



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

Annual Comprehensive Financial Report
For Fiscal Year Ended
JUNE 30, 2021

Issued by the City of Tucson, Retirement Division

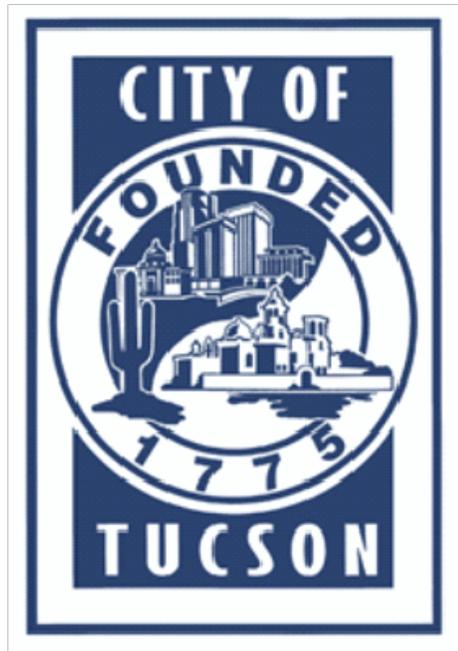


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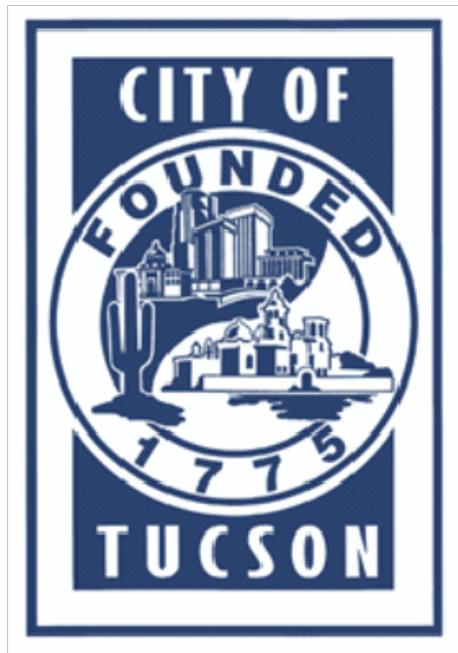
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INTRODUCTORY SECTION





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, 2020

Christopher P. Morrill

Executive Director/CEO



December 23, 2021

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

The Annual Comprehensive Financial Report (CAFR) of the Tucson Supplemental Retirement System (“TSRS” or the “System”) for the year ended June 30, 2021, 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 2021 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 the retirement system asset portfolio.

The System acts as a fiduciary of the assets held in trust for the payment of pension benefits. As a fiduciary, the System invests in a variety of assets, many of which were impacted by significant market fluctuations during the fiscal year. However, as investments are allocated strategically, with the understanding that there will be volatility in the market, the investments of the System remained consistent throughout and the overall portfolio gained 27.1%.

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 in 2020, the Board reduced the assumed investment rate of return from 7.25% to 7.00%. Taken together these changes have reduced the cost of the providing a pension and increased the likelihood that the System will achieve its investment returns.

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 Retirement staff in conjunction with the City’s Business Services 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. The Board reviews the TSRS expenses and ratifies all retirements at their monthly meetings.

Contributions to the System are based on the recommendations of an independent actuary; which utilize the 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

The funded status of the System is presented as a percentage, and it represents assets divided by liabilities. Using the actuarial methods to estimate funding ratio, the System has a funded ratio of 76.1% as of June 30, 2021. This means that the System currently has 76.1 cents of assets for each dollar of liabilities. This is an increase from last year when the funded ratio was 73.3%. Another way to evaluate the funded ratio is by looking at dollars; the unfunded actuarial accrued liability decreased from \$306.5 million last year to \$282.5 million in the current year. The improvement in percentage is a function of the investments returns from the year. This type of improvement is supported by the City's long-term commitment to a funding policy. Based on this policy, the City of Tucson contributes additional monies to the plan, and with the additional contributions, the System is expected to reach full funding in 2034.

Investment Activities

Net investment income amounted to \$217,804,538. The net investment income 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, on a money-weighted basis, for the total fund for the year was 27.14% (net of fees). For the last three and five years, the System had annualized returns of 12.2% and 11.9%, respectively.

TSRS asset allocation targets are 34% U.S. equities, 24% foreign equities, 12% real estate, 25% fixed income and 5% infrastructure. These percentages reflect the current diversification posture as of June 30, 2021 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. However, the System was invested in two closed end infrastructure funds, both of which had completed their planned lifecycle and both of which had sold assets and distributed proceeds back to the System. The Board identified a new infrastructure investment manager and made a \$40 million commitment. As of June 30, 2021, the new infrastructure manager has not called any of the System's capital commitment. Certain investments had to be liquidated and the cash was utilized throughout the fiscal year to make up the shortfall between pension contributions and distributions, and some was retained in cash to prepare for a rebalancing of investments by contributing to the real estate sector. This movement of monies had a "self-balancing" effect between equities, fixed income, and real estate; however infrastructure is awaiting the call of capital.

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 vi 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 Business Services Department, and others that have worked diligently to assure the successful operation of TSRS. The effort and commitment of the Board of Trustees who volunteer their time and expertise is greatly appreciated. In addition, the ongoing support of the Mayor and Council to support TSRS and specifically to provide financial support to the Board's funding plan is highly valued and a tangible support to the membership.

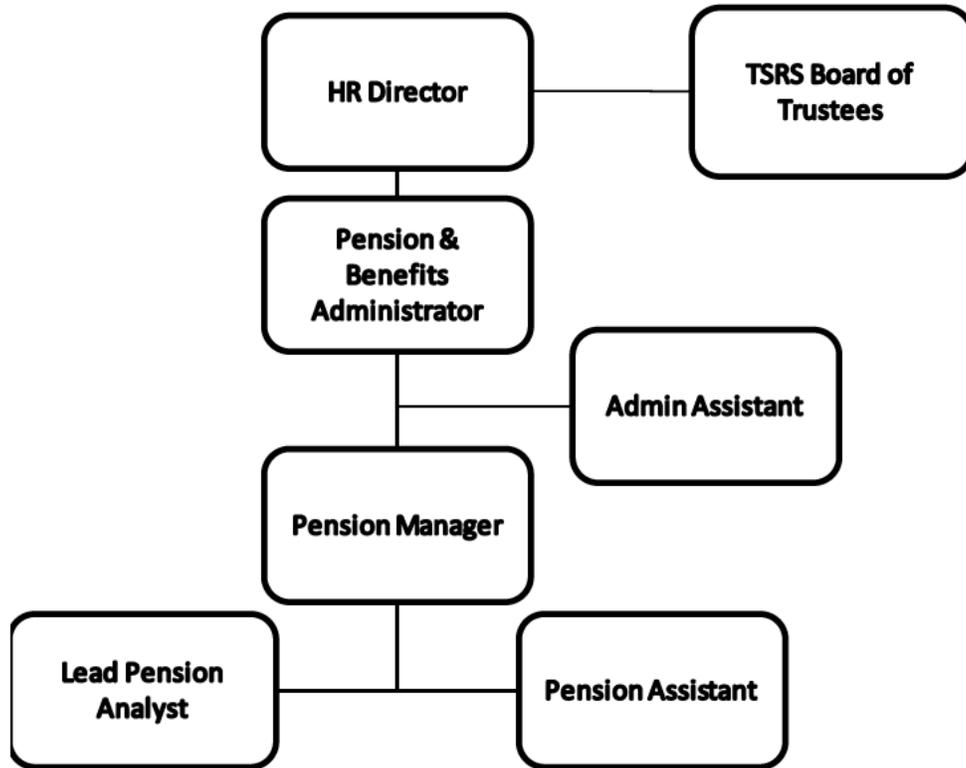
The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Tucson Supplemental Retirement System for its annual financial report for the fiscal year ended June 30, 2020. This was the 24th consecutive 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 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 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,

Art Cuaron, MBA
Pension & Benefits Administrator
Tucson Supplemental Retirement System

Organization Chart



Administrative Organization

BOARD OF TRUSTEES

Mark Rubin
Chairman

Kevin Larson
City Manager's Appointee

Vivian Newsheller
Deputy Director/Controller;
Business Services Department

Elsa Quijada
Deputy Director;
Human Resources Department

Jorge Hernández
Employee Representative

Joel Peterson
Employee Representative

James Wysocki
Retiree Representative

RETIREMENT STAFF

Art Cuaron, MBA
Pension & Benefits Administrator

Pete Saxton
Pension Manager

Dawn Davis
Lead Pension Analyst

Ernestina Gamez
Interim Pension Assistant

Vacant
Administrative Assistant

Administrative Organization

TREASURY DIVISION STAFF

Marcela Ceballo
Treasury Administrator

Jay Nordstrom
Finance Manager

ACCOUNTING

Chuo Holliday
Lead Financial Accountant

LEGAL

Gioia Sanderson
Principal Assistant City Attorney

EXTERNAL COUNSEL

Yoder & Langford, P.C.
Phoenix, AZ

ACTUARY

Gabriel, Roeder, Smith & Company
Denver, CO

AUDITOR

Heinfeld & Meech
Tucson, AZ

INVESTMENT CONSULTANT

Callan Associates, Inc.
San Francisco, CA

CUSTODIAN BANK

BNY Mellon – New York, NY

INVESTMENT MANAGERS

*Schedule of Fees see page 59,
Schedule of Commissions see page 60*

Aberdeen Asset Management
Philadelphia, PA

Alliance Capital Management Corporation
New York, NY

American Century Investments
Kansas City, MO

BlackRock Institutional Trust Company, N.A.
San Francisco, CA

Causeway Capital Management
Los Angeles, CA

Fidelity Investments
Smithfield, RI

JP Morgan Asset Management
San Francisco, CA

Pacific Investment Management Company
Newport Beach, CA

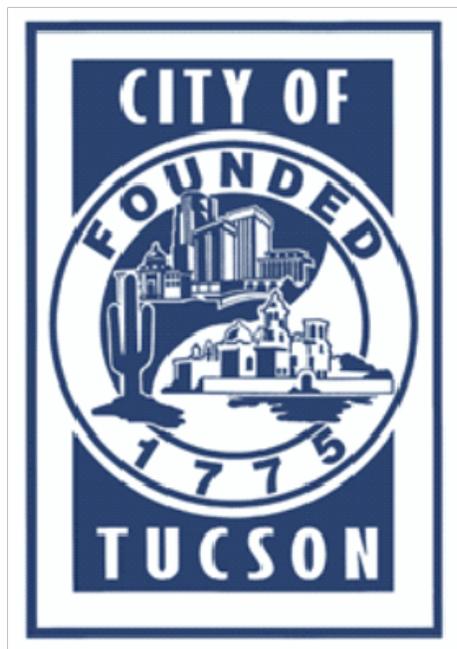
Champlain Investment Partners
Burlington, VT

Macquarie Capital (USA), Inc.
New York, NY

SteelRiver Infrastructure
New York, NY

T. Rowe Price Associates
Baltimore, MD

FINANCIAL SECTION



Independent Auditor's Report

Board of Trustees
Tucson Supplemental Retirement System

Report on the Financial Statements

Opinion

We have audited the financial statements of the Tucson Supplemental Retirement System (System), a pension trust fund of the City of Tucson, Arizona, which comprise the Statement of Fiduciary Net Position as of June 30, 2021, and the related Statement of Changes in Fiduciary Net Position for the year then ended, and the related notes to the financial statements.

Basis for Opinion

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. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are required to be independent of the Tucson Supplemental Retirement System, a pension trust fund of the City of Tucson, Arizona, and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for 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.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for one year beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements. In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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 System's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis and the Required Supplementary Information, as listed in the table of contents, be presented to supplement the financial statements. Such information is the responsibility of management and, although not a part of the financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the 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 financial statements, and other knowledge we obtained during our audit of the 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.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the System's financial statements. The Other Supplemental Information, as listed in the table of contents, is presented for purposes of additional analysis and are not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. Such information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Other Supplemental Information is fairly stated, in all material respects, in relation to the financial statements as a whole.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the Introductory Section, Investment Section, Actuarial Section and Statistical Section but does not include the basic financial statements and our auditor's report thereon. Our opinions on the basic financial statements do not cover the other information and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on other work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated December 23, 2021, on our consideration of the Tucson Supplemental Retirement 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 solely describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Tucson Supplemental Retirement System's 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 Tucson Supplemental Retirement System's internal control over financial reporting and compliance.

Heinfeld Meech & Co. PC

Heinfeld, Meech & Co., P.C.
Tucson, Arizona
December 23, 2021

**Tucson Supplemental Retirement System
Management's Discussion and Analysis
June 30, 2021**

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, 2021. 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 6 of this report.

Financial Highlights

- The net position of TSRS as of the close of the plan year ended June 30, 2021 was \$1,013,380,304 (net position restricted for pensions). The net position is available to meet TSRS's ongoing obligations to plan participants and their beneficiaries.
- The increase in total net position restricted for pension benefits was \$180,208,772. The increase of 21.63% over the prior year was primarily a result of increased investment income.
- 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, 2021, the date of our last actuarial valuation, the funded ratio for TSRS was 76.1% on an actuarial basis, 85.7% using the fair value basis.
- Revenues (Additions to Plan Net Position) for the year were \$260,462,028, which includes member and employer contributions plus transfers from other systems and contributions from other sources totaling \$42,752,370, investment earnings income plus securities lending net income of \$10,091,360 and a net gain in fair value of investments of \$212,240,155 minus investment expenses of \$4,621,857.
- Expenses (Deductions from Plan Net Position) for the year totaled \$80,253,256. This includes payments to participants totaling \$77,754,958; Refunds and rollovers of \$1,813,331; and administrative expenses of \$684,967.

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.

**Tucson Supplemental Retirement System
Management's Discussion and Analysis
June 30, 2021**

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.

TSRS's net position restricted for pensions is displayed on the Statement of Fiduciary Net Position as the difference between assets and liabilities. 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 21 and 22 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 23-38 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 started with one year as of June 30, 2014, but eventually will 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 which follows). The total assets of TSRS exceeded its liabilities at the close of the plan year ended June 30, 2021 with \$1,013,380,304 in net position held in trust for payment of ongoing obligations to plan participants and their beneficiaries.

**Tucson Supplemental Retirement System
Management's Discussion and Analysis
June 30, 2021**

Net Position of the Plan

Assets	June 30, 2020	June 30, 2021	Change
Cash, cash equivalents, and receivables	\$ 17,692,392	\$ 34,603,909	95.6%
Investments	819,771,307	978,782,890	19.4%
Securities lending cash collateral	7,115,909	6,238,045	-12.3%
Other Assets	65,870	32,935	-50.0%
Total assets	<u>844,645,478</u>	<u>1,019,657,779</u>	20.7%
Liabilities			
Accounts payable and other payables	11,806	39,430	234.0%
Due to securities lending borrowers	7,115,909	6,238,045	-12.3%
Due to brokers	4,346,231	-	-100.0%
Total liabilities	<u>11,473,946</u>	<u>6,277,475</u>	-45.3%
Total net position	<u>\$ 833,171,532</u>	<u>\$ 1,013,380,304</u>	21.6%

At June 30, 2021, cash, cash equivalents and receivables was higher than the prior year by \$16,911,517 (95.6%) due primarily to the accumulation of liquid assets to place more investment capital in the real estate category. Investments have increased by 19.4% due to higher than average investment returns. The Securities lending cash collateral and the due to securities lending borrowers changed compared to the prior year based on the amount of securities lending in effect on June 30 which was collateralized by cash. The line item, other assets, is a prepayment of actuarial software. The accounts payable and other payables remained similar to the prior year in terms of absolute value. The amount due to brokers was zero as the brokerage payables are being reported as a component of investments. This is being done as the investments are managed by active managers who direct the acquisition of investments and pay for it with the funds already in the fiduciary control of the manager. Finally, the total net position restricted for pension of \$1,013,380,304 was available for payment of pension benefits, as shown in the Statement of Plan Net Position on page 21. This amount represents an increase of 21.6% from June 30, 2020.

Additions to Plan Net Position

	June 30, 2020	June 30, 2021	Change
Employer contributions	\$ 34,830,264	\$ 34,821,399	0.0%
Employee contributions	7,791,910	7,836,090	0.6%
Net gain (loss) in fair value of investments	29,271,833	212,240,155	625.1%
Investments and securities lending income (net)	3,637,582	5,564,384	53.0%
Total additions	<u>\$ 75,531,589</u>	<u>\$ 260,462,028</u>	244.8%

**Tucson Supplemental Retirement System
Management's Discussion and Analysis
June 30, 2021**

Employer contributions and employee contributions to the retirement system remain almost unchanged from the prior year. There was an increase in salaries for employees which occurred late in the year but did not have enough pay periods to noticeably impact the contributions that are collected based on payroll. Net gain in Fair Value of Investments increased by 625.1% compared to the prior year. This is due to market variability and high investment returns for the period. It is important to note this is not expected to repeat next year and the actual returns will be variable. The TSRS board of trustees evaluates the investment strategy over multiple years (as seen on page 41). Finally, income from investment and securities lending increased by 53.0%. This change is due to normal variability in income from investments.

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.

	June 30, 2020	June 30, 2021	Change
Payments to participants	\$ 76,471,458	\$ 77,754,958	1.7%
Refunds and transfers to other plans	1,827,219	1,813,331	-0.8%
Administrative expense	644,408	684,967	6.3%
Total deductions	<u>\$ 78,943,085</u>	<u>\$ 80,253,256</u>	1.7%

Total deductions for fiscal year 2021 increased by 1.7% from the prior fiscal year. An increase in the payment of retirement benefits of 1.7%, was the largest factor contributing to the increase in deductions. This is an expected outcome as the employee population continues to become retirement eligible with higher average benefit payments. The payment of refunds and transfers was consistent and it is based on the employees voluntarily deciding to leave service and remove their monies from the system. The increase in administrative expenses was primarily due to the allocation of cost to the TSRS for one senior employee, the director of administrative services.

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, 2021, the balance in this reserve account increased by \$179,787 to \$132,406,952.

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 actuarially determined amount to be reserved to pay benefits, the reserve increased for the plan year ended June 30, 2021 by \$6,967,583 to \$791,813,812.

**Tucson Supplemental Retirement System
Management's Discussion and Analysis
June 30, 2021**

The impact of gains or losses recognized during the plan year ended June 30, 2021 affects the amount remaining in the unreserved net position. Employer funding is added to the unreserved net position. 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 fair values of the system's assets and the recognition of the amount reserved to pay benefits, the unreserved net position increased by \$173,061,402 to a positive ending balance of \$89,159,540.

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 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 Pension Administrator
City Hall, 3rd floor
255 West Alameda Street
Tucson, Arizona 85701
(520) 791-4598

Tucson Supplemental Retirement System
Statement of Fiduciary Net Position
June 30, 2021

Assets:

Cash	\$ 1,089,301
Interest & Dividends Receivable	3,177
Short Term Investments	33,517,370
Securities Lending Cash Collateral	6,238,045
U.S. Treasuries, Agencies & Other Governmental Bonds	132,043,398
Bonds and Other Fixed Income	108,943,872
U.S. Equities	391,001,837
International Equity & Commingled Equity Funds	269,904,070
Real Estate & Commingled Real Estate Funds	76,732,888
Infrastructure Investment Funds	156,825
Prepaid Assets	32,935
Total Assets:	<u>1,019,663,718</u>

Liabilities:

Accounts Payable	27,932
Accrued Payroll Liabilities	17,437
Due to Securities Borrowers	6,238,045
Total Liabilities:	<u>6,283,414</u>

Net Position:

Restricted for Pensions	<u>\$ 1,013,380,304</u>
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See accompanying notes to financial statements

**Tucson Supplemental Retirement System
Statement of Changes in Fiduciary Net Position
Year Ended June 30, 2021**

Additions:

Employer Contributions	\$ 34,821,399
Employee Contributions	7,836,090
Net Increase (Decrease) in Fair Value of Investments	212,240,155
Interest, Dividends and Other Income	10,031,318
Securities Lending Income	100,028
Less: Investment Activity Expense	(4,621,857)
Less: Securities Lending Expense	(39,986)
Miscellaneous Additions	94,881
Total additions:	<u>\$ 260,462,028</u>

Deductions:

Payments to Participants	77,754,958
Refunds and Transfers to Other Plans	1,813,331
Administrative Expense	684,967
Total deductions:	<u>80,253,256</u>

Changes in net position:

180,208,772

Net position, beginning of year

833,171,532

Net position, end of year

\$ 1,013,380,304

See accompanying notes to financial statements

Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021

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

A. Reporting Entity – The Tucson Supplemental Retirement System (the System) is a single-employer defined benefit plan established by the City and administered by a seven-member Board of Trustees. Although the system is a separate legal entity, its sole purpose is to provide services exclusively for the benefit of the City; therefore, it is included as a blended component unit of the City, identified as the Pension Trust Fund in the City's Annual Comprehensive Financial Report.

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. Cash and Cash Equivalents – Amounts reported as cash and cash equivalents represent the System's proportionate share of the City's Investment Pool Account.

E. 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.

F. 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, 2020.

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.

**Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021**

H. Net Pension Liability – The components of the net pension liability as of June 30, 2021 are as follows:

Total Pension Liability	\$	1,182,069,084
Plan's Fiduciary Net Position		<u>1,013,380,304</u>
Net Pension Liability		<u>168,688,780</u>
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		85.73%
Covered Payroll	\$	139,661,315
Net Pension Liability as a Percentage of Covered Payroll		120.78%

I. Tax Status of the Plan – The System applied for an IRS determination letter in January 2015, and received a favorable determination (qualified status) from the IRS on January 11, 2017.

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, Arizona ("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, 2020 is as follows:

Membership – number of:	
Retirees and Beneficiaries	3,153
Inactive, Non-retired Members (151 non vested)	536
Active plan participants	<u>2,476</u>
Total Membership	<u>6,165</u>

Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021

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.

Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021

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 fixed for all employees hired prior to June 30, 2006. The rate is fixed at 5% of active member covered payroll. Employees hired after June 30, 2006 are contributing at a variable rate based on the normal cost of retirement as determined annually by the system Actuary. All member contributions are made by payroll deductions applied to regular pay, based on the appropriate contribution rates established by the system Actuary, applied as a percent of payroll. There are no long-term contracts for employee contributions to the plan, and all contributions are made on a bi-weekly basis.

**Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021**

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.

Effective July 1, 2013, the City adopted a funding policy to enhance the funded status of the retirement system. The policy is applied to both the employee rates and the employer rates. For employees subject to variable contribution rates (those employees hired after June 30, 2006); the policy requires a contribution rate that is equal to a range of between 50% and 100% of the normal cost of the members' benefit Tier, and this cost will be rounded up to the nearest 0.25%. For the employer, the policy sets a minimum contribution rate of 27.50%.

Effective July 1, 2020, The City determined that the contribution rates for employees and the City would remain the same as the prior year. The employees are contributing less than the actuarial rate and the City is continuing to contribute more than the actuarial rate.

Tier	Actuarial Rate	Adopted Employee Rate	Difference	Actuarial Employer Rate	Adopted Employer Rate	Difference
Tier 1 (prior to June 30, 2006)	5.00%	5.00%	None	25.05%	27.50%	1.95%
Tier 1 Variable (between June 30, 2006 and July 1, 2011)	6.95%	6.75%	-0.20%	23.10%	27.50%	4.40%
Tier 2 (hired after July 1, 2011)	5.33%	5.25%	-0.08%	24.72%	27.50%	2.78%

**Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021**

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 investment earnings. The reserves for employee contributions and retirement benefits 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, 2021, allocations were based on rates of return of 3.00% per annum. Any unallocated earnings remain in unreserved net position.

The net position at June 30, 2021, consisted of the following components:

Reserved for employee contributions	\$ 132,406,952
Reserved for retirement benefits	791,813,812
Unreserved net position (deficit)	<u>89,159,540</u>
 Net Position	 \$1,013,380,304

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, 2021.

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 two real estate funds.

Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021

The System's investments at June 30, 2021 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 are 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 No. 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 at fair value net of accruals with the exception of amounts held in the City's investment pool account. 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. At June 30, 2021, the system had no cash in the City investment pool account. The System's investment in the City's investment pool would represent a proportionate interest in the pool's portfolio; however, the System's portion is not identified with specific investments and is not subject to custodial credit risk.

Investments in infrastructure are measured at fair value on a recurring basis, do not have a readily determinable fair value, and have a Net Asset Value per share calculated for reporting purposes. The fair value of the investment in Macquarie European Infrastructure Fund III was measured on March 31, 2021 at \$117,866, with no unfunded commitment. This is a partnership, targeting investments in infrastructure and related assets in the European Union member states. The fair value of the investment in Steel River Infrastructure North America was measured on March 31, 2021 at \$38,959, with no unfunded commitment. This is a partnership, investing in infrastructure assets predominantly located in the United States and Canada. Investment in these partnerships cannot be redeemed by the System. Liquidation of the underlying assets and distributions to the System is expected to be complete in 2021 for both the Macquarie European Infrastructure Fund II and the Steel River Infrastructure North America fund.

The System categorizes its fair value measurements within the fair value hierarchy established by Generally Accepted Accounting Principles. The hierarchy is based on the valuation inputs used to measure the fair value of assets. The fair value hierarchy, which has three levels, is based on the valuation inputs used to measure an asset's fair value: Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs. The System has the following recurring fair value measurements as of June 30, 2021:

Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021

Investments	Fair Value	Level 1	Level 2	Level 3
<u>U.S. Issues not on Securities Loan:</u>				
U.S. Treasuries, Agencies, Governmental Bonds & Commingled U.S. Debt	\$ 132,043,398	\$ -	\$ -	\$132,043,398
Bonds & Other Fixed Income	108,943,872	531,314	78,839,125	29,573,433
U.S. Equities	391,001,837	259,346,333	1,519,237	130,136,267
International Equity & Commingled Equity Funds	269,904,070	102,634,484	-	167,269,586
Subtotal	<u>901,893,177</u>	<u>362,512,131</u>	<u>80,358,362</u>	<u>459,022,684</u>
<u>Investments Held by Broker-Dealers Under Securities Loans with Cash Collateral:</u>				
Bonds & Other Fixed Income	5,139,463	-	5,139,463	-
U.S. Equity	761,253	761,253	-	-
Subtotal	<u>5,900,716</u>	<u>761,253</u>	<u>5,139,463</u>	<u>-</u>
<u>Other Investments:</u>				
Securities Lending Cash Collateral Short-Term-Investment-Pool	6,238,045	730,374	5,456,227	51,444
Money Market Funds/Short-Term Investments	33,517,370	-	2,969,069	30,548,301
Real Estate & Commingled Real Estate Funds	76,732,888	-	-	76,732,888
Infrastructure Investment Funds	156,825	-	-	156,825
Subtotal	<u>116,645,128</u>	<u>730,374</u>	<u>8,425,296</u>	<u>107,489,458</u>
Total Deposits and Investments	<u>\$ 1,024,439,021</u>	<u>\$364,003,758</u>	<u>\$93,923,121</u>	<u>\$566,512,142</u>

U.S. treasuries, agencies, money market, and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for identical securities.

Governmental bonds, corporate bonds, other fixed income instruments, and international bonds classified in Level 2 of the fair value hierarchy are valued based on significant other observable inputs, which may include, but are not limited to, quoted prices for similar assets or liabilities in markets that are active, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the assets or liabilities (such as interest rates, yield curves, volatilities, prepayment speeds, loss severities, credit risks and default rates) or other market corroborated inputs.

Securities valued at Level 3 are based on significant unobservable outputs based on all information available in the circumstances to the extent observable outputs are not available. The fair value of comingled U.S. debt, comingled equity funds, and related short-term investments classified in level 3 represent the value of unit positions in funds that are not publicly traded on an exchange. Fair value of these securities can be impacted by redemption restrictions imposed by the fund managers. Real estate, comingled real estate funds, and infrastructure investment funds are valued using discounted cash flow techniques.

Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021

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, 2021, these best estimates are summarized in the table shown below:

Asset Class	Target Allocation	Expected Arithmetic Returns
U.S. Equities	34%	8.0%
International Equities	24%	8.7%
Fixed Income	25%	2.9%
Real Estate	12%	6.6%
Infrastructure	5%	7.0%
Total	100%	
Weighted Average Arithmetic Returns, in proportion to asset allocation		6.7%

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, 2021).

**Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021**

Rate of Return – For the year ended June 30, 2021, the annual money-weighted rate of return on the Plan’s investments, net of pension plan investment expenses, was 27.34%. 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:

1% Decrease	Current single discount rate assumption	1% Increase
6.00%	7.00%	8.00%
\$ 294,269,205	\$ 168,688,778	\$ 62,340,105

Credit Risk – As defined by GASB Statement No. 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 fair 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 fair value) as rated by Moody’s, Standard & Poor’s or Fitch

**Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021**

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, 2021:

Ratings by Moody's

Investment Type	Not rated	C	B3 - Ba1	Baa3-A1	Aa3 - Aaa	Total
Short term: Cash & cash equivalents	33,517,370					33,517,370
US agencies & other government bonds	132,043,398					132,043,398
Bonds & other fixed income	42,789,074	1,955,934	36,090,957	26,690,749	1,417,158	108,943,872
Sub-Totals	208,349,842	1,955,934	36,090,957	26,690,749	1,417,158	274,504,640

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.

**Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021**

The System had the following maturity structure as of June 30, 2021:

Investment Type	Less than 1 year	1 - 5 Years	6 - 10 Years	More than 10 years	Total
Cash & Short Term Investments	\$ 33,517,370	\$ -	\$ -	\$ -	\$ 33,517,370
US Agency & Other Gov't Obligations	-	-	132,043,398	-	132,043,398
US Corporate & Other Fixed Income	31,356,962	37,039,703	19,911,022	20,636,185	108,943,872
	<u>\$ 64,874,332</u>	<u>\$ 37,039,703</u>	<u>\$ 151,954,420</u>	<u>\$ 20,636,185</u>	<u>\$274,504,640</u>

Effective Duration of Passive Account: 6.64 years

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

Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021

The TSRS fund had the following foreign currency risk exposure as of June 30, 2021:

Currency of:	Cash	Fixed Income	Equity	Real Estate	Infra-structure	Total Value	%
ARGENTINA PESO	730	-	-	-	-	730	0.0%
AUSTRALIAN DOLLAR	594,875	-	-	-	-	594,875	0.1%
BRAZIL REAL	20,087	-	-	-	-	20,087	0.0%
CANADIAN DOLLAR	83,970	-	1,406,485	-	-	1,490,455	0.1%
CHINESE YUAN RENMINBI	1,272,398	-	-	-	-	1,272,398	0.1%
DANISH KRONE	(5,562,988)	5,620,190	-	-	-	57,202	0.0%
EURO CURRENCY UNIT	(16,361,358)	15,211,950	38,459,030	-	117,866	37,427,488	3.7%
JAPANESE YEN	206,951	-	8,004,145	-	-	8,211,096	0.8%
MEXICAN PESO	(6,273)	-	-	-	-	(6,273)	0.0%
NORWEGIAN KRONE	628,362	-	-	-	-	628,362	0.1%
POLISH ZLOTY	262	-	-	-	-	262	0.0%
POUND STERLING	(6,386,037)	6,443,743	12,504,043	-	-	12,561,749	1.2%
RUSSIAN RUBLE (NEW)	1,036	-	-	-	-	1,036	0.0%
SINGAPORE DOLLAR	1,652	-	-	-	-	1,652	0.0%
SOUTH AFRICAN RAND	7,492	-	-	-	-	7,492	0.0%
SWEDISH KRONA	639,277	-	-	-	-	639,277	0.1%
SWISS FRANC	472,179	-	10,409,997	-	-	10,882,176	1.1%
TURKISH LIRA	14	-	-	-	-	14	0.0%
U.S. DOLLAR	57,904,741	213,711,387	590,122,207	76,732,888	38,959	938,510,182	92.7%
TOTAL	33,517,370	240,987,270	660,905,907	76,732,888	156,825	1,012,300,260	

Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021

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 consists of cash, US fixed income securities and US equities, and is marked-to-market daily. As of June 30, 2021, the carrying amount and fair value of securities on loan was \$30,327,302. 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 during the fiscal year. As of June 30, 2021, 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, 2021. Changes in Fair Value are 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.

Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021

Investment Derivative Instrument	Notional Amount (1)	Changes in Fair Value	Fair Value (2)	Principal Risk
Foreign Exchange	(15,835,473)	567,944	567,944	Foreign Currency
Options	(3,781)	7,444	(4,123)	Credit Risk
Swaps	860,374	344,238	1,063,520	Interest Rate Risk
Futures	531,088	531,314	531,314	Interest Rate Risk

(1) The Notional Amount is the number of currency units (stated in local currencies), shares or other units specified in the derivative instrument. It is a stated amount on which payments depend.

(2) The notional fair value of the underlying securities is reported in this schedule. Fair market value as reported in the financial statements is presented net of long and short positions.

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, Swaps and Futures 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 fair 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.

**Tucson Supplemental Retirement System
Notes to Financial Statements
Year Ended June 30, 2021**

7. ACTUARIAL METHODS AND ASSUMPTIONS

The total pension liability was determined by an actuarial valuation with a measurement date and report date of June 30, 2021, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	3.00% to 6.00% including inflation
Investment Rate of Return	7.00%

Mortality rates were based on the RP-2014 Employee Mortality Table for males and females, projected with the ultimate rates of the MP-2018 projection scale. The actuarial assumptions used in the June 30, 2021 valuation were based on the results of an actuarial experience study in 2019.

Additional Details: In the June 30, 2021 actuarial valuation, the Entry Age Normal cost method was used, along with the Level Percentage of Payroll, Open ended amortization method. The assumptions do not include post-retirement benefit increases or benefit inflation assumptions, because the plan does not prescribe these benefits.

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 fair 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, 2021.

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 fair 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 7.00% was used to measure the total pension liability, which was the same rate as the prior year. This single discount rate was based on the expected rate of return on pension plan investments of 7.00%. 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.

**Tucson Supplemental Retirement System
Required Supplementary Information
Year Ended June 30, 2021**

Schedule of changes in net pension liability*

	2021	2020	2019	2018
Total pension liability				
Service cost	\$ 14,966,928	\$ 14,648,214	\$ 14,130,993	\$ 13,104,720
Interest on total pension liability	78,164,082	76,836,667	75,605,853	72,893,717
Difference between expected and actual experience of the total pension liability	19,575,935	6,252,324	5,030,045	6,919,468
Changes of assumptions			57,324,201	
Benefit payments, including refunds of employee contributions	(79,568,289)	(78,298,677)	(76,586,216)	(75,618,198)
Net change in total pension liability	33,138,656	19,438,528	75,504,876	17,299,707
Total pension liability - beginning	1,148,930,428	1,129,491,900	1,053,987,024	1,036,687,317
Total pension liability - ending	<u>\$ 1,182,069,084</u>	<u>\$ 1,148,930,428</u>	<u>\$ 1,129,491,900</u>	<u>\$ 1,053,987,024</u>
Plan fiduciary net position				
Contributions - employer	\$ 34,821,399	\$ 34,830,264	\$ 32,589,204	\$ 31,795,197
Contributions - member	7,836,090	7,791,910	7,779,477	8,561,747
Net investment income	217,804,541	32,909,415	49,819,110	69,447,542
Benefit payments, including refunds of member contributions	(79,568,289)	(78,298,677)	(76,586,216)	(75,618,198)
Administrative expense	(684,967)	(644,408)	(652,065)	(745,753)
Other	0	0	0	250,046
Net change in plan fiduciary net position	180,208,774	(3,411,496)	12,949,510	33,690,581
Plan fiduciary net position - beginning	833,171,532	836,583,028	823,633,518	789,942,937
Plan fiduciary net position - ending	<u>\$1,013,380,306</u>	<u>\$ 833,171,532</u>	<u>\$ 836,583,028</u>	<u>\$ 823,633,518</u>
Net pension Liability - ending	<u>\$ 168,688,778</u>	<u>\$ 315,758,896</u>	<u>\$ 292,908,872</u>	<u>\$ 230,353,506</u>

*Schedule is presented on a prospective basis from FY 2014 and will eventually include 10 years of data.

**Tucson Supplemental Retirement System
Required Supplementary Information
Year Ended June 30, 2021**

Schedule of changes in net pension liability*

	2017	2016	2015	2014
Total pension liability				
Service cost	\$ 13,130,902	\$ 14,279,065	\$ 15,753,944	\$ 14,825,019
Interest on total pension liability	72,547,402	72,013,831	70,688,775	66,915,612
Difference between expected and actual experience of the total pension liability	(6,472,776)	(6,529,764)	(7,815,270)	325,889
Changes of assumptions			(31,210,057)	76,945,563
Benefit payments, including refunds of employee contributions	(73,213,157)	(70,445,750)	(67,612,351)	(66,002,013)
Net change in total pension liability	5,992,371	9,317,382	(20,194,959)	93,010,070
Total pension liability - beginning	1,030,694,946	1,021,377,564	1,041,572,523	948,562,453
Total pension liability - ending	<u>\$ 1,036,687,317</u>	<u>\$ 1,030,694,946</u>	<u>\$ 1,021,377,564</u>	<u>\$ 1,041,572,523</u>
Plan fiduciary net position				
Contributions - employer	\$ 31,823,694	\$ 33,175,307	\$ 33,985,523	\$ 34,189,288
Contributions - member	7,439,065	7,083,385	7,531,845	7,338,543
Net investment income	97,535,597	17,820,325	30,684,188	119,729,154
Benefit payments, including refunds of member contributions	(73,213,157)	(70,445,750)	(67,612,351)	(66,002,013)
Administrative expense	(756,268)	(786,028)	(650,405)	(735,739)
Other	331,127	142,093	118,247	171,077
Net change in plan fiduciary net position	63,160,058	(13,010,668)	4,057,047	94,690,310
Plan fiduciary net position - beginning	726,782,879	739,793,547	735,736,500	641,046,190
Plan fiduciary net position - ending	<u>\$ 789,942,937</u>	<u>\$ 726,782,879</u>	<u>\$ 739,793,547</u>	<u>\$ 735,736,500</u>
Net pension Liability - ending	<u>\$ 246,744,380</u>	<u>\$ 303,912,067</u>	<u>\$ 281,584,017</u>	<u>\$ 305,836,023</u>

*Schedule is presented on a prospective basis from FY 2014 and will eventually include 10 years of data.

**Tucson Supplemental Retirement System
Required Supplementary Information
Year Ended June 30, 2021**

Schedule of net pension liability last eight years*

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of total pension liability	Covered payroll	Net Pension liability as a % of covered payroll
2014	1,041,572,523	735,736,500	305,836,023	70.64%	126,206,305	242.33%
2015	1,021,377,564	739,793,547	281,584,017	72.43%	123,583,720	227.85%
2016	1,030,694,946	726,782,879	303,912,067	70.51%	120,637,480	251.92%
2017	1,036,687,317	789,942,937	246,744,380	76.20%	115,722,524	213.22%
2018	1,053,987,024	823,633,518	230,353,506	78.14%	115,618,898	199.24%
2019	1,129,491,900	836,583,028	292,908,872	74.07%	123,822,602	236.56%
2020	1,148,930,428	833,171,532	315,758,896	72.52%	127,378,110	247.89%
2021	1,182,069,084	1,013,380,306	168,688,778	85.73%	139,661,315	120.78%

Schedule of Pension Investment Returns*

FY	Annual Money-Weighted Rate of Return, Net of Investment Expense
2014	19.17%
2015	4.17%
2016	2.38%
2017	14.26%
2018	8.85%
2019	6.06%
2020	4.20%
2021	27.34%

*Schedules are presented on a prospective basis from FY 2014 and will eventually include 10 years of data.

**Tucson Supplemental Retirement System
Required Supplementary Information
Year Ended June 30, 2021**

Schedule of Contributions

Fiscal Year End June 30,	Actuarially Determined Contribution (ADC)		Actual Contribution		Contribution Deficiency (Excess)	Covered Payroll	Actual contributions in relation to ADC expressed as a % of covered payroll
	Dollars	% of pay	Dollars	% of pay			
2012	34,824,621	23.38%	34,824,621	23.38%	n/a	148,950,475	n/a
2013	34,523,315	28.77%	34,523,315	28.77%	n/a	119,997,619	n/a
2014	34,189,288	27.09%	34,189,288	27.09%	n/a	126,206,305	n/a
2015	33,305,813	26.95%	33,985,523	27.50%	(679,710)	123,583,720	100.5%
2016	32,608,311	27.04%	33,175,307	27.50%	(566,996)	120,637,480	100.5%
2017	29,532,388	25.52%	31,823,694	27.50%	(2,291,306)	115,722,524	102.0%
2018	29,806,552	25.78%	31,795,197	27.50%	(1,988,645)	115,618,898	101.7%
2019	27,825,255	23.48%	32,589,204	27.50%	(4,763,949)	118,506,196	104.0%
2020	27,851,546	21.99%	34,830,264	27.50%	(6,978,718)	127,378,110	105.5%
2021	31,288,610	24.71%	34,821,399	27.50%	(3,532,789)	139,661,315	100.2%

**Tucson Supplemental Retirement System
Required Supplementary Information
Year Ended June 30, 2021**

Notes to Schedule of Contributions

Summary of actuarial methods and assumptions

Valuation Date:

June 30, 2019

Notes

Actuarially determined contribution rates are calculated for the fiscal year beginning one year after the valuation date (one year lag). The actuarial valuation as of June 30, 2019 determines the contribution for fiscal year ending June 30, 2021.

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	2.50%
Salary Increases	3.00% to 6.00% including inflation
Investment Rate of Return	7.00%
Retirement Age	Age-based table of rates that are specific to the type of eligibility condition. Last updated for the 2019 valuation pursuant to an experience study of the period 2014 – 2019 Pre and Post -retirement: RP-2014 projected, with the ultimate rates of the MP-2018 projection scale.
Mortality	Disabled retirement: RP-2014 projected, with the ultimate rates of the MP-2018 projection scale. Mortality rates were adjusted to include margin for future mortality improvement as described in the tabled named above.

**Tucson Supplemental Retirement System
Other Supplemental Information
Year Ended June 30, 2021**

Schedule of administrative expenses

Personal services	
Staff salaries	\$ 291,044
Fringe benefits	149,236
Total personal services	440,280
Professional services	
Accounting services	-
Actuarial services	30,000
Audit services	9,995
Physician services	-
Legal services	66,274
Total professional services	106,269
Other administrative expenses	
Computer software maintenance & hosting	70,996
Insurance	4,647
Other administrative expenses	38,951
Postage	10,301
Printing and supplies	10,958
Professional development	2,003
Total other administrative expenses	137,856
Total administrative expenses	\$ 684,405
Investment services expenses	
Trust and custody	\$ 368,183
Investment consultant	268,950
Carried interest cost	52,321
Investment management	3,932,403
Total investment expenses	\$ 4,621,857

INVESTMENT SECTION

**Tucson Supplemental Retirement System
Investment consultant Letter of Investment Activity
Year Ended June 30, 2021**

Callan

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

Main 303.861.1900
Fax 303.832.8230

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November 5, 2021

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

Callan LLC
1900 16th Street
Suite 1175
Denver, CO 80202

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, 2021.

Economic Overview as of June 30, 2021

The 2021 fiscal year ending June 30, 2021 was characterized by the economic and financial asset recovery that followed the initial wave of COVID-19 and corresponding economic lockdown. Real Gross Domestic Product (GDP) plummeted over 10% in the first two quarters of the 2020 calendar year, but rebounded 7.5% in the third calendar quarter, marking the largest quarterly growth rate on record. Real GDP growth was driven by strong consumer spending throughout the fiscal year and was able to reclaim pre-pandemic highs by the second calendar quarter of 2021 (up 12.2% during the fiscal year).

Alongside GDP, the labor market experienced an outstanding recovery during the fiscal year. The unemployment rate dropped from over 11% in June 2020 to 5.9% in June 2021. The retail and leisure and hospitality segments which had been hit the hardest benefited from the reopening economy. Consumer confidence, retail sales, and manufacturing data all trended higher during the fiscal year.

Early in the fiscal year, financial assets continued their upward trajectory amid uncertainty surrounding the health of the overall economy. The expanded federal unemployment benefits of the CARES act expired in July 2020 amid double-digit unemployment, a looming U.S. election, and resurging tensions between the U.S. and China. Meanwhile, corporate profits continued to surpass expectations. In August, the S&P 500 reclaimed its high-water mark to notch a record high. The dovish tone and accommodative monetary policy of the Federal Reserve also helped to fuel risk assets. Federal Reserve Chair, Jerome Powel, was widely quoted as “not even thinking about thinking about thinking about raising rates,” after having lowered the Federal Funds Rate to the effective lower bound of zero earlier in the year. The Fed also announced its more accommodative approach to “average inflation targeting,” where temporary inflation levels above the target rate would be tolerated before taking action.

Tucson Supplemental Retirement System
Investment consultant Letter of Investment Activity
Year Ended June 30, 2021

The combination of a second COVID-19 wave, U.S. presidential election unease, and political battles over a second round of stimulus gave markets pause in the fall part of 2020. However, the peaceful resolution of the election in conjunction with positive COVID-19 trial results spurred the S&P 500 11% higher in the month of November (after declining in September and October). Vaccine optimism also pushed treasury yields higher as investors rotated into riskier assets in anticipation of an economic recovery. The more economically sensitive small capitalization stocks roared in the second and third fiscal quarters as a result. Small caps also benefited a coordinated online effort to drive up the prices of a select group of heavily shorted small cap companies, giving birth to the “meme stock” craze. In contrast, growth stocks underperformed value in the second and third fiscal quarters as rates climbed and investors rotated out of the tech-heavy pandemic favorites and into more cyclical positions. In the fourth fiscal quarter, both of these trends reverted, with growth outperforming value and large caps outpacing small caps.

The most prevalent concern in the second half of the fiscal year was inflation. The Consumer Price Index (All Urban Consumers) climbed 4.3% during that period. Supply chain issues were of particular concern as lumber shortages, semi-conductor shortages, and limited shipping capacity all contributed to higher prices across the Index. Oil prices jumped 50% during the second half of the fiscal year with the price of WTI Crude climbing from \$48.5/bbl on December 31, 2020 to \$73.5/bbl by fiscal year-end.

Fixed income allocations struggled as treasury yields steadily climbed in the first three fiscal quarters of 2021. The yield on the 10-year treasury began the fiscal year at 0.66% and peaked in March of 2021 at 1.74% before ending the year at 1.45%. While yields generally climbed, corporate spreads tightened throughout the year, leading riskier segments of the fixed income market to outperform government bonds.

Total Fund Review

In the fiscal year 2021, TSRS returned 27.42% before investment management fees, which ranked in the 30th percentile versus other public defined benefit plans. TSRS returned 27.14% net of fees for the fiscal year, which was ahead of the benchmark return of 24.60%. TSRS uses a time-weighted rate of return methodology. Returns are calculated by an independent third party using data provided by the custodian.

Domestic Equity Overview

U.S. equities generated historic returns in the fiscal year ended June 30, 2021. The economy recovered from pandemic lows as vaccine progress helped the world inch towards normalcy. Equity markets were further bolstered by a deluge of fiscal and monetary stimulus. In the second and third fiscal quarters, nearly \$3 trillion in COVID-relief funds were infused into the economy. As a result, the S&P 1500, a broad market indicator for the U.S. stock market, soared 42.12%. The small cap index (S&P 600) generated a 67.40% return, notably outpacing the S&P 500 large cap index (+40.79%). The Russell 3000 Value Index produced a gain of 45.40%, slightly outperforming the 42.99% return of the Russell 3000 Growth Index. Despite similar performance of the growth and value style for the fiscal year, there were periods of significant under- and outperformance for each. During the fiscal year ended June 30, 2021 the TSRS domestic equity portfolio returned 46.51% net of fees.

**Tucson Supplemental Retirement System
Investment consultant Letter of Investment Activity
Year Ended June 30, 2021**

International Equity Overview

Developed international equities had a strong 2021 fiscal year, with the MSCI EAFE Index climbing 32.35%. Among developed markets, value equities outperformed their growth counterparts. The MSCI EAFE Value Index appreciated 33.50% versus the MSCI EAFE Growth Index's return of 30.97%. Emerging market equities outperformed developed markets, with the MSCI EM Index gaining 40.90% during the fiscal year. Emerging Markets equities benefited from a weaker U.S. dollar in the first half of the fiscal year, and from strong results out of China where authoritarian measures were better able to control the COVID-19 outbreak. For the fiscal year of 2021, the international equity asset class returned 36.98%, net of fees, for TSRS.

Domestic Fixed Income Overview

Rising interest rates were a headwind to fixed income investing in the 2021 fiscal year, with the 10-year Treasury yield more than doubling from 0.66% to 1.45% during the period. After a strong 2020 fiscal year performance, the Bloomberg Aggregate Bond Index recorded a 0.33% loss in the 2021 fiscal year. While the Federal Reserve maintained the historic lower bound policy rate range of 0.0% to 0.25% and continued its quantitative easing program, an appetite for risk assets drove interest rates higher. Investors' preference for risk and search for higher yielding securities caused credit spreads to tighten. The Bloomberg Government Long Index fell 10.42% during the fiscal year, while the Bloomberg Corporate High Yield Index jumped 15.37% and the Bloomberg Credit Index appreciated 2.99%. For the fiscal year 2021, TSRS' domestic fixed income portfolio returned 3.47% net of fees.

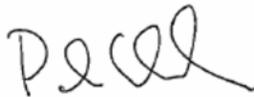
Real Estate Overview

The NCREIF Property Index, a measure of the domestic direct private real estate market, appreciated 7.37% during the 2021 fiscal year. After ending a 41-quarter consecutive streak of positive performance in the fourth fiscal quarter last year, the index was positive in all four quarters of the 2021 fiscal year. During the year ended June 30, 2021 TSRS's real estate portfolio returned 5.05% net of fees.

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 communication systems, both potable and sewage water lines; and electrical 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 abilities 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 trailing 12-month period ended June 30, 2021, the infrastructure program for TSRS returned 8.34% net of fees.

Cordially,



Paul Erlendson
Senior Vice President



Gordon Weightman, CFA
Senior Vice President

**Tucson Supplemental Retirement System
Outline of Investment Policies
Year Ended June 30, 2021**

The asset allocation policy includes a 58% allocation to equity securities: 27% to large U.S. stocks; split among S&P 500 index, enhanced index, large capitalization growth and value accounts; 7% to mid-cap and small-cap U.S. stock accounts; and 24% to foreign stock accounts. There is also an allocation of 25% to fixed income, 12% 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		
	<u>Minimum</u>	<u>Target</u>	<u>Maximum</u>
Equities			
Large capitalization	22%	27%	32%
Small capitalization	4%	7%	10%
International	19%	24%	29%
Total equities	54%	58%	64%
Fixed income	21%	25%	29%
Real estate	9%	12%	15%
Infrastructure	3%	5%	7%
Cash	0%	0%	0%
Total		100%	

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.

**Tucson Supplemental Retirement System
Investment Objectives and Individual Manager Performance Objectives
Year Ended June 30, 2021**

Total Pension Fund Performance Objectives:

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 five-year basis, the annualized total return of the portfolio should exceed the annualized total return of the following custom index:

S&P 500 Index	27%
Russell 2500 Index	7%
MSCI ACWI ex U.S. IMI	24%
BC Aggregate Bond Index	25%
NFI-ODCE	12%
CPI + 4%	5%
Total	100%

Individual Managers Performance Objectives

On a shorter-term basis, managers will be measured in relation to an appropriate style index and peer group. Each manager will be measured against the median return of a previously agreed-upon peer group with similar investment styles. Long-term performance will be measured on a rolling five-year basis in relation to a broad market index or indices as follows:

Investment Category	Market Index	Callan Style Group
Total Domestic Equity	Russell 3000 Index	Domestic Equity
Passive Large-Cap Equities	S&P 500 Index	Large Cap Style
Large Cap Value Equities	Russell 1000 Value Index	Large Cap Value Style
Large Cap Growth Equities	Russell 1000 Growth Index	Large Cap Growth Style
Mid Cap Core Equity	Russell Midcap Index	Mid Cap Style
Small Cap Core Equity	Russell 2000 Index	Small Cap Style
Total Non-U.S. Equity	MSCI ACWI ex U.S.	IMI International Equity
Core Non-U.S. Equity	MSCI ACWI ex U.S.	Non-U.S. Equity Style
Non-U.S. Equity Small Cap	MSCI ACWI ex U.S. Small Cap	Non-U.S. Equity Small Cap
Fixed Income	Bloomberg Barclays Aggregate Index	Domestic Fixed
Real Estate	NFI-ODCE	Open-End Real Estate
Infrastructure	CPI+4%	NA

**Tucson Supplemental Retirement System
Investment Results by Year – Last Ten Fiscal Years
Year Ended June 30, 2021**

<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>
6/30/21	27.14%	12.17%	11.90%	9.94%
6/30/20	4.2%	6.4%	7.0%	9.5%
6/30/19	6.2%	9.7%	7.0%	10.2%
6/30/18	9.9%	8.9%	10.1%	7.5%
6/30/17	14.8%	7.1%	11.0%	6.0%
6/30/16	2.4%	8.1%	8.0%	5.7%
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%

**Tucson Supplemental Retirement System
Schedule of Investment Results
Year Ended June 30, 2021**

For Periods Ended June 30, 2021

	Annualized Returns		
	One Year	Three Years	Five Years
TOTAL PORTFOLIO			
TSRS	27.14%	12.17%	11.90%
Custom Benchmark ⁽¹⁾	24.60%	11.17%	10.69%
EQUITY FUNDS			
Alliance S&P Index	40.67%	18.60%	17.56%
PIMCO Stocks Plus	41.52%	19.03%	18.05%
S & P 500 Index	40.79%	18.67%	17.65%
BlackRock Russell 1000 Value Index	43.71%	12.54%	11.97%
Russell 1000 Value Index	43.68%	12.42%	11.87%
T. Rowe Price Large Cap Growth	47.89%	25.55%	27.40%
Russell 1000 Growth Index	42.50%	25.14%	23.66%
Champlain Investment Partners	46.95%	22.62%	21.41%
Russell Mid Cap Index	49.80%	16.45%	15.62%
Fidelity Institutional Asset Management Small Cap	65.48%	16.33%	17.27%
Russell 2000 Index	62.03%	13.52%	16.47%
Causeway International Value Equity	40.30%	7.56%	10.32%
ACWI ex-US (Net)	35.72%	9.38%	11.08%
Aberdeen EAFE Plus Equity	34.54%	12.43%	11.39%
MSCI All Country World ex-U.S. Index (Net)	35.72%	9.38%	11.08%
American Century Non U.S. Small Cap	36.13%	11.00%	15.07%
MSCI All Country World ex-U.S. Small Cap	47.04%	9.78%	11.97%
FIXED INCOME FUNDS			
BlackRock U.S. Debt Fund	(0.35%)	5.39%	3.07%
Bloomberg Aggregate Bond Index	(0.33%)	5.34%	3.03%
PIMCO Custom Fixed Income	7.31%	7.18%	5.90%
Custom Index ⁽²⁾	4.86%	6.57%	4.45%

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

(1) Custom Benchmark = 27.0% S&P 500 Index, 25.0% Blmbg Aggregate, 24.0% MSCI ACWI ex US IMI, 12.0% NCREIF NFI-ODCE Val Wt Gr, 7.0% Russell 2500 Index and 5.0% CPI-W+4.0%.

(2) The custom index is composed of 25% Bloomberg Barclays Mortgage, 25% Bloomberg Barclays Credit, 25% Bloomberg Barclays High Yield, and 25% JP Morgan EMBI Global.

**Tucson Supplemental Retirement System
Schedule of Investment Results
Year Ended June 30, 2021**

	Annualized Returns		
	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>
REAL ESTATE FUNDS			
JP Morgan Strategic Property Fund	5.77%	3.64%	4.88%
JP Morgan Income and Growth Fund	3.57%	2.37%	4.16%
NFI-ODCE Equal Weight Net	7.97%	5.19%	6.09%
INFRASTRUCTURE FUNDS			
SteelRiver Infrastructure Fund North America (Funding Completed)	18.26%	11.40%	7.37%
CPI + 4%	10.12%	6.67%	6.52%
Cash Composite	0.01%	1.12%	1.05%

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

**Tucson Supplemental Retirement System
Asset Summary by Manager and Type of
Investment Year Ended June 30, 2021**

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	\$ 91,908	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 449	\$ 92,357
T. Rowe Price	Large Cap Growth	89,888						791	90,679
BlackRock Russell Value	Large Cap Value Index	77,259							77,259
PIMCO StocksPlus	Enhanced Index	52,049							52,049
Champlain Investments	Mid-Cap Core		41,279					523	41,802
Fidelity Institutional Asset Mgmt.	Small-Cap Core		36,768					529	37,297
Causeway Capital	Foreign Stocks-Value			102,693				4,096	106,789
Aberdeen Asset Mgmt	Foreign Stocks-Core			115,268					115,268
American Century Investments	Foreign Stocks-Small Cap			52,133					52,133
BlackRock U.S. Debt	U.S. Govt/Credit Bonds				132,043				132,043
PIMCO Custom Fixed Income	U.S. & Foreign Bonds				110,135			20,807	130,942
JPM Strategic Property Fund	Core Real Estate					52,677		1	52,678
JPM Income & Growth Fund	Value Added Real Estate					24,760		2	24,762
Macquarie (MEIF3)	European Infrastructure						287		287
SteelRiver IFNA	North American Infrastructure						92		92
Liquidity Fund	Cash & Cash Equivalents							6,788	6,788
TOTAL		\$ 311,104	\$ 78,047	\$270,094	\$242,178	\$ 77,437	\$ 379	\$33,986	\$1,013,225

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.

**Tucson Supplemental Retirement System
Manager and Asset Diversification
Year Ended June 30, 2021**

Manager	Actual		Target	
	Amount	Percentage	Amount	Percentage
Alliance Capital	\$ 92,357	9.1%	\$ 84,098	8.3%
T. Rowe Price	90,679	9.0%	73,459	7.3%
BlackRock Russell Value	77,259	7.6%	73,459	7.3%
PIMCO StocksPlus	52,049	5.1%	42,555	4.2%
Large U.S. Stocks	312,344	30.8%	273,571	27.1%
Champlain Investment Partners	41,802	4.1%	35,463	3.5%
Fidelity Institutional Asset Mgmt.	37,297	3.7%	35,463	3.5%
Small/Mid-Cap U.S. Stocks	79,099	7.8%	70,926	7.0%
Causeway Capital	106,789	10.5%	97,270	9.6%
Aberdeen Asset Management	115,268	11.4%	97,270	9.6%
American Century Investments	52,133	5.1%	48,635	4.8%
Foreign (International) Stocks	274,190	27.0%	243,175	24.0%
Total Equities	665,633	65.7%	587,671	58.0%
BlackRock U.S. Debt	132,043	13.0%	126,653	12.5%
PIMCO Custom Fixed Income	130,942	12.9%	126,653	12.5%
Fixed Income (Bonds)	262,985	25.9%	253,306	25.0%
JPM Strategic Property Fund	52,678	5.2%	81,057	8.0%
JPM Income & Growth Fund	24,762	2.4%	40,529	4.0%
Real Estate	77,440	7.6%	121,586	12.0%
Macquarie (MEIF3)	287	0.0%	25,331	2.5%
SteelRiver IFNA	92	0.0%	25,331	2.5%
Infrastructure	379	0.0%	50,662	5.0%
Liquidity Fund	6,788	0.7%	-	0.0%
Total	\$ 1,013,225	100%	\$1,013,225	100%

**Tucson Supplemental Retirement System
Asset allocation – Last Five Fiscal Years
Year Ended June 30, 2021**

<u>Asset Class</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
U.S. Stocks	38%	35%	35%	36%	35%
Foreign (International) Stocks	27%	26%	24%	25%	25%
Total Equities	65%	61%	59%	61%	60%
Fixed Income (Bonds)	26%	28%	27%	26%	26%
Real Estate	8%	9%	9%	9%	10%
Infrastructure	0%	0%	5%	4%	4%
Cash	1%	2%	0%	0%	0%
Total Assets	100%	100%	100%	100%	100%

**Tucson Supplemental Retirement System
Ten Largest Bond Holdings and Ten Largest Stock Holdings
Year Ended June 30, 2021**

**Ten Largest Bond Holdings
(By Fair Value)
June 30, 2021
(dollars in thousands)**

<u>Par Value</u>	<u>Bond</u>	<u>Coupon Rate</u>	<u>Due</u>	<u>Rating (1)</u>	<u>Fair Value</u>
\$ 1,688	PIMCO FDS PAC INVT MGMT SER	7.625%	08/17/22	NR	\$ 18,564
604	PIMCO FDS PAC INVT MGMT SER	5.500%	01/15/28	B1	7,609
24,236	REALKREDIT DANMARK A/S REGS	6.625%	06/15/35	Ba2	3,630
1,800	PETROLEOS MEXICANOS	6.625%	06/15/35	Ba2	1,740
1,700	TALLGRASS ENERGY PARTNERS 144A	8.000%	11/01/31	Ba1	1,730
827	ALLY FINANCIAL INC	Variable	05/18/29	Baa2	1,191
800	PERTAMINA PERSERO PT 144A	6.500%	11/07/48	Baa2	1,061
900	NATWEST GROUP PLC	7.375%	05/01/26	B2	1,055
900	FORD MOTOR CREDIT CO LLC	Variable	12/01/24	Ba2	1,038
6,600	CCP_CD. SP UL ITRAXX EUROPE C	Variable	11/03/28	Baa1	971

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

**Ten Largest Stock Holdings
(By Fair Value)
June 30, 2021
(dollars in thousands)**

<u>Shares</u>	<u>Stock</u>	<u>Fair Value</u>
47,018	MICROSOFT CORP	\$ 12,737
3,351	AMAZON.COM INC	11,528
66,205	APPLE INC	9,067
3,302	ALPHABET INC	8,063
22,218	META PLATFORMS INC	7,725
1,728	ALPHABET INC	4,331
18,083	VISA INC	4,228
5,919	INTUIT INC	2,901
31,274	NOVARTIS AG	2,853
26,161	SANOFI	2,741

*A complete list of portfolio holdings is available by contacting:
City of Tucson Supplemental Retirement System,
255 W. Alameda Street, 3rd floor, Tucson, AZ 85701-1303*

**Tucson Supplemental Retirement System
Schedule of Fees
Year Ended June 30, 2021**

Investment manager fees:	Assets under management	Fees
Fixed income managers		
BlackRock U.S. Debt	\$ 132,043,403	\$ 48,859
PIMCO (Custom fixed income)	130,941,742	563,170
<i>Total fixed income</i>	262,985,145	612,029
<i>Equity Managers</i>		
Alliance Capital Management	92,356,751	26,529
BlackRock Russell Value Index	77,259,319	17,223
T. Rowe Price	90,678,723	306,644
Causeway Capital Management	106,789,077	142,392
Fidelity Institutional Asset Management	37,299,460	247,864
Aberdeen Asset Management	115,268,160	690,795
American Century Investments	52,132,896	394,947
PIMCO Stock Plus	52,049,199	68,744
Champlain Investment Partners	41,801,620	295,798
<i>Total Equity</i>	665,635,205	2,190,935
<i>Liquidity Account</i>	6,787,750	
<i>Real Estate Managers</i>		
JP Morgan Strategic Property Fund	52,677,578	513,360
JP Morgan Income & Growth Fund	24,057,768	257,128
<i>Total Real Estate</i>	76,735,346	770,489
<i>Infrastructure Managers</i>		
Macquarie (MEIF3)	117,856	3,802
SteelRiver (IFNA)	38,959	-
<i>Total Infrastructure</i>	156,815	3,802
Total assets		
Total investment management fees	\$ 1,012,300,261	\$ 3,577,255
Other investment service fees		
Carried interest, Macquarie (MEIF3)		71,856
Carried interest, SteelRiver (IFNA)		(19,535)
Partnership Adjustments, SteelRiver (IFNA)		6,412
Partnership Adjustments, Macquarie (MEIF3)		269
Trust & custodian fees, BNY Mellon		984,882
Security lending - Bank & Administration Fees, BNY Mellon		42,781
Consulting & performance management, Callan Associates Inc.		157,590
Total Other investment service fees		\$ 1,244,255

**Tucson Supplemental Retirement System
Schedule of Commissions
Year Ended June 30, 2021**

<u>Broker Description</u>	<u>Shares</u>	<u>Commissions</u>	<u>Commissions Per Share</u>
UBS AG LONDON BRANCH, LONDON	1,151	301	0.26116
J P MORGAN SECS LTD, LONDON	5,215	275	0.05282
MERRILL LYNCH INTL LONDON EQUITIES	781	268	0.34306
J P MORGAN SECS LTD, LONDON	4,171	248	0.05939
J P MORGAN SECS LTD, LONDON	9,264	240	0.02589
GOLDMAN SACHS & CO, NY	-151	210	(1.39000)
GOLDMAN SACHS & CO, NY	0	210	0.00000
MERRILL LYNCH INTL LONDON EQUITIES	3,907	210	0.05369
SANFORD C BERNSTEIN & CO INC, LONDON	42,787	205	0.00479
CREDIT SUISSE, NEW YORK (CSUS)	598	204	0.34145
MERRILL LYNCH INTL LONDON EQUITIES	598	193	0.32222
CREDIT SUISSE, NEW YORK (CSUS)	0	186	0.00000
CREDIT SUISSE, NEW YORK (CSUS)	138	186	1.35000
J P MORGAN SECS LTD, LONDON	2,086	181	0.08688
MERRILL LYNCH INTL LONDON EQUITIES	1,821	179	0.09812
MERRILL LYNCH INTL LONDON EQUITIES	1,820	178	0.09770
MORGAN STANLEY & CO INC, NY	3,231	171	0.05291
CREDIT SUISSE, NEW YORK (CSUS)	6,320	171	0.02700
UBS AG LONDON BRANCH, LONDON	1,329	168	0.12668
CITIGROUP GLOBAL MARKETS LTD, LONDON	16,481	165	0.01002
CITIGROUP GLOBAL MRKTS EURO, FRANKFURT	1,329	165	0.12415
J P MORGAN SECS LTD, LONDON	16,933	163	0.00962
INSTINET EUROPE LIMITED, LONDON	1,347	161	0.11979
MORGAN STANLEY & CO INC, NY	457	161	0.35123
CREDIT SUISSE, NEW YORK (CSUS)	5,860	158	0.02700
MERRILL LYNCH INTL LONDON EQUITIES	1,200	158	0.13184
MORGAN STANLEY & CO INC, NY	1,535	158	0.10264
INSTINET EUROPE LIMITED, LONDON	2,811	157	0.05580
CITIGROUP GLOBAL MARKETS LTD, LONDON	1,289	151	0.11680
	8,260,353	93,479	
TOTAL	8,394,661	\$ 99,060	
AVERAGE COMMISSION RATE			\$0.0118

ACTUARIAL SECTION

**Tucson Supplemental Retirement System
Actuary's Certification Letter
As of June 30, 2021**



P: 720.274.7270 | F: 303.694.0633 | www.grsconsulting.com

November 15, 2021

The Board of Trustees
Tucson Supplemental Retirement System
Tucson, Arizona

Re: June 30, 2021 Actuarial Valuation and CAFR Information

Dear Board Members:

The purpose of this letter is to provide the certification related to materials presented in the Comprehensive Annual Financial Report (CAFR) for the City of Tucson Supplemental Retirement System (TSRS).

Actuarial Valuation Used for Funding Purposes

The valuation report presents the results of the June 30, 2021 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. Please refer to that report for any information concerning the funding, assumptions and methods of the TSRS.

Certification

We prepared the following exhibits which provide further related information necessary to complete your annual financial report:

- Summary of Actuarial Assumption and Methods
- Schedule of Active Members Counts by Age and Service
- Schedule of Funding Progress
- Schedule of Employer Contributions
- Solvency Test
- Comparative Schedule of Annual Pension Benefits Paid
- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls
- Summary of Benefit Provisions
- Schedule of Active Member Average Salary By Age and Service
- Analysis of Plan Experience (Plan Experience for Fiscal Year 2021)

The Schedules which are required to contain 10 years/ worth of information will be completed with each passing year.

**Tucson Supplemental Retirement System
Actuary's Certification Letter
As of June 30, 2021**

The Board of Trustees
November 15, 2021
Page 2

We certify that the information included herein and contained in the June 30, 2020 Actuarial Valuation Report is accurate and fairly presents the actuarial position of the Tucson Supplemental Retirement System as of the valuation date.

The TSRS Board is responsible for establishing the funding policy, and an outline of that policy can be found in the appendix of the June 30, 2021 actuarial valuation report. The actuarial methods and assumptions used in the valuation are adopted by the TSRS Board based upon the experience studies and in consideration of the recommendations of the TSRS' actuary. The actuarial assumptions and methods employed in the funding valuation are the same as those used for financial reporting purposes under GASB 67 and GASB 68.

Contribution Rates

There are no recommended changes to the contribution rates for FY 2022 for the employer rate or the employee rate for those hired prior to July 1, 2006. Based on the TSRS funding policy, the recommended employer rate will remain 27.5%, and the recommended employee rate will remain at 5.00% for the members hired prior to July 1, 2006.

Currently, members hired prior to July 1, 2006 contribute a flat rate, while members hired after June 30, 2006 are subject to variable rates that are 50% of their tiers' normal cost, subject to a floor of 5.0%. These rates are further subject to a 5.00% floor and a roundup policy rounding to the next 0.25% percent. The Tier I and II variable rates based on this policy were 7.00% and 5.50%, respectively, as of the prior valuation; however due to circumstances related to the COVID-19 pandemic, the City decided to temporarily delay the increase to employee contributions and keep them at 6.75% and 5.25%, respectively, for fiscal years 2021 and 2022. Based on the Board funding policy, we recommend an increase to the employee rates from 6.75% to 7.00% for the Tier I variable class and from 5.25% to 5.50% for the tier II variable class for fiscal year 2023. Full details of these calculations are in the June 30, 2021 report.

The contribution rate in the June 30, 2021 actuarial valuation report is determined using the actuarial assumptions and methods disclosed in Section G of the valuation report. The report does not include an assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment. We encourage a review and assessment of investment and other significant risks that may have a material effect on the System's financial condition.

**Tucson Supplemental Retirement System
Actuary's Certification Letter
As of June 30, 2021**

The Board of Trustees
November 15, 2021
Page 3

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 and expenses, plus a 20-year open level percent-of-pay amortization payment of the Unfunded Actuarial Accrued Liability (UAAL). The ADC is then rounded up in accordance with the Board's rounding policy. Based on this funding policy, the System is projected to reach full funding in 2034. Contributions less than the ADC will extend the period to attain full funding.

Benefit Provisions

All of the benefit provisions reflected in the June 30, 2021 actuarial valuation are those which were in effect on June 30, 2021. There were no changes to the benefit provisions since the prior valuation. The benefit provisions are summarized in Section D of the valuation Report.

Assumptions and Methods

There were no changes in actuarial methods and assumptions since the prior valuation. 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 current assumptions were adopted by the Board in 2019 for first use in the June 30, 2019 valuation following a regularly scheduled experience study. The rationale for all of the current assumptions is included in that report, dated January 8, 2019.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

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.

**Tucson Supplemental Retirement System
Actuary's Certification Letter
As of June 30, 2021**

The Board of Trustees
November 15, 2021
Page 4
Data

The valuation was based upon information as of June 30, 2021, 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 audit the data. We are not responsible for the accuracy or completeness of the information provided by Tucson Supplemental Retirement System staff.

Actuarial reports used for GASB 67 and GASB 68 reporting

For the GASB 67 and GASB 68 reporting purposes, the valuation date, measurement date of the Net Pension Liability and the reporting date are all June 30, 2021. Please refer to the Tucson Supplemental Retirement System GASB Statement Nos. 67 and 68 Accounting and financial reporting for pensions - June 30, 2021 report for further information on the financial reporting.

We prepared the following scheduled for inclusion in the Financial Section of the TSRS CAFR:

- Schedule of Changes in Net Pension Liability and Related Ratios
- Sensitivity of Net Pension Liability to the Single Discount Rate Assumption
- Schedule of Contributions

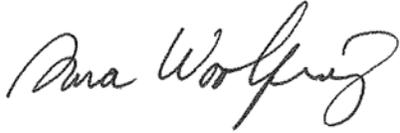
Compliance with ASOPs and Qualification Standards

The assumptions and methods which support 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. Dana Woolfrey is and Enrolled Actuary and both Dana Woolfrey and Paul Wood are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. Finally, both of the undersigned are experiences in performing valuation for large public retirement systems.

**Tucson Supplemental Retirement System
Actuary's Certification Letter
As of June 30, 2021**

Respectfully submitted,
Gabriel, Roeder, Smith & Company

A handwritten signature in cursive script that reads "Dana Woolfrey".

Dana Woolfrey, FSA, FCA, EA, MAAA
Senior Consultant

A handwritten signature in cursive script that reads "Paul Wood".

Paul Wood, ASA, FCA, MAAA
Team Leader

**Tucson Supplemental Retirement System
Actuarial Cost Method and Actuarial Assumptions
As of June 30, 2021**

SUMMARY OF ACTUARIAL ASSUMPTION AND METHODS

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 (7.00%). 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.

**Tucson Supplemental Retirement System
Actuarial Assumptions
As of June 30, 2021**

SUMMARY OF ACTUARIAL ASSUMPTION AND METHODS (continued)

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: 7.00% per annum, compounded annually, composed of an assumed 2.50% inflation rate and a 4.50% 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 %	2.50 %	6.00 %
1	3.50	2.50	6.00
2	3.00	2.50	5.50
3	2.75	2.50	5.25
4	2.50	2.50	5.00

**Tucson Supplemental Retirement System
Actuarial Assumptions
As of June 30, 2021**

Sample Attained Age	Percentage Increase in Salary with Five or More Years of Service		
	Merit	Inflation	Total
25	3.00 %	2.50 %	5.50 %
30	2.75	2.50	5.25
35	2.40	2.50	4.90
40	1.70	2.50	4.20
45	1.10	2.50	3.60
50	0.75	2.50	3.25
55	0.50	2.50	3.00
60	0.50	2.50	3.00
65	0.50	2.50	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 – Healthy Pre-Retirement Mortality RP-2014 Employee Mortality Tables projected with the ultimate rates of the MP-2018 projection scale. Healthy Post-Retirement Mortality RP- 2014 Healthy Annuitant Mortality Tables projected with the ultimate rates of the MP-2018 projection scale. Disabled Mortality RP-2014 Disabled Mortality Tables projected with the ultimate rates of the MP-2018 projection scale. Mortality rates were adjusted to include margin for future mortality improvement as described in the table name above. Sample 2021 rates shown below:

**Tucson Supplemental Retirement System
Actuarial Assumptions
As of June 30, 2021**

Sample Attained Ages	Probability of Death Pre-Retirement		Sample Attained Ages	Probability of Death Post-Retirement	
	Men	Women		Men	Women
20	0.04 %	0.02 %	20	0.04 %	0.02 %
25	0.05	0.02	25	0.06	0.03
30	0.04	0.02	30	0.08	0.06
35	0.05	0.03	35	0.11	0.09
40	0.06	0.04	40	0.17	0.14
45	0.09	0.06	45	0.26	0.20
50	0.16	0.10	50	0.38	0.26
55	0.26	0.16	55	0.53	0.34
60	0.44	0.23	60	0.72	0.48
65	0.77	0.34	65	1.03	0.75
70	1.29	0.59	70	1.56	1.20
75	2.16	1.00	75	2.50	1.95
80	3.62	1.71	80	4.17	3.25
85	7.04	4.40	85	7.22	5.64
90	12.88	9.67	90	12.73	10.03

**Tucson Supplemental Retirement System
Actuarial Assumptions
As of June 30, 2021**

Sample Attained Ages	Probability of Death Post-Disability	
	Men	Women
20	0.05 %	0.02 %
25	0.19	0.08
30	0.46	0.21
35	0.80	0.39
40	1.19	0.61
45	1.57	0.86
50	1.90	1.11
55	2.18	1.35
60	2.48	1.58
65	2.95	1.94
70	3.76	2.63
75	5.06	3.83
80	7.14	5.69
85	10.56	8.43
90	16.21	12.43

**Tucson Supplemental Retirement System
Actuarial Assumptions
As of June 30, 2021**

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	19.00 %
	1	14.00
	2	11.00
	3	9.00
	4	9.00
20	5 & over	7.40
25		7.40
30		6.98
35		4.88
40		3.83
45		3.10
50		2.68
55	2.57	

**Tucson Supplemental Retirement System
Actuarial Assumptions
As of June 30, 2021**

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

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

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

Attained Age	Tier 1 Members Percentage of Those Eligible Retiring During the Year		
	Rule of 80	Age Based	Early
50-54	24.0 %		
55-59	24.0		6.0 %
60	24.0		
61	24.0		
62	24.0	33.0 %	
63-65	24.0	18.0	
66	24.0	40.0	
67-69	24.0	30.0	
70 & Over	100.0	100.0	

**Tucson Supplemental Retirement System
Actuarial Assumptions
As of June 30, 2021**

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	24.0 %		6.0 %
61	24.0		6.0
62	24.0		6.0
63	24.0		6.0
64	24.0		6.0
65	24.0	18.0 %	
66	24.0	40.0	
66-69	24.0	30.0	
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.

Tucson Supplemental Retirement System
Actuarial Assumptions
As of June 30, 2021

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.
13. Adjustment to Final Average Pay due to accrued sick leave at retirement and termination: For each year of additional service attributable to the prior service assumption, final average pay is assumed to increase 2.6%

**Tucson Supplemental Retirement System
Active Member Counts by Age and Service
As of June 30, 2021**

Data as of July 1, 2021								
Age	Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	Over 30	
Under 20	1	0	0	0	0	0	0	1
20-24	62	1	0	0	0	0	0	63
25-29	123	15	0	0	0	0	0	138
30-34	131	76	2	1	0	0	0	210
35-39	123	87	29	17	1	0	0	257
40-44	93	78	35	45	26	0	0	277
45-49	80	76	46	75	62	20	0	359
50-54	87	65	38	69	84	39	8	390
55-59	76	58	36	64	66	53	19	372
60-64	34	54	29	57	54	29	30	287
65-69	13	22	13	15	15	9	13	100
Over 70	4	1	1	5	1	2	8	22
Total	827	533	229	348	309	152	78	2,476

**Tucson Supplemental Retirement System
Schedule of Funding Progress
As of June 30, 2021**

\$ 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 ¹	470,672	486,702	16,030	96.7%	145,059	11.1%
6/30/2001 ²	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 ¹	588,228	734,377	146,149	80.1%	155,855	93.8%
6/30/2006 ²	588,228	735,793	147,565	79.9%	155,855	94.7%
6/30/2007 ¹	634,763	758,427	123,663	83.7%	159,250	77.7%
6/30/2007 ²	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%
6/30/2016	732,927	1,030,695	297,768	71.1%	115,183	258.5%
6/30/2017	767,988	1,036,687	268,699	74.1%	117,006	229.6%
6/30/2018	803,439	1,053,987	250,548	76.2%	118,152	212.1%
6/30/2019	822,835	1,129,492	306,657	72.8%	123,823	247.7%
6/30/2020	842,425	1,148,930	306,506	73.3%	127,378	240.6%
6/30/2021	899,537	1,182,069	282,532	76.1%	139,661	202.3%

¹ Before benefit changes
² After benefit changes
³ Reflects an ad-hoc pension increase

The funded status measure may be appropriate for assessing the need for future contributions. The funded status is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

**Tucson Supplemental Retirement System
Schedule of Employer Contributions
As of June 30, 2021**

Schedule of Employer Contributions			
Fiscal Year Ended June 30,	Annual Required Contribution	Actual City Contribution	Percentage Contributed
1996	8.55 %	8.18 %	95.67 %
1997	8.05	8.38	104.10
1998	8.05	8.38	104.10
1999	7.41	7.91	106.75
2000	6.07	7.35	121.09
2001	6.77	7.35	108.57
2002	6.30	7.35	116.67
2003	8.41	8.41	100.00
2004	11.17	11.17	100.00
2005	14.06	14.06	100.00
2006	14.83	14.83	100.00
2007	15.04	15.04	100.00
2008	15.21	15.21	100.00
2009	14.37	14.37	100.00
2010	16.84	16.84	100.00
2011	18.02	18.02	100.00
2012	23.38	23.38	100.00
2013	28.77	28.77	100.00
2014	27.09	27.09	100.00
2015	26.95	27.50	102.04
2016	27.03	27.50	101.74
2017	25.52	27.50	107.76
2018	25.78	27.50	106.67
2019	23.48	27.50	117.12
2020	21.99	27.50	125.06
2021	24.71	27.50	111.29
2022	24.10	N/A	N/A
2023	21.25	N/A	N/A

**Tucson Supplemental Retirement System
Solvency Test
As of June 30, 2021**

Solvency Test										
Valuation Date	<u>Aggregate Accrued Liabilities For</u>			Valuation Assets	Portion of Accrued Liabilities Covered by Reported Assets					
	(1)	(2)	(3)		(1)	(2)	(3)			
	Active Member Contributions	Retirants and Beneficiaries	Active Member (Employer Financed)							
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	
6/30/2016	133,200,540	699,577,704	197,916,702	732,926,710	100.0		85.7		0.0	
6/30/2017	133,917,363	706,495,829	196,274,125	767,988,402	100.0		89.7		0.0	
6/30/2018	138,420,705	716,751,118	198,815,201	803,439,269	100.0		92.8		0.0	
6/30/2019	135,645,102	774,206,327	219,640,471	822,834,629	100.0		88.8		0.0	
6/30/2020	132,227,165	784,845,229	231,858,034	842,424,756	100.0		90.5		0.0	
6/30/2022	132,406,952	791,813,812	257,848,320	899,536,769	100.0		96.9		0.0	

**Tucson Supplemental Retirement System
Comparative Schedule of Annual Pension Benefits Paid
As of June 30, 2021**

Comparative Schedule of Annual Pension Benefits Paid									
Year Ending June 30	Retired Members	Annual Pensions	% Increase	No. of Active Per Retire	Pensions as % of Active Payroll	Average Pensions	Actuarial Present Value of Pensions	Expected Removals	
								No.	Pensions
1991 ¹	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 ¹	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 ¹	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 ¹	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 ¹	1,260	15,721,865	8.6	2.8	12.4	12,478	139,805,832	44.2	402,504
2000 ¹	1,301	16,966,042	7.9	2.8	12.7	13,041	150,527,136	46.2	445,464
2001 ¹	1,355	18,505,247	9.1	2.7	12.8	13,657	161,740,968	47.1	484,776
2002 ¹	1,442	21,273,162	15.0	2.5	13.9	14,753	187,508,568	53.3	622,236
2003 ¹	1,742	29,767,500	39.9	1.9	20.8	17,088	275,193,384	58.2	742,908
2004 ¹	1,753	30,491,864	2.4	2.0	20.4	17,394	286,698,084	55.7	717,888
2005 ¹	1,793	32,027,305	5.0	2.0	19.8	17,862	298,395,396	58.3	781,152
2006 ¹	1,878	35,091,468	9.6	1.7	22.5	18,686	326,828,088	61.1	857,760
2007 ¹	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
2016	2,945	70,256,788	6.2	0.8	61.0	23,856	699,577,704	75.9	1,392,573
2017	2,974	71,524,930	1.8	0.8	61.1	24,050	706,495,829	77.4	1,457,270
2018	3,031	73,325,441	2.5	0.8	62.1	24,192	716,751,118	80.8	1,555,043
2019	3,101	75,540,971	3.0	0.8	61.0	24,360	774,206,327	78.3	1,550,696
2020	3,145	77,124,186	2.1	0.8	60.5	24,523	784,845,229	81.5	1,393,502
2021	3,153	78,332,701	1.6	0.8	56.1	24,844	791,813,812	82.5	1,467,246

¹Includes ad-hoc cost-of-living increases.

²Reflects increase in the number of active members as a result of an amendment which eliminated the one year service requirement for participation in the Retirement System.

**Tucson Supplemental Retirement System
Active Member Average Salary by Age and Service
As of June 30, 2021**

Active Member Average Salary by Age and Service as of July 1, 2021								
Age	Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	Over 30	
Under 20	*	*	*	*	*	*	*	*
20-24	\$39,076	*	*	*	*	*	*	\$39,076
25-29	43,722	\$45,919	*	*	*	*	*	43,960
30-34	45,833	51,843	\$47,662	*	*	*	*	48,085
35-39	50,894	54,572	57,580	\$46,134	*	*	*	52,580
40-44	52,031	54,467	58,057	57,323	\$61,251	*	*	55,203
45-49	50,911	53,609	61,585	61,080	61,663	\$50,828	*	57,328
50-54	54,714	60,248	56,055	61,050	62,248	68,346	\$69,482	60,336
55-59	54,308	58,330	58,588	58,325	61,190	70,235	70,685	60,367
60-64	48,707	56,430	53,024	57,700	64,423	72,256	70,445	59,991
65-69	61,002	64,015	61,731	58,687	62,928	69,886	91,653	66,485
Over 70	*	*	*	70,387	*	*	90,763	79,781
Total	\$49,053	455,569	\$58,288	\$58,944	\$62,169	\$68,916	\$76,023	\$56,406

* Data excluded when cell contains less than five active members.

**Tucson Supplemental Retirement System
Summary of Active Member Valuation
As of June 30, 2021**

Summary of Active Member Valuation For previous ten fiscal years				
Year	Count of members	Annual Covered Payroll	Average Annual Compensation	% change in annual average pay
2010	2,982	141,459,257	47,438	n/a
2011	2,628	121,631,362	46,283	-2.43%
2012	2,718	125,003,023	45,991	-0.63%
2013	2,750	125,857,903	45,767	-0.49%
2014	2,714	126,639,423	46,662	1.96%
2015	2,665	123,414,560	46,309	-0.76%
2016	2,495	115,183,349	46,166	-0.31%
2017	2,526	117,006,431	46,321	0.34%
2018	2,455	118,152,118	48,127	3.90%
2019	2,508	123,822,602	49,371	2.58%
2020	2,482	127,378,110	51,321	3.95%
2021	2,476	139,661,315	56,406	9.91%

Note: Summary of Census Data was prepared by City management using actuarial valuation reports for the applicable year.

**Tucson Supplemental Retirement System
Analysis of Financial Experience
As of June 30, 2021**

Analysis of Financial Experience for Fiscal Year 2021	
Liabilities	
• Actuarial Accrued Liability at June 30, 2020	\$ 1,148,930,428
• Normal Cost during Fiscal Year 2021	14,966,928
• Benefit Payments during Fiscal Year 2021	(79,568,289)
• Change in Actuarial Accrued Liability Due to Assumption Changes	0
• Change in Actuarial Accrued Liability Due to Provision Changes	0
• Interest on Items 1-5 to End of Year	78,164,082
• Expected Actuarial Accrued Liability at June 30, 2021	1,162,493,149
• Actual Actuarial Accrued Liability at June 30, 2021	1,182,069,084
• Liability Gain/(Loss)	(19,575,935)
Assets	
10. Actuarial Value of Assets at June 30, 2020	\$ 842,424,756
11. Benefit Payments and Administrative Expenses during Fiscal Year 2021	(80,253,253)
12. Contributions during Fiscal Year 2021	42,657,489
13. Interest on Items 10-12 to End of Year	57,653,881
14. Expected Actuarial Value of Assets at June 30, 2021	862,482,870
15. Actual Actuarial Value of Assets at June 30, 2021	899,536,769
16. Asset Gain/(Loss)	37,053,899
Total	
17. Total Gain/(Loss)	\$ 17,477,964

**Tucson Supplemental Retirement System
Summary of Benefit Provisions
As of June 30, 2021**

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.

EARLY RETIREMENT (REDUCTION FACTOR)

Eligibility - Age 55 with 20 or more years of creditable service for Tier 1 and age 60 with 20 or more years of creditable service for Tier 2.

Amount - An amount computed as for normal retirement but reduced by 1/2 of 1% per month for each month (6% per year) retirement precedes normal retirement.

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 1/2 of 1% per month for each month (6% per year) retirement precedes normal retirement eligibility.

Amount - An amount computed as for normal retirement.

**Tucson Supplemental Retirement System
Summary of Benefit Provisions
As of June 30, 2021**

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.

**Tucson Supplemental Retirement System
Summary of Benefit Provisions
As of June 30, 2021**

EMPLOYEE CONTRIBUTIONS

As of July 1, 2017, interest is credited to member accumulated contributions accounts as compound interest two times per year at an annual interest rate of 3.0%. 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 Tucson Supplemental Retirement System (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 2023 are 6.85% and 5.33%, 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

Tucson Supplemental Retirement System 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 by Age and Service Summaries

These schedules 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. These schedules are developed using TSRS' membership database.

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

For the Fiscal Years Ending June 30,

	2021	2020	2019	2018	2017
Additions					
City Contributions	\$34,821,399	\$34,830,264	\$32,589,204	\$ 31,795,197	\$ 31,823,694
Employee Contributions	6,701,641	6,693,918	6,249,028	6,075,912	6,115,389
Purchase of Service	1,134,449	1,097,992	1,530,449	2,485,835	1,258,421
Contributions from Other Sources	-	-	-	-	-
Transfers from Other Systems	-	-	-	-	65,255
Total Contributions	\$42,657,489	\$42,622,174	\$40,368,681	\$ 40,356,944	\$ 39,262,759
Investment Income					
Net Gain (Loss) in Fair Value of Investments	\$212,240,155	\$29,271,833	\$40,085,019	\$65,251,196	\$89,165,007
Interest	3,757,169	3,178,952	6,493,541	5,934,621	6,638,087
Dividends	6,274,149	6,528,950	8,023,227	6,913,192	6,050,746
Securities Lending Income	100,028	171,290	129,014	136,768	142,453
Miscellaneous Income	94,881	65,201	46,065	113,278	189,575
Net Income from Investment Activity	\$222,466,382	\$39,216,226	\$54,749,865	\$78,349,055	\$102,185,868
Less Investment Expenses:					
Securities Lending Fees	\$ 39,986	\$ 42,781	\$ 51,579	\$54,675	\$56,952
Investment Services	4,621,857	6,264,030	4,879,176	8,596,792	4,261,291
Total Investment Expense	\$ 4,661,843	\$ 6,306,811	\$ 4,930,755	\$8,651,467	\$4,318,243
Net Investment Gain	\$217,804,539	\$32,909,415	\$49,819,110	\$69,697,588	\$97,867,625
Total Additions	\$260,462,028	\$75,311,589	\$90,187,791	\$110,054,532	\$137,130,384
Deductions					
Benefits	\$77,754,958	\$76,471,458	\$74,928,771	\$72,445,792	\$71,059,090
Refunds	1,810,139	1,788,219	1,657,445	3,172,406	2,147,211
Transfers to Other Systems	3,192	39,000	-	-	6,856
Administrative Expenses	684,967	644,408	652,065	745,753	756,268
Miscellaneous Deductions	0	-	-	-	901
Total Deductions	\$80,253,256	\$77,243,093	\$77,238,281	\$76,363,951	\$73,970,326
Net Change in Plan Net Position	\$180,208,772	\$(3,411,496)	\$12,949,510	\$33,690,581	\$63,160,058

Tucson Supplemental Retirement System
Statement of Changes in Net Plan Position – Last Ten Fiscal Years (continued)

	For the Fiscal Years Ending June 30,				
	2016	2015	2014	2013	2012
Additions					
City Contributions	\$ 33,175,307	\$33,985,523	\$34,189,288	\$34,523,315	\$27,429,666
Employee Contributions	6,300,714	6,512,180	6,636,833	9,200,262	7,685,264
Purchase of Service	755,299	1,019,665	701,711	1,014,301	1,280,263
Contributions from Other Sources	-	-	-	-	50,000
Transfers from Other Systems	27,372	-	-	-	204,404
Total Contributions	\$ 40,258,692	\$41,517,368	\$41,527,832	\$44,737,878	\$36,649,597
Investment Income					
Net Gain (Loss) in Fair Value of Investments	\$8,758,641	\$22,467,139	\$111,063,362	\$73,705,613	\$ 566,661
Interest	6,649,353	6,393,666	5,901,539	4,174,559	6,319,874
Dividends	6,408,886	5,915,832	6,786,728	7,158,084	4,981,339
Securities Lending Income	148,059	163,140	134,036	184,733	157,562
Miscellaneous Income	105,713	20,783	91,630	98,400	16,833
Net Income from Investment Activity	\$22,070,652	\$34,960,560	\$123,977,295	\$85,321,389	\$12,042,269
Less Investment Expenses:					
Securities Lending Fees	\$ 59,201	\$ 65,676	\$ 54,589	\$ 78,604	\$ 68,370
Investment Services	3,937,354	4,092,449	4,022,476	3,805,861	3,460,730
Total Investment Expense	\$3,996,555	\$4,158,125	\$ 4,077,065	\$3,884,465	\$3,529,100
Net Investment Gain	\$18,074,097	\$30,802,435	\$119,900,230	\$81,436,924	\$8,513,169
Total Additions	\$58,332,789	\$72,319,803	\$161,428,062	\$126,174,802	\$45,162,766
Deductions					
Benefits	\$67,910,496	\$65,216,458	\$63,477,074	\$62,191,480	\$61,693,408
Refunds	2,499,342	2,395,893	2,524,939	2,631,221	2,247,225
Transfers to Other Systems	35,912	-	-	-	-
Administrative Expenses	786,028	650,405	735,739	689,252	550,604
Miscellaneous Deductions	111,679	-	-	-	-
Total Deductions	\$71,343,457	\$68,262,756	\$66,737,752	\$65,511,953	\$64,491,237
Net Change in Plan Net Position	\$(13,010,668)	\$4,057,047	\$94,690,310	\$60,662,849	\$(19,328,471)

**Tucson Supplemental Retirement System
Retired Members by Type of Benefit
As of June 30, 2021**

Amount of Monthly Benefit		Number of Retirees	Type of retirement:			
			1	2	3	4
\$ 1	\$ 250	43	31	11	1	-
251	500	171	115	33	8	15
501	750	243	156	53	27	7
751	1,000	230	140	60	24	6
1,001	1,250	285	202	56	24	3
1,251	1,500	237	184	38	13	2
1,501	1,750	274	237	23	14	-
1,751	2,000	284	259	16	9	-
2,001	2,250	243	225	13	5	-
2,251	2,500	229	214	12	3	-
2,501	2,750	186	181	4	1	-
2,751	3,000	139	137	1	1	-
3,001	3,250	115	112	3	-	-
3,251	3,500	60	59	1	-	-
3,501	3,750	70	69	1	-	-
3,751	4,000	60	58	2	-	-
4,001	4,250	44	43	1	-	-
4,251	4,500	44	44	-	-	-
4,501	or more	196	195	1	-	-
		3,153	2,661	329	130	33

- 1 Normal Retirement
- 2 Beneficiary Payment, normal retirement
- 3 Disability Retirement
- 4 Beneficiary Payment, disability retirement

Amount of Monthly Benefit		Number of Retirees	Benefit option selected:						
			1	2	3	4	5	6	7
\$ 1	\$ 250	43	28	-	-	1	6	2	6
251	500	171	102	1	1	3	21	8	35
501	750	243	133	-	2	3	46	12	47
751	1,000	230	112	-	2	-	50	19	47
1,001	1,250	285	135	-	-	-	37	35	78
1,251	1,500	237	104	-	1	2	44	34	52
1,501	1,750	274	116	1	1	3	53	32	68
1,751	2,000	284	128	-	2	4	49	40	61
2,001	2,250	243	103	1	5	3	57	28	46
2,251	2,500	229	94	-	-	1	58	21	55
2,501	2,750	186	93	-	2	2	29	16	44
2,751	3,000	139	78	-	-	-	17	16	28
3,001	3,250	115	51	-	-	2	16	9	37
3,251	3,500	60	28	-	1	-	11	6	14
3,501	3,750	70	35	-	-	-	10	7	18
3,751	4,000	60	33	-	-	1	4	5	17
4,001	4,250	44	21	-	-	1	6	4	12
4,251	4,500	44	27	-	1	-	5	6	5
4,501	or more	196	97	1	1	3	28	27	39
		3,153	1,518	4	19	29	547	327	709

- 1 Lifetime benefit for member only
- 2 Remainder of 5-Year Term pays beneficiary
- 3 Remainder of 10-Year Term pays beneficiary
- 4 Remainder of 15-Year Term pays beneficiary
- 5 Beneficiary receives 50% for life
- 6 Beneficiary receives 75% for life
- 7 Beneficiary receives 100% for life

Tucson Supplemental Retirement System
Average Monthly Payments to New Retirees
As of June 30, 2021

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
2021							
Avg monthly benefit	n/a	\$712	\$1,068	\$1,707	\$2,171	\$3,012	\$4,534
Avg monthly final avg comp	n/a	5,228	4,217	4,715	4,709	5,377	6,143
Number of active/EOSP retirees	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2020							
Avg monthly benefit	n/a	\$548	\$923	\$1,720	\$2,100	\$3,045	\$3,851
Avg monthly final avg comp	n/a	3,606	3,608	4,564	4,476	5,242	5,580
Number of active/EOSP retirees	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2019							
Avg monthly benefit	n/a	\$515	\$1,117	\$1,337	\$2,047	\$2,902	\$3,953
Avg monthly final avg comp	n/a	3,551	3,869	3,558	4,339	4,910	5,683
Number of active/EOSP retirees	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2018							
Avg monthly benefit	n/a	\$543	\$929	\$1,409	\$2,116	\$3,431	\$3,422
Avg monthly final avg comp	n/a	3,774	3,386	3,919	4,512	5,671	5,290
Number of active/EOSP retirees	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2017							
Avg monthly benefit	n/a	599	1,184	1,540	2,368	2,812	4,236
Avg monthly final avg comp	n/a	3,747	4,078	4,409	5,164	4,810	6,099
Number of active/EOSP retirees	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2016							
Avg monthly benefit	n/a	677	1,001	1,439	2,155	2,868	3,854
Avg monthly final avg comp	n/a	3,829	4,076	3,883	4,465	4,977	5,660
Number of active/EOSP retirees	n/a	n/a	n/a	n/a	n/a	n/a	n/a
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

*Includes EOSP Participants still employed and alt. payees receiving benefits

**Tucson Supplemental Retirement System
Demographics of Retired and Active Members
As of June 30, 2021**

Retired Members

Ages	Retirees			Survivor/Beneficiaries		
	Female	Male	Total	Female	Male	Total
<55	18	13	31	9	2	11
55 - 59	79	50	129	10	1	11
60 - 64	194	198	392	15	2	17
65 - 69	302	386	688	43	5	48
70 - 74	247	452	699	48	6	54
75 - 79	155	298	453	58	3	61
80 - 84	83	141	224	71	3	74
85 - 89	35	83	118	48	5	53
90 - 94	19	26	45	19	0	19
95 - 100	5	6	11	13	1	14
101+	0	1	1	0	0	0
Total	1,137	1,654	2,791	334	28	362

Active Members

Ages	Active Members			Percentage Distribution		
	Female	Male	Total	Female	Male	Total
<20	1	0	1	0.04%	0.00%	0.04%
20 - 29	96	85	181	3.88%	3.43%	7.31%
30 - 39	203	247	450	8.20%	9.98%	18.17%
40 - 49	251	374	625	10.14%	15.11%	25.24%
50 - 59	322	458	780	13.00%	18.50%	31.50%
60 - 69	147	258	405	5.94%	10.42%	16.36%
70+	13	21	34	0.53%	0.85%	1.37%
Total	1,033	1,443	2,476	41.72%	58.28%	100.00%

Active Members by Tier

	Members	Payroll	% Payroll
Tier 1 - (Fixed Contribution Rate)	877	55,891,535	40.08%
Tier 1 - (Variable Contribution Rate)	234	13,311,750	9.55%
Tier 2 - (Variable Contribution Rate)	1,363	70,243,680	50.37%
	2,474	139,446,965	100.00%

**Tucson Supplemental Retirement System
Employee and Employer Contribution Rates
As of June 30, 2021**

Fiscal Year		Employee Rate (percentage)		Employer Rate (percentage)		Total Contribution (percentage)	
		Fixed	Variable	Fixed	Variable		
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	Tier I		6.715		25.61		32.32
13/14	Tier II		5.06		27.26		32.32
14/15	Tier I	5.0		27.22			32.22
14/15	Tier I		6.67		25.55		32.22
14/15	Tier II		5.14		27.08		32.22
15/16	Tier I	5.0		27.23			32.23
15/16	Tier I		6.62		25.61		32.23
15/16	Tier II		4.91		27.32		32.23
16/17	Tier I	5.0		27.23			30.69
16/17	Tier I		6.6		25.61		30.69
16/17	Tier II		4.89		27.32		30.69
17/18	Tier I	5.0		25.93			30.93
17/18	Tier I		6.55		24.38		30.93
17/18	Tier II		4.89		26.04		30.93
18/19	Tier I	5.0		23.59			28.59
18/19	Tier I		6.50		22.09		28.59
18/19	Tier II		4.85		23.74		28.59
19/20	Tier I	5.0		22.06			27.06
19/20	Tier I		6.42		20.64		27.06
19/20	Tier II		4.78		22.28		27.06
20/21	Tier I	5.0		25.05			30.05
20/21	Tier I		6.95		23.10		30.05
20/21	Tier II		5.33		24.72		30.05

**Tucson Supplemental Retirement System
Benefit and Refund Deductions from Net Position by Type
As of June 30, 2021**

	fiscal years ended June 30,				
	2021	2020	2019	2018	2017
Type of Benefit					
Service Benefits:					
Retirees	\$ 70,477,282	\$ 69,469,361	\$ 67,849,255	\$ 65,869,174	\$ 64,773,949
EOSP lump sum ⁽¹⁾			-	-	-
Survivors ⁽²⁾	5,024,402	4,642,027	4,668,534	4,153,521	3,863,588
Disability Benefits:					
Retirees	1,849,215	1,933,581	1,994,171	2,047,349	2,056,530
Survivors	404,059	426,490	416,811	375,748	365,023
Total Benefits	\$ 77,754,958	\$ 76,471,458	\$ 74,928,772	\$ 72,445,792	\$ 71,059,090
Type of Refund					
Death	\$ 465,088	\$ 447,942	\$ -	\$ 564,206	\$ 231,486
Separation	1,345,051	1,340,278	1,657,445	2,519,896	1,389,082
Transfers	3,192	39,000	-	88,304	533,499
Total Refunds	\$ 1,813,331	\$ 1,827,219	\$ 1,657,445	\$ 3,172,406	\$ 2,154,067

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

⁽²⁾ Includes Death in service pension benefits

Source: Budget to Actual Report by Unit.

Tucson Supplemental Retirement System
Benefit and Refund Deductions from Net Position by Type - Continued
As of June 30, 2021

	2016	2015	2014	2013	2012
Type of Benefit					
Service Benefits:					
Retirees	\$ 61,959,726	\$ 59,384,728	\$ 57,542,260	\$ 56,406,478	\$ 48,475,837
EOSP lump sum ⁽¹⁾	-	-	-	-	7,656,801
Survivors ⁽²⁾	3,550,465	3,422,222	3,533,539	3,397,302	3,166,737
Disability Benefits:					
Retirees	2,033,977	2,035,754	2,082,396	2,066,746	2,056,266
Survivors	366,328	373,754	318,879	320,954	337,767
Total Benefits	\$ 67,910,496	\$ 65,216,458	\$ 63,477,074	\$ 62,191,480	\$ 61,693,408
Type of Refund					
Death	\$ 699,603	\$ 316,820	\$ 212,489	\$ 316,495	\$ 310,994
Separation	1,158,825	1,937,365	1,871,535	2,281,823	1,936,231
Transfers	676,826	141,708	440,915	32,903	-
Total Refunds	\$ 2,535,254	\$ 2,395,893	\$ 2,524,939	\$ 2,631,221	\$ 2,247,225

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

⁽²⁾ Includes Death in service pension benefits

Source: Budget to Actual Report by Unit.

**Tucson Supplemental Retirement System
Retiree Benefit by Age and Service Summaries
As of June 30, 2021**

Total Monthly Benefit	# of Retirees (2)	Age as of June 30, 2021							
		<55	56 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80 - 84	85+
\$ 1,066,502	489	29	87	162	157	36	8	6	4
1,146,361	541	5	40	141	199	125	26	3	2
1,870,986	808	7	6	96	258	287	132	18	4
1,539,050	690	-	3	5	100	257	220	93	12
464,744	300	1	3	5	17	38	102	90	44
225,737	165	-	-	-	4	7	19	61	74
197,168	160	-	1	-	1	3	7	27	121
6,510,548	3,153	42	140	409	736	753	514	298	261

Total Monthly Benefit	# of Retirees (2)	Years of Credited Service		
		<10	10-19	20+
1,066,502	489	105	99	285
1,146,361	541	164	114	263
1,870,986	808	102	135	571
1,539,050	690	78	128	484
464,744	300	37	76	187
225,737	165	26	38	101
197,168	160	33	32	95
6,510,548	3,153	545	622	1,986