0.48	0.48	

4. Termination rates (for causes other than death, disability or retirement): Termination rates are based on service and age. Termination rates are not applied after a member becomes eligible for a retirement benefit. Rates are shown:

Sample Attained Age	Years of Credible Service	Probability of Termination
Any	0	18.00 %
	1	13.00
	2	10.00
	3	8.00
	4	7.50
20	5 & over	7.05
25		7.05
30		6.65
35		4.65
40		3.65
45		2.95
50		2.55
55		2.45

5. Forfeiture rates: The percentages below represent the probability that a vested terminated member will take a refund of contributions rather than receive a deferred annuity benefit.

Sample Ages	% of Vested Terminating Members Choosing Refund at Termination		
Under 30	50 %		
30	45		
35	40		
40	35		
45	30		
50	25		
55	20		
60 and Over	0		

6. Retirement rates for Tier 1. For those ages 62+, the Rule of 80 retirement rates only applies if the Rule of 80 is attained by age 62.

Attained	Tier 1 Members Percentage of Those Eligible Retiring During the Year		
Age	Rule of 80	Age Based	Early
50-54	27.0 %		
55-59	27.0		8.5 %
60	27.0		
61	27.0		
62	27.0	33.0 %	
63	27.0	16.0	
64	27.0	20.0	
65	27.0	24.0	
66-69	27.0	35.0	
70 & Over	100.0	100.0	

Retirement rates for Tier 2. For those ages 65+, the Rule of 85 retirement rates only applies if the Rule of 85 is attained by age 65.

Attained Tier 2 Members Percentage of Those Eligible Retiring During the Year			
Age	Rule of 80	Age Based	Early
60	27.0 %		8.5 %
61	27.0		8.5
62	27.0		8.5
63	27.0		8.5
64	27.0		8.5
65	27.0	24.0 %	
66-69	27.0	35.0	
70 & Over	100.0	100.0	

Deferred vested members are assumed to retire at age first eligibility for unreduced benefits.

### C. Other Assumptions

- 1. Percent married: 80% of employees are assumed to be married.
- 2. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
- 3. Cost of living adjustment: None.
- 4. Optional forms: Members are assumed to elect the normal form of benefit.
- 5. Current and future deferred vested participants are assumed to retire at the earlier of age 62 and eligibility for rule of 80 for tier 1 and the earlier of age 65 and eligibility for the rules of 85 (but at least 60) for Tier 2.
- 6. Administrative expenses: Administrative expenses are added to the employer normal cost, before application of the round up policy.
- 7. Pay increase timing: End of year.
- 8. Decrement timing: Decrements of all types are assumed to occur mid-year.

- 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.
- 10. Decrement relativity: Decrement rates are used directly, without adjustment for multiple decrement table effects.
- 11. 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.
- 12. Benefit and Eligibility Service due to Accrued Sick and Vacation Leave at Retirement and Termination: Tier 1 Members are assumed to have an additional 0.019 years per year of benefit and eligibility service at early or normal retirement and termination due to accrued sick and vacation leave. This assumption was developed using sick and vacation leave and service amounts for active members included in the actuarial valuation as of June 30, 2013.

Active Member Counts by Age and Service as of July 1, 2015												
Age	Service											
	0-4	5-9	10-14	15-19	20-24	25-29	Over 30	Total				
Under 20	0	0	0	0	0	0	0	0				
20-24	32	0	0	0	0	0	0	32				
25-29	119	13	1	0	0	0	0	133				
30-34	140	49	19	0	0	0	0	208				
35-39	111	66	67	18	1	0	0	263				
40-44	104	79	86	68	23	0	0	360				
45-49	83	64	90	107	48	14	1	407				
50-54	80	64	91	102	80	33	19	469				
55-59	63	47	99	123	69	49	27	477				
60-64	36	38	46	41	32	33	21	247				
65-69	4	16	8	9	10	3	7	57				
Over 70	2	2	1	3	3	0	1	12				
Total	774	438	508	471	266	132	76	2,665				

	Tucson Supplemental Retirement System Schedule of Funding Progress \$ in thousands												
Actuarial Valuation Date	Actuarial Value of Assets		Actuarial Accrued Liability (AAL)		Unfunded AAL (UAAL) (4)=(3)-(2)		Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll (7)=(4)/(6)				
(1)							(5)=(2)/(3)						
6/30/1991	\$	164,268	\$	175,537	\$	11,269	93.6%	\$86,830	13.0%				
6/30/1992		179,570		187,812		8,242	95.6%	86,205	9.6%				
6/30/1993		197,282		208,024		10,742	94.8%	92,867	11.6%				
6/30/1994		213,541		230,026		16,485	92.8%	94,180	17.5%				
6/30/1995		237,713		249,049		11,336	95.4%	99,847	11.4%				
6/30/1996		266,740		269,186		2,446	99.1%	105,230	2.3%				
6/30/1997		304,684		297,490		(7,194)	102.4%	110,189	-6.5%				
6/30/1998		353,057		348,966		(4,090)	101.2%	113,729	-3.6%				
6/30/1999		402,875		400,224		(2,651)	100.7%	126,817	-2.19				
6/30/2000		453,954		437,750		(16,204)	103.7%	134,088	-12.1%				
6/30/2001		470,672		486,702		16,030	96.7%	145,059	11.19				
6/30/2001		470,672		495,359		24,687	95.0%	145,059	17.09				
6/30/2002		463,102		553,947		90,845	83.6%	153,580	59.29				
6/30/2003		458,857		601,173		142,316	76.3%	143,164	99.4%				
6/30/2004		494,987		645,351		150,364	76.7%	149,782	100.4%				
6/30/2005		538,789		693,871		155,082	77.6%	162,149	95.69				
6/30/2006		588,228		734,377		146,149	80.1%	155,855	93.8%				
6/30/2006		588,228		735,793		147,565	79.9%	155,855	94.79				
6/30/2007		634,763		758,427		123,663	83.7%	159,250	77.79				
6/30/2007		634,763		763,539		128,776	83.1%	159,250	80.9%				
6/30/2008		650,227		822,205		171,978	79.1%	153,982	111.79				
6/30/2009		665,298		859,485		194,187	77.4%	149,925	129.5%				
6/30/2010		641,819		904,480		262,662	71.0%	141,459	185.79				
6/30/2011		624,665		928,609		303,944	67.3%	121,631	249.99				
6/30/2012		597,107		940,939		343,832	63.5%	125,003	275.19				
6/30/2013		600,330		948,562		348,232	63.3%	125,858	276.7%				
6/30/2014		655,998		1,012,393		356,396	64.8%	126,639	281.49				
6/30/2015		706,774		1,021,378		314,604	69.2%	123,415	254.9%				

	Tucson Supplement Schedule of Empl	al Retirement Systo oyer Contributions	
Fiscal Year Ended June 30,	Annual Required Contribution	Actual City Contribution	Percentage Contributed
1996	8.55 %	8.18 %	95.67 %
1997	8.05	8.38	104.10
1998	8.05	8.38	104.10
1999	7.41	7.91	106.75
2000	6.07	7.35	121.09
2001	6.77	7.35	108.57
2002	6.30	7.35	116.67
2003	8.41	8.41	100.00
2004	11.17	11.17	100.00
2005	14.06	14.06	100.00
2006	14.83	14.83	100.00
2007	15.04	15.04	100.00
2008	15.21	15.21	100.00
2009	14.37	14.37	100.00
2010	16.84	16.84	100.00
2011	18.02	18.02	100.00
2012	23.38	23.38	100.00
2013	28.77	28.77	100.00
2014	27.09	27.09	100.00
2015	26.95	27.50	102.04
2016	27.03	N/A	N/A
2017	25.52	N/A	N/A

		Tucson	Tucson Supplemental Retirement System	ent System			
	Aggregate A	te Accrued Liabilities For					
I	(1) Active	(2) Retirants	(3) Active Member		Portion o	Portion of Accrued Liabilities	oilities
Valuation	Member	and	(Employer	Valuation	Covered	Covered by Reported Assets	ssets
Date	Contributions	Beneficiaries	Financed Portion)	Assets	(1)	(2)	(3)
6/30/1991	\$ 44 496 039	\$ 72 419 436	\$ 86.372.322	\$164 268 134	100 0 %	100 0 %	54.8 %
6/30/1992	49,238,019	80,342,604	86,902,648	179,569,858	100.0	100.0	57.5
6/30/1993	55,146,786	85,832,484	98,492,344	197,281,861	100.0	100.0	57.2
6/30/1994	60,424,161	95,449,308	105,838,311	213,540,661	100.0	100.0	54.5
6/30/1995	66,316,408	102,511,728	113,211,848	237,712,863	100.0	100.0	8.09
6/30/1996	72,294,235	109,572,672	118,739,900	266,740,007	100.0	100.0	71.5
6/30/1997	78,991,358	119,508,312	128,878,531	304,684,444	100.0	100.0	82.4
6/30/1998	85,106,175	129,345,816	134,514,294	353,056,577	100.0	100.0	103.0
6/30/1999	92,367,491	139,805,832	168,050,794	402,875,158	100.0	100.0	101.6
6/30/2000	100,413,022	150,527,136	186,809,583	453,953,722	100.0	100.0	108.7
6/30/2001	108,696,394	161,740,968	224,921,223	470,671,667	100.0	100.0	89.0
6/30/2002	118,913,979	187,508,568	247,524,186	463,101,526	100.0	100.0	63.3
6/30/2003	110,195,709	275,193,384	215,784,329	458,856,831	100.0	100.0	34.0
6/30/2004	123,643,527	286,698,084	235,009,321	494,986,798	100.0	100.0	36.0
6/30/2005	135,346,297	298,395,396	260,129,138	538,788,828	100.0	100.0	40.4
6/30/2006	140,387,532	326,828,088	268,577,863	588,227,845	100.0	100.0	45.1
6/30/2007	136,028,896	371,497,680	256,012,354	634,763,193	100.0	100.0	49.7
6/30/2008	125,331,432	473,240,976	223,632,380	650,227,215	100.0	100.0	23.1
6/30/2009	133,633,947	494,923,021	230,928,190	665,298,494	100.0	100.0	15.9
6/30/2010	140,224,998	525,200,232	239,055,106	641,818,551	100.0	95.5	0.0
6/30/2011	119,049,097	614,497,202	195,062,492	624,664,880	100.0	82.3	0.0
6/30/2012	122,240,396	607,450,331	211,247,995	597,106,511	100.0	78.2	0.0
6/30/2013	138,342,388	609,558,963	200,661,102	600,330,066	100.0	75.8	0.0
6/30/2014	142,418,791	647,811,688	222,162,858	655,997,802	100.0	79.3	0.0
6/30/2015	143,648,835	661,292,061	216,436,668	706,773,630	100.0	85.2	0.0

Name         Activated         Act				Com	Tucson Suppler	Tucson Supplemental Retirement System Comparative Schedule of Annual Pension Benefits Paid	tem nefits Paid			
Members         Fernisons         Increase         Per Redired         of Active Payroll         Pensions         Value of Pensions         Name         Per Redired         of Active Payroll         Pensions         Name         Pensions         Name         Pensions         Name         Pensions         Name         Pension         Pensions         Name         Pensions         Pensions         Name         Pensions         Pensions         Pensions         Pensions         Name         Pensions	Year Ending	Retired	Annual	%	No. of Active	Pensions as %	Average	Actuarial Present	  편 %	xpected emovals
780         \$ 5,344,719         176 %         42²         66 %         5 6,852         5 46,556,352         266           832         64,88,714         21.4         3.9         7.5         7,799         57,430,128         28.5           918         8,111,103         25.0         3.5         9.3         8.836         72,419,436         29.8           965         9,010,345         11.1         3.3         10.5         9,833         85,832,484         32.3           1,035         10,612,612         9.4         3.2         11.3         10,24         9,813         85,832,484         34.3           1,105         1,124,9402         7.7         3.1         11.4         10,732         10,244         34.3           1,106         1,226,940         7.7         3.1         11.4         10,732         10,244,93388         34.3           1,107         1,226,240         3.0         11.6         11,074         10,932,484         34.3           1,120         1,224,240         3.1         11.6         11,074         10,932,484         34.3           1,220         1,324         3.2         12.2         11,244         10,932,484         34.3           1,	June 30	Members	Pensions	Increase	Per Retired	of Active Payroll	Pensions	Value of Pensions		Pensions
832         6,488,714         21.4         3.9         7.5         7,79         57,430,128         2.8.5           988         8,111,103         25.0         3.5         9.3         8.86         72,419,436         2.9.8           986         9,010,45         11.1         3.3         10.5         9,337         80,342,048         3.2           1,035         10,612,612         9.4         3.2         11.3         10,254         9,813         3.2           1,105         11,624,02         9.4         3.2         11.3         10,254         95,493,08         35.8           1,106         11,429,402         7.7         3.1         11.4         10,732         10,511,728         35.8           1,107         12,236,228         7.1         3.1         11.6         11,934         10,511,728         35.8           1,108         12,236,238         3.2         12.2         11,734         10,514,947         10,514,948         35.8           1,108         12,236,238         3.3         12.2         11,734         10,521,132         35.8           1,108         1,230         12,23         2.8         2.8         2.8         37.7           1,108	1989 1	780	\$ 5,344,719	9	4.2 <sup>2</sup>	% 9.9	\$ 6,852		26.6	\$ 133,860
918         8,111,103         25.0         3.5         9.3         8,836         72,419,436         29.8           965         9610,445         11.1         3.3         10.5         9,37         80,342,604         32.3           1088         9,704,929         7.7         3.3         10.5         9,813         88,32,484         34.3           1,065         11,429,429         7.7         3.1         11.4         10,254         95.49,308         35.8           1,106         11,429,476         8.1         3.2         11.4         10,732         10,517,208         35.8           1,106         11,429,476         8.1         2.9         11.4         10,732         10,517,209         35.8           1,106         12,236,298         7.1         3.1         11.6         11,694         10,572,402         37.7           1,107         12,236,298         8         2.8         12.2         11,794         10,573,403         37.8           1,206         13,91         8.6         2.8         12.7         11,494         11,524,403,403         37.8           1,207         13,01         1.6         2.2         11,53         11,52,403,40         37.8 <tr< th=""><td>1990</td><td>832</td><td>6,488,714</td><td>21.4</td><td>3.9</td><td>7.5</td><td>7,799</td><td>57,430,128</td><td>28.5</td><td>150,864</td></tr<>	1990	832	6,488,714	21.4	3.9	7.5	7,799	57,430,128	28.5	150,864
965         9,010,345         11.1         3.3         10.5         9,337         80,342,604         32.3           1,035         1,0429         7.7         3.3         10.5         9,813         88,824,84         34.3           1,035         1,0429,029         7.7         3.3         10.5         9,813         88,824,84         34.3           1,065         1,429,402         7.7         3.1         11.4         10,732         10,511,72         3.8           1,105         1,2246,98         7.7         3.1         11.6         11,074         10,571,672         3.5           1,106         1,230         1,479,476         8.1         2.9         12.7         11,594         119,508,312         3.9           1,206         1,479,476         8.1         2.9         12.7         11,594         119,508,312         3.9           1,206         1,571,885         8.6         2.8         12.7         11,594         119,508,312         3.9           1,301         1,696,6042         7.9         2.8         12.7         11,478         119,508,312         3.4           1,31         1,626         2.8         1.2         12.4         12.4         12.4	1991	918	8,111,103	25.0	3.5	9.3	8,836	72,419,436	29.8	172,608
989         9,704,929         7.7         3.3         10.5         9,813         85,822,484         34.3           1,055         11,429,402         7.7         3.1         11.3         10,254         95,449,308         35.8           1,065         11,429,402         7.7         3.1         11.4         10,254         95,449,308         35.8           1,105         12,236,298         7.1         3.1         11.6         11,04         119,508,312         37.7           1,106         13,391,185         8.1         2.9         12.7         11,984         119,508,312         37.7           1,260         13,71,865         8.1         2.8         12.7         11,986         129,345,816         42.4           1,260         15,71,862         8.8         2.8         12.7         11,986         12,442         11,479,088         42.4         42.4           1,260         15,71,862         2.8         12.7         12,478         13,988,32         42.4         42.4           1,270         1,301         16,966,042         7.9         2.8         12.7         13,471         15,628,32         42.4         42.4           1,301         1,301         2.7 <td< th=""><td>1992</td><td>965</td><td>9,010,345</td><td>11.1</td><td>3.3</td><td>10.5</td><td>9,337</td><td>80,342,604</td><td>32.3</td><td>208,068</td></td<>	1992	965	9,010,345	11.1	3.3	10.5	9,337	80,342,604	32.3	208,068
1,035         1,042,402         77         3.1         11.3         10,254         95,449,308         35.8           1,065         11,429,402         77         3.1         11.4         10,732         102,511,728         35.8           1,105         11,236,288         7.1         3.1         11.6         11,074         10,572,672         37.7           1,105         12,304,185         9.4         3.0         12.2         11,594         119,508,312         39.4           1,106         12,501         12,499,476         8.1         2.9         12.7         11,986         129,345,812         42.4           1,201         16,966,042         7.9         2.8         12.7         11,986         129,345,812         46.2           1,301         16,966,042         7.9         2.8         12.7         13,041         150,251,136         46.2           1,442         21,271,162         2.7         2.8         12.7         13,041         150,252,136         47.1           1,442         21,575,162         3.9         2.9         2.2         13.9         45.2         47.1           1,442         21,575,162         3.9         2.9         2.9         2.0 <t< th=""><td>1993</td><td>686</td><td>9,704,929</td><td>7.7</td><td>3.3</td><td>10.5</td><td>9,813</td><td>85,832,484</td><td>34.3</td><td>235,068</td></t<>	1993	686	9,704,929	7.7	3.3	10.5	9,813	85,832,484	34.3	235,068
1,065         11,429,402         77         3.1         11.4         10,732         10,511,728         35.8           1,105         1,236,298         7.1         3.1         11.6         11,074         109,572,672         37.7           1,108         1,239,1,85         9.4         3.0         12.2         11,94         109,572,672         37.7           1,208         1,449,476         8.1         2.9         12.7         11,86         129,345,816         42.4           1,260         1,5721,865         8.6         2.8         12.7         11,86         129,345,816         42.4           1,260         1,5721,865         8.6         2.8         12.7         11,86         129,345,816         42.4           1,355         18,605,474         9.1         2.7         12,47         150,405,823         44.2           1,442         21,273,162         3.9         1.2         12,47         150,405,82         44.2           1,742         22,605,500         39.9         1.9         20.8         17,78         36,698,084         57.1           1,742         23,61,81,864         2.4         2.0         2.0         17,88         17,384         36,23	1994	1,035	10,612,612	9.4	3.2	11.3	10,254	95,449,308	35.8	263,340
1,105         1,236,298         7.1         3.1         11.6         11,074         109,572,672         37.7           1,156         1,391,185         9.4         3.0         12.2         11,594         119,508,312         39.4           1,208         1,449,476         8.1         2.9         12.7         11,986         129,345,816         42.4           1,208         1,449,476         8.6         2.8         12.4         119,805,832         44.2           1,301         16,966,042         7.9         2.8         12.4         15,385,832         44.2           1,341         16,966,042         7.9         2.8         12.4         150,527,136         44.2           1,442         1,536         18,066,042         2.9         1.2         13.9         14,533         187,508,508         44.2         44.2           1,442         21,273,162         15.0         2.5         13.9         17,088         275,193,384         58.3         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2         44.2<	1995 1	1,065	11,429,402	7.7	3.1	11.4	10,732	102,511,728	35.8	270,600
1,156         1,391,185         9.4         3.0         12.2         11,594         119,508,312         39.4           1,208         1,4479,476         8.1         2.9         12.7         11,986         129,345,816         42.4           1,206         1,5721,865         8.6         2.8         12.4         12,478         139,805,832         44.2           1,260         1,5721,865         8.6         2.8         12.4         12,478         139,805,832         44.2           1,301         1,696,042         7.9         2.8         12.7         13,418         139,805,832         44.2           1,31         1,565         18.0         2.7         13.9         14,753         14,753         46.2           1,442         2,1273,162         15.0         2.5         13.9         14,753         18,049,888         47.1           1,742         29,767,500         39.9         1.9         20.8         17,394         286,698,084         57.3           1,753         30,491,864         2.4         2.0         2.0         10.8         17,394         286,698,084         57.1           1,793         35,091,468         9.6         1.7         2.5         18,68	1996	1,105	12,236,298	7.1	3.1	11.6	11,074	109,572,672	37.7	302,952
1,208         14,479,476         8.1         2.9         12.7         11,986         129,345,816         42.4           1,260         15,721,865         8.6         2.8         12.4         12,478         139,805,832         44.2           1,260         15,721,865         8.6         2.8         12.4         12,478         139,805,832         44.2           1,301         16,966,042         7.9         2.8         12.7         13,041         150,527,136         46.2           1         1,355         18,505,247         9.1         2.7         12.8         13,041         150,527,136         46.2           1         1,442         21,273,162         15.0         2.5         13.9         14,753         18,768,508,568         53.3           1         1,742         29,767,500         39.9         1.9         20.8         17,394         286,698,084         47.1           1         1,742         29,767,500         39.9         1.9         20.8         17,394         286,698,084         53.3           1         1,753         32,027,305         5.0         2.0         2.0         10.8         17,394         286,698,084         53.3           1         1	1997	1,156	13,391,185	9.4	3.0	12.2	11,594	119,508,312	39.4	325,440
1         1,260         15,721,865         8.6         2.8         12.4         12,478         139,805,832         44.2           1         1,301         16,966,042         7.9         2.8         12.7         13,041         15,027,136         46.2           1         1,355         18,505,247         9.1         2.7         12.8         13,657         161,409,68         47.1           1         1,442         21,273,162         15.0         2.5         13.9         14,753         18,708,586         53.3           1         1,742         22,767,500         39.9         1.9         20.8         17,088         275,193,384         58.2           1         1,742         22,767,500         39.9         1.9         20.4         17,394         286,698,084         53.3           1         1,753         30,491,864         2.4         2.0         20.4         17,394         286,698,084         55.7           1         1,793         32,027,305         5.0         2.0         1.7         22.5         18,686         226,828,088         61.1           1         1,878         35,091,468         9.6         1.7         22.5         18,686         298,395,396	1998	1,208	14,479,476	8.1	2.9	12.7	11,986	129,345,816	42.4	370,344
1         1,301         16,966,042         7.9         2.8         12.7         13,041         150,527,136         46.2           1         1,355         18,505,247         9.1         2.7         12.8         13,657         161,740,968         47.1           1         1,442         21,273,162         15.0         2.5         13.9         14,753         187,508,568         53.3           1         1,742         29,767,500         39.9         1.9         20.8         17,088         275,193,384         58.2           1         1,753         30,491,864         2.4         2.0         20.4         17,394         286,698,084         58.2           1         1,793         32,027,305         5.0         2.0         20.4         17,394         286,698,084         58.3           1         1,793         32,027,305         5.0         2.0         1.0         22.5         18,686         326,698,084         58.3           1         1,878         35,091,468         9.6         1.7         22.5         18,686         326,828,088         61.1           2,305         5,883,032         13.7         1.6         2.5         14,452         28,499,493         61.1	1999	1,260	15,721,865	8.6	2.8	12.4	12,478	139,805,832	44.2	402,504
1         1,355         18,505,247         9.1         2.7         12.8         13,657         161,740,968         47.1           1         1,442         21,273,162         15.0         2.5         13.9         14,753         187,508,568         53.3           1         1,742         29,767,500         39.9         1.9         20.8         17,088         275,193,384         58.2           1         1,733         30,491,864         2.4         2.0         20.4         17,394         286,698,084         55.7           1         1,793         32,027,305         5.0         2.0         19.8         17,862         298,395,396         58.3           1         1,878         35,091,468         9.6         1.7         22.5         18,686         326,828,088         61.1           2,018         39,883,032         13.7         1.6         25.0         19,764         371,497,680         66.3           2,307         49,489,643         24.1         1.4         32.1         21,485         494,923,021         66.3           2,308         61,710,576         4.5         1.3         1.3         1.0         49.4         49.4         49.4         49.4         49.4	$2000^{-1}$	1,301	16,966,042	7.9	2.8	12.7	13,041	150,527,136	46.2	445,464
1         1,442         21,273,162         15.0         2.5         13.9         14,753         187,508,568         53.3           1         1,742         29,767,500         39.9         1.9         20.8         17,088         275,193,384         58.2           1         1,753         30,491,864         2.4         2.0         20.4         17,394         286,698,084         55.7           1         1,753         32,027,305         5.0         2.0         19.8         17,862         298,395,396         58.3           1         1,878         35,091,468         9.6         1.7         22.5         18,686         326,828,088         61.1           2,018         39,883,032         13.7         1.6         25.0         19,764         371,497,680         66.3           2,307         49,489,643         24.1         1.4         32.1         47,497,090         66.3           2,307         49,489,643         27.1         1.3         1.3         1.2         32.1         47,497,090         66.3           2,305         50,810,927         2.7         1.2         21,485         494,923,021         63.8         61.4           2,709         61,710,576 <td< th=""><td><math>2001^{-1}</math></td><td>1,355</td><td>18,505,247</td><td>9.1</td><td>2.7</td><td>12.8</td><td>13,657</td><td>161,740,968</td><td>47.1</td><td>484,776</td></td<>	$2001^{-1}$	1,355	18,505,247	9.1	2.7	12.8	13,657	161,740,968	47.1	484,776
1         1,742         29,767,500         39.9         1.9         20.8         17,088         275,193,384         58.2           1         1,753         30,491,864         2.4         2.0         20.4         17,394         286,698,084         55.7           1         1,753         32,027,305         5.0         2.0         19.8         17,862         298,395,396         58.3           1         1,787         35,091,468         9.6         1.7         22.5         18,686         326,828,088         61.1           1         1,878         35,091,468         9.6         1.7         25.5         18,686         326,828,088         61.1           2,307         49,489,643         24.1         1.4         32.1         47497,680         66.3           2,307         49,489,643         24.1         1.4         32.1         47497,202         63.8           2,450         53,115,267         4.5         1.2         37.5         21,680         525,200,232         58.9           2,704         61,710,576         16.2         1.0         49.4         22,832         607,497,502         63.5         1           2,719         62,548,233         1.3         1.0<	$2002^{-1}$	1,442	21,273,162	15.0	2.5	13.9	14,753	187,508,568	53.3	622,236
1         1,753         30,491,864         2.4         2.0         20.4         17,394         286,698,084         55.7           1         1,793         32,027,305         5.0         2.0         19.8         17,862         298,395,396         58.3           1         1,878         35,091,468         9.6         1.7         22.5         18,686         326,828,088         61.11           2,018         39,883,032         13.7         1.6         25.0         19,764         371,497,680         66.3           2,307         49,489,643         24.1         1.4         32.1         21,485         473,240,976         66.3           2,365         50,810,927         2.7         1.3         33.9         21,485         494,923,021         63.8           2,450         53,115,267         4.5         1.2         37.5         21,680         525,200,232         58.9           2,709         61,710,576         16.2         1.0         50.7         22,780         614,497,202         63.5         1           2,704         62,548,233         1.3         1.0         49.4         23,004         609,558,963         69.0         1           2,764         64,275,837	$2003^{-1}$	1,742	29,767,500	39.9	1.9	20.8	17,088	275,193,384	58.2	742,908
1         1,793         32,027,305         5.0         2.0         19.8         17,862         298,395,396         58.3           1         1,878         35,091,468         9.6         1.7         22.5         18,686         326,828,088         61.1           1         1,878         35,091,468         9.6         1.7         22.5         18,686         326,828,088         61.1           2,018         39,883,032         13.7         1.6         25.0         19,764         371,497,680         66.3           2,307         49,489,643         24.1         1.4         32.1         21,485         494,923,021         63.8           2,450         53,115,267         4.5         1.2         37.5         21,485         494,923,021         63.8           2,709         61,710,576         16.2         1.0         50.7         22,780         614,497,202         63.5           2,704         61,737,864         0.0         1.0         49.4         22,832         607,450,331         66.1           2,704         64,275,837         2.8         1.0         50.8         23,543         601,589,63         69.0         1           2,809         66,133,217         2.9	2004	1,753	30,491,864	2.4	2.0	20.4	17,394	286,698,084	55.7	717,888
1         1,878         35,091,468         9.6         1.7         22.5         18,686         326,828,088         61.1           1         2,018         39,883,032         13.7         1.6         25.0         19,764         371,497,680         66.3           2,307         49,489,643         24.1         1.4         32.1         21,485         473,240,976         74.4         1           2,365         50,810,927         2.7         1.3         33.9         21,485         494,923,021         63.8         74.4         1           2,450         53,115,267         4.5         1.2         37.5         21,680         525,200,232         58.9         8.9           2,704         61,710,576         16.2         1.0         49.4         22,780         614,497,202         63.5         1           2,704         61,737,864         0.0         1.0         49.4         22,832         607,450,331         66.1         1           2,764         64,275,837         2.8         1.0         50.8         23,255         647,811,688         70.4         1           2,809         66,133,217         2.9         66,133,517         2.9         661,292,0061         73.7 <td< th=""><td>2005</td><td>1,793</td><td>32,027,305</td><td>5.0</td><td>2.0</td><td>19.8</td><td>17,862</td><td>298,395,396</td><td>58.3</td><td>781,152</td></td<>	2005	1,793	32,027,305	5.0	2.0	19.8	17,862	298,395,396	58.3	781,152
1         2,018         39,883,032         13.7         1.6         25.0         19,764         371,497,680         66.3           2,307         49,489,643         24.1         1.4         32.1         21,452         473,240,976         74.4         1           2,365         50,810,927         2.7         1.3         33.9         21,485         494,923,021         63.8         1           2,450         53,115,267         4.5         1.2         37.5         21,680         525,200,232         58.9         1           2,709         61,710,576         16.2         1.0         49.4         22,780         614,497,202         63.5         1           2,704         61,337,864         0.0         1.0         49.4         22,832         607,450,331         66.1         1           2,719         62,548,233         1.3         1.0         50.8         23,004         609,558,963         69.0         1           2,764         64,275,837         2.8         1.0         50.8         23,553         661,292,061         73.7         1           2,809         66,133,217         2.9         6.0         23,543         661,292,061         73.7         1	2006	1,878	35,091,468	9.6	1.7	22.5	18,686	326,828,088	61.1	857,760
2,30749,489,64324.11.432.121,452473,240,97674.414.42,36550,810,9272.71.333.921,485494,923,02163.82,45053,115,2674.51.237.521,680525,200,23258.92,70961,710,57616.21.050.722,780614,497,20263.512,70461,737,8640.01.049.422,832607,450,33166.112,70462,548,2331.31.050.823,004609,558,96369.012,70464,275,8372.81.050.823,255647,811,68870.412,80966,133,2172.90.953.623,543661,292,06173.71	2007	2,018	39,883,032	13.7	1.6	25.0	19,764	371,497,680	66.3	977,328
2,36550,810,9272.71.333.921,485494,923,02163.82,45053,115,2674.51.237.521,680525,200,23258.92,70961,710,57616.21.050.722,780614,497,20263.512,70461,737,8640.01.049.422,832607,450,33166.112,71962,548,2331.31.049.723,004609,558,96369.012,76464,275,8372.81.050.823,255647,811,68870.412,80966,133,2172.90.953.623,543661,292,06173.71	2008	2,307	49,489,643	24.1	1.4	32.1	21,452	473,240,976	74.4	1,134,019
2,45053,115,2674.51.237.521,680525,200,23258.92,70961,710,57616.21.050.722,780614,497,20263.512,70461,737,8640.01.049.422,832607,450,33166.112,71962,548,2331.31.049.723,004609,558,96369.012,76464,275,8372.81.050.823,255647,811,68870.412,80966,133,2172.90.953.623,543661,292,06173.71	2009	2,365	50,810,927	2.7	1.3	33.9	21,485	494,923,021	63.8	994,553
2,709       61,710,576       16.2       1.0       50.7       22,780       614,497,202       63.5       1         2,704       61,737,864       0.0       1.0       49.4       22,832       607,450,331       66.1       1         2,719       62,548,233       1.3       1.0       49.7       23,004       609,558,963       69.0       1         2,764       64,275,837       2.8       1.0       50.8       53.6       647,811,688       70.4       1         2,809       66,133,217       2.9       0.9       53.6       23,543       661,292,061       73.7       1	2010	2,450	53,115,267	4.5	1.2	37.5	21,680	525,200,232	58.9	948,815
2,704       61,737,864       0.0       1.0       49.4       22,832       607,450,331       66.1       1         2,719       62,548,233       1.3       1.0       49.7       23,004       609,558,963       69.0       1         2,764       64,275,837       2.8       1.0       50.8       23,255       647,811,688       70.4       1         2,809       66,133,217       2.9       0.9       53.6       23,543       661,292,061       73.7       1	2011	2,709	61,710,576	16.2	1.0	50.7	22,780	614,497,202	63.5	1,059,171
2,719       62,548,233       1.3       1.0       49.7       23,004       609,558,963       69.0       1         2,764       64,275,837       2.8       1.0       50.8       23,255       647,811,688       70.4       1         2,809       66,133,217       2.9       0.9       53.6       23,543       661,292,061       73.7       1	2012	2,704	61,737,864	0.0	1.0	49.4	22,832	607,450,331	66.1	1,125,302
2,764     64,275,837     2.8     1.0     50.8     23,255     647,811,688     70.4     1       2,809     66,133,217     2.9     0.9     53.6     23,543     661,292,061     73.7     1	2013	2,719	62,548,233	1.3	1.0	49.7	23,004	609,558,963	0.69	1,200,744
2,809 66,133,217 2.9 0.9 53.6 23,543 661,292,061 73.7 1	2014	2,764	64,275,837	2.8	1.0	50.8	23,255	647,811,688	70.4	1,219,112
	2015	2,809	66,133,217	2.9	6.0	53.6	23,543	661,292,061	73.7	1,301,409

Number Annual Allowance  1,791 \$ 31,990,842 1,878 \$ 35,092,308 2,018 \$ 39,883,032 2,307 \$ 49,489,643 2,365 \$ 50,810,927 2,450 \$ 53,115,267 2,709 \$ 61,710,576 2,704 \$ 61,737,864 2,719 \$ 62,548,233 2,764 \$ 64,275,837 2,809 \$ 66,133,217			Schedule of R	Tucson Supl etirees and Ber	Tucson Supplemental Retirement System Schedule of Retirees and Beneficiaries Added to and Removed from Rolls	nt System and Removed	from R	kolls		
Annual         Annual         Annual         Annual         Annual Allowances         Number         Allowances         Number         Allowances         Number         Allowances         Number         Annual Allowance           5         68         \$3,498,948         42         \$485,633         1,791         \$1,990,842           6         101         \$2,335,032         53         \$656,383         1,878         \$35,092,308           7         213         \$6,055,096         36         \$403,347         2,018         \$39,883,032           8         313         \$10,001,857         24         \$395,246         2,307         \$49,489,643           9         112         \$2,005,399         54         \$684,115         2,365         \$50,810,927           1         \$3,089,275         56         \$784,935         2,450         \$50,810,927           1         \$3,089,275         56         \$1,284,997         2,709         \$61,710,576           2         \$64         \$1,084,848         69         \$1,216,923         2,719         \$62,548,233           3         \$66         \$1,070,632         \$2,704         \$64,275,837           4         \$114         \$2,635,101         \$69		Added	to Rolls	Remove	d from Rolls	Rolls F	Ind of Y	ear		
Number         Allowances         Number         Annual Allowance           5         68         \$3,498,948         42         \$485,633         1,791         \$31,990,842           6         101         \$2,335,032         53         \$656,383         1,878         \$35,092,308           7         213         \$6,055,096         36         \$403,347         2,018         \$39,883,032           8         313         \$10,001,857         24         \$395,246         2,307         \$49,489,643           9         112         \$2,005,399         54         \$684,115         2,365         \$50,810,927           1         \$3,089,275         56         \$784,935         2,450         \$50,810,927           1         \$332         \$9,880,306         73         \$1,284,997         2,709         \$61,710,576           2         64         \$1,084,848         69         \$1,057,560         2,704         \$62,548,233           3         96         \$2,027,292         81         \$1,016,923         2,719         \$62,548,233           4         114         \$2,635,101         69         \$1,299,698         2,809         \$6,133,217           5         127         \$3,157,078	H.		Annual		Annual	,			Average Annual	Percentage Increase in
68       \$3,498,948       42       \$485,633       1,791       \$         101       \$2,335,032       53       \$656,383       1,878       \$         213       \$6,055,096       36       \$403,347       2,018       \$         313       \$10,001,857       24       \$395,246       2,307       \$         112       \$2,005,399       54       \$684,115       2,365       \$         141       \$3,089,275       56       \$784,935       2,450       \$         53       \$9,880,306       73       \$1,284,997       2,709       \$         64       \$1,084,848       69       \$1,057,560       2,704       \$         96       \$2,027,292       81       \$1,16,923       2,719       \$         114       \$2,635,101       69       \$1,216,923       2,764       \$         127       \$3,157,078       82       \$1,299,698       \$       \$807,497       2,809       \$	Fiscal Year	Number	Allowances	Number	Allowances	Number	Annua	Allowance	Allowance	Allowance
101       \$2,335,032       53       \$656,383       1,878       \$         213       \$6,055,096       36       \$403,347       2,018       \$         213       \$10,001,857       24       \$395,246       2,307       \$         112       \$2,005,399       54       \$684,115       2,365       \$         141       \$3,089,275       56       \$784,935       2,450       \$         332       \$9,880,306       73       \$1,284,997       2,709       \$         64       \$1,084,848       69       \$1,057,560       2,704       \$         96       \$2,027,292       81       \$1,216,923       2,719       \$         114       \$2,635,101       69       \$907,497       2,764       \$         127       \$3,157,078       82       \$1,299,698       2,809       \$	6/30/2005	89	\$3,498,948	42	\$485,633	1,791	\$	31,990,842	17,796	
213       \$6,055,096       36       \$403,347       2,018       \$         313       \$10,001,857       24       \$395,246       2,307       \$         112       \$2,005,399       54       \$684,115       2,365       \$         141       \$3,089,275       56       \$784,935       2,450       \$         332       \$9,880,306       73       \$1,284,997       2,709       \$         64       \$1,084,848       69       \$1,057,560       2,704       \$         96       \$2,027,292       81       \$1,216,923       2,719       \$         114       \$2,635,101       69       \$907,497       2,764       \$         127       \$3,157,078       82       \$1,299,698       2,809       \$	6/30/2006	101	\$2,335,032	53	\$656,383	1,878	\$	35,092,308	18,686	4.61%
313       \$10,001,857       24       \$395,246       2,307       \$         112       \$2,005,399       54       \$684,115       2,365       \$         141       \$3,089,275       56       \$784,935       2,450       \$         332       \$9,880,306       73       \$1,284,997       2,709       \$         64       \$1,084,848       69       \$1,057,560       2,704       \$         96       \$2,027,292       81       \$1,16,923       2,719       \$         114       \$2,635,101       69       \$907,497       2,764       \$         127       \$3,157,078       82       \$1,299,698       2,809       \$	6/30/2007	213	\$6,055,096	36	\$403,347	2,018	\$	39,883,032	19,764	5.77%
112       \$2,005,399       54       \$684,115       2,365       \$         141       \$3,089,275       56       \$784,935       2,450       \$         332       \$9,880,306       73       \$1,284,997       2,709       \$         64       \$1,084,848       69       \$1,057,560       2,704       \$         96       \$2,027,292       81       \$1,216,923       2,719       \$         114       \$2,635,101       69       \$907,497       2,764       \$         127       \$3,157,078       82       \$1,299,698       2,809       \$	6/30/2008	313	\$10,001,857	24	\$395,246	2,307	\$	49,489,643	21,452	8.54%
141       \$3,089,275       56       \$784,935       2,450       \$         332       \$9,880,306       73       \$1,284,997       2,709       \$         64       \$1,084,848       69       \$1,057,560       2,704       \$         96       \$2,027,292       81       \$1,216,923       2,719       \$         114       \$2,635,101       69       \$907,497       2,764       \$         127       \$3,157,078       82       \$1,299,698       2,809       \$	6/30/2009	112	\$2,005,399	54	\$684,115	2,365	\$	50,810,927	21,485	0.15%
332       \$9,880,306       73       \$1,284,997       2,709       \$         64       \$1,084,848       69       \$1,057,560       2,704       \$         96       \$2,027,292       81       \$1,216,923       2,719       \$         114       \$2,635,101       69       \$907,497       2,764       \$         127       \$3,157,078       82       \$1,299,698       2,809       \$	6/30/2010	141	\$3,089,275	99	\$784,935	2,450	\$	53,115,267	21,680	0.91%
64     \$1,084,848     69     \$1,057,560     2,704     \$       96     \$2,027,292     81     \$1,216,923     2,719     \$       114     \$2,635,101     69     \$907,497     2,764     \$       127     \$3,157,078     82     \$1,299,698     2,809     \$	6/30/2011	332	\$9,880,306	73	\$1,284,997	2,709	\$	61,710,576	22,780	5.07%
96       \$2,027,292       81       \$1,216,923       2,719       \$         114       \$2,635,101       69       \$907,497       2,764       \$         127       \$3,157,078       82       \$1,299,698       2,809       \$	6/30/2012	64	\$1,084,848	69	\$1,057,560	2,704	\$	61,737,864	22,832	0.23%
114       \$2,635,101       69       \$907,497       2,764       \$         127       \$3,157,078       82       \$1,299,698       2,809       \$	6/30/2013	96	\$2,027,292	81	\$1,216,923	2,719	\$	62,548,233	23,004	0.75%
127 \$3,157,078 82 \$1,299,698 2,809 \$	6/30/2014	114	\$2,635,101	69	\$907,497	2,764	\$	64,275,837	23,255	1.09%
	6/30/2015	127	\$3,157,078	82	\$1,299,698	2,809	↔	66,133,217	23,543	1.24%

# SUMMARY OF BENEFIT PROVISONS

**JUNE 30, 2015** 

#### NORMAL RETIREMENT (NO REDUCTION FACTOR)

#### Eliaibility:

<u>Tier 1</u> – Members hired before July 1, 2011. Age 62, or a combination of age and creditable service equal to 80 (for those hired on or after July 1, 2009, eligibility at age 62 requires a minimum of 5 years of accrued service).

<u>Tier 2</u> – Members hired on or after July 1, 2011. Age 65 with 5 years of service or a combination of age and creditable service equal to 85 and the attainment of age 60.

<u>Amount</u> - Creditable service times 2.25% of average final compensation for Tier 1 and 2.00% of average final compensation for Tier 2.

Average Final Compensation - The average monthly creditable compensation for the period of 36 consecutive months during which the member's creditable compensation was the highest during the 120 months immediately preceding the date of retirement for Tier 1 and 60 consecutive months during which the member's creditable compensation was the highest during the 120 months immediately preceding the date of retirement for Tier 2. Effective July 1, 2000, accrued unused sick leave at the final salary may be substituted for an equal number of hours at the beginning of the 36 month period for Tier 1.

#### **DEFERRED RETIREMENT (VESTED TERMINATION)**

**Eligibility** - 5 or more years of accrued service. Deferred retirement benefits for terminated vested employee becomes automatic at age 62 (age 65 for Tier 2) or when a combination of age and creditable service equals 80 (85 with the attainment of age 60 for Tier 2), unless the member elects to withdraw the employee contribution account in lieu of a deferred retirement benefit. In addition to the eligibility listed above, the term-vested member may chose an Early Retirement (minimum age of 55 for Tier 1 and 60 for Tier 2 and minimum service of 20 yrs) subject to the same reduction – reduced by ½ of 1% per month for each month (6% per year) retirement precedes normal retirement eligibility.

**Amount** - An amount computed as for normal retirement.

#### **DISABILITY RETIREMENT**

**<u>Eligibility</u>** - Eligibility requires 10 or more years of credited service and a disability that is total and permanent.

<u>Amount</u> - An amount computed as for normal retirement. Disability Retirement Benefits are offset, if the combination of all employer-provided benefits exceeds 100% of the members adjusted income base, then members pension benefit from TSRS is reduced so income does not exceed the 100% maximum allowed.

#### PRE-RETIREMENT SURVIVOR BENEFITS

**Eliaibility** - 5 or more years of accrued service and not eligible to retire.

<u>Amount</u> - Lump sum payment equal to twice the member's contributions, with interest.

**<u>Eligibility</u>** - After attaining eligibility for retirement, in the event the member dies prior to submitting an application for retirement benefits:

<u>Amount</u> - If the member is married, a default provision allows the member's spouse to elect to receive either a lump sum payment of twice the member's contributions account, or receive a lifetime annuity benefit determined as if the member had elected a joint & last survivor benefit of 100% survivor annuity prior to death. If the member is not married and has named a single non-spousal beneficiary, the beneficiary may elect to receive either a lump sum payment of twice the member's contributions account, or receive a 15 year annuity benefit determined as if the member elected payment of a 15 year term certain annuity. If the member has named multiple designated beneficiaries, a lump sum refund of the member's account balance will be paid to the named beneficiaries.

#### OTHER TERMINATION BENEFITS

**Eligibility** - Termination of employment without eligibility for any other benefit.

<u>Amount</u> - Accumulated contributions and interest in members account at time of termination.

#### **EMPLOYEE CONTRIBUTIONS**

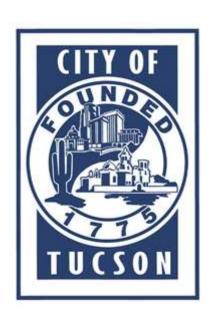
Interest is credited to member accumulated contributions accounts as simple interest two times per year at an annual interest rate of 6%. For those hired prior to July 1, 2006, employee contributions are 5.00% of salary. For those hired between July 1, 2006 and June 30, 2011 (Tier I variable class) and for those hired after July 1, 2011 (Tier II variable class), employee contributions are 50% of the respective Normal Cost for each class, with a floor of 5.0%. The employee contributions for the Tier I and Tier II variable classes for FY 16/17 are 6.60% and 4.89%, respectively, before application of the floor or

#### **CITY CONTRIBUTIONS**

City Contributions are actuarially determined; which together with employee contributions and investment earnings will fund the obligations of the System in accordance with generally accepted actuarial principles. (Please refer to the Funding Policy in Section I of this report).

#### **POST-RETIREMENT ADJUSTMENTS**

The TSRS Board has established formal policies to determine whether the system shall fund an annual supplemental post-retirement benefit payment to retired members and beneficiaries.





STATISTICAL SECTION

#### **Discussion of Statistical Section**

This section of the Tucson Supplemental Retirement System's comprehensive annual financial report (CAFR) provides detailed financial and non-financial information, often considered relevant to users. The statistical section presents certain information on a trend basis; that is, a summary of information that is provided for each year in a ten-year period. Other non-trend schedules present demographic and participation information for our active and retired membership. Each schedule is defined below with an explanation and an identification of the source of the data.

#### **Statement of Changes in Plan Net Position**

This schedule provides the additions and deductions to the plan for the past ten years. The change in net position is provided to illustrate whether or not sufficient resources are available in the current fiscal year to cover plan benefits. This schedule is developed using the Statements of Changes in Plan Net Position for the past ten years.

#### **Retired Members by Type of Benefit**

This schedule provides the number of retired members by type of benefit. The TSRS plan benefits include payments for normal retirement benefits, disability benefits, survivor benefits, and term certain benefits paid to members, beneficiaries and alternate payees. The schedule is developed using TSRS' database.

#### **Average Monthly Benefit Payments to New Retirees**

This schedule provides the average monthly benefit payments made to new retirees, using six ranges of years of credited service by year. This information is provided to illustrate changes in benefit payments as the amount of service earned increases and indicates the number of employees retired during each of the last 10 years. This schedule is developed using TSRS' database.

#### **Demographics of Retired and Active Members**

This schedule provides the age demographics of all retirees, survivors and beneficiaries of retired members for this year only. Similarly, age demographics for the systems active membership are indicated as well as the relative composition of membership categorized by Tier. This schedule is developed using TSRS' membership database.

#### **Employee and Employer Contribution Rates**

This schedule provides the contribution rates paid by the Plan sponsor and by City employees during the past 10 years. This schedule is a historical summary of the actual rates paid.

#### Benefit and Refund Deductions from Net Position by Type

This schedule provides the benefits paid to all service and disability retirees during each of the last 10 years. In addition, the lump sum payments to members elected to participate in the End of Service program since 2007 and refunds associated with member deaths, separation from service and transfers to other retirement systems are summarized. This schedule is developed using the Statements of Changes in Plan Net Position for the past ten years.

#### **Retiree Benefit and Service Summary**

This schedule indicates average retiree benefits paid to retirees, based on the number of years retired, indicating eight age categories and the years of credited service served. This schedule is developed using TSRS' membership database.

# Tucson Supplemental Retirement System Statement of Changes in Plan Net Position - Last Ten Fiscal Years

### For the Fiscal Years Ending June 30,

	2015	2014	2013	2012	2011
Additions					
City Contributions	\$ 33,985,523	\$ 34,189,288	\$ 34,523,315	\$ 27,429,666	\$ 23,432,916
Employee Contributions	6,512,180	6,636,833	9,200,262	7,685,264	7,562,294
Purchase of Service	1,019,665	701,711	1,014,301	1,280,263	3,772,923
Contributions from Other Sources	-	-	-	50,000	50,000
Transfers from Other Systems	-	-	-	204,404	700,009
Total Contributions	\$ 41,517,368	\$ 41,527,832	\$ 44,737,878	\$ 36,649,597	\$ 35,518,142
Investment Income					
Net Gain (Loss) in Fair Value of Investments	\$ 22,467,139	\$ 111,063,362	\$ 73,705,613	\$ 566,661	\$ 106,114,437
Interest	6,393,666	5,901,539	4,174,559	6,319,874	6,361,246
Dividends	5,915,832	6,786,728	7,158,084	4,981,339	5,589,052
Securities Lending Income	163,140	134,036	184,733	157,562	124,158
Miscellaneous Income	 20,783	91,630	 98,400	 16,833	45,681
Net Income from Investment Activity	\$ 34,960,560	\$ 123,977,295	\$ 85,321,389	\$ 12,042,269	\$ 118,234,574
Less Investment Expenses:					
Securities Lending Fees	\$ 65,676	\$ 54,589	\$ 78,604	\$ 68,370	\$ 35,027
Investment Services	4,092,449	4,022,476	3,805,861	3,460,730	3,871,641
Total Investment Expense	\$ 4,158,125	\$ 4,077,065	\$ 3,884,465	\$ 3,529,100	\$ 3,906,668
Net Investment Gain	\$ 30,802,435	\$ 119,900,230	\$ 81,436,924	\$ 8,513,169	\$ 114,327,906
Total Additions	\$ 72,319,803	\$ 161,428,062	\$ 126,174,802	\$ 45,162,766	\$ 149,846,048
Deductions		 _			
Benefits	\$ 65,216,458	\$ 63,477,074	\$ 62,191,480	\$ 61,693,408	\$ 58,247,882
Refunds	2,395,893	2,524,939	2,631,221	2,247,225	2,350,626
Transfers to Other Systems	-	-	-	-	2,928,607
Administrative Expenses	 650,405	 735,739	 689,252	 550,604	728,642
Total Deductions	\$ 68,262,756	\$ 66,737,752	\$ 65,511,953	\$ 64,491,237	\$ 64,255,757
Net Change in Plan Net Position	\$ 4,057,047	\$ 94,690,310	\$ 60,662,849	\$ (19,328,471)	\$ 85,590,291

# Tucson Supplemental Retirement System Statement of Changes in Plan Net Position - Last Ten Fiscal Years

### For the Fiscal Years Ending June 30,

	2010	2009	2008	2007	2006
Additions					
City Contributions	23,260,609	\$ 21,279,535	\$ 23,902,286	\$ 22,670,418	\$ 24,319,911
Employee Contributions	8,041,748	8,156,115	8,591,124	8,120,057	8,197,437
Purchase of Service	1,556,832	1,565,164	5,186,289	1,008,980	1,157,572
Contributions from Other Sources	50,000	140,512	130,784	41,595	-
Transfers from Other Systems	1,652,656	1,589,190	2,012,917	3,794,093	620,601
Total Contributions	34,561,845	\$ 32,730,516	\$ 39,823,400	\$ 35,635,143	\$ 34,295,521
Investment Income					
Net Gain (Loss) in Fair Value of Investments	40,143,355	\$ (155,121,980)	\$ (50,256,771)	\$ 85,493,111	\$ 48,195,450
Interest	7,441,435	11,087,144	10,815,803	7,649,621	4,144,414
Dividends	6,743,309	7,219,584	10,009,694	9,537,064	8,187,034
Real Estate Income	-	-	-	-	-
Securities Lending Income	91,625	359,394	1,881,706	2,594,083	1,683,061
Miscellaneous Income	3,640	120,820	152,848	6,038	53,855
Net Income from Investment Activity	54,423,364	\$ (136,335,038)	\$ (27,396,720)	\$ 105,279,917	\$ 62,263,814
Less Investment Expenses:					
Securities Lending Fees	25,401	\$ 197,429	\$ 1,708,227	\$ 2,517,081	\$ 1,618,232
Investment Services	4,096,007	4,580,028	4,129,652	3,433,243	3,096,323
Total Investment Expense	4,121,408	\$ 4,777,457	\$ 5,837,879	\$ 5,950,324	\$ 4,714,555
Net Investment Gain	50,301,956	\$ (141,112,495)	\$ (33,234,599)	\$ 99,329,593	\$ 57,549,259
Total Additions	84,863,801	\$ (108,381,979)	\$ 6,588,801	\$ 134,964,736	\$ 91,844,780
Deductions					
Benefits	51,700,541	\$ 51,996,508	\$ 46,211,560	\$ 40,419,922	\$ 33,475,950
Refunds	2,110,360	1,689,956	1,265,235	1,573,276	1,219,263
Transfers to Other Systems	898,085	2,655,061	4,340,520	11,886,941	482,469
Administrative Expenses	672,622	864,382	519,346	485,469	433,350
Total Deductions	55,381,608	\$ 57,205,907	\$ 52,336,661	\$ 54,365,608	\$ 35,611,032
Net Change in Plan Net Position	29,482,193	\$ (165,587,886)	\$ (33,321,180)	\$ 221,514,188	\$ 152,793,083

**Tucson Supplemental Retirement System** Retired Members by Type of Benefit As of June 30, 2015

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		7		7	က	4	9	5	5	5	လ	4	7	_	7		_	_	_		2	533
		9	2	œ	19	16	36	32	36	4	23	92	16	16	9	တ	2	က	က	9	21	319
	ed <sup>b</sup>	5	9	21	44	45	37	47	48	22	49	51	27	13	14	10	7	က	2	2	56	513
	Option Selected <sup>b</sup>	4	_	5	က			<del>-</del>	7	7	<del>-</del>	_	<del>-</del>		7			<del>-</del>	<del>-</del>		7	23
	ō	က	_	7	7	_		_		က	2		7			_					_	19
		2		2	_			_														4
		-	59	107	132	122	127	102	114	115	83	82	82	65	38	27	32	28	20	19	74	1,398
		4	2	œ	2	2	œ	က	7	_	_											35
	of Retirement <sup>a</sup>	3	_	15	33	33	59	13	13	7	9	4	_	_								160
	Type of Retir	2	13	28	99	23	4	33	13	တ	7	က	Ŋ		_	_		_	_		_	309
		_	27	89	132	134	180	190	223	246	182	185	150	110	80	54	22	45	39	32	150	2,305
Number	of	Retirees	43	170	236	225	261	239	251	267	196	192	156	111	81	55	22	46	40	32	151	2,809
	Amount of	Monthly Benefit	- \$ 250	- \$ 500	- \$ 750	- \$ 1,000	- \$ 1,250	- \$ 1,500	- \$ 1,750	- \$ 2,000	- \$ 2,250	- \$ 2,500	- \$ 2,750	- \$ 3,000	- \$ 3,250	- \$ 3,500	- \$ 3,750	- \$ 4,000	- \$ 4,250	- \$ 4,500	- and over	
	Amo	Monthly			501				1,501	1,751	2,001										4,501	
			↔	↔	↔	↔	↔	↔	↔	ક્ર	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	

Notes:

<sup>a</sup>Type of retirement

- 1 Normal retirement for age and service
- 2 Beneficiary payment, normal retirement3 Disability retirement
- Beneficiary payment, disability retirement

<sup>D</sup>Option selected:

- 1 Single life; beneficiary receives lump sum of member's unused contributions
- 2 Beneficiary receives remainder of 5 yr term, if applicable
- 3 Beneficiary receives remainder of 10 yr term, if applicable
- 4 Beneficiary receives remainder of 15 yr term, if applicable
  - 5 Beneficary receives 75% of member's reduced benefit
- 6 Beneficary receives 50% of member's reduced benefit7 Beneficary receives 100% of member's reduced benefit

This schedule indicates the retirement benefit option types selected and paid to members, showing the level of income and the number of retirees in each category

### Tucson Supplemental Retirement System Average Monthly Payments to New Retirees June 30, 2015

Retirement Effective Dates			Years o	f Credited	l Service		
For Fiscal Years Ending June 30	<5	<u>5-9</u>	10-14	15-19	20-24	<u>25-29</u>	<u>&gt; 30</u>
2015 Avg Monthly Benefit Avg Monthly Final Avg Comp. Number of Active/EOSP retirees	n/a n/a n/a	\$ 803 \$ 5,267 n/a	\$ 1,077 \$ 3,679 n/a	\$ 1,670 \$ 4,698 n/a	\$ 2,202 \$ 4,645 n/a	\$ 2,968 \$ 5,118 n/a	\$ 3,864 \$ 5,506 n/a
2014 Avg Monthly Benefit Avg Monthly Final Avg Comp. Number of Active/EOSP retirees	n/a n/a n/a	\$ 635 \$ 4,040 n/a	\$ 1,024 \$ 4,005 n/a	\$ 1,665 \$ 4,255 n/a	\$ 2,364 \$ 4,870 n/a	\$ 2,693 \$ 4,617 n/a	\$ 4,188 \$ 6,061 n/a
2013 Avg Monthly Benefit Avg Monthly Final Avg Comp. Number of Active/EOSP retirees	\$ 507 \$ 5,609 n/a	\$ 578 \$ 3,077 n/a	\$ 1,275 \$ 4,497 n/a	\$ 1,669 \$ 4,121 n/a	\$ 2,060 \$ 4,041 n/a	\$ 2,956 \$ 4,680 n/a	\$ 3,876 \$ 5,124 n/a
2012* Avg Monthly Benefit Avg Monthly Final Avg Comp. Number of Active/EOSP retirees	\$ 237 \$ 2,728 n/a	\$ 563 \$ 3,355 n/a	\$ 923 \$ 3,240 n/a	\$ 1,829 \$ 4,787 n/a	\$ 1,428 \$ 2,767 n/a	\$ 2,401 \$ 3,869 n/a	\$ 2,745 \$ 3,745 n/a
2011* Avg Monthly Benefit Avg Monthly Final Avg Comp. Number of Active/EOSP retirees 2010*	\$ 519 \$ 2,865 5	\$ 560 \$ 3,350 12	\$ 964 \$ 3,352 18	\$ 1,913 \$ 4,774 24	\$ 2,303 \$ 4,509 83	\$ 2,998 \$ 4,899 107	\$ 3,780 \$ 5,044 58
Avg Monthly Benefit Avg Monthly Final Avg Comp. Number of Active/EOSP retirees		1-9 \$ 481 \$ 3,229 23	10-14 \$ 931 \$ 2,976 16	15-19 \$ 1,466 \$ 3,841 13	20-24 \$ 2,374 \$ 5,148 35	25-29 \$ 2,386 \$ 4,251 23	>30 \$ 3,376 \$ 4,871 13
Avg Monthly Benefit Avg Monthly Final Avg Comp. Number of Active/EOSP retirees		\$ 620 \$ 3,474 14	\$ 1,117 \$ 3,823 13	\$ 1,452 \$ 3,671 12	\$ 2,165 \$ 4,281 23	\$ 3,475 \$ 5,775 15	\$ 2,811 \$ 3,942 9
2008* Avg Monthly Benefit Avg Monthly Final Avg Comp. Number of Active/EOSP retirees		\$ 645 \$ 4,302 18	\$ 1,076 \$ 4,542 16	\$ 1,502 \$ 3,869 27	\$ 2,258 \$ 5,094 74	\$ 3,133 \$ 5,310 84	\$ 3,944 \$ 6,222 63
2007 Avg Monthly Benefit Avg Monthly Final Avg Comp. Number of Active Retirees		\$ 648 \$ 3,947 12	\$ 725 \$ 2,922 11	\$ 1,360 \$ 3,687 33	\$ 2,010 \$ 4,258 42	\$ 2,999 \$ 5,086 55	\$ 3,730 \$ 5,589 48
2006 Avg Monthly Benefit Avg Monthly Final Avg Comp. Number of Active Retirees		\$ 610 \$ 4,046 20	\$ 802 \$ 2,803 14	\$ 1,304 \$ 3,245 25	\$ 1,974 \$ 4,006 27	\$ 3,141 \$ 4,970 33	\$ 4,001 \$ 5,561 20
Avg Monthly Benefit Avg Monthly Final Avg Comp. Number of Active Retirees		\$ 563 \$ 3,518 8	\$ 912 \$ 3,722 3	\$ 1,095 \$ 3,017 10	\$ 1,803 \$ 3,884 20	\$ 3,291 \$ 5,623 17	\$ 3,615 \$ 4,883 10

<sup>\*</sup>includes EOSP Participants still employed and alt. payees receiving benefits

# Tucson Supplemental Retirement System Demographics of Retired and Active Members June 30, 2015

#### **Retired Members**

		Retirees		Surv	ivors/Beneficiaries	i
Ages	Male	Female	Total	Male	Female	Total
Under 55	19	36	55	2	18	20
55 to 59	115	116	231	2	20	22
60 to 64	324	226	550	4	29	33
65 to 69	437	209	646	3	41	44
70 to 74	277	146	423	1	60	61
75 to 79	167	92	259	4	55	59
80 to 84	126	47	173	4	47	51
85 to 89	48	31	79	2	25	27
90 to 94	18	17	35	4	18	22
95 to 100	7	6	13	1	4	5
101 and over	0	1	1	0	0	0
Total	1,538	927	2,465	27	317	344

#### **Active Members**

	А	ctive Members		Perc	entage Distributior	า
Ages	Male	Female	Total	Male	Female	Total
Under 20	0	0	0	0.00%	0.00%	0.00%
20 to 29	75	90	165	2.81%	3.38%	6.19%
30 to 39	263	208	471	9.87%	7.81%	17.68%
40 to 49	409	358	767	15.35%	13.43%	28.78%
50 to 59	588	358	946	22.06%	13.43%	35.49%
60 to 69	208	96	304	7.81%	3.60%	11.41%
70 and over	8	4	12	0.30%	0.15%	0.45%
Total	1,551	1,114	2,665	58.20%	41.80%	100.00%

#### **Composition of Active TSRS Membership by Tier**

	<u>Membership</u>	<u>Payroll</u>	% of Payroll
Tier 1 - Fixed Contribution Rates	1,566	79,947,180	64.78%
Tier 1 - Variable Contribution Rates	360	14,852,698	12.03%
Tier 2 - Variable Contribution Rates	739	28,614,682	23.19%
	2,665	123,414,560	100.00%

## Tucson Supplemental Retirement System Employee and Employer Contribution Rates Last Ten Fiscal Years as of June 30, 2015

	_					
Fiscal Year			vee Rate entage)		yer Rate entage)	Total Contribution (percentage)
	_	Fixed	Variable	Fixed	Variable	
02/03		5.0	n/a	8.41	n/a	13.41
03/04		5.0	n/a	11.17	n/a	16.17
04/05		5.0	n/a	14.06	n/a	19.06
05/06		5.0	n/a	14.83	n/a	19.83
06/07*		5.0	7.5	15.04	12.54	20.04
07/08*		5.0	8.084	15.21	12.126	20.21
08/09*		5.0	7.788	14.47	11.682	19.47
09/10*		5.0	8.852	17.13	13.278	22.13
10/11*		5.0	9.428	18.57	14.142	23.57
11/12*		5.0	11.62	24.05	17.43	29.05
12/13*		5.0	13.976	29.94	20.964	34.94
13/14	Tier I	5.0		27.32		32.32
13/14 <sup>1</sup>	Tier I		6.715		25.61	32.32
13/14 <sup>1</sup>	Tier II		5.06		27.26	32.32
14/15	Tier I	5.0		27.22		32.22
14/15 <sup>1</sup>	Tier I		6.67		25.55	32.22
14/15 <sup>1</sup>	Tier II		5.14		27.08	32.22

<sup>\*</sup>Employees hired on or after July 1, 2006 pay a variable rate, which changes annually, to 40% of the actuarially recommended contribution rate (ARC) for the system.

Note 1: Effective July 1, 2013, variable rates are based on the normal cost of the Benefit Tier of membership. Numbers shown are prior to roundup policy.

Tucson Supplemental Retirement System Benefit and Refund Deductions from Net Position by Type Last Ten Fiscal Years

2006		\$ 28,946,679	2,229,540	1,763,061	\$ 33,475,950		\$ 147,588 1,219,264 482,469	\$ 1,849,320
2007		\$ 31,993,340	2,236,330	1,847,725 272,980	\$ 40,419,922		\$ 70,309 1,502,967 11,886,941	\$ 13,460,218
2008		\$ 39,940,472	2,499,152	1,999,565	\$ 46,211,560		\$ 96,935 1,168,300 4,340,520	\$ 5,605,755
2009		\$ 40,123,580	2,700,791	1,969,239 397,556	\$ 51,996,508		\$ 299,778 1,390,177 2,655,061	\$ 4,345,017
30,		\$ 45,580,606	2,757,941	2,015,248	\$ 51,700,541		\$ 250,047 1,860,312 898,085	\$ 3,008,445
fiscal years ended June 30,		\$ 51,377,474	2,951,507	2,057,473	\$ 58,247,882		\$ 305,536 2,045,089 2,928,607	\$ 5,279,232
fiscal 2012		\$ 48,475,837	3,166,737	2,056,266 337,767	\$ 61,693,408		\$ 310,994 1,936,231	\$ 2,247,225
2013		\$ 56,406,478	3,397,302	2,066,746	\$ 62,191,480		\$ 316,495 2,281,823 32,903	\$ 2,631,221
2014		\$ 57,542,260	3,533,539	2,082,396 318,879	\$ 63,477,074		\$ 212,489 1,871,535 440,915	\$ 2,524,939
2015		\$ 59,384,728	3,422,222	2,035,754	\$ 65,216,458		\$ 316,820 1,937,365 141,708	\$ 2,395,893
	Type of Benefit	Service Benefits: Retirees FOSP lump sum <sup>(1)</sup>	Survivors <sup>(2)</sup>	Disabilty Benefits: Retirees Survivors	Total Benefits	Type of Refund	Death Separation Transfers	Total Refunds

(1) EOSP - An End of Service Program benefit option became available for the first time in FY2007, allowing retiring employees to accumulate up to one year's worth of benefit payments during their final year of employment

 $<sup>^{\</sup>left( 2\right) }$  Includes Death in service pension benefits

Tucson Supplemental Retirement System Retiree Benefit and Service Summary

	Average	Total	,				Age at 6/30/15	/30/15				Years of	Years of Credited Service	ervice
# Å LS	Benefit	Monthly	# of				)				-			
Retired	(1)	Benefit pmts	Retirees (2)	<55	55-59	60-64	69-59	70-74	75-79	80-84	85 +	<10	10-19	20>
\$	2,298	1,447,981	089	45	162	236	153	27	9	1	0	69	133	428
5 to 9	2,303	1,803,185	783	18	72	232	278	143	35	3	2	96	164	529
10 to 14	2,037	, 1,214,146	296	6	∞	94	223	178	75	∞	T	37	132	427
15 to 19	1,369	462,765	338	3	6	15	25	114	111	55	9	34	88	216
20 to 24	1,387	, 352,329	254	0	2	5	6	16	71	100	51	26	65	163
25 to 29	1,295	180,030	139	0	0	1	2	5	11	47	73	11	36	95
30>	734	50,668	69	0	0	0	0	1	6	10	49	14	27	28
		5,511,102	2809	75	253	583	069	484	318	224	182	281	645	1883
Notes:														
(1) Averag	e Benefit fo	r all retirees is	(1) Average Benefit for all retirees is \$1,962 per month	Ŧ										
(2) # of Ret	tirees incluc	des alternate pa	(2) # of Retirees includes alternate payees and survivors	/ors										

