



**TUCSON SUPPLEMENTAL RETIREMENT SYSTEM  
(A Component Unit of the City of Tucson, Arizona)**

**Comprehensive Annual Financial Report  
For Fiscal Year Ended  
JUNE 30, 2015**

**Issued by the City of Tucson, Finance Department, Retirement Division**

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# **INTRODUCTORY SECTION**



Government Finance Officers Association

**Certificate of  
Achievement  
for Excellence  
in Financial  
Reporting**

Presented to

**Tucson Supplemental  
Retirement System, Arizona**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**June 30, 2014**

Executive Director/CEO



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.

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.

## 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.

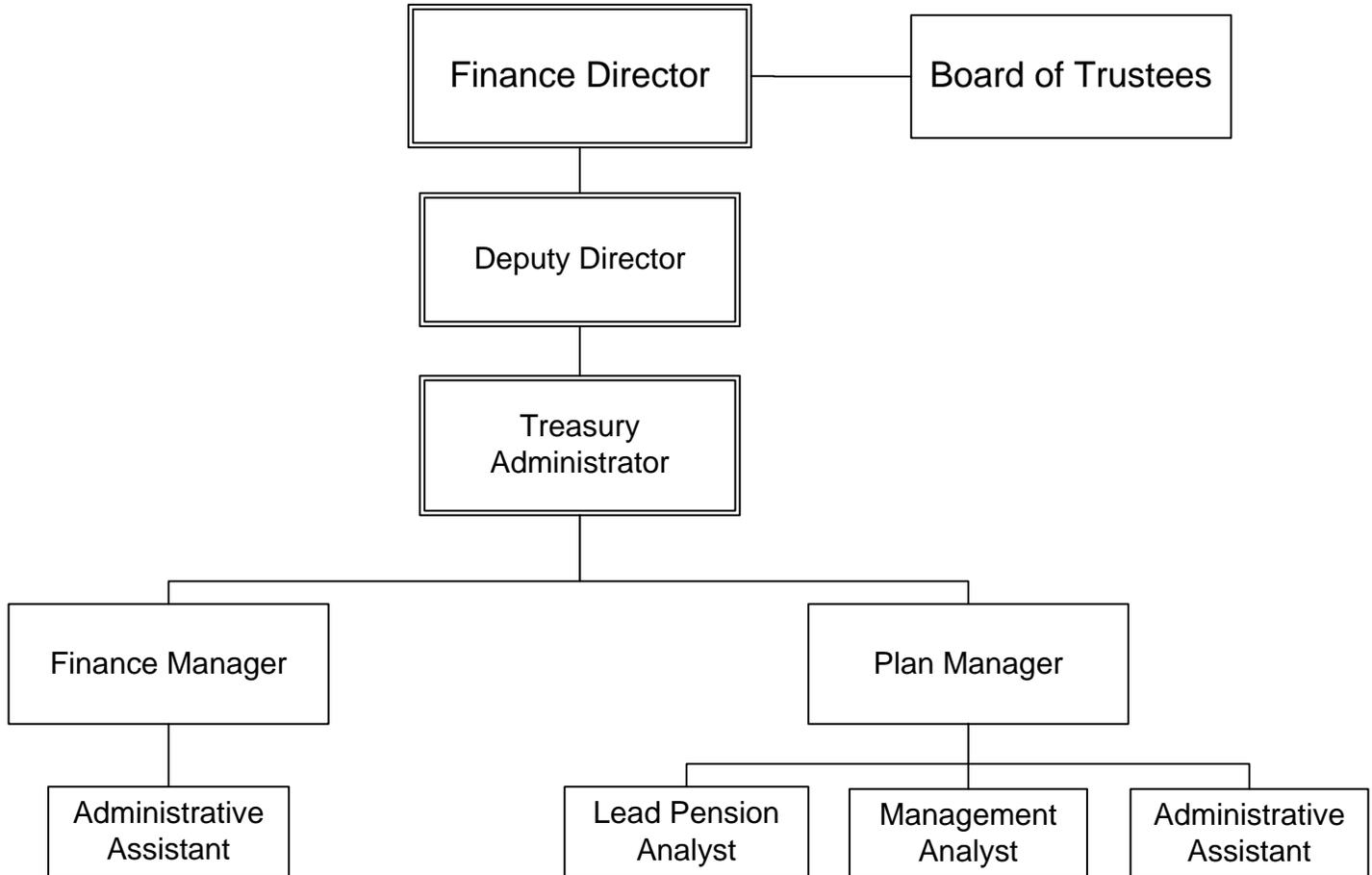
A Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

Respectfully submitted,



Silvia Amparano, CPA  
Finance Director  
Tucson Supplemental Retirement System

### Organization Chart



## Administrative Organization

### BOARD OF TRUSTEES

Robert Fleming  
Chairman

Kevin Larson  
City Manager's Appointee

Silvia Amparano  
Finance Director

Curry Hale  
Interim 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



## **FINANCIAL SECTION**



CliftonLarsonAllen LLP  
www.CLAconnect.com

## 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**

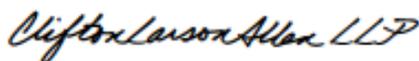
Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Tucson Supplemental Retirement System's basic financial statements. The supporting schedules of administrative expenses and investment services expense on page 29 are presented for purposes 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

## **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
3. 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

<b>Assets</b>	<b>6/30/15</b>	<b>6/30/14</b>	<b>% change</b>
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%
<b>Total Assets</b>	<b>\$ 762,213,988</b>	<b>\$ 751,865,857</b>	<b>1.4%</b>
<b>Liabilities</b>			
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%
<b>Total Liabilities</b>	<b>\$ 22,420,441</b>	<b>\$ 16,129,357</b>	<b>39.0%</b>
<b>Total Net Position</b>	<b>\$ 739,793,547</b>	<b>\$ 735,736,500</b>	<b>0.6%</b>

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

	<b>Additions to Net Assets - TSRS</b>		
	<b>6/30/15</b>	<b>6/30/14</b>	<b>% change</b>
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%
<b>Total Additions</b>	<b>\$ 72,319,803</b>	<b>\$ 161,428,062</b>	<b>-55.2%</b>

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

	<b>06/30/15</b>	<b>06/30/14</b>	<b>% change</b>
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%
<b>Total Deductions</b>	<b>\$ 68,262,756</b>	<b>\$ 66,737,752</b>	<b>2.3%</b>
<b>Net Increase/(Decrease) in Plan Position</b>	<b>\$ 4,057,047</b>	<b>\$ 94,690,310</b>	<b>-95.7%</b>

### Reserves

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**

	<u>Pension Trust</u>
<b><u>ASSETS</u></b>	
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
<b>Total assets</b>	762,213,988
 <b><u>LIABILITIES</u></b>	
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
<b>Total liabilities</b>	22,420,441
 <b><u>NET POSITION</u></b>	
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
<b>Additions:</b>	
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
<b>Total additions</b>	<b>72,319,803</b>
<b>Deductions:</b>	
Payments to Participants	65,216,458
Refunds and Transfers to Other Plans	2,395,893
Administrative Expense	650,405
<b>Total deductions</b>	<b>68,262,756</b>
 <b>Changes in net position</b>	 <b>4,057,047</b>
 <b>Net position, beginning of year</b>	 <b>735,736,500</b>
 <b>Net position, end of year</b>	 <b>\$ 739,793,547</b>

**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
• Plan Fiduciary Net Position as a Percentage of Total Pension Liability		72.43%
• Covered Employee Payroll	\$	123,414,560
• Net Pension Liability as a Percentage of Covered Employee Payroll		228.16%

**I. 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:

<b>Membership – number of:</b>	
Retirees and Beneficiaries	2,809
Inactive, Non-retired Members (44 non vested)	328
Active plan participants	<u>2,665</u>
<b>Total Membership</b>	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)		<u>(65,147,349)</u>
Net Position	\$	<u>739,793,547</u>

## 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.

<u>Investments</u>	<u>Fair Value</u>
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	<u>608,425,149</u>
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	<u>19,213,060</u>
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	<u>127,704,720</u>
Total Deposits and Investments	<u>\$ 755,342,929</u>

*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:*

<b>Asset Class</b>	<b>Target Allocation</b>	<b>Expected Arithmetic Returns</b>
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%
<b>Total</b>	<b>100%</b>	
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:

<b>1% Decrease</b>	<b>Current Single Discount Rate Assumption</b>	<b>1% Increase</b>
<b>6.25%</b>	<b>7.25%</b>	<b>8.25%</b>
\$ 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:

<u>Investment Type</u>	<u>Holdings</u>	<u>Average Credit Rating (1)</u>	<u>Fair Value</u>	<u>Percent of Total</u>
Cash and Cash Equivalents:				
Cash & Short Term Investment Funds	5	Aaa	\$ 8,452,241	
Subtotal	5		8,452,241	5.08%
U.S. Agency & Other Governmental Obligations:				
Municipal Bonds	3	B3	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)	
Futures	2	Aaa	(101,408) (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

(1) Per Moody's Investors Service, Inc. (Moody's)

(2) 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:

<u>Investment Type</u>	<b>Maturity Structure</b>				<u>Fair Value</u>
	<u>Investment Maturities (in Years)</u>				
	<u>Less Than 1</u>	<u>1 - 5</u>	<u>6 - 10</u>	<u>More Than 10</u>	
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
<b>TOTAL</b>	<b>\$ 10,181,591</b>	<b>\$ 54,369,762</b>	<b>\$ 79,184,733</b>	<b>\$ 22,736,228</b>	<b>\$ 166,472,314</b>

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:

Currency Type	Foreign Currency Risk Exposure					Foreign Exchange Contracts (2)	Fair Value	Percent of Total
	Cash & Cash Equivalents (1)	Fixed Income (1)	Equity	Real Estate	Infra-structure			
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	<u>\$ 455,506</u> 0.06%	<u>\$ 167,894,246</u> 22.88%	<u>\$ 467,740,698</u> 63.74%	<u>\$ 58,761,226</u> 8.01%	<u>\$ 40,220,260</u> 5.48%	<u>\$ (1,255,208)</u> -0.17%	<u>\$ 733,816,728</u> 100%	<u>100%</u>

**Footnotes:**

- (1) 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.
- (2) 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:**

(1) 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.

(2) Not including Mortgage TBA

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.

## 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 pension liability.

## REQUIRED SUPPLEMENTARY INFORMATION

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

	2014	2015
<b>Total Pension Liability</b>		
Service Cost	\$ 14,825,019	\$ 15,753,944
Interest Cost	66,915,612	70,688,775
Differences Between Expected and Actual Experience	325,889	(7,815,270)
Changes of Assumptions	76,945,563	(31,210,057)
Benefit Payments, Including Refunds of Member Contributions	(66,002,013)	(67,612,351)
<b>Net Change in Total Pension Liability</b>	<b>93,010,070</b>	<b>(20,194,959)</b>
<b>Total Pension Liability - Beginning</b>	<b>948,562,453</b>	<b>1,041,572,523</b>
<b>Total Pension Liability - Ending</b>	<b>\$ 1,041,572,523</b>	<b>\$ 1,021,377,564</b>
<b>Plan Fiduciary Net Position</b>		
Contributions - Employer	\$ 34,189,288	\$ 33,985,523
Contributions - Member	7,338,543	7,531,845
Net Investment Income	119,729,154	30,684,188
Benefit Payments, Including Refunds of Member Contributions	(66,002,013)	(67,612,351)
Administrative Expense	(735,739)	(650,405)
Other	171,077	118,247
Net Change in Plan Fiduciary Net Position	94,690,310	4,057,047
<b>Plan Fiduciary Net Position - Beginning</b>	<b>641,046,190</b>	<b>735,736,500</b>
<b>Plan Fiduciary Net Position - Ending</b>	<b>\$ 735,736,500</b>	<b>\$ 739,793,547</b>
<b>Net Pension Liability - Ending</b>	<b>305,836,023</b>	<b>281,584,017</b>
<b>Plan Fiduciary Net Position as a Percentage of the Total Pension Liab</b>	<b>70.64%</b>	<b>72.43%</b>
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**

	<u>2014</u>	<u>2015</u>
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
Amortization Method	Level Percentage of Payroll, Open
Remaining Amortization Period	20 years
Asset Valuation Method	5 Year smoothed market
Inflation	3.00%
Salary Increases	3.00% to 6.50% including inflation
Investment Rate of Return	7.25%
Retirement Age	Age-based table of rates that are specific to the type of eligibility condition. 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.

**Supporting Schedules**  
**June 30, 2015**  
 Schedule of Administrative Expenses

<b>Personal Services</b>	
Staff Salaries	\$ 188,861
Fringe Benefits	85,570
Total Personal Services	<u>274,431</u>
<b>Professional Services</b>	
Accounting	185,200
Actuary	57,408
Physician Services	30,331
Legal	19,449
Total Professional Services	<u>292,388</u>
<b>Other Administrative Expenses</b>	
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	<u>83,586</u>
<b>Total Administrative Expenses</b>	<b><u>\$ 650,405</u></b>

**Schedule of Investment Services Expense**

Trust & Custody	\$ 296,098
Investment Consultant	243,481
Investment Management	3,552,870
<b>Total Investment Expenses</b>	<b><u>\$ 4,092,449</u></b>



## **INVESTMENT SECTION**



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
<b>Equities:</b>			
Large Capitalization	31%	36%	41%
Small/Mid Capitalization	6%	10%	14%
International	13%	15%	17%
<b>Total Equities</b>	<b>56%</b>	<b>61%</b>	<b>66%</b>
<b>Fixed Income</b>	<b>21%</b>	<b>26%</b>	<b>31%</b>
<b>Real Estate</b>	<b>6%</b>	<b>8%</b>	<b>10%</b>
<b>Infrastructure</b>	<b>3%</b>	<b>5%</b>	<b>7%</b>

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)

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<sup>1</sup> 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

### Aberdeen Asset Management (International Core Equity)

- 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**

<u>Year Ended</u>	<u>Annual Return</u>	<u>3-Year Annualized Return</u>	<u>5-Year Annualized Return</u>	<u>10-Year Annualized Return</u>
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**

	<b>Annualized Returns (1)</b>		
	<b>One Year</b>	<b>Three Years</b>	<b>Five Years</b>
<b>TOTAL PORTFOLIO</b>			
TSRS	4.63%	12.86%	12.64%
Custom Benchmark (2)	4.34%	11.27%	11.70%
<b>EQUITY FUNDS</b>			
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%
<b>FIXED INCOME FUNDS</b>			
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%
<b>REAL ESTATE FUNDS</b>			
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.

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

(2) 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%

(3) 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)**

	<u>One Year</u>	<u>Annualized Returns (1)</u>	
		<u>Three Years</u>	<u>Five Years</u>
<b>INFRASTRUCTURE FUNDS</b>			
Macquarie European Infrastructure Fund 3 (Funding Completed) CPI + 4%	-9.64% 3.62%	5.47% 5.14%	7.96% 5.80%
SteelRiver Infrastructure Fund North America (Funding in progress) CPI + 4%	5.97% 3.62%	5.22% 5.14%	7.01% 5.80%

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

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

**Asset Summary**  
**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. Gov/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
<b>TOTAL</b>		\$ 286,337	\$ 85,796	\$ 97,484	\$ 158,020	\$ 58,962	\$ 40,221	\$ 8,847	\$ 735,667

**Notes:**

- (1) The Asset Summary does not include the City pooled investment account. (2) Assets are reflected on a trade date basis. (3) 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**

<u>Manager</u>	<u>Actual</u>		<u>Target</u>	
	<u>Amount</u>	<u>Percentage</u>	<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%
<b>Large U.S. Stocks</b>	<b>287,149</b>	<b>39.0%</b>	<b>264,840</b>	<b>36.0%</b>
Champlain Investment Partners	43,140	5.9%	36,783	5.0%
Pyramis Global Advisors	43,894	6.0%	36,783	5.0%
<b>Small/Mid-Cap U.S. Stocks</b>	<b>87,034</b>	<b>11.9%</b>	<b>73,566</b>	<b>10.0%</b>
Causeway Capital	57,596	7.8%	55,175	7.5%
Aberdeen Asset Management	41,264	5.6%	55,175	7.5%
<b>Foreign (International) Stocks</b>	<b>98,860</b>	<b>13.4%</b>	<b>110,350</b>	<b>15.0%</b>
<b>Total Equities</b>	<b>473,043</b>	<b>64.3%</b>	<b>448,756</b>	<b>61.0%</b>
BlackRock U.S. Debt	61,449	8.4%	73,566	10.0%
PIMCO Custom Fixed Income	101,499	13.8%	117,707	16.0%
<b>Fixed Income (Bonds)</b>	<b>162,948</b>	<b>22.2%</b>	<b>191,273</b>	<b>26.0%</b>
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%
<b>Real Estate</b>	<b>58,962</b>	<b>8.0%</b>	<b>58,853</b>	<b>8.0%</b>
Macquarie (MEIF3)	20,840	2.8%	18,392	2.5%
SteelRiver IFNA	19,381	2.6%	18,393	2.5%
<b>Infrastructure</b>	<b>40,221</b>	<b>5.4%</b>	<b>36,785</b>	<b>5.0%</b>
Liquidity Fund	493	0.1%	-	0.0%
<b>Total</b>	<b>\$ 735,667</b>	<b>100%</b>	<b>\$ 735,667</b>	<b>100%</b>

**Asset Allocation by Asset Class  
Last Five Fiscal Years**

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

**Ten Largest Bond Holdings**  
**(By Market Value)**  
**June 30, 2015**  
(dollars in thousands)

<u>Par Value</u>	<u>Bond</u>	<u>Coupon Rate</u>	<u>Due</u>	<u>Rating</u> <u>(1)</u>	<u>Fair Value</u>
\$ 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

(1) Per Moody's Investors Service, Inc.

**Ten Largest Stock Holdings**  
**(By Market Value)**  
**June 30, 2015**  
(dollars in thousands)

<u>Shares</u>	<u>Stock</u>	<u>Fair Value</u>
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*

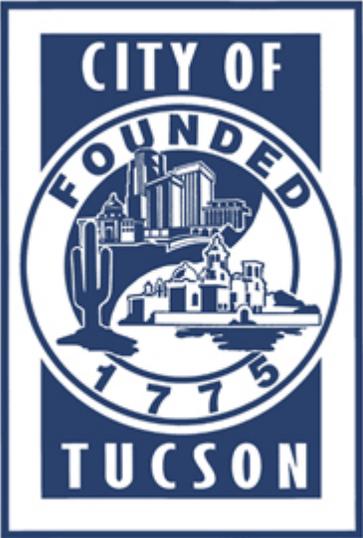
## Schedule of Fees June 30, 2015

	<u>Assets Under Management</u>	<u>Fees</u>
<b>Investment Manager Fees</b>		
<i>Fixed Income Managers</i>		
BlackRock U.S. Debt	\$ 61,449,037	\$ 33,854
PIMCO (Custom Fixed Income)	101,498,576	493,793
Total Fixed Income	\$ 162,947,613	\$ 527,647
 <i>Equity Managers</i>		
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	-
 <i>Real Estate Managers</i>		
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
 <i>Infrastructure Managers</i>		
Macquarie (MEIF3)	\$ 20,839,504	\$ 187,779
SteelRiver IFNA	19,380,756	234,594
Total Infrastructure	\$ 40,220,260	\$ 422,373
<b>Total Assets (Trade date basis)</b>	<b>\$ 735,466,680</b>	
<b>Total Investment Management Fees</b>		<b>\$ 3,552,870</b>
 <b>Other Investment Service Fees</b>		
<i>Trust &amp; Custodian Fees</i>		
BNY Mellon		\$ 296,098
<i>Security Lending - Bank &amp; Administration Fees</i>		
BNY Mellon		65,676
<i>Consulting &amp; Performance Management</i>		
Callan Associates Inc.		243,481
<b>Total Other Investment Service Fees</b>		<b>\$ 605,255</b>

## Schedule of Commissions

### June 30, 2015

Broker Description	Shares	Commissions	Commissions Per Share
MORGAN STANLEY & CO INC, NY	432,056	8,145	0.0189
MERRILL LYNCH INTL LONDON EQUITIES	538,628	7,996	0.0148
CREDIT SUISSE, NEW YORK (CSUS)	379,831	7,419	0.0195
GOLDMAN SACHS & CO, NY	416,023	7,029	0.0169
J.P. MORGAN CLEARING CORP, NEW YORK	320,109	6,064	0.0189
UBS WARBURG, LONDON	268,081	5,777	0.0216
STIFEL NICOLAUS	129,137	3,870	0.0300
RBC CAPITAL MARKETS LLC, NEW YORK	216,564	3,387	0.0156
BARCLAYS CAPITAL, LONDON (BARCGB33)	163,363	3,356	0.0205
JEFFERIES & CO INC, NEW YORK	140,357	3,248	0.0231
CITIGROUP GLOBAL MARKETS LTD, LONDON	98,453	3,035	0.0308
RAYMOND JAMES & ASSOC INC, ST PETERSBURG	88,235	3,029	0.0343
MERRILL LYNCH PIERCE FENNER SMITH INC NY	139,663	2,962	0.0212
DEUTSCHE BK SECS INC, NY (NWSCUS33)	157,055	2,854	0.0182
INVESTMENT TECHNOLOGY GROUP, NEW YORK	113,215	2,654	0.0235
UBS SECURITIES LLC, STAMFORD	111,860	2,185	0.0195
CITIGROUP GBL MKTS INC, NEW YORK	117,827	2,152	0.0183
STATE STREET BROKERAGE SVCS, BOSTON	98,800	2,050	0.0207
BNY CONVERGEX, NEW YORK	132,320	1,961	0.0148
LIQUIDNET INC, BROOKLYN	81,850	1,951	0.0238
WILLIAM BLAIR & CO, CHICAGO	45,950	1,746	0.0380
INSTINET EUROPE LIMITED, LONDON	61,740	1,541	0.0250
BAIRD, ROBERT W & CO INC, MILWAUKEE	39,600	1,412	0.0357
DAIWA SECS AMER INC, NEW YORK	70,600	1,295	0.0183
GOLDMAN SACHS EXECUTION & CLEARING, NY	43,657	1,179	0.0270
PIPER JAFFRAY & CO, MINNEAPOLIS	31,900	1,118	0.0351
ITG INC, NEW YORK	82,645	1,102	0.0133
J P MORGAN SECS LTD, LONDON	59,188	1,072	0.0181
MORGAN STANLEY & CO INTL LTD, SEOUL	21,099	1,056	0.0501
VARIOUS BROKERS - LESS THAN \$1000	1,527,695	27,161	
<b>TOTAL</b>	<b>6,127,501</b>	<b>119,806</b>	
<b>AVERAGE COMMISSION RATE</b>			<b>\$ 0.0196</b>



## **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**

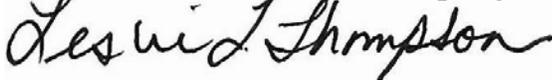
The valuation was based upon information as of June 30, 2015, furnished by Tucson Supplemental Retirement System staff, concerning Plan benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, 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**

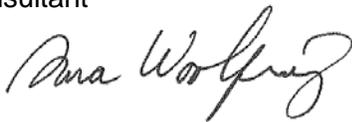
All of our work conforms with generally accepted actuarial principles and practices, and to the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of, where applicable, the Internal Revenue Code, and ERISA.

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**

Leslie Thompson, FSA, FCA, EA, MAAA Senior  
Consultant



Dana Woolfrey, FSA, FCA, EA, MAAA Consultant

## **SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS**

### **I. Valuation Date**

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. Economic Assumptions

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 Age	Percentage Increase in Salary with Less than Five Years of Service		
	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 Age	Percentage Increase in Salary with Five or More Years of Service		
	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 Ages	Probability of Death Pre- and Post-Retirement	
	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 Ages	Probability of Death Post-Disability	
	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 Ages	Probability of Disablement Next Year	
	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.

<b>Sample Ages</b>	<b>% of Vested Terminating Members Choosing Refund at Termination</b>
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 Age	Tier 1 Members Percentage of Those Eligible Retiring During the Year		
	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 Age	Tier 2 Members Percentage of Those Eligible Retiring During the Year		
	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.

9. 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.

<b>Active Member Counts by Age and Service as of July 1, 2015</b>								
<b>Age</b>	<b>Service</b>							<b>Total</b>
	<b>0-4</b>	<b>5-9</b>	<b>10-14</b>	<b>15-19</b>	<b>20-24</b>	<b>25-29</b>	<b>Over 30</b>	
<b>Under 20</b>	0	0	0	0	0	0	0	0
<b>20-24</b>	32	0	0	0	0	0	0	32
<b>25-29</b>	119	13	1	0	0	0	0	133
<b>30-34</b>	140	49	19	0	0	0	0	208
<b>35-39</b>	111	66	67	18	1	0	0	263
<b>40-44</b>	104	79	86	68	23	0	0	360
<b>45-49</b>	83	64	90	107	48	14	1	407
<b>50-54</b>	80	64	91	102	80	33	19	469
<b>55-59</b>	63	47	99	123	69	49	27	477
<b>60-64</b>	36	38	46	41	32	33	21	247
<b>65-69</b>	4	16	8	9	10	3	7	57
<b>Over 70</b>	2	2	1	3	3	0	1	12
<b>Total</b>	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)	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
(1)	(2)	(3)	(4)=(3)-(2)	(5)=(2)/(3)	(6)	(7)=(4)/(6)
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	-2.1%
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	11.1%
6/30/2001	470,672	495,359	24,687	95.0%	145,059	17.0%
6/30/2002	463,102	553,947	90,845	83.6%	153,580	59.2%
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	95.6%
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	94.7%
6/30/2007	634,763	758,427	123,663	83.7%	159,250	77.7%
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	111.7%
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	185.7%
6/30/2011	624,665	928,609	303,944	67.3%	121,631	249.9%
6/30/2012	597,107	940,939	343,832	63.5%	125,003	275.1%
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	281.4%
6/30/2015	706,774	1,021,378	314,604	69.2%	123,415	254.9%

<b>Tucson Supplemental Retirement System Schedule of Employer Contributions</b>			
<b>Fiscal Year Ended June 30,</b>	<b>Annual Required Contribution</b>	<b>Actual City Contribution</b>	<b>Percentage Contributed</b>
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 Supplemental Retirement System							
Solvency Test							
Aggregate Accrued Liabilities For							
Valuation Date	(1)		(2)		(3)		
	Active Member Contributions	Retirees and Beneficiaries	Active Member (Employer Financed Portion)	Valuation Assets	Portion of Accrued Liabilities Covered by Reported 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	60.8
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

Tucson Supplemental Retirement System Comparative Schedule of Annual Pension Benefits Paid									
Year Ending June 30	Retired Members	Annual Pensions	% Increase	No. of Active Per Retired	Pensions as % of Active Payroll	Average Pensions	Actuarial Present Value of Pensions	Expected Removals	
								No.	Pensions
1989 <sup>1</sup>	780	\$ 5,344,719	17.6 %	4.2 <sup>2</sup>	6.6 %	\$ 6,852	\$ 46,556,352	26.6	\$ 133,860
1990	832	6,488,714	21.4	3.9	7.5	7,799	57,430,128	28.5	150,864
1991 <sup>1</sup>	918	8,111,103	25.0	3.5	9.3	8,836	72,419,436	29.8	172,608
1992	965	9,010,345	11.1	3.3	10.5	9,337	80,342,604	32.3	208,068
1993 <sup>1</sup>	989	9,704,929	7.7	3.3	10.5	9,813	85,832,484	34.3	235,068
1994	1,035	10,612,612	9.4	3.2	11.3	10,254	95,449,308	35.8	263,340
1995 <sup>1</sup>	1,065	11,429,402	7.7	3.1	11.4	10,732	102,511,728	35.8	270,600
1996	1,105	12,236,298	7.1	3.1	11.6	11,074	109,572,672	37.7	302,952
1997 <sup>1</sup>	1,156	13,391,185	9.4	3.0	12.2	11,594	119,508,312	39.4	325,440
1998	1,208	14,479,476	8.1	2.9	12.7	11,986	129,345,816	42.4	370,344
1999 <sup>1</sup>	1,260	15,721,865	8.6	2.8	12.4	12,478	139,805,832	44.2	402,504
2000 <sup>1</sup>	1,301	16,966,042	7.9	2.8	12.7	13,041	150,527,136	46.2	445,464
2001 <sup>1</sup>	1,355	18,505,247	9.1	2.7	12.8	13,657	161,740,968	47.1	484,776
2002 <sup>1</sup>	1,442	21,273,162	15.0	2.5	13.9	14,753	187,508,568	53.3	622,236
2003 <sup>1</sup>	1,742	29,767,500	39.9	1.9	20.8	17,088	275,193,384	58.2	742,908
2004 <sup>1</sup>	1,753	30,491,864	2.4	2.0	20.4	17,394	286,698,084	55.7	717,888
2005 <sup>1</sup>	1,793	32,027,305	5.0	2.0	19.8	17,862	298,395,396	58.3	781,152
2006 <sup>1</sup>	1,878	35,091,468	9.6	1.7	22.5	18,686	326,828,088	61.1	857,760
2007 <sup>1</sup>	2,018	39,883,032	13.7	1.6	25.0	19,764	371,497,680	66.3	977,328
2008	2,307	49,489,643	24.1	1.4	32.1	21,452	473,240,976	74.4	1,134,019
2009	2,365	50,810,927	2.7	1.3	33.9	21,485	494,923,021	63.8	994,553
2010	2,450	53,115,267	4.5	1.2	37.5	21,680	525,200,232	58.9	948,815
2011	2,709	61,710,576	16.2	1.0	50.7	22,780	614,497,202	63.5	1,059,171
2012	2,704	61,737,864	0.0	1.0	49.4	22,832	607,450,331	66.1	1,125,302
2013	2,719	62,548,233	1.3	1.0	49.7	23,004	609,558,963	69.0	1,200,744
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	0.9	53.6	23,543	661,292,061	73.7	1,301,409

Tucson Supplemental Retirement System									
Schedule of Retirees and Beneficiaries Added to and Removed from Rolls									
Fiscal Year	Added to Rolls			Removed from Rolls			Rolls End of Year		
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowance	Average Annual Allowance	Percentage Increase in Allowance	
6/30/2005	68	\$3,498,948	42	\$485,633	1,791	\$ 31,990,842	17,796		
6/30/2006	101	\$2,335,032	53	\$656,383	1,878	\$ 35,092,308	18,686	4.61%	
6/30/2007	213	\$6,055,096	36	\$403,347	2,018	\$ 39,883,032	19,764	5.77%	
6/30/2008	313	\$10,001,857	24	\$395,246	2,307	\$ 49,489,643	21,452	8.54%	
6/30/2009	112	\$2,005,399	54	\$684,115	2,365	\$ 50,810,927	21,485	0.15%	
6/30/2010	141	\$3,089,275	56	\$784,935	2,450	\$ 53,115,267	21,680	0.91%	
6/30/2011	332	\$9,880,306	73	\$1,284,997	2,709	\$ 61,710,576	22,780	5.07%	
6/30/2012	64	\$1,084,848	69	\$1,057,560	2,704	\$ 61,737,864	22,832	0.23%	
6/30/2013	96	\$2,027,292	81	\$1,216,923	2,719	\$ 62,548,233	23,004	0.75%	
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 PROVISIONS

JUNE 30, 2015

### NORMAL RETIREMENT (NO REDUCTION FACTOR)

**Eligibility:**

**Tier 1** – 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).

**Tier 2** – 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.

**Amount** - 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 choose 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

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

**Amount** - 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**

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

**Amount** - Lump sum payment equal to twice the member's contributions, with interest.

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

**Amount** - 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.

**Amount** - 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 roundup policy.

### **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,

	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>
<b>Additions</b>					
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
<b>Total Contributions</b>	<u>\$ 41,517,368</u>	<u>\$ 41,527,832</u>	<u>\$ 44,737,878</u>	<u>\$ 36,649,597</u>	<u>\$ 35,518,142</u>
<b>Investment Income</b>					
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
<b>Net Income from Investment Activity</b>	<u>\$ 34,960,560</u>	<u>\$ 123,977,295</u>	<u>\$ 85,321,389</u>	<u>\$ 12,042,269</u>	<u>\$ 118,234,574</u>
<b>Less Investment Expenses:</b>					
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
<b>Total Investment Expense</b>	<u>\$ 4,158,125</u>	<u>\$ 4,077,065</u>	<u>\$ 3,884,465</u>	<u>\$ 3,529,100</u>	<u>\$ 3,906,668</u>
<b>Net Investment Gain</b>	<u>\$ 30,802,435</u>	<u>\$ 119,900,230</u>	<u>\$ 81,436,924</u>	<u>\$ 8,513,169</u>	<u>\$ 114,327,906</u>
<b>Total Additions</b>	<u>\$ 72,319,803</u>	<u>\$ 161,428,062</u>	<u>\$ 126,174,802</u>	<u>\$ 45,162,766</u>	<u>\$ 149,846,048</u>
<b>Deductions</b>					
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
<b>Total Deductions</b>	<u>\$ 68,262,756</u>	<u>\$ 66,737,752</u>	<u>\$ 65,511,953</u>	<u>\$ 64,491,237</u>	<u>\$ 64,255,757</u>
<b>Net Change in Plan Net Position</b>	<u>\$ 4,057,047</u>	<u>\$ 94,690,310</u>	<u>\$ 60,662,849</u>	<u>\$ (19,328,471)</u>	<u>\$ 85,590,291</u>

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

For the Fiscal Years Ending June 30,

	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>
<b>Additions</b>					
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
<b>Total Contributions</b>	<u>34,561,845</u>	<u>\$ 32,730,516</u>	<u>\$ 39,823,400</u>	<u>\$ 35,635,143</u>	<u>\$ 34,295,521</u>
<b>Investment Income</b>					
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
<b>Net Income from Investment Activity</b>	<u>54,423,364</u>	<u>\$ (136,335,038)</u>	<u>\$ (27,396,720)</u>	<u>\$ 105,279,917</u>	<u>\$ 62,263,814</u>
<b>Less Investment Expenses:</b>					
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
<b>Total Investment Expense</b>	<u>4,121,408</u>	<u>\$ 4,777,457</u>	<u>\$ 5,837,879</u>	<u>\$ 5,950,324</u>	<u>\$ 4,714,555</u>
<b>Net Investment Gain</b>	<u>50,301,956</u>	<u>\$ (141,112,495)</u>	<u>\$ (33,234,599)</u>	<u>\$ 99,329,593</u>	<u>\$ 57,549,259</u>
<b>Total Additions</b>	<u>84,863,801</u>	<u>\$ (108,381,979)</u>	<u>\$ 6,588,801</u>	<u>\$ 134,964,736</u>	<u>\$ 91,844,780</u>
<b>Deductions</b>					
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
<b>Total Deductions</b>	<u>55,381,608</u>	<u>\$ 57,205,907</u>	<u>\$ 52,336,661</u>	<u>\$ 54,365,608</u>	<u>\$ 35,611,032</u>
<b>Net Change in Plan Net Position</b>	<u>29,482,193</u>	<u>\$ (165,587,886)</u>	<u>\$ (33,321,180)</u>	<u>\$ 221,514,188</u>	<u>\$ 152,793,083</u>



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

Retirement Effective Dates For Fiscal Years Ending June 30	Years of Credited Service							
	<5	5-9	10-14	15-19	20-24	25-29	≥ 30	
2015								
Avg Monthly Benefit	n/a	\$ 803	\$ 1,077	\$ 1,670	\$ 2,202	\$ 2,968	\$ 3,864	
Avg Monthly Final Avg Comp.	n/a	\$ 5,267	\$ 3,679	\$ 4,698	\$ 4,645	\$ 5,118	\$ 5,506	
Number of Active/EOSP retirees	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
2014								
Avg Monthly Benefit	n/a	\$ 635	\$ 1,024	\$ 1,665	\$ 2,364	\$ 2,693	\$ 4,188	
Avg Monthly Final Avg Comp.	n/a	\$ 4,040	\$ 4,005	\$ 4,255	\$ 4,870	\$ 4,617	\$ 6,061	
Number of Active/EOSP retirees	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
2013								
Avg Monthly Benefit	\$ 507	\$ 578	\$ 1,275	\$ 1,669	\$ 2,060	\$ 2,956	\$ 3,876	
Avg Monthly Final Avg Comp.	\$ 5,609	\$ 3,077	\$ 4,497	\$ 4,121	\$ 4,041	\$ 4,680	\$ 5,124	
Number of Active/EOSP retirees	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
2012*								
Avg Monthly Benefit	\$ 237	\$ 563	\$ 923	\$ 1,829	\$ 1,428	\$ 2,401	\$ 2,745	
Avg Monthly Final Avg Comp.	\$ 2,728	\$ 3,355	\$ 3,240	\$ 4,787	\$ 2,767	\$ 3,869	\$ 3,745	
Number of Active/EOSP retirees	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
2011*								
Avg Monthly Benefit	\$ 519	\$ 560	\$ 964	\$ 1,913	\$ 2,303	\$ 2,998	\$ 3,780	
Avg Monthly Final Avg Comp.	\$ 2,865	\$ 3,350	\$ 3,352	\$ 4,774	\$ 4,509	\$ 4,899	\$ 5,044	
Number of Active/EOSP retirees	5	12	18	24	83	107	58	
2010*								
			1-9	10-14	15-19	20-24	25-29	≥30
Avg Monthly Benefit			\$ 481	\$ 931	\$ 1,466	\$ 2,374	\$ 2,386	\$ 3,376
Avg Monthly Final Avg Comp.			\$ 3,229	\$ 2,976	\$ 3,841	\$ 5,148	\$ 4,251	\$ 4,871
Number of Active/EOSP retirees			23	16	13	35	23	13
2009*								
Avg Monthly Benefit		\$ 620	\$ 1,117	\$ 1,452	\$ 2,165	\$ 3,475	\$ 2,811	
Avg Monthly Final Avg Comp.		\$ 3,474	\$ 3,823	\$ 3,671	\$ 4,281	\$ 5,775	\$ 3,942	
Number of Active/EOSP retirees		14	13	12	23	15	9	
2008*								
Avg Monthly Benefit		\$ 645	\$ 1,076	\$ 1,502	\$ 2,258	\$ 3,133	\$ 3,944	
Avg Monthly Final Avg Comp.		\$ 4,302	\$ 4,542	\$ 3,869	\$ 5,094	\$ 5,310	\$ 6,222	
Number of Active/EOSP retirees		18	16	27	74	84	63	
2007								
Avg Monthly Benefit		\$ 648	\$ 725	\$ 1,360	\$ 2,010	\$ 2,999	\$ 3,730	
Avg Monthly Final Avg Comp.		\$ 3,947	\$ 2,922	\$ 3,687	\$ 4,258	\$ 5,086	\$ 5,589	
Number of Active Retirees		12	11	33	42	55	48	
2006								
Avg Monthly Benefit		\$ 610	\$ 802	\$ 1,304	\$ 1,974	\$ 3,141	\$ 4,001	
Avg Monthly Final Avg Comp.		\$ 4,046	\$ 2,803	\$ 3,245	\$ 4,006	\$ 4,970	\$ 5,561	
Number of Active Retirees		20	14	25	27	33	20	
2005								
Avg Monthly Benefit		\$ 563	\$ 912	\$ 1,095	\$ 1,803	\$ 3,291	\$ 3,615	
Avg Monthly Final Avg Comp.		\$ 3,518	\$ 3,722	\$ 3,017	\$ 3,884	\$ 5,623	\$ 4,883	
Number of Active Retirees		8	3	10	20	17	10	

\*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**

Ages	Retirees			Survivors/Beneficiaries		
	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
<b>Total</b>	<b>1,538</b>	<b>927</b>	<b>2,465</b>	<b>27</b>	<b>317</b>	<b>344</b>

**Active Members**

Ages	Active Members			Percentage Distribution		
	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%
<b>Total</b>	<b>1,551</b>	<b>1,114</b>	<b>2,665</b>	<b>58.20%</b>	<b>41.80%</b>	<b>100.00%</b>

**Composition of Active TSRS Membership by Tier**

	<b>Membership</b>	<b>Payroll</b>	<b>% of Payroll</b>
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%
	<b>2,665</b>	<b>123,414,560</b>	<b>100.00%</b>

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

Fiscal Year	Employee Rate (percentage)		Employer Rate (percentage)		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

\*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**

Type of Benefit	fiscal years ended June 30,									
	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b>Service Benefits:</b>										
Retirees	\$ 59,384,728	\$ 57,542,260	\$ 56,406,478	\$ 48,475,837	\$ 51,377,474	\$ 45,580,606	\$ 40,123,580	\$ 39,940,472	\$ 31,993,340	\$ 28,946,679
EOSP lump sum <sup>(1)</sup>	-	-	-	7,656,801	1,517,252	997,448	6,805,342	1,495,136	4,069,547	-
Survivors <sup>(2)</sup>	3,422,222	3,533,539	3,397,302	3,166,737	2,951,507	2,757,941	2,700,791	2,499,152	2,236,330	2,229,540
<b>Disability Benefits:</b>										
Retirees	2,035,754	2,082,396	2,066,746	2,056,266	2,057,473	2,015,248	1,969,239	1,999,565	1,847,725	1,763,061
Survivors	373,754	318,879	320,954	337,767	344,176	349,299	397,556	277,235	272,980	536,670
<b>Total Benefits</b>	<b>\$ 65,216,458</b>	<b>\$ 63,477,074</b>	<b>\$ 62,191,480</b>	<b>\$ 61,693,408</b>	<b>\$ 58,247,882</b>	<b>\$ 51,700,541</b>	<b>\$ 51,996,508</b>	<b>\$ 46,211,560</b>	<b>\$ 40,419,922</b>	<b>\$ 33,475,950</b>
<b>Type of Refund</b>										
Death	\$ 316,820	\$ 212,489	\$ 316,495	\$ 310,994	\$ 305,536	\$ 250,047	\$ 299,778	\$ 96,935	\$ 70,309	\$ 147,588
Separation	1,937,365	1,871,535	2,281,823	1,936,231	2,045,089	1,860,312	1,390,177	1,168,300	1,502,967	1,219,264
Transfers	141,708	440,915	32,903	-	2,928,607	898,085	2,655,061	4,340,520	11,886,941	482,469
<b>Total Refunds</b>	<b>\$ 2,395,893</b>	<b>\$ 2,524,939</b>	<b>\$ 2,631,221</b>	<b>\$ 2,247,225</b>	<b>\$ 5,279,232</b>	<b>\$ 3,008,445</b>	<b>\$ 4,345,017</b>	<b>\$ 5,605,755</b>	<b>\$ 13,460,218</b>	<b>\$ 1,849,320</b>

<sup>(1)</sup> 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>(2)</sup> Includes Death in service pension benefits

**Tucson Supplemental Retirement System  
Retiree Benefit and Service Summary**

# yrs Retired	Average Benefit (1)	Total Monthly Benefit pmts	# of Retirees (2)	Age at 6/30/15										Years of Credited Service		
				<55	55-59	60-64	65-69	70-74	75-79	80-84	85+	<10	10-19	20>		
<5	2,298	1,447,981	630	45	162	236	153	27	6	1	0	0	69	133	428	
5 to 9	2,303	1,803,185	783	18	72	232	278	143	35	3	2	2	90	164	529	
10 to 14	2,037	1,214,146	596	9	8	94	223	178	75	8	1	1	37	132	427	
15 to 19	1,369	462,765	338	3	9	15	25	114	111	55	6	6	34	88	216	
20 to 24	1,387	352,329	254	0	2	5	9	16	71	100	51	51	26	65	163	
25 to 29	1,295	180,030	139	0	0	1	2	5	11	47	73	73	11	36	92	
30>	734	50,668	69	0	0	0	0	1	9	10	49	49	14	27	28	
		5,511,102	2809	75	253	583	690	484	318	224	182	182	281	645	1883	

Notes:

(1) Average Benefit for all retirees is \$1,962 per month

(2) # of Retirees includes alternate payees and survivors

