

## ARIZONA STATE RETIREMENT SYSTEM

A Component Unit of the State of Arizona

## 2015 COMPREHENSIVE ANNUAL FINANCIAL REPORT

For Fiscal Year Ended June 30, 2015



Copper

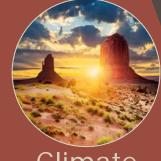


Cattle



Cotton





Climate

### DELIVERING SERVICE WITH...

# PRIDE

### **OUR VISION**

For the benefit of our members...
the Arizona State Retirement System
will be a leading state benefit plan
administrator in the areas of:

- Core Member Services
- Investment Performance
- Funded Status
- Operational Effectiveness

This will be accomplished while keeping program benefits and associated costs relatively aligned and maintaining actuarial and fiscal integrity.

## **OUR VALUES**

#### Professionalism.

A highly capable workforce will promote a professional and respectful environment and *lead* the organization.

#### Results.

A results-oriented approach to operations will *energize* the organization.

#### Improvement.

A climate of continuous quality improvement and enhanced efficiencies will *drive* the organization.

#### Diversity.

Engagement of diversity by the appreciation, recognition and support for all people will *propel* the organization to ever greater achievement.

#### Excellence.

A commitment to service excellence will **permeate** the organization.



## **Arizona State**Retirement System

A COMPONENT UNIT OF THE STATE OF ARIZONA



Mr. Kevin McCarthy, Chair

Report Prepared by the Staff of the Arizona State Retirement System

Paul Matson, Executive Director

Comprehensive Annual Financial Report for Fiscal Year Ended June 30, 2015

### I. Introductory Section

Certificate of Achievement for Excellence in Financial Reporting	1
Public Pension Standards Award	
Letter of Transmittal	
Administrative Organization	
Organization Chart	8
ASRS Board of Trustees	
Executive Staff	10
Outside Professional Consultants	
II. Financial Section	
Independent Auditors' Report	13
Management's Discussion and Analysis	15
Basic Financial Statements	
Combined Statements of Fiduciary Net Position	20
Combined Statements of Changes in Fiduciary Net Position	21
Notes to the Basic Financial Statements	22
Required Supplementary Information	
Schedule of Funding Progress – HBS and LTD – Last 3 Years	40
Schedule of Contributions from Employer – HBS and LTD – Last 3 Years	40
Schedule of Changes in the Net Pension Liability – Retirement	41
Schedule of Net Pension Liability – Retirement	41
Schedule of Contributions from Employer – Retirement – Last 10 Years	
Schedule of Investment Returns – Retirement	
Notes to Required Supplementary Information	
Additional Supplementary Information	
Combining Schedule of Retirement Fiduciary Net Position	47
Combining Schedule of Changes in Retirement Fiduciary Net Position	
Schedule of Administrative Expenses	
Schedule of Professional Consultant Fees	
Schedule of Investment Expenses	
Schedule of Internal Investment Activity Expenses	

#### **III. Investment Section**

Chief Investment Officer's Report	53
Asset Allocation	
Asset Allocation Targets	60
Schedule of Investment Portfolios by Asset Class	61
Investment Results	
Performance Accounting / Computation Standards	62
Annualized Rates of Return	62
Historical Rates of Return	63
Ten Year Review of Investment Income	
Net Income from Investments	
Equity Portfolio Profile	
Equity Sub-Sector Allocation	65
Ten Largest Equity Holdings	
Distribution by Market Sector	
Summary of Broker Commissions	
Fixed Income Portfolio Profile	
Distribution by Sector	67
Distribution by Maturity	
Distribution by Coupon	
Ten Largest Fixed Income Holdings	
Schedule of Broker Commissions	
Domestic Equity Trades	68
Foreign Equity Trades	
Schedule of Investment Fees	
	72

#### **IV. Actuarial Section**

#### Retirement and HBS

Actuarial Certification Statement	73
General Actuarial Information	85
Summary of the Benefit Provisions	86
Statement of Actuarial Methods and Assumptions	
Retirement and HBS Schedules	
Schedule of Retirement Active Member Valuation Data – Last 10 Years	98
Schedule of Retirement Retirees Added to and Removed from Rolls – Last 10 Years	
Schedule of HBS Retirees Added to and Removed from Rolls – Last 6 Years	
Schedule of Funding Progress – Retirement and HBS – Last 10 Years	
Solvency Test – Retirement – Last 10 Years	
Solvency Test – HBS – Last 10 Years	
Analysis of Financial Experience for Retirement – Last 10 Years	
Analysis of Financial Experience for HBS – Last 10 Years	
Actuarial Certification Statement	102
General Actuarial Information	
Summary of Benefit Provisions	
Statement of Actuarial Methods and Assumptions	
LTD Schedules	110
Schedule of Benefit Recipients Added to and Removed from Rolls – <i>Last 10 Years</i>	112
Schedule of Funding Progress – Last 10 Years	
Solvency Test – Last 10 Years	
Analysis of Financial Experience for LTD	
, , , , , , , , , , , , , , , , , , , ,	
Legislative Plan Changes	
Summary of Legislative Plan Changes	117

#### V. Statistical Section

This part of the Arizona State Retirement System's Comprehensive Annual Financial Report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required summary information says about the ASRS's overall financial health.

#### Financial Trends

These schedules contain trend information to help the reader understand how the ASRS's Financial Performance has changed over the past 10 years.

Fiduciary Net Position – Last 10 Years	120
Changes in Fiduciary Net Position – Last 10 Years	122

#### Revenues

These schedules contain information to help the reader understand the ASRS's funding over the last 10 years.

Actual Contribution Rates -	- Last 10 Years	126

#### **Operations**

These schedules contain information about the ASRS's Operations.

Members by Type of Benefit	127
Average Benefit Payments – Retirement – Last 10 Years	128
Average Benefit Payments – HBS – Last 10 Years	129
Average Benefit Payments – LTD – Last 10 Years	130
Principal Participating Employers – Current Year and Nine Years Ago	131

Schedules and information is derived from ASRS internal sources unless otherwise noted.

## INTRODUCTORY SECTION

COPPER—Arizona has led copper production in the U.S. since 1910 and has produced more copper than the other 49 states combined. The first of Arizona's "Five Cs," copper is the state's most valuable mineral commodity, comprising 75% of the value of Arizona's total nonfuel mineral production. Today, more than 12,000 men and women are employed by Arizona's copper mines. Due to this great resource, Arizona is also known as the Copper State and the Arizona Flag has a copper star to represent this. Copper is

used in construction.

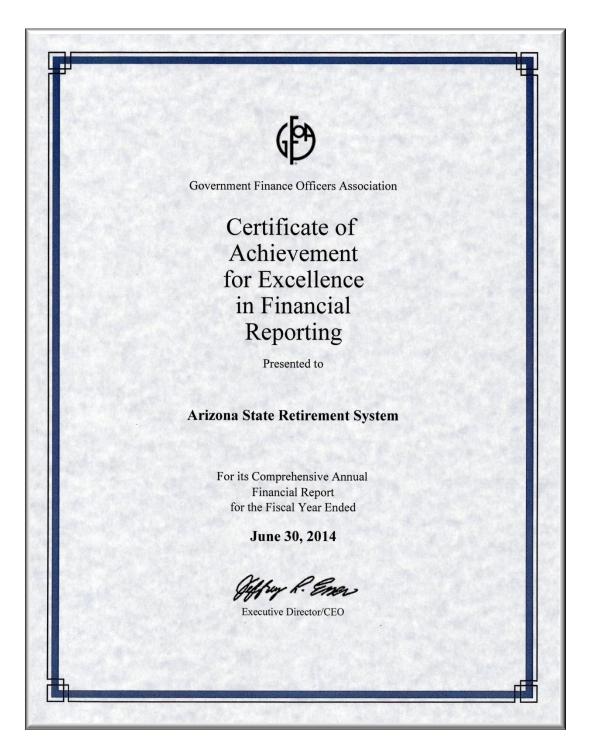
telephones, TVs, com-

puters, radios, cars,

airplanes, and coins.



#### **CERTIFICATE OF ACHIEVEMENT FOR EXCELLENCE IN FINANCIAL REPORTING**



The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Arizona State Retirement System for its comprehensive annual financial report for the fiscal year ended June 30, 2014. This was the 26<sup>th</sup> consecutive year that the Arizona State Retirement System has achieved this prestigious award.

## PUBLIC PENSION STANDARDS AWARD FOR PLAN FUNDING AND ADMINISTRATION



The National Association of State Retirement Administrators (NASRA), National Conference on Public Employee Retirement Systems (NCPERS) and the National Council on Teacher Retirement (NCTR) awarded a Public Pension Standards Award to the Arizona State Retirement System for plan design and administration as set forth in the Public Pension Standards for 2015. The Public Pension Standards are intended to reflect minimum expectations for public retirement system management and administration, as well as serve as a benchmark by which all defined benefit public plans should be measured. This is the 11th consecutive year that the Arizona State Retirement System has received this prestigious award.



#### ARIZONA STATE RETIREMENT SYSTEM

3300 North Central Avenue • PO Box 33910 • Phoenix, AZ 85067-3910 • Phone (602) 240-2000 7660 EAST BROADWAY BOULEVARD • SUITE 108 • TUCSON, AZ 85710-3776 • PHONE (520) 239-3100 TOLL FREE OUTSIDE METRO PHOENIX AND TUCSON 1 (800) 621-3778 EMAIL ADDRESS: ASKMAC@AZASRS.GOV • WEB ADDRESS: WWW. AZASRS.GOV

Paul Matson Director

November 13, 2015

To: The Arizona State Retirement System Board of Trustees

We are pleased to present, on behalf of the ASRS staff, the sixty-second Comprehensive Annual Financial Report (CAFR) of the Arizona State Retirement System (ASRS), a component unit of the State of Arizona, for the fiscal year ended June 30, 2015.

Title 38 of the Arizona Revised Statutes requires the ASRS Board of Trustees (ASRS Board) to submit an annual report to the Governor and the Legislature within eight months of the close of each fiscal year. This report complies with the legal requirements governing the preparation and content of annual reports.

Responsibility for both the accuracy of the data, and the completeness and fairness of the presentation, rests with the ASRS management. Management relies on a comprehensive framework of internal controls to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements. Cost/benefit considerations, the risk of management override, and the risk of collusion are inherent limitations on any system of internal control.

CliftonLarsonAllen LLP has issued an unmodified ("clean") opinion on the ASRS financial statements for the year ended June 30, 2015. The Independent Auditors' Report is located at the front of the financial section of this report.

Management's discussion and analysis (MD&A) immediately follows the Independent Auditors' Report and provides a narrative introduction, overview, and analysis of the basic financial statements. MD&A complements this letter of transmittal and should be read in conjunction with it.

#### **History and Overview**

The ASRS was created in 1953 to provide defined contribution retirement benefits to employees of the State of Arizona, Arizona universities, and political subdivisions. During calendar year 1954, Arizona teachers voted to join the ASRS effective January 1, 1955. In 1970, the State legislature authorized the creation of a defined benefit plan, contingent upon the election to transfer a minimum 70% of the ASRS membership. More than 80% voted to transfer to the defined benefit plan, which became effective July 1, 1971.

At June 30, 2015, total ASRS membership, including active, inactive, disabled and retired members was 578,677. There are 577 employer units participating in the ASRS, including school districts, charter schools, state colleges and universities, and local, county and state government.

In addition to pension benefits, the ASRS provides a health insurance premium benefit and sponsors medical and dental coverage for retired and disabled members and their eligible dependents and children. Active members also receive long term disability insurance coverage equal to two-thirds of pay at the time of disablement.

#### **LETTER OF TRANSMITTAL (CONTINUED)**

Active non-state employees are also eligible to participate in an ASRS sponsored Supplemental Salary Deferral Plan (SSDP) and/or Supplemental Retirement Savings Plan (SRSP) if their employer has joined the plan. The SSDP is a supplemental defined contribution plan qualified under 403 (b) and 457 (b) of the Internal Revenue Code. In addition, the SRSP is a supplemental defined contribution plan qualified under 401 (a) of the Internal Revenue Code.

During fiscal year 2015, more than 137,942 retired annuitants, their survivors, and 4,107 disabled members received in excess of \$2.8 billion in benefits. As of June 30, 2015, there were 46,688 retired members and their families enrolled in the ASRS-sponsored medical program and 49,622 retired members and their families enrolled in dental plans through the ASRS.

#### **Major Initiatives for Fiscal Year 2015**

#### **Investments:**

- Implemented ASRS Strategic Asset Allocation Policy: The ASRS Board approved a new Strategic Asset Allocation Policy in February and March of 2015 with the following changes:
  - Reduce Allocations to Public U.S. Equities, Emerging Market Debt, Commodities, Core Bonds, Emerging Market Equity, and High Yield Debt
  - o Increase Allocations to Private Debt, Public Non-U.S. Equities, Real Estate, and Private Equity
  - Add Treasuries as a separate asset class, and retain Infrastructure and Farmland/Timber, each with a 0% to 3.0% Target
  - o Rename "GTAA" to "Multi-Asset Class Strategies" and reduce allocation from 10% to 5% with a 0-12% target range, and partially restructure by replacing some beta exposure with alpha exposure
  - Establish Policy Target Ranges primarily at the broad asset class categories
  - o Remove Minimum Passive % Targets for public equity and fixed income

#### **Benefits Processing:**

- **Disbursement of benefits:** The ASRS received approval to begin a 4 year, \$3.4 million effort to build an internal benefit disbursement process. Currently, the ASRS contracts with an external vendor to perform these services. When this project is complete, the agency expects to reduce its yearly costs to disburse benefits by up to \$1 million per year.
- **Technology enhancements:** The ASRS made the following enhancements to improve customer service to members and employers using the ASRS website:
  - The secure website was enhanced to be compatible and sizable to mobile devices. Completion of this effort will improve the user experience for members and employers who prefer to use tablets and/or mobile devices to conduct their business with the ASRS.
  - The secure website was enhanced to provide additional data to retirees related to retirement and health insurance elections.

#### **Administration:**

- Funding Policy: ASRS staff developed, and the ASRS Board approved, a funding policy that outlines the agency's strategies and goals for assuring the long-term sustainability of the ASRS plans.
- Long-term Sustainability: The Office of the Auditor General (OAG) completed a performance audit and sunset review of the ASRS, concluding that although the ASRS is not yet fully funded, steps have been taken to improve long-term sustainability. Two reports were issued; one covering Investment Management and a second focused on the plan's financial condition and sustainability.
- Technology Enhancements: The ASRS completed the second year of a five-year, \$10.2 million effort to modernize and re-engineer its legacy PERIS applications, written in Oracle Forms, to a Java-based environment. The Oracle Modernization Project, when complete, will modernize all the following benefit applications:
  - Member summary information used by front-line contact staff
  - Participant demographics
  - Employer demographics
  - Member accounting and maintenance
  - Service audit
  - Service purchase
  - Health insurance
  - o Benefits accounting
  - Contributions accounting
  - Accounts Ledger 0
  - Fiscal Year End Close

#### **Annualized Rates of Return** (Net of Fees)

	1 Year	3 Year	5 Year	10 Year	Inception (June 30, 1975)
ASRS Retirement and Health Benefit Supplement Fund	3.2%	11.4%	11.8%	6.9%	9.9%

The ASRS has investment guidelines for its internal and external investment managers and a set of policies, procedures, compliance requirements, and oversight of internal investment management to ensure that investment assets are prudently managed. Both internally and externally generated compliance procedures are in place. Details of ASRS investment policies and investments are contained in the Investment Section of this report.

#### **Funding**

Any excess of additions, which include contributions and investment earnings, over deductions, which include benefits and administrative expenses, is accumulated by the ASRS in order to meet future benefit obligations due to retirees and beneficiaries. State statutes require the ASRS to conduct an annual actuarial valuation of its plan assets and liabilities.

The funding objective of the ASRS is to maintain reasonably stable contribution rates and to achieve an ultimate funded status of 100 percent. According to the ASRS' most recently available actuarial valuation, dated June 30, 2014, the actuarial value of total plan assets (retirement and health benefit supplement) was \$32.9¹ billion and the actuarial accrued liability was \$42.8¹ billion. The unfunded actuarial accrued liability of \$9.9 billion results in an actuarial funding ratio of 76.9%¹ for the total plan, which is a slight increase from 75.9%¹ at June 30, 2013.

A detailed discussion of funding is provided in the Actuarial Section of this report.

#### **Contribution Rate Projections**

Although the ASRS funds are a well-diversified and professionally managed portfolio of investments, they incurred significant losses in fiscal years 2008 and 2009. As a result of this and significant prior benefit increases, the combined pension and health benefit supplement contribution rate rose significantly. The contribution rate is expected to decline in the next several years.

#### **Awards**

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the ASRS for its CAFR for the fiscal year ended June 30, 2014. The ASRS has received this prestigious award in each of the last 26 years.

To be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized CAFR that satisfies both accounting principles generally accepted in the United States of America and applicable legal requirements. A Certificate of Achievement is valid for one year only. We believe this report continues to conform to the Certificate of Achievement Program requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

The GFOA also awarded the ASRS the Award for Outstanding Achievement for its June 30, 2014 Popular Annual Financial Report (PAFR). PAFR's must be readily accessible and easily understandable to the general public and other interested parties without a background in public finance. To be awarded the Award for Outstanding Achievement, a government must have received the Certificate of Achievement for Excellence for its CAFR for the previous year or current year. This is the third year the ASRS has received this award.

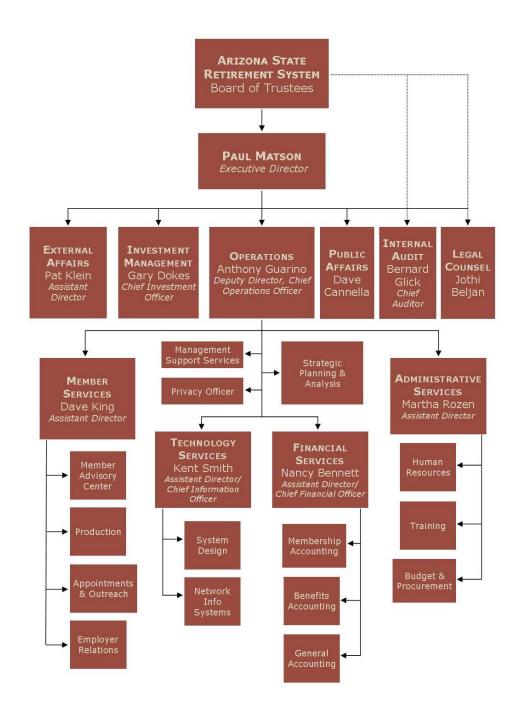
In addition, the Public Pension Coordinating Council awarded a Pension Standards Award for 2015 to the ASRS for meeting professional standards, plan design and administration. To be awarded the Pension Standards Award, a public employee retirement system must certify that it meets requirements in six areas of assessment. The areas assessed are comprehensive benefits program, funding adequacy, actuarial, audit, investments and communications. The Pension Standards Award is valid for one year. This is the tenth year the ASRS has received this award.

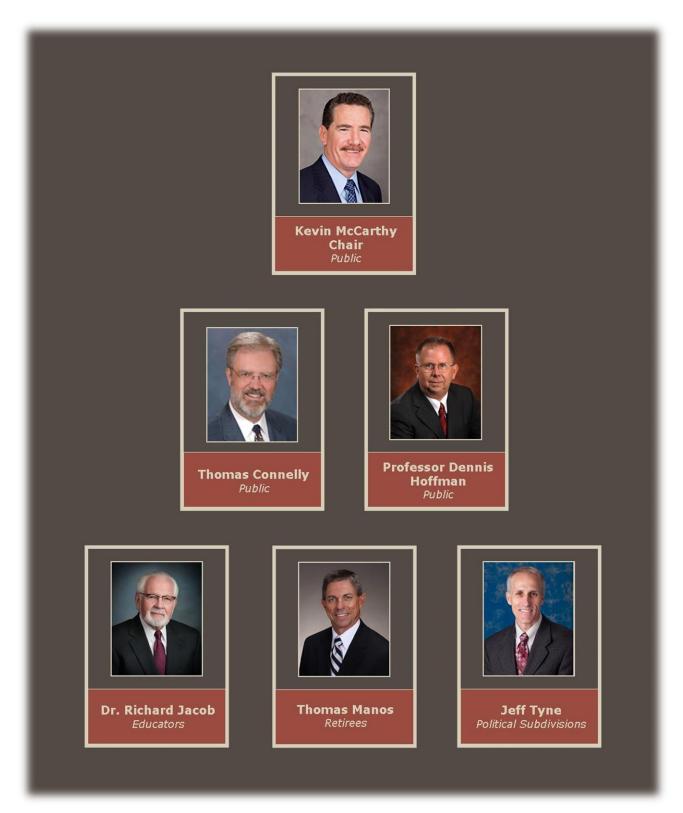
Results include System liabilities and assets for members who retired or will retire on or after July 1, 1981.

#### Acknowledgements

This report represents the culmination of hours of hard work by the ASRS General Accounting and Investment Management Division staff. It is intended to provide complete and reliable information for decision making, to ensure compliance with legal requirements, and is a means of measuring the responsible stewardship of the assets of the ASRS.

We would like to express our gratitude to the ASRS Board for its support for and leadership in planning and conducting the financial affairs of the ASRS in a responsible and progressive manner. The ASRS Board, along with the ASRS Executive and Senior Management and the entire staff of the ASRS has been instrumental in maintaining the high quality of service and performance, which has become the standard for the ASRS.
Respectfully submitted,
Paul Matson, Executive Director
Nancy Bennett, Chief Financial Officer





As of June 30, 2015



#### **ACTUARY**

**Buck Consultants** Phoenix, AZ

#### LONG TERM DISABILITY BENEFITS

Sedgwick Claims Management Services Company Calabasas, CA

#### **CUSTODIAL BANK**

State Street Bank and Trust Co. Boston, MA

#### PENSION DISBURSEMENT SERVICES

State Street Retiree Services Jacksonville, FL

#### **INDEPENDENT AUDITORS**

CliftonLarsonAllen, LLP Baltimore, MD

#### **GENERAL INVESTMENT CONSULTANT**

New England Pension Consultants, LLC Cambridge, MA

#### PRIVATE REAL ESTATE CONSULTANT

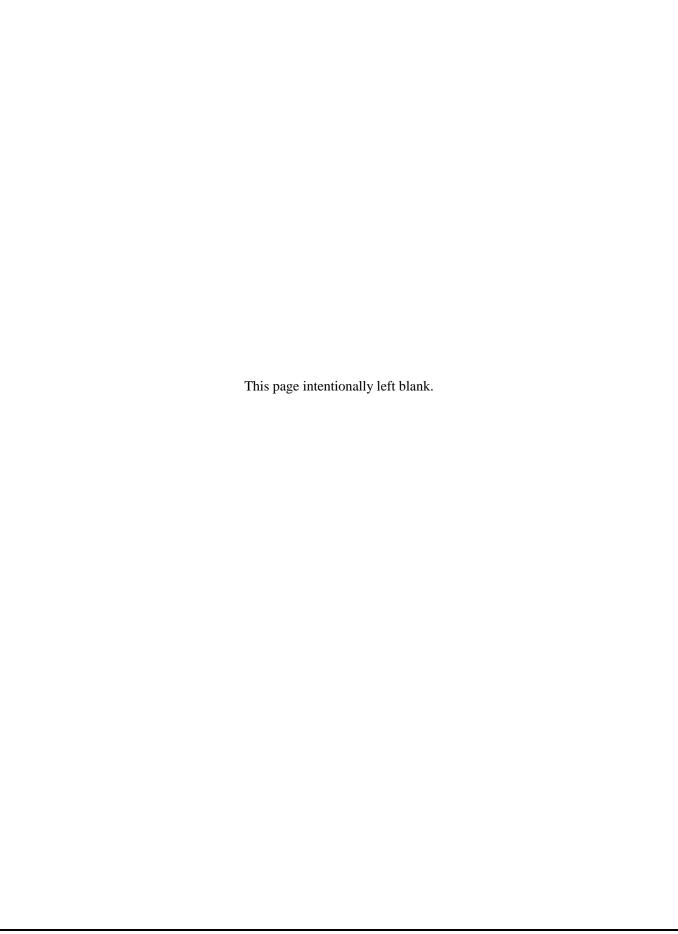
Robert Charles Lessor and Co., LLC Bethesda, MD

#### PRIVATE EQUITY CONSULTANT

Meketa Investment Group Boston, MA

#### **INVESTMENT MANAGERS**

Please refer to the Schedule of Broker Commissions which begins on page 68 in the Investment Section and the Schedule of Investment Fees on page 72 in the Investment Section



## FINANCIAL SECTION

CATTLE—Today, Arizona ranchers care for over 930,000 cattle and calves producing more than 380 million pounds of beef annually. A beef steer on average will supply us with 400 pounds of beef. Enough beef is produced from Arizona cattle to feed over 4.6 million people each year. The state's dairy industry produces over 3 billion pounds of milk a year. Cattle remains one of Arizona's most valued farm products.





CliftonLarsonAllen LLP www.CLAconnect.com

#### **Independent Auditors' Report**

The Honorable Douglas A. Ducey, Governor State of Arizona and **Board of Trustees** Arizona State Retirement System

#### **Report on the Financial Statements**

We have audited the financial statements of the Arizona State Retirement System (ASRS), a component unit of the State of Arizona, which comprise the Combined Statements of Fiduciary Net Position as of June 30, 2015, and the related Combined Statements of Changes in Fiduciary Net Position for the year then ended, and the related Notes to the Basic Financial Statements, as listed in the table of contents.

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

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

#### Auditors' Responsibility

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

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

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

#### Opinion

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



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#### 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 Schedules of Funding Progress, Contributions from the Employer and Other Contributing Entities, Changes in the Net Pension Liability, Net Pension Liability, Contributions from Employer, and Investment Returns, and related Notes, as listed in the table of contents, be presented to supplement the financial statements. Such information, 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.

#### Other Information

Our audit was conducted for the purpose of forming an opinion on the ASRS' financial statements. The Additional Supplementary Information, as listed in the table of contents, is presented for purposes of additional analysis and is not a required part of the financial statements.

The Additional Supplementary Information, as listed in the table of contents, 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 Additional Supplementary Information is fairly stated, in all material respects, in relation to the financial statements as a whole.

The Introductory, Investment, Actuarial and Statistical sections, as listed in the table of contents, have not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

#### Other Reporting Required by Government Auditing Standards

Clifton Larson Allen LLP

In accordance with Government Auditing Standards, we have also issued our report dated November 13, 2015 on our consideration of the ASRS' internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards in considering the ASRS' internal control over financial reporting and compliance.

CliftonLarsonAllen LLP

Baltimore, Maryland November 13, 2015

This section presents Management's Discussion and Analysis (MD&A) of the Arizona State Retirement System's (ASRS) fiduciary net position and changes in fiduciary net position for the fiscal year ended June 30, 2015. It is presented as a narrative overview and analysis. The discussion and analysis should be read in conjunction with the Letter of Transmittal included in the Introductory Section of the ASRS' Comprehensive Annual Financial Report (CAFR), and the basic financial statements and notes to the basic financial statements presented in the Financial Section of the CAFR.

#### **Financial Highlights**

During fiscal year 2015, the ASRS assets decreased slightly due to lower investment earnings and increased benefit payments compared to fiscal year 2014. The lower investment earnings is primarily due to a slowed global economy for much of the fiscal year.

- At June 30, 2015, the ASRS held investments of \$35.2 billion (excludes securities lending balances), a decrease of \$0.4 billion from fiscal year 2014.
- The combined investment portfolio experienced a return of 3.2% compared to 18.6% in fiscal year 2014.

#### Overview of the **Financial Statements**

The MD&A is intended to serve as an introduction and overview of the ASRS financial section of the CAFR, which is comprised of the following components: 1) basic financial statements, 2) notes to the basic financial statements, 3) required supplementary information and 4) additional supplementary schedules. Collectively, this information presents the combined fiduciary net position held in trust for benefits, which includes health benefit supplements and long term disability for each of the funds administered by the ASRS as of June 30, 2015. This financial information also summarizes the combined changes in fiduciary net position held in trust for benefits for the year then ended. The information available in each of these sections is briefly summarized as follows:

1) Basic financial statements - For the fiscal year ended June 30, 2015, financial statements are presented for the funds administered by the ASRS. These fiduciary funds are held in trust for the benefit of the ASRS members.

- The Combined Statements of Fiduciary Net Position is presented as of June 30, 2015. This financial statement reflects the resources available to pay benefits to members, including retirees and beneficiaries, at the end of the fiscal year.
- The Combined Statements of Changes in Fiduciary Net Position is presented for the year ended June 30, 2015. This statement reflects the changes in resources available to pay benefits to retirees and other beneficiaries for the year.
- 2) Notes to the Basic Financial Statements The notes to the basic financial statements provide additional information, which is essential to a full understanding of the data provided in the basic financial statements. The notes to the basic financial statements can be found on pages 22-39 of this report.
- 3) Required Supplementary Information The required supplementary information consists of six schedules and related notes. The schedules of funded progress and schedules of required contributions relate to the Health Benefit Supplement and Long Term Disability benefits administered by the ASRS. The Schedules of Changes in the Net Pension Liability, Schedules of Net Pension Liability, Schedules of Contributions from the Employer, and Schedules of Investment Returns relate to the retirement plan administered by the ASRS.
- Additional Supplementary Schedules These schedules include Combining Schedules of Fiduciary Net Position and Changes in Fiduciary Net Position for the ASRS Plan and System retirement programs. The ASRS Plan, a defined benefit plan, and the System, a defined contribution plan with guaranteed benefits, are separate components administered within the same pension plan and trust. Detailed information about administrative expenses, consultant fees and investment expenses by manager are also included in this section.

#### **Financial Analysis of** the ASRS Funds

The ASRS administers retirement, health and long term disability benefits for teachers, state, county and other public municipal employees. ASRS benefits are funded by member and employer contributions and by earnings on investments. The ASRS has three funds, Retirement, Health Benefit Supplement (HBS) and Long Term Disability (LTD), to which the contributions are distributed according to actuarially determined contribution rates.

Fiduciary Net Position - ASRS' total fiduciary net position held in trust for benefits at June 30, 2015 was \$35.46 billion, a 0.2% decrease from \$35.53 billion at June 30, 2014. The retirement fund's fiduciary net position was \$33.6 billion compared to \$33.7 billion last year, a 0.1% decrease. The HBS' fund net position was \$1.57 billion at year end compared to \$1.56 billion at fiscal year 2014, a 1.1% increase. The LTD fund's fiduciary net position was \$247 million at year end compared to \$286 million last year, a 13.4% decrease. The decrease in the ASRS' total fiduciary net position and the fiduciary net position of its individual funds is primarily due to lower investment earnings and increased benefit payments, compared to fiscal year 2014.

Changes in Fiduciary Net Position - For the 2015 fiscal year, member and employer contributions totaled \$2.11 billion, compared to the 2014 fiscal year contributions of \$2.06 billion. The increase is due to a 1.59% increase in contribution rates for retirement and HBS from 11.3% in fiscal year 2014 to

11.48% in fiscal year 2015. LTD contribution rates were reduced by 50% from 0.24% in fiscal year 2014 to 0.12% in fiscal year 2015. For employers, the alternate contribution rate increased from 9.20% in 2014 to 9.57% in 2015.

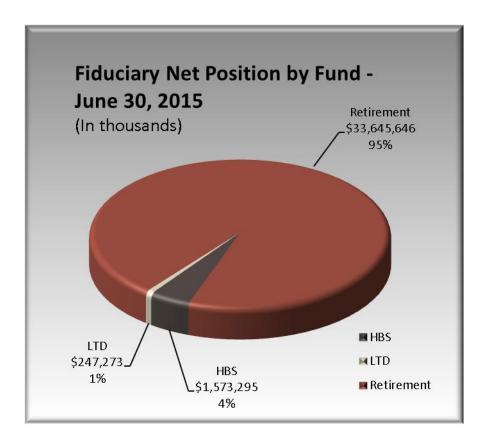
For fiscal year 2015, the ASRS recognized net investment income of \$0.9 billion, which is a decrease in net investment income of \$4.9 billion from the previous year. This 84.6% decrease is primarily due to a slowed global economy for much of the fiscal year, which did improve in the last quarter of the fiscal year.

Deductions from the ASRS' net position held in trust for benefits consist primarily of pension, disability, health insurance, survivor benefits, member refunds and administrative expenses. For the 2015 fiscal year, pension, disability, health insurance and survivor benefits totaled \$2.8 billion, an increase of 4.0% over the \$2.7 billion paid during fiscal year 2014. The 4.0% increase is explained by an increase in total members or beneficiaries receiving benefits from 127,881 in fiscal year 2014, to 137,942 in fiscal year 2015. Refunds and transfers to other plans totaled \$256 million in fiscal year 2015, a 3.7% increase from the \$247 million paid out in fiscal year 2014. In fiscal year 2015, the cost of administering the ASRS benefits totaled \$30.6 million, a decrease of 1.8% from the \$31.1 million paid in fiscal year 2014, which is attributed to the ASRS' cost reduction initiatives.

The following tables show the principal ASRS net assets and changes in net assets for fiscal years 2015 and 2014, in thousands of dollars:

Fiduciary Net Position	2015	2014	Change	% Change
ASSETS				
Cash, receivables and prepaids	\$ 317,175	\$ 661,021 \$	(343,846)	-52.0%
Investments at fair value	35,237,203	35,636,475	(399,272)	-1.1%
Securities lending	314,730	15,427	299,303	1940.1%
Total assets	35,869,108	36,312,923	(443,815)	-1.2%
LIABILITIES				
Payables and other liabilities	88,164	762,033	(673,869)	-88.4%
Securities lending	314,730	15,427	299,303	1940.1%
Total Liabilities	402,894	777,460	(374,566)	-48.2%
NET POSITION RESTRICTED FOR PENSION/OPEB BENEFITS	\$35,466,214	\$35,535,463	(69,249)	-0.2%

Change in Fiduciary Net Position		2015	2	2014	Change	% Change
ADDITIONS						
Member contributions	\$	1,042,679	\$	1,016,435	\$ 26,244	2.6%
Employer contributions		1,069,232		1,041,002	28,230	2.7%
Other income		31,507		29,848	1,659	5.6%
Service credit purchase and transfers in		20,702		33,485	(12,783)	-38.2%
Investment and security lending income		1,050,271		5,949,616	(4,899,345)	-82.3%
Investment and security lending expense		(158,367)		(149,882)	(8,485)	-5.7%
Total additions		3,056,024	7	7,920,504	(4,864,480)	-61.4%
DEDUCTIONS						
Retirement and disability benefits		2,805,420		2,690,828	114,592	4.3%
Survivor benefits		33,034		39,334	(6,300)	-16.0%
Refunds and transfers		256,243		247,116	9,127	3.7%
Administration and other		30,576		31,147	(571)	-1.8%
Total deductions		3,125,273	3	3,008,425	116,848	3.9%
NET CHANGE		(69,249)		4,912,079	(4,981,328)	-101.4%
NET POSITION RESTRICTED FOR PENSION/OPEB BENEFITS						
Net position beginning of year	3	35,535,463	30	0,623,384	4,912,079	16.0%
Net position end of year	\$3	35,466,214	\$35	5,535,463	\$ (69,249)	-0.2%



**Funded Status -** Effective June 30, 2014, The ASRS implemented Governmental Accounting Standards Board Statement No. 67, Financial Reporting for Pension Plans, an amendment of GASB Statement No. 25 (GASB 67). GASB 67 requires public employee pension plans which have certain characteristics and which assets are administered through trusts to use a proscribed accounting methodology for financial reporting purposes. The ASRS Retirement Fund meets the criteria to comply with GASB 67. As a result, the ASRS conducts two actuarial valuations each year for the Retirement Fund, one for accounting purposes and one for funding purposes. The differences between the two methodologies are as follows:

Item	GASB 67 Methodology	ASRS Funding Methodology
Actuarial Method	Entry Age Cost	Projected Unit Credit
Assets	Market Value	Actuarial Value
Permanent Benefit Increase Included?	Yes	No
Discount Rate	8%	8%

In order to determine the Retirement Fund's funded status

under GASB 67, the ASRS used the most recently available actuarial valuation, dated June 30, 2014, and rolled it forward to June 30, 2015. Total retirement plan assets at June 30, 2015 were \$33.6 billion and the total pension liability was \$49.2 billion, which results in a net pension liability of \$15.6 billion. The Retirement Funds' fiduciary net position as a percentage of the total pension liability was 68.35%. The notes to the basic financial statements as well as the required supplementary information disclose more detailed information about the Retirement Fund's net pension liability.

The Health Benefit Supplement and Long Term Disability funds are not subject to GASB 67 and those funds continue to use the same methodology for both financial reporting and funding purposes. The fiduciary net position at June 30, 2015 of the health benefit supplement fund was \$1.6 billion and the long term disability fiduciary net position was \$247 million. The funded status of the Health Benefit Supplement Fund and the Long Term Disability Fund at June 30, 2014, the most recently available actuarial valuation date, was 93% and 85% respectively.

The Schedule of Funding Progress for the Health Benefit Supplement and Long Term Disability Funds are presented in the required supplementary information.

A detailed discussion of the funded status of the Retirement, Health Benefit Supplement and Long Term Disability funds based on the ASRS funding methodology is contained in the Actuarial Section of this report.

Investments - During the fiscal year 2015, the ASRS investments were broadly diversified in domestic and international equities, domestic fixed income, real estate, private equity, opportunistic, commodities and cash equivalent instruments. A few highlights of the year are as follows:

- As of June 30, 2015, the fund held investments of \$35.2 billion (excludes securities lending balances), a decrease of \$0.4 billion from the prior year.
- The combined investment portfolio generated approximately \$0.9 billion in net investment earnings during the year.
- The combined investment portfolio experienced a return of 3.2% compared to the Interim Total Fund Benchmark return of 1.6%.
- The decrease in investments during the year is primarily due to slowed global economy for much of the fiscal year, which did improve in the last quarter of the fiscal year.

A detailed discussion of investments is provided in the Notes to the Basic Financial Statements and the Investment Section of this report.

Request for Information - This financial report is designed to provide a general overview of the system's finances. Questions concerning any of the information provided in this report or requests for additional information should be addressed to:

> **ASRS** Financial Services Division 3300 North Central Avenue Phoenix, AZ 85012

#### **Combined Statements of Fiduciary Net Position**

As of June 30, 2015 (Dollars in Thousands)

	Retirement Fund	Health Benefit pplement Fund	Long Term Disability Fund	Combined
ASSETS				
Cash	\$ 8,646	\$ 243	\$ -	\$ 8,889
RECEIVABLES				
Accrued interest and dividends	54,426	2,374	-	56,800
Securities sold	115,599	4,846	-	120,445
Forward contracts	14,303	619	-	14,922
Contributions	64,896	1,075	436	66,407
Due from other funds	2,753	7,627	2,751	13,131
Other	 451	31,510	4,620	36,581
Total receivables	252,428	48,051	7,807	308,286
INVESTMENTS AT FAIR VALUE				
Short-term investments	1,292,130	124,018	1,623	1,417,771
Securities lending collateral	301,892	12,838	-	314,730
Equity	20,552,820	895,099	162,390	21,610,309
Fixed income	7,368,913	323,196	50,603	7,742,712
Real estate	2,272,272	101,930	19,511	2,393,713
Commodities	-	-	5,584	5,584
Multi-asset	1,524,346	63,727	=	1,588,073
Other	 458,998	20,043	=	479,041
<b>Total investments</b>	33,771,371	1,540,851	239,711	35,551,933
TOTAL ASSETS	34,032,445	1,589,145	247,518	35,869,108
LIABILITIES				
Securities purchased	33,625	1,394	-	35,019
Securities lending collateral	301,892	12,838	-	314,730
Forward contracts	7,170	315	-	7,485
Due to other funds	13,131	_	-	13,131
Other	 30,981	1,303	245	32,529
TOTAL LIABILITIES	386,799	15,850	245	402,894
NET POSITION RESTRICTED				
FOR PENSION/OPEB BENEFITS	\$ 33,645,646	\$ 1,573,295	\$ 247,273	\$ 35,466,214

The accompanying notes are an integral part of these statements.

#### **Combined Statements of Changes in Fiduciary Net Position**

For the Year Ended June 30, 2015 (Dollars in Thousands)

		Retirement	Haalth Danast	Laur Taum		
			Health Benefit Supplement Fund	Long Term Disability Fund	Comb	nined
ADDITIONS		i una	Supplement i unu	Disability I uliu	Comb	mea
CONTRIBUTIONS  Member contributions	\$	1,031,954	¢	\$ 10,725	\$ 1,042	670
Employer contributions	Þ	1,031,934	\$ - 53,586	10,723	\$ 1,042 1,069	
Transfers from other plans		1,004,747	55,560	10,099		,029
Purchased Service		19,673	_	_		,673
Total Contributions		2,057,403	53,586	21,624	2,132,	
INVESTING ACTIVITY INCOME					_,,	
Net appreciation in fair value of investments		524,148	25,229	3,991	553	,368
Interest		150,759	6,433	-		,192
Dividends		298,127	12,665	_		,792
Other income		22,794	972	-		,766
Total investing activity income		995,828	45,299	3,991	1,045,	
INVESTMENT ACTIVITY EXPENSE						
Management fees		(142,621)	(6,095)	(269)	(148	,985)
Custody fees		(1,369)	(60)	-	(1	,429)
Consultant and legal fees		(5,084)	(221)	-	(5	,305)
Internal investment activity expense		(3,772)	(164)	-	(3	,936)
Total investment activity expenses		(152,846)	(6,540)	(269)	(159	,655)
Net income from investing activities		842,982	38,759	3,722	885,	463
FROM SECURITIES LENDING ACTIVITIES						
Securities lending income		4,943	210	-	5	,153
Unrealized gain on securities lending		· -	-	-		· -
Total securities lending activity income		4,943	210	-	5	,153
Security lending expense:						
Interest rebate		2,148	92	-	2	,240
Management fees		(913)	(39)	-		(952)
Total securities lending activity expense		1,235	53	-		,288
Net income from securities lending activities		6,178	263	-	6,	441
Total net investment income		849,160	39,022	3,722	891,	904
OTHER INCOME		-	31,507	-	31,	507
TOTAL ADDITIONS		2,906,563	124,115	25,346	3,056,	024
DEDUCTIONS						
Retirement and disability benefits		2,638,462	105,913	61,045	2,805	420
Survivor benefits		33,034	-	-	•	,034
Refunds to withdrawing members, including interest		255,606	_	_		,606
Administrative expenses		26,400	1,149	2,287		,836
Transfers to other plans		637	, -	-		637
Other		483	-	257		740
TOTAL DEDUCTIONS		2,954,622	107,062	63,589	3,125,	273
NET INCREASE (DECREASE) IN NET POSITION		(48,059)	17,053	(38,243)		249)
NET POSITION DESTRICTED						
NET POSITION RESTRICTED FOR PENSION/OPEB BENEFITS						
Beginning of year		33,693,705	1,556,242	285,516	35,535,	463
End of year	\$	33,645,646	\$ 1,573,295	\$ 247,273	\$ 35,466,	
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The accompanying notes are an integral part of these statements.

#### **NOTES TO THE BASIC FINANCIAL STATEMENTS**

#### 1. Plan Description

**Organization** – The Arizona State Retirement System (ASRS) is a component unit of the State of Arizona. The ASRS is a cost-sharing, multiple-employer, pension plan established by the State of Arizona to provide pension benefits for employees of the State and employees of participating political subdivisions and school districts. The ASRS is administered in accordance with Title 38, Chapter 5, Article 2 of the Arizona Revised Statutes (A.R.S.). The Long Term Disability Program is administered in accordance with Title 38, Chapter 5, Article 2.1.

The ASRS is a qualified governmental pension plan pursuant to I.R.C. §414. The ASRS plan has two components, the Plan and the System (closed plan). The ASRS's accumulated plan assets are utilized to pay benefits to members of either component. The Plan is a defined benefit plan and the System is a defined contribution plan, with guaranteed benefits. These plans are administered through a trust. The System was established by the Arizona Legislature in 1953 to provide retirement and other benefits for state employees, teachers, and employees of political subdivisions that elected coverage. In 1943, the Legislature established the Arizona Teachers' Retirement System (the Teachers' System) to provide benefits for teachers. After the establishment of the ASRS, teachers who were, or later became, eligible through employment covered by the ASRS were transferred to the System. The Teachers' System then became inactive, except for continuation of retirement benefits already being paid and obligations to teacher members who did not become eligible for the ASRS.

The Plan, enacted by the Legislature in 1970, became effective July 1, 1971. Effective July 1, 1981, all non-retired members of the System became members of the Plan, as prescribed by Laws of 1980, Chapter 238.

A.R.S. §38-783 and A.R.S. §38-797 require separate accounts be established for health insurance premium benefits and long term disability benefits, respectively. Effective July 1, 1995, the ASRS established an account for each benefit program and has reported those funds in the basic financial statements. Both the Health Benefit Supplement Fund (HBS) and the Long Term Disability Fund (LTD) are cost-sharing, multiple-employer post-

employment benefit plans. Although the investments of the HBS Fund are commingled with investments of the Retirement Fund, the HBS Fund's assets may be utilized solely for the payment of HBS eligible member benefits. The LTD fund is administered through a trust separate from the trust related to the administration of the pension funds.

**Plan Administration -** The operations and administration of the ASRS is vested with the ASRS Board of Trustees, which is comprised of nine members, whom are appointed by the Governor and confirmed by the Arizona Senate pursuant to A.R.S. §38-211. The Board of Trustees is responsible for establishing and maintaining the funding policy. The composition of the ASRS Board, their qualifications and term are defined in A.R.S. §38-713. Five of the trustees must be ASRS members each representing one of the following member groups; an educator, an employee of a political subdivision, a retired member, an employee of the State and an at large member who may represent any ASRS member group. Each trustee representing an ASRS member group must have no less than five years of administrative management experience. Additionally, four trustees, who are not ASRS members are appointed to represent the public. Four trustees of the ASRS Board must have a minimum of 10 years of investment experience. There is no limit on the number of terms an ASRS Board trustee may serve.

**Reporting Entity** – The financial statements of the ASRS include the financial activities of all the above funds. The ASRS is considered a component unit of the State of Arizona reporting entity and is included in the State's financial reports as a pension trust fund.

**Plan Membership** - at June 30, 2015 pension plan membership and employer units consisted of the following:

Employee Members	
Inactive plan members or beneficiaries receiving benefits	137,942 <sup>1</sup>
Inactive plan members entitled to, but not yet receiving benefits	229,435 <mark>2</mark>
Active plan members	211,300
Total membership	578,677

Employer Units	
School districts	238
Charter schools	137
Cities and towns	79
Counties	15
Special districts	94
Community college districts	10
Universities	3
State government	1
Total employer units	577 <sup>3</sup>

<sup>&</sup>lt;sup>1</sup> 77,623 of the inactive plan members or beneficiaries receiving benefits are receiving health insurance premium benefits. <sup>2</sup> Includes 4,107 members receiving long term disability benefits. <sup>3</sup> The 577 employer units represent 683

**Benefits** – The ASRS provides benefits under formulas and provisions described in Arizona State law. Benefits and administrative expenses are paid from funds contributed by members and employers and from earnings on investments. The ASRS provides for retirement, disability, health insurance premium supplemental benefits and survivor benefits.

Retirement benefits are calculated on the basis of age, total credited service and average monthly compensation, which is established on a fiscal year basis (July 1 to June 30).

Members with an initial membership date before July 1, 2011, are eligible for full retirement benefits upon the earliest of attaining:

- Age 65;
- Age 62 with 10 years of credited service;
- Age plus credited service equaling 80 or more

Members with initial membership dates on or after July 1, 2011, are eligible for full retirement benefits upon the earliest of attaining:

- Age 65:
- Age 62 with 10 years of credited service;
- Age 60 with 25 years of credited service;
- Age 55 with 30 years of credited service

Average monthly compensation is determined by a 60month or 36-month calculation depending on when a member began contributing to the ASRS, as follows:

The 60-month calculation is an option for members who began contributing to the ASRS before January, 1, 1984. To determine a member's benefit using this formula, the ASRS averages the highest 60 consecutive months of salary within the last 120 months of service. This calculation includes base salary, additional contracts, overtime and any other form of eligible compensation. Termination payments may include sick pay (except for state and county employees), vacation pay, compensation time pay, retirement incentive pay (excludes payments made after retirement begins, such as VIP or ESP), or any other payments paid at the time of retirement. The average monthly compensation for members who began contributing before January 1, 1984 is automatically based on whichever calculation provides the greater benefit.

#### **NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)**

The 36-month calculation is required for members who began contributing to the ASRS on or after January 1, 1984. To determine a member's benefit using this formula, the ASRS averages the highest 36 consecutive months of salary within the last 120 months of service. This calculation excludes any termination payments the member received upon retirement.

For members who began contributing to the ASRS on or after July 1, 2011, the average monthly compensation used in a retiring member's retirement benefit calculation is the average of the highest consecutive 60 months in the last 120 months. Unlike the pre-1984 60 month calculation, the 60 month calculation enacted in 2011 does not include termination pay such as sick leave, annual leave etc.

The graded multiplier is a percentage set by Arizona State statute. It is the percentage of the average monthly compensation members will receive for each year of credited service they have accrued at retirement. This percentage is based on their total years of service at retirement based on the following graded multiplier schedule:

Years of Service	Multiplier
0.00-19.99 years	2.10%
20.00-24.99 years	2.15%
25.00-29.99 years	2.20%
30.00 or more years	2.30%

Permanent Benefit Increase (PBI) - Retired members who have been retired one year and members receiving LTD benefits are eligible for a benefit increase adjustment up to a maximum of 4%.

For each complete five-year period the member has been retired, an incremental benefit is paid if monies to pay the benefit are available. This benefit is funded by an interest credit of 8% of the reserve for future PBIs.

The PBI is paid from a reserve of excess investment earnings. Funds are reserved when total actuarial investment returns for each fiscal year are 8% or greater. If there are no excess investment earnings in the reserve, then no additional benefit increase is paid. As of June 30, 2015, there

is a zero balance in the reserve for future PBIs.

Retired members with at least 10 years of service who have been retired five or more years are eligible for an enhanced permanent benefit increase (EPBI).

Due to legislation enacted in the 2013 legislative session, PBIs and EPBIs will not be awarded to members hired after September 13, 2013.

For a more detailed summary of benefits, refer to the Summary of Plan Provisions in the Actuarial Section of this report.

Contributions – Per Arizona Revised Statutes, contribution requirements for active plan members and their participating employers are established and may be amended by the ASRS Board. Contribution rates are actuarially determined and are expected to finance the costs of benefits earned by plan members during the year and any unfunded accrued liability. Cost of administering the plan is financed through employer contributions, member contributions and investment earnings.

Employers are also required to pay an Alternate Contribution Rate (ACR), for retired members who return to work. ACR contributions totaling \$26.4 million were received in FY15 and are included in Employer Contributions on the Statement of Changes in Fiduciary Net Position.

Employers' contractually required contribution rates as a percentage of covered payroll and the employees' matching contributions were as follows for fiscal year 2015:

<b>Contribution Rates</b>	Employer	Member
Retirement	10.89%	11.48%
Health benefit supplement	0.59%	0.00%
Long term disability	0.12%	0.12%
Total required	11.60%	11.60%
ACR Retirement	9.31%	0.00%
ACR Health benefit supplement	0.20%	0.00%
ACR Long term disability	0.06%	0.00%
Total ACR required	9.57%	0.00%

State statutes allow the purchase of eligible service credit for which no benefit can be paid by another qualified plan. Purchasable services include leave of absence, military service, other public service employment and previously forfeited service under the ASRS. Statutes also allow purchase of military service regardless of whether a benefit may be paid.

**Termination of Employment** – Upon termination of employment, members may elect to receive their contributions made to the Plan, plus accrued interest.

Members with an initial membership date before July 1, 2011, may receive a percentage of employer contributions to the plan based on years of service as follows:

Years of Service	Vesting
5 to 5.9	25%
6 to 6.9	40%
7 to 7.9	55%
8 to 8.9	70%
9 to 9.9	85%
10 or more	100%

Members with an initial membership date on or after July 1, 2011 will not receive any portion of the employer contributions if they withdraw their account balance prior to retirement. This does not apply to terminations due to an employer reduction in force or position elimination, in which case the above ASRS vesting schedule will apply.

Withdrawal of accumulated contributions results in forfeiture of the member's accrued benefits in the Plan; however, state law provides for reinstatement of a member's forfeited service upon repayment of the accumulated contributions, plus interest if a former member returns to covered service.

#### 2. Summary of Significant **Accounting Policies**

Basis of Accounting – The financial statements of the Arizona State Retirement System are prepared using the accrual basis of accounting. The accompanying financial statements are prepared in accordance with accounting principles generally accepted in the United States of America that apply to government accounting of fiduciary funds including the Governmental Accounting Standards

Board (GASB) Statements 28, 34, 37, 40, 43, 53, 63 and 67.

Contributions are recognized as revenues when due, pursuant to statutory and contractual requirements. Benefits and refunds are recognized when due and payable and expenses are recorded when the corresponding liabilities are incurred, regardless of when contributions are received or payment is made. Investment income derived from publicly traded investments is recognized when earned. Investment and other administrative expenses are recognized when incurred.

**Investments** – Publicly traded investments are reported at fair values determined by the custodial agent. The agents' determination of fair values includes, among other things, utilization of pricing services or prices quoted by independent brokers at current exchange rates.

ASRS' derivative instruments which consist of futures, forward contracts, options, swaps, rights and warrants, are measured at fair value and reported on the Statement of Fiduciary Net Position. Changes in fair values of derivative instruments are reported as net appreciation of fair value on the Statement of Changes in Fiduciary Net Position.

The fair value of limited partnership investments are based on estimated current values and accepted industry practice. Fair value is based on estimates and assumptions from information and representations provided by the respective general partners, in the absence of readily ascertainable market values.

Short-term investments are reported at cost plus accrued interest, which approximates fair value. For investments where no readily ascertainable fair value exists, management, in consultation with their investment advisors, has determined the fair values for the individual investments based on anticipated maturity dates and current interest rates commensurate with the investment's degree of risk.

Net appreciation (depreciation) in the fair value of investment assets is determined by calculating the change in the fair value of investments between the end of the year and the beginning of the year, less purchases of investments at

#### **NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)**

cost, plus sales of investments at fair value. Interest income is recorded on the accrual basis and dividends are recorded on the ex-dividend date. Security transactions and any resulting gains or losses are accounted for on a trade date basis.

Retirement and HBS investments are pooled. However, investments for each fund are allocated daily via a fluctuating dollar unitization methodology. Realized and unrealized gains are allocated daily using the same methodology.

Capital Assets – Capitalization thresholds have been established as follows:

Capitalizable Assets	Threshold		
Furniture and fixtures	\$ 1,000,000		
Computers and other equipment	\$ 1,000,000		
Internally developed computer software	\$10,000,000		
Externally purchased software	\$ 1,000,000		
Websites	\$ 1,000,000		

As of June 30, 2015, there were no capitalizable expenditures at or above the stated thresholds.

Accounts Receivable – Accounts receivable are comprised of employer contributions which are expected to be received within 60 days of year end; member overpayments and member service purchase payroll deduction amounts (PDA's) which are expected to be collected within one year or more.

Federal Income Tax Status – During the year ended June 30, 2015, the ASRS qualified under Section 401(a) of the Internal Revenue Code (IRC) and was exempt from federal income taxes under Section 501(a) of the IRC.

Actuarial Valuation - The information included in the notes to the financial statements and required supplemental schedules for the HBS and LTD funds are based on the actuarial valuations performed as of June 30, 2014, which is the latest available information for those funds. The information presented for the retirement fund is based on the June 30, 2014 actuarial valuation, which was rolled forward to June 30, 2015. Significant actuarial assumptions used in the valuations are included in the notes to the financial statements and required supplemental schedules.

Use of Estimates – The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and changes therein, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

#### 3. Cash and Investments

Cash – Cash deposits are subject to custodial risk. Custodial risk is the risk that in the event of a bank failure, ASRS' deposits may not be returned to it. Arizona State statutes do not require ASRS deposits to be collateralized. The board has not adopted a more restrictive policy. In addition, the FDIC insures ASRS cash deposits up to \$250,000 per member based on the ratio of the member's account balance to the ASRS net assets.

**Investments** – Statutes enacted by the Arizona State Legislature (the Statutes) authorize the ASRS to make investments in accordance with the "Prudent Person" rule. Section 38-718 (E) of the Arizona Revised Statutes interprets the rule to be that investment management shall discharge the duties of their position with the care, skill, prudence and diligence, under the circumstances then prevailing, that a prudent person acting in a like capacity and familiar with the same matters would use in the conduct of an enterprise of a like character and with like aims as that of ASRS. Within this broad framework, the ASRS has chosen to invest in short-term securities, obligations of the U.S. government or agencies of the U.S. government, corporate bonds, common and preferred stocks (domestic and foreign), mortgages, derivatives, commodities, real estate, private equity and opportunistic debt and equity investments.

The Statutes place the following restrictions on the ASRS' investment fund portfolio:

1. No more than 80% of the ASRS' assets may be invested at any given time in equities, measured at market value.

- 2. No more than 5% of the ASRS' assets may be invested in securities issued by any one institution, agency or corporation, other than securities issued as direct obligations of or fully guaranteed by the U.S. government or mortgage backed securities and agency debentures issued by federal agencies, measured at market value.
- 3. No more than 40% of the ASRS' assets may be invested in non-U.S. public investments, measured at market value.
- 4. No more than 60% of the ASRS' assets may be invested internally, measured at market value.
- 5. No more than 10% of the ASRS' assets may be invested in bonds or other evidences of indebtedness of those multinational development banks in which the U.S. is a member nation, including the International Bank for Reconstruction and Development, the African Development Bank, the Asian Development Bank, and the Inter-American Development Bank, measured at market value.

Subject to the limitations noted above, the Board may authorize the Director to make investments that are designated by the Board and that do not exceed 60% of the assets of the investment account measured at cost.

The Board has not formally adopted more restrictive policies than required by State Statute for the various types of risks. The management of ASRS believes it has complied with the above guidelines. Management does expect the money managers to abide by contract requirements, which are considerably more restrictive than the statute. Due to the flow of securities to and from transfer agents and the security lending program, securities occasionally cannot be delivered for a sale or received for a purchase, resulting

in a "failed" transaction. Securities with trade dates in June and settlement dates in July result in "outstanding" transactions. Since these securities have contractually changed ownership, receivables and payables result from these transactions. Such transactions resulted in a receivable for securities sold of \$120.4 million and a payable for securities purchased of \$35.0 million at June 30, 2015.

**Investment Policy** – The ASRS' policy in regard to the allocation of invested assets is established and may be amended by the ASRS Board. Plan assets are managed on a total return basis with a long-term objective of achieving and maintaining a fully funded status for the benefits provided through the pension plan. The following was the ASRS Board's adopted asset allocation policy as of June 30, 2015:

Asset Class	<b>Target Allocation</b>
Equity	58%
Fixed income	25%
Commodities	2%
Real estate	10%
Multi-asset class	5%
Total	100%

**Rate of Return** – For the year ended June 30, 2015, the annual money-weighted rate of return on retirement plan investments, net of retirement plan investment expense, was 3.04%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

# **Investments by Investment Type**

At June 30, 2015 (Dollars in Thousands)

Investment Type	Retirement HBS		LTD	2015 Fair Value
SHORT-TERM INVESTMENTS				
Cash and Cash Equivalents	\$ 824,128	\$	1,623	\$ 825,751
Foreign Currency	15,373		-	15,373
Short-term Investments including U.S. Tbills	 576,647		-	576,647
Total Short-Term Investments	1,416,148		1,623	1,417,771
SECURITIES LENDING COLLATERAL				
U.S. Equity	245,218		-	245,218
Non-U.S. Equity	47,498		-	47,498
U.S. Treasury U.S. Bond	18,919 3,095		-	18,919
				3,095
Total Securities Lending Collateral	314,730		-	314,730
EQUITY SECURITIES	0.040.601		07.655	0 127 246
Large Cap Mid Cap	8,049,691 1,060,024		87,655	8,137,346 1,060,024
Small Cap	1,045,965		16,960	1,060,024
Total U.S. Equity	 10,155,680		104,615	10,260,295
Developed Large Cap	5,960,513		33,796	5,994,309
Developed Small Cap	674,058		9,031	683,089
Emerging Markets	 1,633,092		14,948	1,648,040
Total Non-U.S. Equity	8,267,663		57,775	8,325,438
Private Equity	2,561,328		-	2,561,328
Opportunistic Equity	 463,248		-	463,248
Total Other Equity  Total Equity Securities	 3,024,576 <b>21,447,919</b>		162,390	3,024,576 <b>21,610,309</b>
FIXED INCOME SECURITIES	21,447,919		102,390	21,010,309
Core	3,680,302		27,091	3,707,393
High Yield	1,253,198		18,298	1,271,496
Total U.S. Fixed Income	 4,933,500		45,389	4,978,889
	, ,			
Emerging Market Debt Opportunistic Debt	- 1,087,081		5,214	5,214 1,087,081
Private Debt	1,671,528		_	1,671,528
Total Other Debt	 2,758,609		5,214	2,763,823
Total Fixed Income Securities	7,692,109		50,603	7,742,712
- 1-1	·			
Real Estate	2,374,202		19,511	2,393,713
Commodities	1 500 073		5,584	5,584
Multi-Asset OTHER INVESTMENTS	1,588,073		-	1,588,073
Infrastructure	308,318		_	308,318
Farmland and Timber	170,723		_	170,723
Total Other Investments	479,041			479,041
TOTAL INVESTMENTS AT FAIR VALUE		<b></b>	220 711	 
IOIAL INVESTMENTS AT FAIR VALUE	 35,312,222	<u> </u>	239,711	\$ 35,551,933

Investments are subject to a number of risks including custodial credit risk, concentration of credit risk, credit quality risk, interest rate risk and foreign currency risk.

Custodial Credit Risk - For an investment, custodial credit risk is the risk that, in the event of a failure of a counter party, the ASRS will not be able to recover the value of its investment or the collateral securities that are in the possession of an outside party. Publicly traded securities are registered in the name of the ASRS including loaned securities.

Credit Quality Risk – Credit quality risk is the risk that the issuer will not fulfill its obligations to the purchaser of its debt instruments. Arizona State statutes are not specific as to the credit ratings of the investments of the ASRS. The statutes require the "Prudent Person" rule. The Board has not adopted a formal policy on credit ratings. The present management policy is to set standards for each portfolio manager based on an assessment of their expertise.

Concentration of Credit Risk – Concentration of credit risk is the risk of substantial loss if investments are concentrated in one issuer. The Statutes require that no more than 5% of the assets can be invested in one issuer, except for the U.S. government and its agencies. The Board has not adopted a more restrictive policy.

The following table presents the fixed income investments at June 30, 2015 categorized to give an indication of the level of credit quality risk assumed by ASRS:

# **Debt Securities Credit Quality Risk (Fixed Income Securities)**

At June 30, 2015 (Dollars in Thousands)

Moody's Credit Rating	Fair	Value	Fair Value as Percent of Total Debt Securities Investments
Aaa	\$ 1,8	34,628	22.053%
Aa1-Aa3		62,420	0.750%
A1-A3	2	31,714	2.785%
Baa1-Baa3	2	21,052	2.657%
Ba1-Ba3	4	14,055	4.977%
B1-B3	6	03,495	7.254%
Caa	2	16,711	2.605%
Ca		149	0.002%
NA <sup>1</sup>	4,7	35,135	56.917%
Total <sup>2</sup>	\$ 8,31	.9,359	100.00%

 $<sup>^{1}</sup>$  NA represents those securities in which the rating is not readily available. The fair value of \$4,735,135 is classified as Opportunistic Debt of \$1,087,081, Private Debt of \$1,671,528 and Commingled Funds of \$1,976,526.

<sup>&</sup>lt;sup>2</sup> Total of \$8,319,359 represents Fixed Income of \$7,742,712 and Short-term Investments of \$576,647.

#### **NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)**

**Interest Rate Risk** – Interest rate risk is the risk that debt securities will lose value due to rising interest rates. The Statutes are silent regarding interest rate risk. The Board has not adopted a specific formal policy for interest rate risk. It does set more restrictive requirements in its contracts with money managers. The ASRS utilizes effective

duration to identify and manage its interest rate risk. Effective duration measures the expected change in value of a fixed income security for a given change in interest rate. The method takes into account the likely timing and amounts of variable cash flows for bonds with call options and prepayment provisions.

The following table shows the effective duration by investment type:

#### **Interest Rate Risk**

At June 30, 2015 (Dollars in Thousands)

Fixed Income Security Type	Fair Value	Effective Duration (in years)
U.S. Treasury Bills	\$ 502,993	0.3
Asset Backed Securities	5,143	6.9
Commercial Mortgage Backed	50,686	3.5
Corporate Bonds	1,737,914	4.8
Government Related	37,555	5.7
Government Agencies CMO's	506,612	2.6
Government Bonds	735,984	6.9
Government Mortgage Backed	7,337	2.9
Duration Not Available <sup>1</sup>	4,735,135	
Total <sup>2</sup>	\$ 8,319,359	

<sup>&</sup>lt;sup>1</sup> Represents Fixed Income for which the duration is not available. The fair value of \$4,735,135 is comprised of Opportunistic Debt of \$1,087,081, Private Debt of \$1,671,528 and Commingled Funds of \$1,976,526.

**Foreign Currency Risk** – Foreign currency risk is the risk that changes in the foreign exchange rate will adversely impact the fair value of an investment. The ASRS is authorized to invest part of its assets in foreign investments. According to Statutes, no more than 40% of ASRS assets may be invested in foreign securities and the in-

vestments must be made by investment managers with expertise in those investments. The Board has not adopted a formal policy that is more restrictive. Management does have certain policies in the contracts with the money managers permitted to invest in foreign denominated securities.

<sup>&</sup>lt;sup>2</sup> Total of \$8,319,359 represents Fixed Income of \$7,742,712 and Short-term Investments of \$576,647.

The following table shows exposure to foreign currency risk (U.S. dollars):

# **Foreign Currency Risk**

At June 30, 2015 (Dollars in Thousands)

	Short-term		Equity	Private		
<b>Currency Type</b>	Investments	Income	Securities	Equity	Estate	Total
Australian Dollar	\$ 116	-	\$ 25,046	-	-	\$ 25,162
Brazilian Real	-	-	1,656	-	-	1,656
Canadian Dollar	211	-	10,246	-	-	10,457
Colombian Peso	-	-	-	-	-	-
Danish Krone	3	-	30,880	-	-	30,883
Euro Currency	965	-	665,200	141,887	3,582	811,634
Hong Kong Dollar	295	-	48,098	-	-	48,393
Hungarian Forint	-	-	-	-	-	-
Japanese Yen	2,308	-	457,615	-	-	459,923
Mexican Peso	-	-	-	-	47,465	47,465
Israeli New Sheqel	46	-	3,149	-	-	3,195
Russian Ruble	-	-	-	-	-	-
New Taiwan Dollar	340	-	-	-	-	340
New Zealand Dollar	10	-	788	-	-	798
Norwegian Krone	92	-	15,245	-	-	15,337
Polish Zloty	-	-	-	-	-	-
Pound Sterling	10,305	-	506,955	-	-	517,260
Singapore Dollar	43	-	18,254	-	-	18,297
South African Rand	20	-	-	-	-	20
South Korean Won	-	-	33,571	-	-	33,571
Swedish Krona	17	-	41,412	-	-	41,429
Swiss Franc	602	-	152,390	-	-	152,992
Thailand Baht	-	-	7,304	-	-	7,304
Turkish Lira	-	-	-	-	-	-
Total	\$ 15,373	\$ -	\$ 2,017,809	\$ 141,887	\$ 51,047	\$ 2,226,116

#### 4. Securities Lending Program

Arizona Revised Statutes Section 38-718(G) allows the ASRS to participate in a securities lending program. The ASRS' custodial bank enters into agreements with borrowers to loan securities and have the same securities redelivered at a later date. Securities eligible for loan include U.S. fixed income securities, U.S. and international equities.

The ASRS currently receives as collateral at least 102% of the market value of the loaned securities and maintains collateral at no less than 100% for the duration of the loan. At year-end, the ASRS had limited counter party risk to borrowers because the collateral held by the ASRS for each loan exceeded the market value owed to the ASRS. Securities loaned are initially fully collateralized by cash (USD), U.S. Government or Agency securities, sovereign debt, corporate bonds and/or equities. Cash collateral may be reinvested (under certain constraints) in:

- Instruments issued or fully guaranteed by the U.S. Government, Federal agencies, or sponsored agencies or sponsored corporations,
- b) Repurchase agreements,
- c) Money market mutual funds.

The ASRS records the cash collateral received and the same amount as an obligation for securities on loan. The maturities of the investments are closely matched to those of the security loans to avoid interest rate exposure. The ASRS receives a spread for its lending activities. Investments made with cash collateral are classified as an asset on the Statement of Combined Fiduciary Net Position. A corresponding liability is recorded as the ASRS must return the cash collateral to the borrower upon expiration of the loan. At June 30, 2015, the fair value of securities on loan was \$2.8 billion; of which \$305.6 million were cash collateralized loans. Cash of \$314.7 million received as collateral for securities loaned was reinvested and had a net asset value of \$314.8 million as of June 30, 2015. The securities lending payable at June 30, 2015 was \$314.7 million. The ASRS does not have the ability to pledge or sell the collateral unless there is a borrower default. There is a restriction of \$3.5 billion on the dollar amount of security loans that may be made by the ASRS. The ASRS is

indemnified against gross negligence and borrower default by the lending agents, but is not indemnified against cash collateral reinvestment risk.

#### 5. Derivatives

A derivative instrument is a financial instrument or other contract with all three of the following characteristics:

- Settlement Factors: It has one or more reference rates and one or more notional amounts or payment provisions or both. Those terms determine the amount of the settlement or settlements, and, in some cases whether or not a settlement is required
- b) Leverage: It requires no initial net investment or an initial net investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors
- Net Settlement: Its terms require or permit net settlement, it can readily be settled net by means outside the contract, or it provides for delivery of an asset that puts the recipient in a position not substantially different from net settlement.

ASRS' derivatives are considered "Investment Derivative Instruments" as defined in GASB 53 "Accounting and Financial Reporting for Derivative Instruments". All funds are considered fiduciary funds.

ASRS' derivative instruments, which consist of futures contracts, forward contracts, options, swaps, rights and warrants are measured at fair value and reported on the Statement of Combined Fiduciary Net Position. Changes in fair value of derivative instruments are reported as net appreciation of fair value on the Combined Statement of Changes in Fiduciary Net Position.

The fair value balances and notional amounts of derivative instruments outstanding at June 30, 2015, classified by type, and the changes in fair value of derivative instruments for the year then ended as reported in the June 30, 2015 financial statements are as follows:

# **Investment Derivatives by Type**

(Dollars in Thousands)

	Changes in Fair	Value <sup>1</sup>	Fair Valu	ue at June	30, 2015
<b>Investment Derivatives</b>	Classification	Amount <sup>2</sup>	Classification	Amount	Notional <sup>3</sup>
Commodity Futures Long	Net Appreciation in Fair Value	\$ (253,719)	Not Applicable	\$ -	217,612
Commodity Futures Short	Net Appreciation in Fair Value	20,742	Not Applicable	-	(39)
Fixed Income Futures Long	Net Appreciation in Fair Value	2,802	Not Applicable	-	63,200
Fixed Income Futures Short	Net Appreciation in Fair Value	(312)	Not Applicable	-	(19,000)
Foreign Currency Futures Long	Net Appreciation in Fair Value	(113,112)	Not Applicable	-	-
Foreign Currency Options Written	Net Appreciation in Fair Value	106	Fixed Income Securities	-	-
Foreign Currency Forwards	Net Appreciation in Fair Value	(37,321)	Forward Contracts Receivable	3	\$ 1,427
Index Futures Long	Net Appreciation in Fair Value	101,020	Not Applicable	-	199
Receive Fixed Interest Rate Swaps	Net Appreciation in Fair Value	236	Fixed Income Securities	-	-
Rights	Net Appreciation in Fair Value	152	Equity Securities	506	1,294
Warrants	Net Appreciation in Fair Value	391	Equity Securities	70	210
Total	_	\$ (279,015)	_	\$ 579	

<sup>&</sup>lt;sup>1</sup> Excludes futures margin payments.

<sup>&</sup>lt;sup>2</sup> Brackets refer to losses.

<sup>&</sup>lt;sup>3</sup> Notional denotes the number of units held of each particular derivative instrument. A dollar sign indicates currency units. Brackets refer to short positions.

#### **NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)**

The fair value of derivative instruments reported by ASRS is based on quoted market prices off national exchanges. The fair value of foreign currency forward contracts are based on mathematical models and are valued using a pricing service, which uses published Reuter's foreign currency rates as the primary source for the calculation.

**Credit Risk** – The credit quality ratings of counterparties as described by nationally recognized statistical rating organizations and the counterparties related risk concentration as of the end of the reporting period are as follows:

## **Counterparty Risk and Ratings**

	Tota	I Net	Risk		RATING	is
<b>Counterparty Name</b>	Expo	sure	Concentration	S&P	Fitch	Moody's
Goldman Sachs		3	100.00%	Α-	Α	А3
Total	\$	3	100.00%	_ _		

The maximum amount of loss due to credit risk that the ASRS would incur if the counterparties to the derivative instrument failed to perform according to the terms of the contract, without respect to any collateral or other security or netting arrangement, is the total unrealized gain of derivatives at the end of the reporting period.

ASRS has no general investment policy requiring collateral or other security to support derivative instruments. Each investment manager hired has discretion with respect to derivative investments and risk control. Each investment manager is governed by its Investment Manager Agreement.

ASRS has no general investment policy with respect to netting arrangements. ASRS' investment managers have master netting arrangements to allow net settlement with the same counterparty in the event the counterparty defaults on its obligations.

The aggregate fair value of investment derivative instruments in asset positions at June 30, 2015 was \$3 thousand. This represents the maximum amount of loss in case of default of all counterparties of over-the-counter positions as of June 30, 2015. There was no collateral received or netting arrangements in place as of June 30, 2015 with counterparties that would reduce this exposure.

Interest Rate Risk – The ASRS has exposure to interest rate risk due to the investments in fixed income futures. The required risk disclosures are included in the Interest Rate Risk schedule in Note 3.

The fair value balance and notional amount of the fixed income futures outstanding at June 30, 2015, for the year then ended as reported in the June 30, 2015 financial statements are as follows:

# **Derivative Instruments Highly Sensitive to Interest Rate Changes**

(In Thousands)

Asset ID	Asset Description	Interest Rate	Fair Value	Notional <sup>1</sup>
FIXED INCOME FU	TURES LONG			
ADI09X7N4	US 2YR NOTE (CBT) SEP15	0.00%	\$ -	24,200
ADI0BHMD1	US 10YR NOTE (CBT)SEP15	0.00%	-	10,900
ADI0BJ3D8	US 5YR NOTE (CBT) SEP15	0.00%	-	20,500
ADI0BJHW1	US LONG BOND(CBT) SEP15	0.00%	-	3,300
ADI0CFVN2	US ULTRA BOND CBT SEP15	0.00%	-	4,300
Total Fixed Incom	e Futures Long		-	63,200
FIXED INCOME FU	TURES SHORT			
ADI0BHMD1	US 10YR NOTE (CBT)SEP15	0.00%	-	(19,000)
Total Fixed Incom	e Futures Short		\$ -	(19,000)

<sup>&</sup>lt;sup>1</sup> Notional denotes the number of units held of each particular derivative instrument. Brackets refer to short positions.

**Foreign Currency Risk** – ASRS is exposed to foreign currency risk on its foreign currency forward contracts and future contracts. The required risk disclosures are included in the Foreign Currency Risk schedule in Note 3.

#### 6. Net Pension Liability of Employers

The components of the net pension liability of the participating employers at June 30, 2015 (in thousands), was as follows:

Net Pension Liability of Employers					
Total pension liability	\$	49,222,083			
Retirement fiduciary net position		(33,645,646)			
Employers' net pension liability	\$	15,576,437			

**Actuarial Assumptions** – The total pension liability was determined by an actuarial valuation as of June 30, 2014, and rolled forward using generally accepted actuarial procedures to June 30, 2015:

<b>Actuarial Assumptions -</b>	Retirement Plan
Actuarial valuation date	June 30, 2014
Actuarial roll forward date	June 30, 2015
Actuarial cost method	Entry age normal
Amortization Method:	
Plan amendments	Immediate
Investment gain/loss	5 years
Assumption gain/loss	Avg future serv lives
Experience gain/loss	Avg future serv lives
Asset valuation	Fair value
Discount rate	8%
Projected salary increases	3 - 6.75%
Inflation	3%
Permanent benefit increase	Included
Mortality rates	1994 GAM Scale BB

The above actuarial assumptions pertain to assumptions utilized for financial reporting requirements and differ from the assumptions utilized for funding purposes. The principal differences between the actuarial assumptions for financial reporting purposes and those utilized for funding purposes are the actuarial cost methodology, amortization methodology, valuation of the plan assets and the inclusion of the permanent benefit increase. The

actuarial assumptions related to funding appear in the Actuarial Section. The actuarial assumptions related to funding were selected on the basis of an experience study which was performed for the five-year period ending June 30, 2012. The ASRS Board adopted the experience study which recommended changes and those changes were effective as of the June 30, 2013 actuarial valuation. Details of the assumptions resulting from the experience study performed as of June 30, 2012 appear in the Actuarial Section beginning on page 73.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate 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 for each major asset class included in the pension plan's target asset allocation as of June 30, 2015 (see the Asset Allocation Targets chart in the Investment Section of this report) are summarized in the following table:

	Expected	Return Arith	metic Basis
Asset Class	Target Asset Allocation	Real Return Arithmetic Basis	Long-term Expected Portfolio Real Rate of Return
Equity	58%	6.79%	3.94%
Fixed income	25%	3.70%	0.93%
Commodities	2%	3.93%	0.08%
Real estate	10%	4.25%	0.42%
Multi-asset	5%	3.41%	0.17%
Total	100%		5.54%
Inflation		-	3.25%
Expected arithmetic no	8.79%		

Actual returns may be lower due to volatility of returns. The long-term expected rate of return of 8.79% differs from the 8% utilized to discount the net pension liability. Details regarding the discount rate for actuarial purposes follows.

**Discount rate** – The discount rate used to measure the total pension liability was 8%. The projection of cash

flows used to determine the discount rate assumed that contributions from participating employers will be made based on the actuarially determined rates based on the Board's funding policy, which establishes the contractually required rate under Arizona statute. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all the projected future benefit payments of current plan members. Therefore, the longterm expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate – The table below presents the net pension liability of the participating employers calculated using the discount rate of 8%, as well as what the employers' net pension liability would be if it were calculated using the discount rate that is 1.00% lower (7.00%) or 1.00% higher (9.00%) than the current rate at June 30, 2015 (in thousands):

1%	Current Discount	1%
Decrease	Rate	Increase
(7.00%)	(8.00%)	(9.00%)
\$ 20,410,457 \$	15,576,438 \$	12,263,551

#### 7. Other Postemployment Benefits

In addition to retirement benefits, ASRS provides retired members access to health insurance and a health insurance premium supplement benefit. Actively contributing members are eligible for long term disability benefits.

Per Arizona Revised Statutes, contribution requirements for active plan members and their participating employers are established and may be amended by the ASRS Board. Contribution rates are actuarially determined and are expected to finance the costs of benefits earned by plan members during the year and any unfunded accrued liability. Cost of administering the plan is financed through employer contributions, member contributions and investment earnings.

**Health Insurance** – Pursuant to A.R.S. §38-782, the Retiree Group Insurance Program makes available group health insurance coverage to eligible retired and disabled members and their dependents. Retired and disabled members of the ASRS, University Optional Retirement Plans, the Public Safety Personnel Retirement System, the Elected Officials' Retirement Plan and the Corrections Officer Retirement Plan are eligible for health insurance benefits through the ASRS.

The ASRS and eligible retirees pay premiums on a monthly basis to a contracted health insurance provider as consideration for health insurance coverage provided. The ASRS contract with the insurance provider allows for a portion of the difference between the total revenues and total claims expenses incurred by the provider to be distributed back to the ASRS in the form of a retrospective rate adjustment refund. The amount is calculated based on a targeted retention ratio as agreed upon per the contract and may fluctuate from year-to-year. ASRS received \$31.5 million in retrospective rate adjustment refunds for revenue and claims expense activity during fiscal year 2015 which is presented as other income on the Statement of Changes in Fiduciary Net Position.

**Health Benefit Supplement** – Pursuant to A.R.S. §38-783, retired and disabled members with at least five years of credited service are eligible to participate in the Health Benefit Supplement (HBS) program. This assistance is provided to those members who elect group coverage through either the ASRS Retiree Group Insurance Program or their former member employer. For a more detailed summary of benefits, refer to the Summary of Plan Provisions in the Actuarial Section of this report.

In accordance with the funding policy as of June 30, 2015, the required contribution rate for employers for their active members was .59% of covered payroll. There were 77,623 retired members or their beneficiaries receiving benefits as of June 30, 2015.

The funded status for the HBS fund as of the most recent actuarial valuation date is as follows:

#### **NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)**

Funded Status - HBS (Dollars in Millions)		
Actuarial valuation date		June 30, 2014
Actuarial value of assets (a)	\$	1,374
Actuarial Accrued Liability-PUC	(l	1,477
Unfunded AAL (UAAL) (b-a)	\$	103
Percent funded (a/b)		93%
Annual covered payroll (c)	\$	8,909
UAAL percentage of covered		
payroll [(b-a)/c]		1.2%

Long Term Disability – Pursuant to A.R.S. §38-797, members of the ASRS are eligible for a Long Term Disability (LTD) benefits in the event they become unable to perform their work. The monthly benefit is equal to two-thirds of their monthly earnings. Participants continue to earn service credit up to their normal retirement dates. Members with LTD commencement dates after June 30, 1999 are limited to 30 years of service or the service on record as of the effective disability date, if their service is greater than 30 years.

In accordance with the funding policy as of June 30, 2015, the required contribution rate for employers and active members was .12% of covered payroll. There were 4,107 disabled members receiving long term disability benefits as of June 30, 2015.

The funded status for the LTD fund as of the most recent actuarial valuation date is as follows:

Funded Status - LTD (Dollars in Millions)	
Actuarial valuation date	June 30, 2014
Actuarial value of assets (a)	\$ 280
Actuarial Accrued Liability-PUC (	329
Unfunded AAL (UAAL) (b-a)	\$ 49
Percent funded (a/b)	85%
Annual covered payroll (c)	\$ 8,909
UAAL percentage of covered	
payroll [(b-a)/c]	0.6%

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment and mortality. Actuarially determined amounts are subject to continual revision as actual results are compared

with past expectations and new estimates are made about the future. The schedules of funding progress, presented as required supplementary information following the notes to the financial statements, present multi-year trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

The accompanying schedules of employer contributions, present trend information about the amounts contributed to the HBS and LTD funds by employers in comparison to the annual required contribution (ARC), an amount that is actuarially determined in accordance with the parameters of GASB Statement 43. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost for each year and amortize any unfunded actuarial liabilities (or funding excess) in level dollars over a fifteen-year closed period.

Projections of benefits for financial reporting purposes are based on the substantive fund and include the types of benefit provided at the time of each valuation and the historical pattern of sharing costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. Additional information as of the latest actuarial valuation follows:

Actuarial Assumptions - HBS	
Actuarial valuation date	June 30, 2014
Actuarial cost method	Projected unit credit
Amortization method	Level \$ of pay
	15 year closed
Asset valuation	10 year smoothed
Heathcare cost trend	n/a
Discount rate	8%
Inflation	3%
Mortality rates	1994 GAM Scale BB

#### **Actuarial Assumptions - LTD** June 30, 2014 Actuarial valuation date Actuarial cost method Projected unit credit Amortization method Level \$ of pay 15 year closed Asset valuation 10 year smoothed Discount rate Rates of termination 150% of 1987 CGDT Disability incidence rates Age -based unisex Offsets for disabled members 90% after 3 years Offsets for active members 55% of benefits

The assumptions were selected on the basis of an experience study which was performed for the five-year period ending June 30, 2012. The ASRS Board adopted the experience study which recommended changes and those changes were effective for the June 30, 2013 actuarial valuation. Details of the assumptions resulting from the experience study performed as of June 30, 2012 appear in the Actuarial Section beginning on page 73.

For a more detailed summary of benefits, refer to the Summary of Plan Provisions in the Actuarial Section of this report.

#### 8. Contingent Liabilities

Incurred but not reported liability

The ASRS is also a party in various litigation matters. While the final outcome cannot be determined at this time, management is of the opinion that the final obligation, if any, for these legal actions will not have a material adverse effect on the ASRS' financial position or results of operations.

#### 9. Commitments

In connection with the purchase of various limited partnership interests in private equity, opportunistic equity, private debt, opportunistic debt, real estate, infrastructure and farmland and timber portfolios, the ASRS has commitments totaling \$16.8 billion. Remaining unfunded commitments as of June 30, 2015 are as follows: private equity \$1.9 billion; opportunistic equity \$0.1 billion; private debt \$2.3 billion; opportunistic debt \$0.5 billion; real estate \$1.4 billion.

#### 10. Due To and From Other Funds

Due to/from other funds includes amounts that need to be transferred after the year end resulting from allocations of contribution revenue as well as allocations of pooled cash, and pre-paid benefits.

# 11. Required Supplementary Schedules

Historical trend information designed to provide information about the ASRS' progress in accumulating sufficient assets to pay benefits when due is required supplementary information with respect to the HBS and LTD funds. Required supplementary information prepared in accordance with the parameters of GASB Statement No. 43 and GASB Statement No. 67 is included immediately following the Notes to the Financial Statements.

#### 12. Subsequent Events

20%

The ASRS has evaluated subsequent events through November 13, 2015, the date the financial statements were available to be issued. Events or transactions occurring after June 30, 2015, but prior to November 13, 2015 that provided additional evidence about conditions that existed at June 30, 2015 have been recognized in the financial statements for the year ended June 30, 2015. Events or transactions that provided evidence about conditions that did not exist at June 30, 2015, but arose before the financial statements were available to be issued have not been recognized in the financial statements for the year ended June 30, 2015.

# REQUIRED SUPPLEMENTARY INFORMATION

#### Schedule of Funding Progress - HBS and LTD

Last Three Years (Dollars in Millions)

Actuarial Valuation Date June 30	Va	tuarial alue of ssets a	Ac Li Pro	tuarial ccrued ability ojected t-Credit	Ac Ac Li	funded tuarial ccrued ability (b - a)	Funded Ratio (a/b)	 vered ayroll	Unfunded Actua Accrued Liability a Percentage Covered Payro [(b-a)/c]	y as of
HEALTH BENEFIT SU	PPLE	MENT FUI	ND							
2012	\$	1,282	\$	1,502	\$	220	85.3	\$ 8,869		2.5 %
2013		1,325		1,485		160	89.2	8,753		1.8
2014		1,374		1,477		103	93.0	8,909		1.2
LONG TERM DISABIL	ITY F	UND								
2012	\$	296	\$	440	\$	144	67.3	\$ 8,869		1.6 %
2013		285		333		48	85.6	8,753		0.5
2014		280		329		49	85.0	8,909		0.6

#### Schedule of Contributions from Employer - HBS and LTD

Last Three Years (Dollars in Thousands)

	Ann	ual Required Contribution	Percentage Contributed
HEALTH BI	ENEFIT S	SUPPLEMENT FUND	
2013 <sup>1</sup>	\$	56,573	100 %
2014 <sup>2</sup>		52,874	100
2015 <sup>3</sup>		53,034	100
LONG TER	M DISAB	ILITY FUND	
2013	\$	20,881	100 %
2014		21,628	100
2015		10,899	100

<sup>&</sup>lt;sup>1</sup> The 2013 required contributions from the employer for the HBS fund reflect total employer contributions of \$57,153,530 less \$580,684 in ACR contributions. ACR is not part of the required contribution rate.

See Notes to Required Supplementary Information.

<sup>&</sup>lt;sup>2</sup> The 2014 required contributions from the employer for the HBS fund reflect total employer contributions of \$53,405,674 less \$532,115 in ACR contributions. ACR is not part of the required contribution rate.

<sup>3</sup> The 2015 required contributions from the employer for the HBS fund reflect total employer contributions of \$53,585,625 less \$551,717 in ACR contributions. ACR is not part of the required contribution rate.

# Schedule of Changes in the Net Pension Liability - Retirement

Years Ended June 30, (Dollars in Thousands)

Total Pension Liability	2014	2015
Service cost	\$ 966,705	\$ 1,013,854
Interest	3,607,440	3,832,255
Changes of benefit terms	-	-
Differences between expected and actual experience <sup>1</sup>	1,078,966	(1,187,231)
Changes of assumptions	-	-
Benefit payments	(2,812,573)	(2,927,102)
Net change in total pension liability	2,840,538	731,776
Total pension liability-beginning	45,649,769	48,490,307
Total pension liability-ending (a)	\$48,490,307	\$49,222,083

Retirement Fiduciary Net Pension Liability		2014	2015
Contributions - employers	\$	965,969	\$ 1,004,747
Contributions – members		995,284	1,031,954
Net investment income	5	,514,246	849,160
Benefit payments, including refunds of member contributions	(2	2,812,573)	(2,927,102)
Administrative expenses		(26,107)	(26,400)
Other		31,456	19,582
Net change in Retirement fiduciary net position	4	,668,275	(48,059)
Retirement fiduciary net position-beginning	29	,025,430	33,693,705
Retirement fiduciary net position-ending (b)	33	,693,705	33,645,646
Retirement's net pension liability-ending (a)-(b)	\$14	,796,602	\$15,576,437

<sup>&</sup>lt;sup>1</sup> Includes the changes in Total Pension Liability due to the potential for future PBIs based on asset experience through the end of each fiscal year.

Note: Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

## **Schedule of Net Pension Liability - Retirement**

Years Ended June 30, (Dollars in Thousands)

Net Pension Liability	2014	2015
Total pension liability-ending (a)	\$ 48,490,307	\$49,222,083
Retirement fiduciary net position-ending (b)	 33,693,705	33,645,646
Retirement's net pension liability-ending (a)-(b)	\$ 14,796,602	\$15,576,437
Retirement fiduciary net position as a percentage of the total pension liability	69.49%	68.35%
Covered payroll Net pension liability as a percentage of covered payroll	\$ 8,752,783 169.05%	\$ 9,226,319 168.83%

See Notes to Required Supplementary Information.

Note: Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

#### Schedule of Contributions from the Employer - Retirement

Last 10 Fiscal Years (Dollars in Thousands)

	De	ctuarial termined ntribution	Contributions In Relation To The Actuarially Determined Contributions	Contribution Deficiency (Excess)		Covered Employee Payroll	Contributions As A Percentage Of Covered Employee Payroll	
RETIREMENT	T FUND							
2006	\$	477,472	\$ 477,472	\$	-	\$ 6,919,884	6.90	%
2007		663,544	663,544		-	7,715,628	8.60	
2008		759,482	759,482		-	8,345,956	9.10	
2009		754,044	754,044		-	8,425,073	8.95	
2010 <sup>1</sup>		749,636	749,636		-	8,329,289	9.00	
2011 <sup>2</sup>		782,347	782,347		-	8,149,448	9.60	
2012 <sup>3</sup>		850,456	850,456		-	8,616,575	9.87	
2013 <sup>4</sup>		889,580	889,580		-	8,678,829	10.25	
2014		965,969	965,969		-	9,027,752	10.70	
2015		1,004,746	1,004,746		-	9,226,319	10.89	

<sup>&</sup>lt;sup>1</sup> The 2010 required contributions from the employer for the retirement fund reflect total employer contributions of \$763,099,507 less \$13,463,483 of unfunded employer liabilities.

#### Schedule of Investment Returns - Retirement

Years Ended June 30,

Annual money-weighted rate of return, net of in	vestment expenses
2014	17.78 %
2015	3.04

Note: Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See Notes to Required Supplementary Information.

<sup>&</sup>lt;sup>2</sup> The 2011 required contributions from the employer for the retirement fund reflect total employer contributions of \$786,661,694 less \$4,314,379 of unfunded employer liabilities.

<sup>3</sup> The 2012 required contributions from the employer for the retirement fund reflect total employer contributions of \$852,167,123 less \$1,711,105 of unfunded employer liabilities.

<sup>&</sup>lt;sup>4</sup> The 2013 required contributions from the employer for the retirement fund reflect total employer contributions of 911,299,680 less \$931,385 of unfunded employer liability.

# **Notes to Required Supplementary Information**

# Actuarial Methods and Assumptions for Valuations Performed

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated, which is the most recent actuarial valuation.

June 30 2017

<b>Actuarial</b>	<b>Assumptions -</b>	<b>Retirement Plan</b>
------------------	----------------------	------------------------

Actuarial valuation date

Actuariai valuation date	June 30, 2014
Actuarial roll forward date	June 30, 2015
Actuarial cost method	Entry age normal
Amortization Method:	
Plan amendments	Immediate
Investment gain/loss	5 years
Assumption gain/loss	Avg future serv lives
Experience gain/loss	Avg future serv lives
Asset valuation	Fair value
Discount rate	8%
Projected salary increases	3 - 6.75%
Inflation	3%
Permanent benefit increase	Included
Mortality rates	1994 GAM Scale BB

<b>Actuarial</b>	Assumptions	- HBS
------------------	-------------	-------

Actuarial valuation date	June 30, 2014
Actuarial cost method	Projected unit credit
Amortization method	Level \$ of pay
	15 year closed
Asset valuation	10 year smoothed
Heathcare cost trend	n/a
Discount rate	8%
Inflation	3%
Mortality rates	1994 GAM Scale BB

#### **Actuarial Assumptions - LTD**

Actuarial valuation date	June 30, 2014
Actuarial cost method	Projected unit credit
Amortization method	Level \$ of pay
	15 year closed
Asset valuation	10 year smoothed
Discount rate	8%
Rates of termination	150% of 1987 CGDT
Disability incidence rates	Age -based unisex
Offsets for disabled members	90% after 3 years
Offsets for active members	55% of benefits
Incurred but not reported liability	20%

#### Significant Factors Affecting Identification of Trends

The following information is an executive summary of the 2012 Experience Study conducted by Buck Consultants, the Plan's actuary. The purpose of this experience study is to review actual experience in relation to the actuarial assumptions currently in effect. This Study covers the experience of active, inactive, and retired members for the period July 1, 2007, through June 30, 2012. The five-year period under study is an atypical period that includes the financial panic of 2008 and subsequent "Great Recession," it is important to use judgment regarding the extent to which future experience is expected to be like the experience for this period.

The ASRS Board adopted all of the proposed assumptions at its meeting on May 24, 2013. The Study does not include an analysis of the assumed investment rate of return. The assumptions adopted by the ASRS Board were included in the June 30, 2014 valuation. With respect to the retirement fund, the June 30, 2014 values were rolled forward to June 30, 2015.

The actual-to-expected ratios developed in this study are weighted by the accrued liabilities of each member under the Projected Unit Credit method. In this way, the ratios give more weight to members with large liabilities (generally the longest-serviced and highest-paid members).

#### **Experience Analysis Purpose**

To carry out an actuarial valuation of the assets and liabilities of ASRS, the actuary must use assumptions for each of the following items:

#### **Demographic assumptions**

- The probabilities of members separating from active service on account of withdrawal, retirement, death, and disability.
- The probabilities of retirement and death for members who have separated from service, but have not yet retired.
- The mortality rates to be experienced among retired persons.
- Health plan coverage elections.
- Optional forms elected.
- Alternate contribution amounts.
- Timing of contributions.

#### **Economic assumptions**

- Investment returns to be realized on the funds over many years.
- The relative increases in a member's salary from the date of the valuation to the date of assumed separation from active status.

# Summary of Results for Assumptions – Plan and LTD

The results of the 2012 Experience Study, adopted by the Board in its meeting on May 24, 2013, are summarized as follows:

#### **Mortality for Active Members**

- Number of deaths among active members (weighted by liability) is much lower than expected under current assumptions.
- We propose 50% of the 1994 GAM, sex-distinct, projected to 2015 using Scale BB.
- Actual-to-Expected ratios on the proposed table are 91% for males and 103% for females.

#### **Disability**

• Actual liability-weighted disabilities are less than those expected under current assumptions.

- We propose unisex rates, reduced at higher ages from the current rates, to reflect the actual experience.
- Actual-to-Expected ratios on the proposed table are 81% for males and 89% for females.

#### Withdrawal

- Liability-weighted withdrawals are higher than our assumptions predict and correlate more closely with service than age throughout members' careers.
- We propose new service-based rates for both male and female members to reflect the actual experience.
- Actual-to-Expected ratios on the proposed table are 106% for males and 105% for females.

#### Retirement

- Retirement rates are slightly lower than our assumptions predict.
- In our study of the retirement decrement, we excluded members who retired as a result of an early termination incentive offer. In that way, our proposed rates represent anticipated retirement experience in the absence of such offers.
- We propose new unisex rates to reflect the actual experience.
- Adjusted rates are applied for members hired on or after July 1, 2011 to reflect the new tier of retirement eligibilities.
- Actual-to-Expected ratio on the proposed tables is 95% for males and 95% for females.

#### **Salary Experience**

- Salary increases have varied greatly from year to year and, in aggregate, have been significantly lower than expected for the five-year period.
- We propose using 75% of the current rates.
- Proposed assumption increases Actual-to-Expected ratio to 97%.

#### **Mortality for Retired Members**

- Liability-weighted number of deaths among retired members is lower than expected.
- We propose updating the mortality assumption to the 1994 GAM, sex-distinct, projected to 2015

using Scale BB with adjustments for small and large benefit amounts. The previous table was projected to 2010 using Scale AA. The Retirement Plans Experience Committee of the Society of Actuaries promulgated Scale BB in 2012 as an interim table to be used until a new table and a new projection scale are completed. Scale AA had underestimated the rate of longevity improvement, and the Society developed Scale BB to incorporate the actual rate of improvement. By adjusting for large and small benefit amounts, the new assumption follows the analysis of the RP-2000 mortality study. Since longevity is greater for retirees with large incomes than for others, it is important to increase the liability for highincome retirees.

Actual-to-Expected ratios on the proposed tables are 117% for males and 116% for females.

#### **Mortality for Inactive Members**

- Mortality experience for inactive non-retired members during 2007-2012 was not analyzed for this period. Due to a data clean-up on inactive members, reported deaths included many deaths that occurred before the experience period.
- We propose the 1994 GAM, sex-distinct, projected to 2015 using Scale BB – the same table that we propose for retired members, absent the adjustment for the size of the benefit.

#### **Mortality for Disabled Members**

- Number of deaths among disabled members is lower than expected.
- We propose returning to the mortality table used prior to 2008 with lower mortality rates for disabled members.
- Actual-to-Expected ratios on the proposed tables are 108% for males and 103% for females.

#### **Health Insurance Benefit (HIB) Elections**

Actual number of retirees electing coverage is less than our current assumption predicts. However, among members who elected coverage, the actual number of retirees electing dependent coverage is greater than our current assumption predicts. In addition, the proportion of retirees

- electing coverage is significantly different during the first year of retirement than in later years.
- We propose changing the proportion of future retiring members who get the health insurance premium supplement from 70% to 60% and the proportion of those retirees getting the dependent premium supplement from 35% to 40%. We also propose using those assumptions for members who have been retired less than one year and continuing to use actual elections for members who have been retired for at least one year.

#### **Optional Form Load**

- Optional form election experience has changed slightly since the optional form load was imple-
- We propose changing the optional form load from 0.087% to 0.174%.

#### **Alternate Contribution Rate**

- Payment of the unfunded liability will be reduced by the alternate contribution rates the Plan is receiving.
- We propose using the total payroll for those paying the alternate contribution to adjust the calculated past service cost contribution rates.

#### **Mid-Year Contributions**

- Contribution rates are currently being calculated assuming contributions are paid at the beginning of the fiscal year, but they are actually paid with each payroll throughout the fiscal year.
- We propose that contribution rates be calculated assuming contributions are paid in the middle of the fiscal year.
- The proposed assumption will minimize losses experienced each year due to timing of contribution payments.

#### SUMMARY OF RESULTS FOR ASSUMP-**TIONS - LTD ONLY**

#### LTD Rates of Termination of Claims due to **Death or Recovery**

Recoveries among LTD members are higher than expected.

- We recommend using 150% of the current rates.
- Actual-to-Expected ratios on the proposed tables are 88% for males and 109% for females.

#### Offsets for Disabled and Active Members

- Offsets for current LTD members reduce their benefits by more than expected.
- We propose changing the percentage that offsets reduce LTD benefits to 45%.
- We also propose keeping the assumption that 90% of disabled members will have offsets to LTD benefits after 3 years.
- For active members, offsets are assumed to reduce the gross benefits by 45%.

#### **Pre-existing Condition Period**

- Current assumption is to reduce liabilities to account for the extension of the pre-existing condition period from 3 to 6 months.
- We propose removing the 3% reduction in liabilities because all experience data used to set
  the other LTD assumptions occurred under the 6month pre-existing condition period.

# Incurred but Not Reported (IBNR) Load Assumption

- No adjustment for IBNR is currently being made. Based on experience from 2007-2012, IBNR equals 20.25% of the liability for new LTD members.
- We propose adding a 20% load to the liability for new LTD recipients.

#### SUMMARY OF RESULTS FOR ASSUMP-TIONS - SYSTEM

#### **Mortality for All Members**

• We propose continuing to use a generational mortality table with mortality rates adjusted for members with annual benefits greater than \$14,400, but adding an adjustment for members with annual benefits less than \$6,000 and switching to Projection Scale BB. We also recommend setting male rates back 1 year and female rates back 2 years to better match experience. On the proposed table, Actual-to-Expected ratios become 150% for males and 134% for females with annu-

al benefits less than \$6,000, 91% for males and 171% for females with annual benefits between \$6,000 and \$14,400, and 105% for males and 97% for females with annual benefits over \$14,400. Note that 90% of the liability for retired members is for members with annual benefits over \$14,400.

# FINANCIAL IMPACT OF ASSUMPTION CHANGES - PLAN, LTD PROGRAM, AND SYSTEM

- Our proposed assumptions would result in slightly higher Plan contribution rates in the near future.
- Current Plan contribution rate would have been 23.07% under our proposed assumptions, rather than the current rate of 22.55%, if these assumption changes had been incorporated in the June 30, 2012 valuation.
- Overall change in total Plan actuarial liabilities is 0.73% under our proposed assumptions.
- Total Plan normal cost changes from 13.53% to 13.52% under our proposed assumptions.
- The Plan's Unfunded Liability changes from \$9.723 billion to \$10.015 billion under our proposed assumptions.
- The current LTD contribution rate would have been 0.23% under our proposed assumptions, rather than the current rate of 0.47%, if these assumption changes had been incorporated in the June 30, 2012 valuation.
- The System deficit would have increased from \$70.810 million to \$92.559 million based on the proposed mortality assumption if it had been incorporated in the June 30, 2012 valuation.

# **ADDITIONAL SUPPLEMENTARY INFORMATION**

# **Combining Schedule of Retirement Fiduciary Net Position**

As of June 30, 2015 (Dollars in Thousands)

	Retirement	Retirement	
	Plan	System	Total
ASSETS			
Cash	\$ 8,637	\$ 9	\$ 8,646
RECEIVABLES			
Accrued interest and dividends	53,910	516	54,426
Securities sold	114,465	1,134	115,599
Forward contracts	14,158	145	14,303
Contributions	64,896	-	64,896
Due from other funds	2,753	-	2,753
Other	 449	2	451
Total receivables	250,631	1,797	252,428
INVESTMENTS AT FAIR VALUE			
Short-term investments	1,278,438	13,692	1,292,130
Securities lending collateral	298,952	2,940	301,892
Equity	20,372,035	180,785	20,552,820
Fixed income	7,277,331	91,582	7,368,913
Real estate	2,249,469	22,803	2,272,272
Commodities	-	-	-
Multi-asset	1,509,659	14,687	1,524,346
Other	 453,931	5,067	458,998
Total investments	33,439,815	331,556	33,771,371
TOTAL ASSETS	33,699,083	333,362	34,032,445
LIABILITIES			
Securities purchased	33,281	344	33,625
Securities lending collateral	298,952	2,940	301,892
Forward contracts	7,098	72	7,170
Due to other funds	-	13,131	13,131
Other	 30,674	307	30,981
TOTAL LIABILITIES	370,005	16,794	386,799
RETIREMENT FIDUCIARY NET POSITION	\$ 33,329,078	\$ 316,568	\$ 33,645,646

In accordance with GASB 34, for financial reporting purposes the Retirement Plan and the Retirement System are presented in one column, Retirement Fund, in the ASRS Basic Financial Statements because they are administered within a single pension plan within a trust. The Combining Schedule of Retirement Fiduciary Net Position and Changes in Retirement Fiduciary Net Position are presented here to provide members with more detailed information about the two plan components.

# **Combining Schedule of Changes in Retirement Fiduciary Net Position**

For the Year Ended June 30, 2015 (Dollars in Thousands)

		Retirement		Retirement	
		Plan		System	Total
ADDITIONS		Piali		System	iotai
ADDITIONS					
CONTRIBUTIONS	_	1 021 010	_	25 +	1 021 051
Member contributions	\$	1,031,919	\$	35 \$	1,031,954
Employer contributions		1,004,712		35 -	1,004,747
Transfers from other plans Purchased Service		1,029 19,673		-	1,029
Total Contributions				70	19,673
		2,057,333		70	2,057,403
INVESTING ACTIVITY INCOME		F22 020		1 120	F24 140
Net appreciation in fair value of investments		523,028		1,120	524,148
Interest		149,323 295,390		1,436	150,759
Dividends Other income		295,390		2,737 204	298,127 22,794
Total investing activity income		990,331		5,497	995,828
INVESTMENT ACTIVITY EXPENSE		(141 500)		(1 121)	(142 (21)
Management fees		(141,500)		(1,121)	(142,621)
Custody fees		(1,355)		(14)	(1,369)
Consultant and legal fees		(5,034)		(50) (37)	(5,084)
Internal investment activity expense  Total investment activity expenses		(3,735) (151,624)		(1,222)	(3,772) (152,846)
Net income from investing activities		838,707		4,275	842,982
_		030,707		4,275	042,302
FROM SECURITIES LENDING ACTIVITIES		4 000		45	4.042
Securities lending income		4,898		45	4,943
Unrealized gain on securities lending		4 000			- 1 0 1 2
Total securities lending activity income		4,898		45	4,943
Security lending expense:		2 4 2 0		40	2 4 4 2
Interest rebate		2,129		19	2,148
Management fees		(905)		(8)	(913)
Total securities lending activity expense  Net income from securities lending activities		1,224 <b>6,122</b>		11 <b>56</b>	1,235 <b>6,178</b>
_		· · · · · · · · · · · · · · · · · · ·			
Total net investment income		844,829		4,331	849,160
OTHER INCOME					<b>-</b>
TOTAL ADDITIONS		2,902,162		4,401	2,906,563
DEDUCTIONS					
Retirement and disability benefits		2,594,433		44,029	2,638,462
Survivor benefits		32,962		72	33,034
Refunds to withdrawing members, including interest		255,584		22	255,606
Administrative expenses		26,140		260	26,400
Transfers to other plans		637		-	637
Other		474		9	483
TOTAL DEDUCTIONS		2,910,230		44,392	2,954,622
NET INCREASE (DECREASE) IN FIDUCIARY NET POSITION		(8,068)		(39,991)	(48,059)
RETIREMENT FIDUCIARY NET POSITION					
Beginning of year		33,337,146		356,559	33,693,705
End of year		33,329,078	\$	316,568 \$	
,				, <del>T</del>	-,,

In accordance with GASB 34, for financial reporting purposes the Retirement Plan and The Retirement System are presented in one column, Retirement Fund, in the ASRS basic financial statements because they are administered within a single pension plan within a trust. The Combining Schedule of Retirement Fiduciary Net Position and Changes in Retirement Fiduciary Net Position are presented here to provide members with more detailed information about the two plan components.

# **Schedule of Administrative Expenses**

For Year Ended June 30, 2015 (Dollars in Thousands)

Administrative Expenses	Amount
Salaries	\$ 12,777
Retirement contributions	1,405
Other employee related expenses	3,767
Total personnel services	17,949
Actuarial services	896
Attorney services	288
Auditing services	112
Banking services	1,478
Staffing services	2,039
LTD administrative services	2,287
Other professional services	515
Total professional services	7,615
Telephone	318
Printing	59
Postage and mailing	280
Total communications	657
Lease expense	1,358
Total facilities	1,358
Computer supplies and software	1,239
Maintenance agreements	80
Equipment and equipment rental	310
Total software and equipment	1,629
Professional development	68
Travel	71
Tuition reimbursement	12
Total education, meetings, and travel	151
Advertising	16
Insurance	282
Membership dues	24
Office supplies	55
Periodicals and publications	50
Miscellaneous	50
Total general	477
Total administrative expenses	\$ 29,836

# **Schedule of Professional Consultant Fees**

For Year Ended June 30, 2015 (Dollars in Thousands)

Professional/Consultant	A	mount
Buck Consultants, LLC	\$	868
Mercer Health & Benefits LLC		28
Total actuarial services		896
Arizona Office of the Attorney General		219
Fennemore Craig, P.C.		28
Charles W. Whetstine, P.C.		26
Arizona Office of Administrative Hearings		9
Atkinson-Baker, Inc.		5
Arizona Rules LLC		1
Total attorney services		288
CliftonLarsonAllen, LLP  Total auditing services		112 112
State Street Bank And Trust Company		1,476
BNY Mellon Asset Services, Inc.		2
Total banking services		1,478
Guidesoft Inc.		2,003
Randstad North America LP		27
Perfect Placement Services, Inc.		9
Total staffing services		2,039
Sedgwick Claims Management Services, Inc.		2,287
Total LTD administrative services		2,287
AllClear ID, Inc.		290
Arizona Deparment of Administration, State Procurement Office		92
CEM Benchmarking Inc.		45
Fairfax Data Systems, Inc.		31
enChoice, Inc		17
Behavior Research Center, Inc.		14
Custom Storage, Inc		7
Iron Mountain, Inc.		6
Staples, Inc		4
The Centers for Habilitation		2
ExhibitOne Corporation		2
Facilitec, Inc.		2
Black Box Corporation		1
Insurance Tracking Services, Inc.		1
Troxell Communications, Inc.		1
Total other professional services		515

# **Schedule of Investment Expenses**

For Year Ended June 30, 2015 (Dollars in Thousands)

**Total Investment Expenses** 

Management Fees		Amount
Public Equity	\$	37,898
Public Fixed Income		6,023
Multi-Asset		22,954
Commodities		2,519
Private Equity		32,501
Opportunistic Equity Opportunistic Debt		1,069 10,790
Private Debt		11,157
Private Beat Estate		22,069
Farmland and Timber		1,302
Infrastructure		703
Total Management Fees	\$	148,985
Other Investment Fees		Amount
Investment Custodial Fees	_	4 400
State Street Bank and Trust Company	\$	1,429
Investment Consultant Fees		200
GCM Grosvenor		389 51
Institutional Shareholder Services, Inc. KPMG LLP		51 58
Meketa Investment Group		540
Mercer Investment Consulting Inc		265
NEPC, LLC		500
Robert Charles Lesser & Co.		1,949
State Street Bank and Trust Company		205
Investment Legal Fees		
Cox, Castle & Nicholson LLP		326
Foley & Lardner, LLP		1,022
Subtotal Investment and Legal Fees		5,305
Internal Investment Activity Expenses - see detailed schedule		3,936
Total Investing Activity Expense		159,655
Securities Lending Activity		
Securities Lending Borrower Rebates		(2,240)
Securities Lending Management Fees		952
Total Securities Lending Activity Expenses		(1,288)

\$

158,367

# **ADDITIONAL SUPPLEMENTARY INFORMATION (CONTINUED)**

# **Schedule of Internal Investment Activity Expenses**

For Year Ended June 30, 2015 (Dollars in Thousands)

Internal Investment Activity Expense	Amount
Salaries	\$ 1,919
Employee Insurance	122
Retirement Contributions - ASRS	152
Other Personnel Expense	100
Total Personnel Services	2,293
Lease expense	 41
Total Facilities	41
Professional development	7
Travel	22
Tuition reimbursement	4
Total Education, Meetings and Travel	33
Research and information services	1,550
Membership dues	16
Telephone	1
Periodicals and publications	 2
Total General Administrative Expense	1,569
Total Internal Investment Activity Expense	\$ 3,936

# INVESTMENT SECTION

COTTON—Since before our Statehood in 1912, cotton has been an important part of Arizona. Today, there are still over 250,000 acres of cotton grown which makes it part of the Cotton Belt. During World War I an embargo was placed on Egypt which was the main supplier of commercial grade cotton used for airplane wings, fabrics, and tires.

The Goodyear Tire Company realized that Arizona's Pima Cotton could replace the Egyptian cotton and opened a factory in what is now the city of Goodyear, Arizona. Arizona is third in the nation in producing Pima cotton.



# **CHIEF INVESTMENT OFFICER'S REPORT**

#### Dear Members:

Following is the Investment Section of the ASRS Comprehensive Annual Financial Report for the fiscal year ended June 30, 2015. The ASRS investment performance rates of return referenced in this Chief Investment Officer's Report are calculated on a total return basis, using time-weighted rates of return, based on the market rate of return. A few highlights of the year are as follows:

- As of June 30, 2015, the pension fund had total assets of \$35.9 billion, a decrease of approximately \$444 million over the prior year
- The investment portfolio generated approximately \$.9 billion in net investment earnings during the year.
- The combined investment portfolio experienced a return of 3.2% compared to the Interim Total Fund Benchmark return of 1.6%.
- The increase in net investments during the year is primarily due to strong performance in U.S. fixed income, as well as private & opportunistic equity, opportunistic debt and real estate.

#### A Review – Fiscal Year 2015

During the fiscal year, the ASRS Board approved a new Strategic Asset Allocation Policy (SAAP) which resulted thematically in reductions to Public Equities and Commodities while significantly increasing alternative asset classes including Private Debt and Real Estate.

The ASRS held \$10.3 billion in domestic equities and \$8.3 billion in international equities at June 30, 2015, a decrease of 9% in domestic equities and an increase of 13% in international equities from fiscal year 2014. Market performance and the reallocation of assets account for the change in value. The fiscal year 2015 rate of return for ASRS domestic equities was 6.7% compared to 24.7% in fiscal year 2014. By comparison, the ASRS domestic equities benchmark, comprised of a combination of S&P 400, S&P 500 and the S&P 600 indices, had a return of 7.3% for fiscal year 2015. The fiscal year 2015 rate of return for ASRS international equities was (3.8%) compared to 21.3% in fiscal year 2014. Comparatively, the ASRS international equities benchmark, comprised of the MSCI EAFE, MCSI EAFE Small Cap and the MSCI EM indices, had a rate of return of (4.1%) for fiscal year 2015. The underperformance of the Fund's domestic equities class was largely a result of the stock selections made by external portfolio managers and increasing volatility across the asset class.

Total public fixed income securities held by the Fund were \$5 billion at June 30, 2015, which is a slight increase from prior year. The rate of return was (0.3%) for domestic fixed income compared to 6.0% in the previous year which is the result of a modest widening of credit spreads and increasing volatility in Emerging Markets during fiscal year 2015. Emerging Market Debt which materially dragged performance down for public fixed income during the fiscal year was removed from the new SAA and the two managers were defunded in early March. At June 30, 2015, \$1.7 billion was invested in various strategies within Private Debt which represents 4.7% of Total Fund with an SAAP target of 10% with a since inception IRR of 12.3% compared to the S&P/LSTA Levered Loan Index +250 bps return of 6.5%. The Opportunistic Debt program continues to add value to the fixed income asset class with current investments totaling \$1.1 billion and a since inception IRR of 11.4%.

At June 30, 2015, the ASRS held \$565 million in commodities exposure, of which \$560 million is reported in Short-Term Investments and \$5.6 million is reported in Commodities on the Statement of Fiduciary Net Position. The manager experienced a return of (24.0%), compared to the DJUBS Commodity Index, which returned (23.7%) during fiscal year 2015.

#### **INVESTMENT REPORT (CONTINUED)**

At June 30, 2015, the ASRS held \$2.4 billion in real estate assets, an increase of \$298.2 million from fiscal year 2014. Since inception IRR of the portfolio is 7.1% compared to the NFI-ODCE Index of 6.1%. The NFI-ODCE Index is comprised of core institutional quality real estate with moderate leverage and reported net of fees. Approximately 75% of the real estate program assets are invested in opportunity fund style investments, which can differ substantially from core style investments. The recent performance of the real estate investments reflects an improving economy and property markets. The difference in performance compared to the benchmark reflects primarily a divergence in the type of assets owned. Investments in Farmland and Timber currently valued at \$170.7 million and a since inception IRR of 3.8% which modestly lagged the CPI ex-Food and Energy +350 bps benchmark of 5.4%. During the fiscal year, the ASRS initiated investments in Infrastructure currently valued at \$308.3 million and a since inception IRR of (1.7%) which lagged the CPI ex-Food and Energy +350 bps by 400 bps.

At June 30, 2015, the ASRS held \$2.6 billion in private equity investments, an increase of \$357.1 million from fiscal year 2014. On a relative basis over the long-term (10 years or longer), the ASRS Strategic Investment Policy benchmarks the private equity program against and expects the program's performance to generate a minimum internal rate of return equal to the Russell 2000 Index, net of all investment management fees and expenses. For the year ending June 30, 2015, the since inception IRR was 12.1% versus the Russell 2000 Index return of 14.2%. This return for the private equity portfolio since 2009 reflect improvements in the economy since the low point of the recent recession and have been accretive to total fund returns. The comparison to the Russell 2000 reflects composition differences between the public market benchmark and the private market holdings, as well as volatility in the public market compared to private market appraisal valuations. Our Opportunistic Equity program continues to add value to the equity asset class with current investments totaling \$463.2 million and since inception IRR of 33.6%.

#### U.S. Economy and Capital Markets

The U.S. economy slowed from the second quarter of 2014 levels through the first quarter of 2015 but recovered in the latest quarter as GDP increased 3.7% which was strong relative to the rest of the world. The global macroeconomic picture has muddied with ECB beginning a Quantitative Easing program that has marginally improved some economies while others languish, China leading a slowdown in Asian economies, and the commodity decrease materially affecting commodity producing countries. The recovery of the labor market has continued as the unemployment rate has declined from 6.1% as of June 30, 2014 to 5.3% as of June 30, 2015. However, the labor force participation ratio remains at early 1980's levels. Inflation decreased with the concomitant decrease in commodities as indicated by the Core PCE Index decreasing from 1.6 at June 30, 3014 to 1.3 at June 30, 2015. The Federal Funds rate remained unchanged during the fiscal year with a range of 0.00% to 0.25%.

Equity markets across the board rose during the fiscal year. The S&P 500 Index total return was 7.4% with returns modestly outperforming mid-caps and small-caps. The S&P 400 Index and the S&P 600 Index total returns were 6.4% and 6.7%, respectively, during the fiscal year. Growth significantly outperformed value in the across the market cap spectrum. International equity markets materially lagged domestic markets. The MSCI EAFE Index total return was (3.6%) during the fiscal year. The MSCI ACWI ex U.S. Index total return was (4.7%) during the fiscal year. Developed markets' poor performance was due to the ECB not instituting quantitative easing until 1015, currencies weakening against the USD, and the Greece debt saga. Despite strong fiscal year performance in China, the MSCI EM Index lagged developed markets due to significant currency depreciation, fall in commodities, and idiosyncratic country fundamentals in countries such as Brazil, Russia, Turkey, South Korea, and Malaysia. The MSCI EM Index total return was (4.8%).

The Barclays Aggregate Fixed Income Index total return was 1.9% during the fiscal year while US High Yield total return was (0.4%). Within the Barclays Aggregate Index, investors exhibited a decreased appetite for risk and preferred intermediate durations as volatility was more pronounced. Intermediate duration bonds outperformed short term and long term issues. High-quality issues significantly outperformed low-quality issues in the investment credit space. Mortgages increased and US Treasuries increased 2.3% during the fiscal year.

Commodities were the worst performing asset class with the Bloomberg Commodity Index decreasing (23.7%) during the fiscal year. Major deflationary pressures globally as well as an economic slowdown in China and a majority of commodities being well supplied were the macro drivers of this decline. All components of the index were down significantly with Energy as the worst performing component during the fiscal year.

#### Our Beliefs

The following *Investment Beliefs* have been established to ensure the development of congruent and synergistic investment strategies, and to ensure the effective and efficient allocation of resources. These Investment Beliefs determine the general paradigm within which investment strategies are developed, investment ideas are reviewed, and investment decisions are implemented.

Modifications to these *Investment Beliefs* will occur if experiential, academic, conceptual, and/or practical perspectives suggest that a superior belief system exists.

#### **Investment Beliefs**

1. Asset Class Decisions are Key

In general, decisions with respect to which asset classes and sub-asset classes to invest in, and the allocations to these asset classes and sub-asset classes, have a greater impact on total fund investment returns than decisions in which specific securities to invest.

2. Theories and Concepts Must be Sound

Over longer periods of time, investment outcomes (e.g. rates of return, volatility) conform to logical theories and concepts. Significant deviations (e.g. internet bubble, pre-subprime erosion of risk premiums) from theoretically and conceptually sound investment constructs are usually not sustainable and are typically self-reverting.

3. House Capital Market Views are Imperative

The development and articulation of sound House Views (e.g. views on interest rates, corporate spreads, asset valuations) will ensure consistency among investment decisions, clarity of investment direction, baselines for debates, and conformity of understanding.

4. Investment Strategies Must be Forward Looking

Investment strategies will be developed based on forward-looking insights, rather than simply on successful strategies in the past.

Asset class valuations and security valuations are significantly affected by endogenous outcomes (e.g. earnings, GDP growth rates, competitive barriers) that are probabilistic, and these outcomes are typically well analyzed by the investment industry.

Asset class valuations and security valuations are also significantly affected by random outcomes (e.g. natural disasters, certain supply and demand shocks) that are virtually unpredictable, and these outcomes are typically not analyzed directly by the investment industry.

#### **INVESTMENT REPORT (CONTINUED)**

Asset class valuations and security valuations are also significantly affected by exogenous outcomes (e.g. foreign policies, global cultural interactions) that can possibly be modeled, and these outcomes are typically not analyzed by the investment industry.

#### 5. Public Markets are Generally Informationally Efficient

Asset Class Valuations – Asset class valuations (e.g. stock market levels versus interest rate levels) are often in equilibrium with one another, but anomalous situations do occur which result in disequilibria between asset class valuations. These disequilibria offer valuable investment opportunities which we will proactively seek and capitalize on.

Security Valuations – Security valuations (e.g. IBM versus Cisco) are often in equilibrium with one another, but private markets and anomalous public market situations do occur which result in disequilibria between security valuations. These disequilibria offer investment opportunities which we will proactively seek and capitalize on.

The extent of informational efficiency varies across asset classes.

Private markets offer significant opportunities for asset mispricing and manager excellence which we will proactively seek and capitalize on.

#### 6. Market Frictions are Highly Relevant

Market frictions (e.g. management fees, carried interest, revenue sharing, expenses, costs, transaction spreads, market impacts, taxes, commissions) can be significantly detrimental to investment performance and as a result will be initiated only to the extent where there is a strong level of conviction that they will result in increased investment returns or decreased risks net of all market frictions.

#### 7. Internal Investment Professionals are the Foundation of a Successful Investment Program

In-house investment management capability engaged in direct portfolio management results in superior investment decision-making.

In-house investment management proactively monitors capital markets in order to determine mispricing opportunities and allocate capital and will successfully increase risk adjusted returns.

In-house professionals are more closely aligned with, and have a better understanding of, the purpose and risk and reward tolerance of the ASRS than external parties.

In-house investment professionals will impact direct investment negotiations, better align economic interests, and influence investment industry conditions (e.g. private deal structures, fee levels, introduction of innovation products and strategies).

#### External Investment Management is Beneficial

External investment management organizations can offer greater expertise, resources, and/or flexibility than internal personnel for various investment strategies.

#### 9. Investment Consultants

Investment consultants will be effectively utilized in the following four general categories, and utilization of consultants will be focused on situations where there is a demonstrable need in at least one of the four areas:

Independence: When oversight or controls should be enhanced. Perspective: When internal perspectives are not broad enough.

Special Skills: When internal skills are not deep enough.

Resource Allocation: When internal resources are not broad enough.

#### 10. Trustee Experience

Trustees often have expertise in various areas of investment management, and this experience should be utilized while ensuring separation between Board oversight and staff management.

#### Our Goals and Objectives

The ASRS has developed and established a set of *Investment Goals and Objectives* that describe the macro-level outcomes that the ASRS seeks to achieve.

#### Goals

Maximize Fund Rates of Return for Acceptable Levels of Fund Risk

This goal has an asset oriented focus. Here, the returns generated and earned by the investment Fund should be considered in conjunction with the risk or volatility that the Fund will support, where risk is essentially the possibility of a change in the value of the ASRS Fund attributed to changes in economic conditions, interest rates, dividend policy and other variables in any given year.

Achieve 75th Percentile Rates of Return Compared to Peers

This goal compares the performance of ASRS' aggregate investment portfolio to other public pension funds with over \$1 billion of assets under management. Though ASRS' asset allocation policy will differ from other public pension funds given its risk return profile and investment beliefs, it is common practice to compare returns between comparable public pension funds.

- Achieve Long-term Fund Rates of Return Equal to or Greater than the Actuarial Assumed Interest Rate This goal has a liability oriented focus. Here, the returns generated or earned by the investment Fund should be considered in conjunction with the actuarial assumed interest rate, where this interest rate is essentially an estimate of the long-term average of the combined expected inflation rates and expected real rates of return. The actuarial assumed interest rate is also the discount rate used to calculate the present value of liabilities.
- Achieve Long-Term Economic and Actuarial Funded Statuses of 100%

This goal has a funded status oriented focus. Here, the structuring of the investment Fund should be considered in conjunction with the level, volatility, and direction of the economic and actuarial funded status of the Fund. Although both actuarial and economic funded status levels are valuable for discussion and decision-making, economic-funded status is more reflective of financial condition and long-term policy implications. Economicfunded status is defined as the actual or market value of investments as a percentage of the actual or market value of liabilities and excludes such accounting constructs as smoothing and amortization.

Mitigate Contribution Rate Volatility

This goal has a contribution rate orientation focus. Here, the structuring of the investment Fund should be considered in conjunction with the level, volatility, and direction of the contribution rates that will need to be paid by both employees and employers in the Fund. In general, lower levels and volatility in contribution rates are preferred.

Collectively, the above goals incorporate the following elements that are important for a fund's comprehensive investment structure:

- Complementary use of absolute and relative rates-of-return perspectives.
- Complementary use of asset-only and asset-liability perspectives.
- Complementary use of economic and actuarial perspectives.

See below for the fiscal year 2015 investment goals and results.

#### **Objectives**

Total Fund Performance

#### **INVESTMENT REPORT (CONTINUED)**

- Achieve a 20-year rolling annual total fund net rate of return equal to or greater than the actuarial assumed interest rate.
- Achieve one-year and three-year rolling annual total fund net rates of return equal to or greater than the return of the ASRS asset allocation policy (SAAP) Benchmark.
- Asset Class Performance
  - Achieve one-year and three-year rolling annual net rates of return for ASRS strategic asset classes that are equal to or greater than their respective strategic asset class benchmarks.
- Cash Flow Performance
  - Ensure sufficient monies are available to meet pension benefits, health insurance, member refunds, administrative payments, and other cash flow requirements.

#### **Investment Objectives and Results**

1. Achieve a twenty-year rolling annual total fund net rate of return equal to or greater than the actuarial assumed interest rate.

Benchmark: 8.0% (over twenty years) 8.1% (over twenty years) Actual:

2. Achieve one and three-year rolling annual total fund net rates of return equal to or greater than the return of the ASRS SAAP Benchmark.

Benchmark: 1.6% (one year) and 10.5% (three year) 3.2% (one year) and 11.4% (three year) Actual:

3. Achieve one and three-year rolling annual net rates of return for ASRS strategic asset classes that are equal to or greater than their respective asset class benchmarks.

Total Domestic and International Equity:

2.6% (one year) and 14.8% (three year) Benchmark: Actual: 2.5% (one year) and 14.5% (three year)

Domestic Equity:

7.3% (one year) and 17.8% (three year) Benchmark: 6.7% (one year) and 17.6% (three year) Actual:

International Equity:

Benchmark: -4.1% (one year) and 10.4% (three year) Actual: -3.8% (one year) and 10.0% (three year)

Public Markets Fixed Income:

Benchmark: -2.0% (one year) and 1.2% (three year) Actual: -0.3% (one year) and 1.7% (three year)

*Inflation-Linked:* 

Benchmark: -23.7% (one year) and -8.8% (three year) -24.0% (one year) and -7.4% (three year) Actual:

Multi-Asset Class Strategies:

1.1% (one year) and 10.3% (three year) Benchmark: Actual: 1.8% (one year) and 11.6% (three year) Private Equity:

Benchmark: 7.2% (one year) and 15.0% (three year) Actual: 9.7% (one year) and 13.3% (three year)

Opportunistic Equity\*:

\*Net absolute rate of return expectations range from 10-14% per annum.

Actual: 28.6% (one year) and 35.6% (three year)

Private Debt\*:

\*Three-year not applicable

Benchmark: 5.2% (one year) Actual: 9.8% (one year)

Opportunistic Debt\*:

\*Net absolute rate of return expectations range from 10-14% per annum.

Benchmark: 6.5% (one year) and 9.7% (three-year)

Real Estate:

Benchmark: 12.4% (one year) and 11.6% (three year) Actual: 13.8% (one year) and 13.5% (three year)

Farmland & Timber\*:

\*Three-year not applicable

4.3% Benchmark: Actual: 5.4%

4. Ensure sufficient monies are available to meet pension benefits, health insurance, member refunds, administrative payments, and other cash flow requirements.

Achieved this goal.

#### **Investment Policies**

An integral part of the overall investment policy is the SAAP, which is designed to optimize returns while minimizing risk. The ASRS maintains its investment assets in accordance with Board approved Strategic Asset Allocation Policy. Investment assets are managed in 228 externally managed and 8 internally managed portfolios, which are diversified in U.S. equities, U.S. fixed income, international equities, real estate, private equity, opportunistic investments and commodity investments.

The ASRS adheres to all statutory requirements set by Arizona State law. In addition the ASRS established investment guidelines for its internal and external investment managers and a complete set of policies, procedures, compliance requirements, and oversight of internal investment management to ensure that investment assets are prudently managed. Both internal and external compliance procedures are in place. Oversight responsibilities reside with the ASRS Board. Details of investments are located at the end of this report.

Please refer to the continuing pages of the *Investment Section* for more in-depth details of ASRS' investment activities.

Best regards,

Gary R. Dokes, Chief Investment Officer

## **ASSET ALLOCATION**

#### **Asset Allocation Targets**

During fiscal year 2015, the ASRS asset allocation policy targets and ranges were as follows:

Asset Class	Policy	Range	Benchmark
Tactical Cash (Unassetized)	0%	(0 - 3%)	
Operating Cash (Unassetized)	0%		
Operating Cash (Assetized)	0%		
Total Cash	0%		
Treasuries (Long Duration)	0%	(0 - 10%)	Barclays LT Treasuries
Core Bonds	11%		Barclays Aggregate
<b>Interest Rate Sensitive</b>	11%	•	
High Yield	4%		Barclays High Yield
Private Debt	10%	(8 - 12%)	S&P/LSTA Leveraged Loan Index + 2.5%
Opportunistic Debt	0%		Investment Specific
Other Fixed Income	14%		
Total Fixed Income	25%	(18 - 35%)	
Large Cap	20%		S&P 500
Mid Cap	3%		S&P 400
Small Cap	3%		S&P 600
US Public Equity	26%	(16 - 36%)	
Developed Large Cap	17%		MSCI EAFE
Developed Small Cap	2%		MSCE EAFE Small Cap
Emerging	5%		MSCI EM
Non-US Public Equity	24%	(14 - 34%)	
Private Equity	8%	(6 - 10%)	Russell 2000
Opportunistic Equity	0%		Investment Specific
Other Equity	8%		
Total Equity	58%	(48 - 65%)	
Commodities	2%	(0 - 4%)	Bloomberg Total Return
Real Estate	10%	(8 - 12%)	NCREIF ODCE
Infrastructure	0%	(0 - 3%)	Investment Specific
Farmland and Timber	0%	(0 - 3%)	Investment Specific
Opportunistic Inflation Linked	0%		Investment Specific
Total Inflation Linked Assets	12%	(10 - 16%)	
Multi-Asset Class Strategies	5%	(0 - 12%)	Investment Specific

TOTAL 100%

Notes: 1) Total Opportunistic Equity, Debt and Inflation-Linked in aggregate will not exceed 10% of the Total Fund market value and is a) tactical in nature, outside of the SAAP benchmark and b) within the SAAP benchmark but are absolute return oriented.

- 2) Tactical cash reviewed as a defensive and tactical vehicle, will be consistent with House Views and may be employed as a hedge to dampen the effects of anticipated negative returns to the aggregate market value of the Total Fund.
- 3) Operating cash includes a nominal balance to cover unexpected deviations in cash flow requirements. Equitized operating cash includes excess cash balances that are exposed to the markets using futures and/or ETFs to minimize cash drag while facilitating larger internal and external fund obligations.
- 4) Multi-Asset Class strategies invest tactically within and across asset classes, seeking to exploit quantitative or fundamental drivers of asset class returns or risk allocations as market conditions warrant.

# **Schedule of Investment Portfolios by Asset Class**

(Dollars in Thousands)

		Percentage of
	Enix Value	Investments at Fair Value
Short-Term Investments	<b>Fair Value</b> 1,417,7	
Short-rerin investments	1,417,7	71 4.0%
Equity		
U.S. Equity	\$ 10,260,2	95 28.9%
Non-U.S. Equity	8,325,4	38 23.4%
Private Equity	2,561,3	28 7.2%
Opportunistic Equity	463,2	1.3%
Total Equity	21,610,3	09 60.8%
Fixed Income		
U.S. Fixed Income	4,978,8	89 14.0%
Emerging Market Debt	5,2	14 0.0%
Opportunistic Debt	1,087,0	81 3.0%
Private Debt	1,671,5	28 4.7%
Total Fixed Income	7,742,7	12 21.7%
Real Estate	2,393,7	13 6.7%
Commodities	5,5	84 0.0%
Multi-Asset	1,588,0	73 4.5%
Other Investments		
Infrastructure	308,3	18 0.9%
Farmland and Timber	170,7	23 0.5%
Total Other Investments	479,0	41 1.4%
Securities Lending Collateral	314,7	30 0.9%
Total Investments	\$ 35,551,93	33 100.0%
Add Receivables:		
Accrued Interest and Dividends	56,8	
Securities Sold	120,4	
Forward Contracts Total Receivables	14,9 192,1	
Total Receivables		<u> </u>
Less Payables:		
Securities Purchased	35,0	
Forward Contracts Securities Lending Collateral	7,4 314,7	
Other Payables	8,3	
Total Payables	365,5	
Total Net Total Investments	\$ 35,378,51	13

Note: A detailed listing of investments is available upon request.

Direct inquiries to: ASRS, 3300 North Central Avenue, Phoenix, AZ 85012

# **INVESTMENT RESULTS**

# **Performance Accounting/ Computation Standards**

The ASRS investment performance rates of return are calculated on a total return basis, using time-weighted rates of return, based upon the market rate of return. The fair value of real estate, private equity and opportunistic investments are based on estimated values. Fair value is based on estimates and assumptions from information and representations provided by the respective general partners, in the absence of readily ascertainable market values.

Performance is calculated on an accrual basis provided that the accrual information is available from the custodian or record-keeper. The rates of return are generated by asset class and include cash holdings.

Below are the rates of return on the overall portfolio, as well as specific asset classes, along with the benchmark used to compare performance.

# **Annualized Rates of Return (Net of Fees)**

(Retirement & HBS)

Time Weighted Returns	1 Year	3 Year	5 Year	10 Year	Inception
Total Fund	3.2%	11.4%	11.8%	6.9%	9.9%
Interim SAA Policy Benchmark	1.6%	10.5%	11.2%	6.6%	9.6%
Total Equity	2.5%	14.5%	14.3%	7.2%	6.8%
Custom Total Equity Index	2.6%	14.8%	14.4%	7.4%	6.2%
Domestic Equity	6.7%	17.6%	17.5%	8.5%	11.3%
S&P Custom Index	7.3%	17.8%	17.6%	8.4%	11.4%
Domestic Fixed Income	-0.3%	1.7%	3.6%	4.7%	8.3%
ASRS Custom Index	-2.0%	1.2%	3.0%	4.3%	n/a
International Equity	-3.8%	10.0%	8.4%	5.2%	6.2%
MSCI Custom Index	-4.1%	10.4%	8.7%	6.1%	5.9%
Commodities	-24.0%	-7.4%	-4.3%	n/a	-3.5%
DJUBS Commodity Index	-23.7%	-8.8%	-5.8%	n/a	-4.9%
Real Estate	13.8%	13.5%	14.0%	n/a	7.1%
NFI-ODCE Index	12.4%	11.6%	13.2%	n/a	6.1%
Private Equity	9.7%	13.3%	14.3%	n/a	12.1%
Russell 2000	7.2%	15.0%	14.3%	n/a	14.2%
Private Debt	9.8%	n/a	n/a	n/a	12.3%
S&P Loan Syndications and Trading Association Leveraged Loan Index + 2.5%	5.2%	n/a	n/a	n/a	6.5%
Farmland	4.3%	n/a	n/a	n/a	3.8%
CPI (excl. food & energy) + 3.5%	5.4%	n/a	n/a	n/a	5.4%
Multi-Asset Class Strategies	1.8%	11.6%	12.9%	8.1%	7.9%
Custom Index	1.1%	10.3%	11.0%	6.2%	6.3%
Infrastructure	n/a	n/a	n/a	n/a	-1.7%
CPI (excl. food & energy) + 3.5%	n/a	n/a	n/a	n/a	2.3%
Opportunistic Debt	6.5%	9.7%	9.3%	n/a	11.4%
Opportunistic Equity	28.6%	35.6%	n/a	n/a	33.6%

# Historical Rates of Return¹ (Net of Fees)

(Retirement & HBS)

Fiscal Year	Return	Fiscal Year	Return	Fiscal Year	Return
2014-15	3.2%	2006-07	17.8%	1998-99	16.8%
2013-14	18.6%	2005-06	9.8%	1997-98	21.3%
2012-13	13.1%	2004-05	8.5%	1996-97	20.6%
2011-12	1.3%	2003-04	17.5%	1995-96	16.7%
2010-11	24.6%	2002-03	2.4%	1994-95	17.8%
2009-10	14.9%	2001-02	-8.2%	1993-94	1.9%
2008-09	-18.1%	2000-01	-6.7%	1992-93	16.7%
2007-08	-7.6%	1999-00	10.0%	1991-92	14.6%

<sup>&</sup>lt;sup>1</sup> Return on Private Equity Investments have not been included in Total Fund Performance for FY 2008 or 2009.

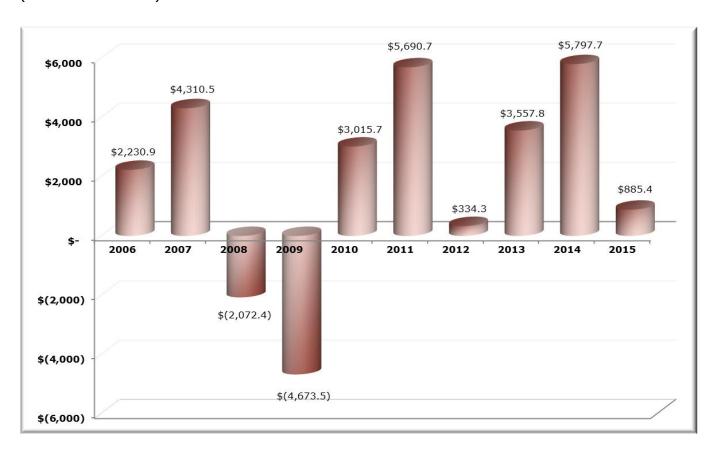
## **Ten Year Review of Investment Income**

(Dollars in Thousands)

									N	et Income
Fiscal Year	In	come	+	Net App	rec/(Depr)	-	Expense	=		(Loss)
2005-2006	\$	523,997		\$	1,758,899		\$ 51,957		\$	2,230,939
2006-2007		604,320			3,766,089		59,891			4,310,518
2007-2008		654,878			(2,645,900)		81,419			(2,072,441)
2008-2009		285,665			(4,855,030)		104,125			(4,673,490)
2009-2010		647,859			2,484,029		116,170			3,015,718
2010-2011		925,578			4,893,382		128,281			5,690,679
2011-2012		891,210			(419,010)		137,905			334,295
2012-2013		1,167,263			2,579,350		188,770			3,557,843
2013-2014		564,891			5,382,920		150,083			5,797,728
2014-2015		491,750			553,368		159,655			885,463

## **Net Income from Investments**

(Dollars in Millions)



# **Equity Sub-Sector Allocation**

(Dollars in Thousands)

	% of Equity	
	Portfolio	Fair Value
US Large Cap Equity	37.65%	\$ 8,137,346
US Mid Cap Equity	4.91%	1,060,024
US Small Cap Equity	4.92%	1,062,925
Total US Equity	47.48%	10,260,295
Non US Equity	38.53%	8,325,438
Private Equity	11.85%	2,561,328
Opportunistic Equity	2.14%	463,248
TOTAL EQUITY SECURITIES	100.00%	\$ 21,610,309

Note: Above schedule does not include Securities Lending Collateral investments.

# **Ten Largest Equity Holdings**

	Shares	F	air Value
Apple, Inc.	1,892,585	\$	237,377
Microsoft Corp	3,735,373		164,917
Exxon Mobil Corp	1,827,636		152,059
Johnson & Johnson	1,328,214		129,448
Pfizer, Inc.	3,551,535		119,083
AT&T	2,791,803		99,165
JPMorgan Chase & Co.	1,422,237		96,371
The Proctor & Gamble Co.	1,201,434		94,000
Wells Fargo & Co.	1,624,715		91,374
Chevron Corp	917,045		88,468
Total	20,292,577	\$	1,272,262

# **Distribution by Market Sector**

	ASRS Domestic	
	Equity	S&P 500 Index
Consumer Discretionary	12.20%	13.60%
Consumer Staples	9.00	7.90
Energy	7.00	6.70
Financials	18.50	18.40
Healthcare	14.90	14.20
Industrials	11.40	11.70
Information Technology	17.90	18.50
Materials	3.60	3.90
Telecommunication Services	2.00	1.80
Utilities	3.50	3.30
Total	100.00%	100.00%

# **Summary of Broker Commissions**

Summary of Broker Commissions	Comr	mission
Domestic Equity	\$	3,218
International Equity	\$	2,540

# **Distribution by Sector**

	Percent
U.S. Treasury Bills	6.05%
Asset Backed Securities	0.06
Commercial Mortgage Backed	0.60
Corporate Bonds	20.89
Government Related	0.45
Government Agencies CMO's	6.09
Government Bonds	8.85
Government Mortgage Backed	0.09
Duration Not Available <sup>1</sup>	56.92
Total	100.00%

# **Distribution by Maturity**

	Percent
0 - 2 years	22.98%
2 to 3 years	7.17
3 to 4 years	7.54
4 to 5 years	20.95
5 to 6 years	11.03
6 to 8 years	13.12
> 8 years	17.21
Total	100.00%

# **Distribution by Coupon**

	Percent
0.00% - 6.5%	82.74%
6.51% - 7.50%	8.28
7.51% - 9.0%	5.48
> 9.00%	3.50
Total	100.00%

# **Ten Largest Fixed Income Holdings**

	Coupon	Maturity	Par Value	Fair Value	Percent
US TREASURY N/B	3.13%	4/30/2017	\$ 48,000	\$ 50,224	0.65%
FNMA POOL AV0691	4.00%	12/1/2043	47,377	50,206	0.65%
US TREASURY N/B	2.75%	11/15/2023	48,000	49,896	0.64%
US TREASURY N/B	4.63%	2/15/2040	28,500	36,336	0.47%
US TREASURY N/B	0.75%	1/15/2017	35,000	35,131	0.45%
FEDERAL HOME LOAN BANK	5.00%	11/17/2017	30,000	32,894	0.43%
US TREASURY N/B	2.00%	1/31/2016	32,500	32,849	0.43%
FANNIE MAE	5.00%	3/15/2016	30,000	30,996	0.40%
US TREASURY N/B	4.75%	2/15/2041	23,200	30,211	0.39%
FEDERAL FARM CREDIT BANK	0.45%	7/12/2016	25,000	25,002	0.32%
Total		·	\$ 347,577	\$ 373,745	4.83%

# **SCHEDULE OF BROKER COMMISSIONS**

# **Domestic Equity Trades**

Broker Name	Dollar Amount of Trades	Shares	Average Commission Per Share	of Commission
Barclays Capital Inc./Le Total	\$ 221,136	5,208	\$ 0.0105	\$ 55
Barclays Capital Le Total	34,818	1,533	0.0324	50
Bmo Capital Markets Total	10,987	382	0.0470	18
Bnp Paribas Prime Brokerage, Inc. Total	81,119	1,814	0.0100	18
Btig, Llc Total	42,533	1,205	0.0438	53
Cantor Fitzgerald + Co. Total	15,406	388	0.0442	17
Capital Institutional Svcs Inc Equities Total	59,178	851	0.0348	30
Citigroupglobal Markets Inc Total	320,523	7,276	0.0139	101
Cowen Andcompany, Llc Total	59,505	1,089	0.0483	53
Credit Suisse Securities (Usa) Llc Total	1,977,434	33,132	0.0111	368
Deutsche Bank Securities Inc Total	104,462	2,290	0.0377	86
Frank Russell Sec/Broadcort Cap Clearing Total	16,772	446	0.0475	21
Goldman Sachs + Co Total	318,269	8,306	0.0112	93
Guzman And Company Total	78,273	1,256	0.0312	39
Instinet Total	336,824	7,971	0.0199	158
Instinet Llc Total	1,332,122	29,907	0.0100	299
Investment Technology Group Inc. Total	89,440	2,046	0.0214	44
Isi Groupinc Total	17,140	653	0.0324	21
Itg Inc. Total	134,728	2,768	0.0100	28
J.P. Morgan Clearing Corp. Total	26,435	1,222	0.0115	14
J.P. Morgan Securities Inc. Total	184,603	3,312	0.0336	111
Jefferies+ Company Inc Total	211,815	5,064	0.0184	93
Jonestrading Institutional Services Llc Total	20,668	673	0.0293	20
Kcg Americas Llc Total	20,104	1,216	0.0102	12
Keefe Bruyette + Woods Inc Total	11,251	223	0.0445	10
Keybanc Capital Markets Inc Total	32,773	581	0.0465	27
Knight Equity Markets L.P. Total	103,322	2,613	0.0496	130
Liquidnetinc Total	88,846	2,320	0.0193	45
Merrill Lynch Pierce Fenner + Smith Inc Total	84,714	1,755	0.0119	21
Merrill Lynch Professional Clearing Corp Total	10,729	474	0.0491	23
Morgan Stanley Co Incorporated Total	169,475	3,547	0.0176	63
Oppenheimer + Co. Inc. Total	34,113	683	0.0490	33

# **Domestic Equity Trades – continued**

Broker Name	Dollar Amount of Trades	Number of Shares	Average Commission Per Share	Dollar Amount of Commission
Penserra Securities Total	16,872	316	0.0300	9
Piper Jaffray Total	18,210	437	0.0443	19
Raymond James And Associates Inc Total	33,723	711	0.0432	31
Rbc Capital Markets Total	117,225	2,573	0.0269	69
Robert W.Baird Co.Incorporate Total	43,020	840	0.0466	39
Rosenblatt Securities Llc Total	138,707	2,039	0.0340	69
Sanford Cbernstein Co Llc Total	36,426	1,082	0.0181	20
Sg Americas Securities Llc Total	140,074	1,678	0.0419	70
State Street Global Markets Total	651,530	3,158	0.0125	39
State Street Global Markets, Llc Total	19,736	501	0.0145	7
Stifel Nicolaus + Co Inc Total	67,985	1,518	0.0472	72
Stifel, Nicolaus And Company, Incorporat Total	14,097	284	0.0745	21
Sungard Brokerage & Securities Svcs Llc Total	30,662	431	0.0070	3
Suntrust Capital Markets, Inc. Total	19,414	427	0.0440	19
Ubs Securities Llc Total	248,515	4,726	0.0268	127
Wallachbeth Capital, Llc Total	1,094,913	19,969	0.0100	200
Weeden + Co. Total	99,448	1,564	0.0332	52
Wells Fargo Securities, Llc Total	44,732	1,600	0.0360	58
William Blair & Company L.L.C Total	30,328	637	0.0448	29
Various Other Brokers	125,793	3,307	0.0340	111
Total	\$ 9,240,930	180,002	\$ 0.0179	\$ 3,218

# **Foreign Equity Trades**

			Average	
	Dollar Amount			
Broker Name	of Trades	Shares	Per Share	of Commission
Barclays Capital Total	\$ 25,686	1,583	\$ 0.0196	\$ 31
Bnp Paribas Securities Services Total	22,893	7,497	0.0040	30
Citigroupglobal Markets Australia Pty Total	55,096	6,647	0.0029	19
Citigroupglobal Markets Inc. Total	347,465	34,346	0.0043	147
Citigroupglobal Markets Limited Total	55,924	18,498	0.0036	67
Clsa Singapore Pte Ltd. Total	19,420	824	0.0303	25
Credit Suisse Securities (Europe) Ltd Total	474,906	40,902	0.0044	178
Credit Suisse Securities (Usa) Llc Total	40,968	5,341	0.0081	43
Davy Stockbrokers Total	12,547	1,603	0.0075	12
Deutsche Bank Ag London Total	28,242	18,985	0.0015	28
Deutsche Bank Securities Inc Total	38,256	2,676	0.0164	44
Exane S.A. Total	10,555	216	0.0602	13
Fidentiis Total	19,551	1,364	0.0213	29
Goldman Sachs + Co Total	168,061	53,254	0.0017	88
Goldman Sachs International Total	136,082	14,491	0.0071	103
Instinet Pacific Limited Total	10,441	12,206	0.0004	5
Instinet U.K. Ltd Total	126,293	23,002	0.0027	63
Investec Bank Plc Total	17,871	2,622	0.0084	22
Investment Technology Group Ltd Total	73,598	7,791	0.0071	55
Itg Australia Ltd. Total	15,485	3,743	0.0035	13
Itg Canada Total	14,524	58	0.0172	1
J P Morgan Securities Inc Total	20,156	1,729	0.0093	16
J.P. Morgan Clearing Corp. Total	58,280	5,560	0.0065	36
Jefferies+ Company Inc Total	26,814	2,492	0.0108	27
Jefferiesinternational Ltd Total	45,994	21,125	0.0015	32
Jp Morgansecurities Plc Total	171,718	8,691	0.0091	79
Liquidneteurope Limited Total	18,042	1,487	0.0061	9
Macquariebank Limited Total	54,321	4,092	0.0093	38
Merrill Lynch International Total	831,045	105,085	0.0031	331
Mizuho Securities Usa Inc Total	36,495	1,467	0.0239	35
Morgan Stanley And Co. International Total	529,008	91,001	0.0020	185
Morgan Stanley Co Incorporated Total	218,047	49,473	0.0029	141
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# **Foreign Equity Trades - continued**

(Dollars in Thousands)

Broker Name	 lar Amount of Trades	Number of Shares	Com	rerage mission Share	 Amount nmission
Nomura International Plc Total	\$ 18,538	408	\$	0.0735	\$ 30
Nomura Securities International Inc Total	15,485	445		0.0337	15
Pershing Securities Limited Total	22,461	2,889		0.0066	19
Redburn Partners Llp Total	24,485	3,988		0.0030	12
Royal Bank Of Canada Europe Ltd Total	19,738	3,025		0.0086	26
Sanford C. Bernstein Ltd Total	47,870	4,029		0.0097	39
Societe Generale London Branch Total	17,310	8,803		0.0011	10
State Street Bank And Trust Co Total	10,789	219		0.0274	6
Ubs Ag Total	17,238	3,693		0.0019	7
Ubs Limited Total	187,536	21,862		0.0087	190
Ubs Securities Asia Ltd Total	16,288	4,101		0.0059	24
Various Other Brokers	 187,898	46,982		0.0046	217
Total	\$ 4,309,421	\$ 650,295		0.0039	\$ 2,540

Note: A detailed listing of broker commissions is available upon request. Direct inquiries to: ASRS, 3300 North Central Avenue, Phoenix, AZ 85012

# **SCHEDULE OF INVESTMENT FEES**

# **Investment Fees**

Manager	at Fair \	Managed Value at 0, 2015	Mar	nagement Fees
Public Equity	\$ 1	.8,585,733	\$	37,898
Private Equity		2,561,328		32,501
Opportunistic Equity		463,248		1,069
Total Equity	21	,610,309		71,468
Public Fixed Income		4,984,103		6,023
Opportunistic Debt		1,087,081		10,790
Private Debt		1,671,528		11,157
Total Fixed Income	7	,742,712		27,970
Real Estate		2,393,713		22,069
Commodities		5,584		2,519
Multi-Asset		1,588,073		22,954
Infrastructure		308,318		703
Farmland and Timber		170,723		1,302
Grand Total	\$ 33	,819,432	\$	148,985

# ACTUARIAL SECTION

CITRUS—Arizona began its successful citrus harvest back in 1889 after finishing its first canal, the Arizona Canal. Due to Arizona's climate, citrus ripens prior to the orchards in Southern California which allows farmers to sell their produce to the eastern markets first. In 1928, the industry started taking off and the Arizona Citrus Growers Association was established,

eliminating many costly transportation problems. Today
Arizona has approximately
20,000 acres of orchards
and is the 2nd largest
producer of lemons, 3rd
largest producer of
tangerines and in the

top ten for both or-

anges and grapefruit.



## **ACTUARIAL CERTIFICATION - RETIREMENT AND HBS**



November 13, 2015

Retirement Board Arizona State Retirement System 3300 North Central Avenue 14th Floor Phoenix, Arizona 85012

#### Arizona State Retirement Plan Actuarial Certification - 401(a) Portion of the Plan

This is to certify that Buck Consultants, LLC has prepared an actuarial valuation of the Arizona State Retirement Plan (the Plan) as of June 30, 2014. The results of our valuation are contained in our Actuarial Report on the Valuation of the Plan as of June 30, 2014, dated January 28, 2015.

Actuarial valuations are performed annually as of June 30, the last day of both the Plan year and ASRS' fiscal year. The primary purpose of the valuation is to determine the required member and employer contribution rates, to describe the current financial condition of the Plan, and to analyze changes in the Plan's financial condition since the prior valuation.

The actuarial valuation determines the contribution rates payable by members and participating employers. These rates, when applied to payroll, yield contribution amounts sufficient to provide for the normal cost and to amortize the Unfunded Actuarial Accrued Liability (UAAL) over the period that ASRS has adopted. The contribution rates calculated become effective for the next fiscal year. For example, the rates calculated in the June 30, 2014 valuation are applicable for the fiscal year beginning July 1, 2015.

#### **Summary of Valuation Results**

The funded status of the plan is determined by comparing the Actuarial Value of Assets to the Actuarial Accrued Liability. As of June 30, 2014, the 401(a) funded status of the Plan is 76.30%. This compares to a June 30, 2013 401(a) funded status of 75.44%.

The June 30, 2014 actuarial valuation establishes a total 401(a) contribution rate of 22.20% of the annual compensation of members. The total normal cost rate is 13.03% of compensation, and the UAAL amortization payment is 9.17% of compensation.

#### **Plan Provisions**

The Plan provisions are described in Title 38, Chapter 4, Article 2 of the Arizona Revised Statutes. All 401(a) benefits described in the statutes are reflected in this valuation, except that future PBI and enhanced PBI awards are not valued. A summary of the Plan provisions and changes enacted since 1989 are listed in Sections 10 and 11 of our valuation report.

#### David J. Kershner

Principal, Retirement Wealth Practice David Kershner@xerox.com 602.864.3507

#### **Troy Jaros**

Senior Consultant, Retirement Wealth Practice Troy.Jaros@xerox.com 952.806.6107

Buck Consultants, LLC. 3200 North Central Avenue Suite 2200 Phoenix, AZ 85012 Fax: 602.864.3535



#### **Member Data**

ASRS staff supplied census data for retired, active, and inactive members as of June 30, 2014. We have not audited this data, but have examined the data for reasonableness and consistency with the prior year's data. ASRS staff also supplied asset information.

The June 30, 2014 valuation includes a total of 548,987 members - 203,201 active members, 215,325 inactive members, 126,255 retired members and beneficiaries, and 4,206 members on long term disability. In addition, there are 267 System retirees receiving ad hoc 401(a) benefits from the Plan. The member data is summarized in Section 12 of our valuation report.

#### **Assumptions and Methods**

On May 24, 2013, the Board adopted revised actuarial assumptions to be effective beginning with the June 30, 2013 valuation. These assumptions were based on the experience study we performed for the five-year period ended June 30, 2012.

On November 15, 2002, the Board adopted a change in the method of valuing actuarial assets. The Board removed the requirement that actuarial assets be within 20% of market value, and prospectively changed the period for recognizing investment gains or losses from five to ten years.

On November 18, 2013, the Board adopted a change in the UAAL amortization method. The new method, effective for the June 30, 2013 and later valuations, amortizes the 401(a) UAAL over closed 30-year periods.

The actuarial assumptions and methods are attached to this letter and are summarized in Section 9 of our valuation report. We believe the assumptions used in the valuation are reasonable, taking into account the experience of the Plan and reasonable expectations, and represent our best estimate of anticipated experience under the Plan.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and procedures, and has been prepared in accordance with all applicable Actuarial Standards of Practice. In our opinion, the valuation results comply with the requirements of the Arizona Constitution and statutes and, where applicable, the Internal Revenue Code and the Employee Retirement Income Security Act of 1974 (ERISA). The undersigned actuaries are independent. They are both Fellows of the Society of Actuaries, Enrolled Actuaries and Members of the American Academy of Actuaries. They meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein and in our valuation report. They are experienced in performing valuations for large public retirement systems and are fully qualified to provide actuarial services to the State of Arizona.



We prepared the following exhibits in Section 8 of our valuation report (information shown in these exhibits for years prior to 2002 was provided by ASRS):

- Exhibit 8.1a Schedule of Funding Progress
- Exhibit 8.1b Schedule of Employer Contributions
- Exhibit 8.3 Notes to Required Supplementary Information
- Exhibit 8.4 Components of Normal Cost
- Exhibit 8.5 Schedule of Plan Active Member Valuation Data
- Exhibit 8.6a Schedule of Plan Retirees Added and Removed from Rolls
- Exhibit 8.7 Schedule of Unfunded (Over) Accrued Liabilities
- Exhibit 8.8a and 8.8c Solvency Test
- Exhibit 8.9 Schedule of Recommended Versus Actual Plan Contributions
- Exhibit 8.10a and 8.10c Analysis of Financial Experience
- Exhibit 8.11 Contributions Calculated and Received

Buck Consultants, LLC

TyJas

David J. Kershner, FSA, EA, MAAA Principal and Consulting Actuary

Troy Jaros, FSA, EA, MAAA, FCA Senior Consultant, Retirement Actuary



November 13, 2015

Retirement Board Arizona State Retirement System 3300 North Central Avenue 14th Floor Phoenix, Arizona 85012

#### Arizona State Retirement Plan Actuarial Certification – 401(h) Portion of the Plan

This is to certify that Buck Consultants, LLC has prepared an actuarial valuation of the Arizona State Retirement Plan (the Plan) as of June 30, 2014. The results of our valuation are contained in our Actuarial Report on the Valuation of the Plan as of June 30, 2014, dated January 28, 2015.

Actuarial valuations are performed annually as of June 30, the last day of both the Plan year and ASRS' fiscal year. The primary purpose of the valuation is to determine the required member and employer contribution rates, to describe the current financial condition of the Plan, and to analyze changes in the Plan's financial condition since the prior valuation.

The actuarial valuation determines the contribution rates payable by members and participating employers. These rates, when applied to payroll, yield contribution amounts sufficient to provide for the normal cost and to amortize the Unfunded Actuarial Accrued Liability (UAAL) over the period that ASRS has adopted. The contribution rates calculated become effective for the next fiscal year. For example, the rates calculated in the June 30, 2014 valuation are applicable for the fiscal year beginning July 1, 2015.

#### **Summary of Valuation Results**

The funded status of the plan is determined by comparing the Actuarial Value of Assets to the Actuarial Accrued Liability. As of June 30, 2014, the 401(h) funded status of the Plan is 93.05%. This compares to a June 30, 2013 401(h) funded status of 89.21%.

The June 30, 2014 actuarial valuation establishes a total 401(h) contribution rate of 0.50% of the annual compensation of members. The total normal cost rate is 0.37% of compensation, and the UAAL amortization payment is 0.13% of compensation.

#### **Plan Provisions**

The Plan provisions are described in Title 38, Chapter 4, Article 2 of the Arizona Revised Statutes. All 401(h) benefits described in the statutes are reflected in this valuation. A summary of the Plan provisions and changes enacted since 1989 are listed in Sections 10 and 11 of our valuation report.

#### David J. Kershner

Principal, Retirement Wealth Practice David Kershner@xerox.com 602.864.3507

#### **Troy Jaros**

Senior Consultant, Retirement Wealth Practice Troy.Jaros@xerox.com 952.806.6107

Buck Consultants, LLC. 3200 North Central Avenue Suite 2200 Phoenix, AZ 85012 Fax: 602.864.3535



#### **Member Data**

ASRS staff supplied census data for retired, active, and inactive members as of June 30, 2014. We have not audited this data, but have examined the data for reasonableness and consistency with the prior year's data. ASRS staff also supplied asset information.

The June 30, 2014 valuation includes a total of 548,987 members - 203,201 active members, 215,325 inactive members, 126,255 retired members and beneficiaries, and 4,206 members on long term disability. In addition, there are 598 System retirees receiving 401(h) benefits from the Plan. The member data is summarized in Section 12 of our valuation report.

#### **Assumptions and Methods**

On May 24, 2013, the Board adopted revised actuarial assumptions to be effective beginning with the June 30, 2013 valuation. These assumptions were based on the experience study we performed for the five-year period ended June 30, 2012.

On November 15, 2002, the Board adopted a change in the method of valuing actuarial assets. The Board removed the requirement that actuarial assets be within 20% of market value, and prospectively changed the period for recognizing investment gains or losses from five to ten years.

On November 18, 2013, the Board adopted a change in the UAAL amortization method. The new method, effective for the June 30, 2013 and later valuations, amortizes the 401(h) UAAL over closed 15-year periods.

The actuarial assumptions and methods are attached to this letter and are summarized in Section 9 of our valuation report. We believe the assumptions used in the valuation are reasonable, taking into account the experience of the Plan and reasonable expectations, and represent our best estimate of anticipated experience under the Plan.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and procedures, and has been prepared in accordance with all applicable Actuarial Standards of Practice. In our opinion, the valuation results comply with the requirements of the Arizona Constitution and statutes and, where applicable, the Internal Revenue Code, the Employee Retirement Income Security Act of 1974 (ERISA), and Statement No. 43 of the Governmental Accounting Standards Board. The undersigned actuaries are independent. They are both Fellows of the Society of Actuaries, Enrolled Actuaries and Members of the American Academy of Actuaries. They meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein and in our valuation report. They are experienced in performing valuations for large public retirement systems and are fully qualified to provide actuarial services to the State of Arizona.



We prepared the following exhibits in Section 8 of our valuation report (information shown in these exhibits for years prior to 2002 was provided by ASRS):

- Exhibit 8.2a Schedule of Funding Progress
- Exhibit 8.2b Schedule of Employer Contributions
- Exhibit 8.3 Notes to Required Supplementary Information
- Exhibit 8.4 Components of Normal Cost
- Exhibit 8.5 Schedule of Plan Active Member Valuation Data
- Exhibit 8.6b Schedule of Benefit Recipients Added to and Removed from Rolls
- Exhibit 8.7 Schedule of Unfunded (Over) Accrued Liabilities
- Exhibit 8.8b and 8.8c Solvency Test
- Exhibit 8.10b and 8.10c Analysis of Financial Experience
- Exhibit 8.11 Contributions Calculated and Received

Buck Consultants, LLC

David J. Kershner, FSA, EA, MAAA Principal and Consulting Actuary

TyJas

Troy Jaros, FSA, EA, MAAA

Senior Consultant, Retirement Actuary



#### Arizona State Retirement Plan

#### Actuarial Assumption and Methods used in June 30, 2014 Valuation

**Investment Rate of Return** 

8% per annum compounded annually, net of expenses.

#### **Mortality Rates**

a. Pre-retirement

50% of 1994 GAM - Static, Projected to 2015 with Projection Scale BB, with no setback, and with no adjustment for amount of Plan/System income. Rates at representative ages are shown below:

	Rates of Mortality (Active)						
Age	Male Members	Female Member					
20	0.000207	0.000128					
25	0.000270	0.000127					
30	0.000269	0.000146					
35	0.000292	0.000211					
40	0.000406	0.000344					
45	0.000692	0.000476					
50	0.001127	0.000639					
55	0.001882	0.000987					
60	0.003149	0.001779					
65	0.005325	0.003450					
70	0.008633	0.005639					
75	0.013718	0.009380					
80	0.023121	0.016632					
85	0.038025 0.02947						
90	0.066498	0.052712					

b. Post-retirement

Non-Disabled rates are based on the 1994 GAM - Static, Projected to 2015 with Projection Scale BB with adjustments for small and large benefit amounts. Disabled rates are based on the experience of other large public sector retirement systems and ASRS' own experience. Rates (with no adjustments for benefit amount) at representative ages are shown below:

		Rates o	f Mortality	
	Mal	es	Fema	ales
Age	Non-Disabled	Disabled	Non-Disabled	Disabled
20	0.000414	0.034940	0.000256	0.026940
25	0.000539	0.038890	0.000253	0.027440
30	0.000538	0.051100	0.000292	0.038300
35	0.000584	0.063540	0.000423	0.053930

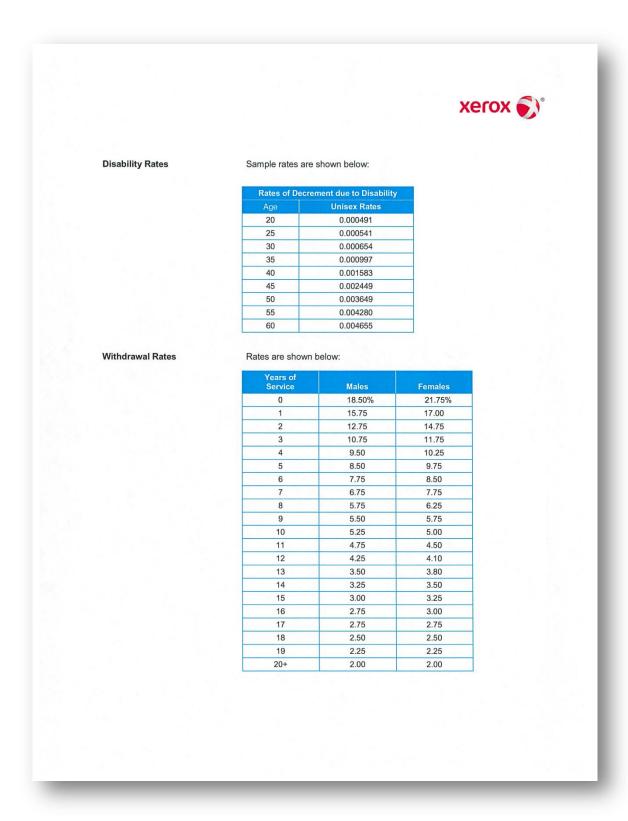


		Rates o	f Mortality	
	Mal	es	Fema	ales
Age	Non-Disabled	Disabled	Non-Disabled	Disabled
40	0.000812	0.058810	0.000688	0.056980
45	0.001384	0.040920	0.000951	0.037590
50	0.002253	0.034740	0.001277	0.025700
55	0.003763	0.031360	0.001975	0.022840
60	0.006299	0.031110	0.003558	0.018030
65	0.010650	0.030860	0.006901	0.013930
70	0.017267	0.033730	0.011278	0.012990
75	0.027435	0.048250	0.018760	0.020770
80	0.046241	0.055540	0.033265	0.036470
85	0.076050	0.090010	0.058948	0.063400
90	0.132997	0.146340	0.105424	0.112480

Non-disabled mortality rates are decreased for members with annual Plan/System income greater than \$14,400 and increased for members with annual Plan/System income less than \$6,000 as shown

	Large A	djustment	Small Adjustme			
Age	Male	Female	Male	Female		
0 – 49	No Adj	ustment	No Adj	ustment		
50 – 75	75%	84%	139%	133%		
76 – 111	81%	90%	105%	100%		
112	84%	92%	104%	100%		
113	87%	94%	103%	100%		
114	90%	96%	102%	100%		
115	93%	98%	101%	100%		
116	96%	100%	100%	100%		
117	99%	100%	100%	100%		
118 and over	100%	100%	100%	100%		

Post-retirement mortality rates for currently non-retired members are assumed to be the rates for non-disabled retirees unadjusted for amount of Plan/System income.





#### Salary Scale

A select and ultimate salary scale made up of a merit component and wage inflation increase component as follows:

Years of Service	Merit Component	Total Salary Increase*
(1)	(2)	(3)
1	3.75%	6.75%
2	3.00%	6.00%
3	1.90%	4.90%
4	1.35%	4.35%
5	1.05%	4.05%
6	0.95%	3.95%
7	0.75%	3.75%
8	0.60%	3.60%
9	0.60%	3.60%
10	0.40%	3.40%
11 to 19	0.20%	3.20%
20 or more	0.00%	3.00%

<sup>\*</sup>Total salary increase rate = wage inflation rate (3.00%) + merit component

#### Retirement Rates

Select and ultimate retirement rates are used. Rates at representative ages and years of service are shown below, where Tier 1 represents active members hired before July 1, 2011:

		Years of Service								
Tier 1:	Age	0-3	11-18	25	31+					
	50	0.00%	4.00%	5.00%	25.00%					
	55	0.00	4.00	25.00	25.00					
	60	0.00	9.00	25.00	25.00					
	62	0.00	33.00	25.00	25.00					
	65	33.00	33.00	33.00	33.00					
	70	15.00	25.00	33.00	25.00					
Tier 2:	Age	0-3	11-18	25	31+					
	50	0.00%	4.00%	8.33%	14.00%					
	55	0.00	4.00	10.89	33.00					
	60	0.00	9.00	30.00	25.00					
	62	0.00	33.00	25.00	25.00					
	65	33.00	33.00	33.00	33.00					
	70	15.00	25.00	33.00	25.00					

Deferred vested members are assumed to retire at their normal retirement age.



# Future Retirees Eligible for the Health Insurance Premium Supplement (401(h) portion of Plan only)

It is assumed that 60% of future retirees will be eligible to receive the post-retirement health insurance premium supplement and that 40% of those retirees will be eligible for the dependent premium supplement. These assumptions also apply to members who have been retired less than one year.

#### Proportion of Members Who Will Not Withdraw Their Contributions

It is assumed that active members who terminate (prior to eligibility for retirement) and deferred vested members who have already terminated will choose to receive the enhanced refund option if the value of the enhanced refund option is greater than the present value of the deferred benefit. Otherwise, the members are assumed to elect to receive the deferred benefit. If the member is assumed to elect the enhanced refund option, then it is also assumed that the member forfeits the health insurance premium supplement. Members who terminate eligible for early retirement are assumed to commence payments immediately.

#### **Spouse Assumptions**

We assume that 100% of the members are married. We also assume that the husband is three years older than the wife.

#### **Modified Cash Refund Assumption**

We assume that members who elect a single life annuity will receive accumulated benefit payments equal to their contributions after three years of being in receipt.

#### 415(b) Limits

415(b) limits are not applied in the Plan valuation because there is an excess plan that pays benefits above the 415(b) limit.

#### **Optional Form Load**

A load of 0.174% has been added to the non-retired 401(a) liabilities to account for the election of optional forms other than a single life annuity.

#### **Alternate Contribution Rate**

The past service contribution rate is adjusted to consider alternate contribution rate payments. We reduce the amortization amount by the anticipated amount of alternate contributions, and adjust for interest. Prior to the June 30, 2013 valuation, no adjustment was made for alternate contribution rate payments.

#### **Adjustment for Contribution Timing**

Contribution rates are increased by  $\frac{1}{2}$  of a year's interest to reflect the fact that contributions are made throughout the fiscal year. Prior to the June 30, 2013 valuation, no adjustment was made for contribution rate timing.



#### Future Permanent Benefit Increases (PBIs) (401(a) portion of Plan only)

Future PBIs are not valued for funding purposes.

#### **Actuarial Value of Assets**

The actuarial value of assets is equal to the market value of assets less a ten-year phase-in (fiveyear phase-in prior to June 30, 2002) of the Excess (Shortfall) between expected investment return and actual income on the market value of assets. There is no corridor around market value within which the actuarial value is required to fall.

#### **Actuarial Cost Method**

Costs are determined under the projected unit credit method. The unfunded actuarial accrued liability was previously funded on a level dollar basis over the period of time described in Section 38-737A. Effective with the 2013 valuation, the ASRS Board determines the method of amortizing the unfunded actuarial accrued liability. Beginning with the actuarial valuation as of June 30, 2013, the period is a closed 30-year period for the 401(a) portion of the Plan and a closed 15year period for the 401(h) portion of the Plan.

# **GENERAL ACTUARIAL INFORMATION - RETIREMENT AND HBS**

## **Funding Objective**

The funding objective of the Arizona State Retirement System is to maintain reasonably stable contribution rates and to achieve an ultimate funded status of 100%. The Board of Trustees is responsible for establishing and maintaining the funding policy.

The actuarial cost methodology utilized for funding purposes differs from the actuarial cost methodology utilized for financial reporting purposes. The identification and discussion regarding the differences between the actuarial assumptions for financial reporting purposes and those utilized for funding purposes is contained in the Notes to the Basic Financial Statements. The Projected Unit Credit (PUC) Method is utilized as the actuarial cost methodology for funding purposes. The ASRS has been utilizing the PUC since 1989, when it became law in 1989 as a result of action taken by the legislature.

As of June 30, 2014, the date of the most recent actuarial valuation, this funding level is 76.9%. When the present actuarial asset value of \$32.9 billion is compared to the actuarial liabilities of \$42.8 billion, actuarial liabilities exceed actuarial assets by the amount of \$9.9 billion.

As of fiscal year 2008, statutory changes require annual actuarial valuations, not the biannual valuation required by a prior statutory change effective in 1998. The rates determined by the Plan, System and HBS (combined) valuations do not include contributions to the LTD program.

Please reference the ten-year schedule of actuarially determined and actual contributions in Required Supplementary Information.

#### **Asset Valuation**

The ASRS actuary determines the actuarial value of assets by recognizing investment gains and losses over a ten year period. The gradual recognition of investment gains and losses reduces volatility in the year-to-year level of contribution rates.

## SUMMARY OF THE BENEFIT PROVISIONS - RETIREMENT AND HBS

The Arizona State Retirement Plan makes provision for the retirement, disability, and death and survivor benefits to all employees of the State, instrumentalities of the State and certain political subdivisions. Please refer to the Financial Section of this report for an in-depth discussion of plan provisions. The major provisions of the Plan may be summarized as follows:

#### A. RETIREMENT BENEFITS

#### 1. Normal Retirement Date (the earliest of the following):

- a) a member's sixty-fifth birthday,
- b) a member's sixty-second birthday and completion of at least ten years of credited service, or
- c) the first day immediately following the day that the sum of the member's age and his years of total credited service equal eighty for members hired before July 1, 2011 or for members hired on or after July 1, 2011, age 60 with 25 years of credited service or age 55 with 30 years of service.

#### 2. Monthly Life Annuity

The product of a benefit multiplier (as determined below) and the member's best 36 month average compensation (in last 120 months) for members hired before July 1, 2011 and 60-month average compensation (in last 120 months) for members hired on or after July 1, 2011 multiplied by his or her years of total credited service. Members who commenced membership prior to 1984 can use a 60-month average and include additional types of compensation, if doing so produces a larger result.

<b>Years of Credited Service</b>	Benefit Multiplier
Less than 20	2.10%
20.0 to 24.99	2.15%
25.0 to 29.99	2.20%
30 or more	2.30%

#### 3. Normal Retirement Benefits

The sum of the monthly life annuity and any prior service benefits to which the employee was entitled under the System.

#### 4. Early Retirement

Age 50 with 5 or more years of credited service.

#### 5. Early Retirement Benefits

If not eligible for normal retirement and at least age 50 with 5 years of total credited service, normal retirement benefit earned to the date of retirement, reduced according to the following table:

					Age A	At Dat	e Of F	Retire	ment							
Years of																
Service	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
Members Hired Before July 1, 2011																
5-9.99	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	88%	91%	94%	97%	100%
10-19.99	44%	49%	54%	59%	64%	69%	74%	79%	84%	89%	94%	97%	100%	100%	100%	100%
20	50%	55%	60%	65%	70%	75%	80%	91%	94%	97%	100%	100%	100%	100%	100%	100%
21	50%	55%	60%	65%	70%	75%	91%	94%	97%	100%	100%	100%	100%	100%	100%	100%
22	50%	55%	60%	65%	70%	91%	94%	97%	100%	100%	100%	100%	100%	100%	100%	100%
23	50%	55%	60%	65%	91%	94%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%
24	50%	55%	60%	91%	94%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
25	50%	55%	91%	94%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
26	50%	91%	94%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
27	91%	94%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
28	94%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
29	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
30+	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Members Hired On Or After July 1, 2011																
5-9.99	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	88%	91%	94%	97%	100%
10-24.99	44%	49%	54%	59%	64%	69%	74%	79%	84%	89%	94%	97%	100%	100%	100%	100%
25-29.99	44%	49%	54%	59%	64%	69%	74%	79%	84%	89%	100%	100%	100%	100%	100%	100%
30+	44%	49%	54%	59%	64%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Provided, however, that if the member meets the Rule of 77 (but not the Rule of 80), the reduction will be 3% for each unit below 80 for members hired before July 1, 2011.

#### 6. Normal Form of Benefit

Straight life annuity with cash refund feature payable monthly with benefits commencing on the day following the date of termination of employment.

#### 7. Optional Forms

- a) joint and contingent annuity (with pop-up) with either 100%, 66-2/3% or 50% of the reduced retirement income payable for the life of the contingent annuitant upon the death of the retiring participant, or
- period certain and life annuity (with pop-up) with either five, ten, or fifteen years of payments guaranteed

## 8. Minimum Benefit

The minimum monthly benefit payable to a retired member who is at least age 75 and who has 20 or more years of service is \$600.

## B. DISABILITY BENEFITS (for disability after June 30, 1988)

#### 1. Long Term disability

Monthly benefit equal to two-thirds of monthly compensation, reduced by percentages of other income received payable commencing six months after date of disability until the earlier of:

- a) Date of cessation of total disability, or
- b) Normal retirement date.

This benefit is paid by a separate LTD plan.

#### 2. Disability Payments if Member Remains Disabled Through Normal Retirement Date

Monthly benefit participant would have received if service had continued to normal retirement date assuming the participant's salary remained at the level it was at his or her date of disability, also provided that the amount of total credited service is limited to 30 years unless he or she had more than 30 years at date of disability.

#### 3. The minimum monthly benefit payable to a disabled participant is \$50.00.

## C. DISABILITY BENEFITS (for disability before July 1, 1988)

#### 1. Eligibility

Age 50 with 5 years of service.

#### 2. Benefit Amount

A life annuity that can be provided by the member's contribution account. Disability payments after normal or early retirement eligibility are reduced by the actuarial value of the disability payments made up to the date of normal or early retirement eligibility.

#### D. PRE-RETIREMENT DEATH BENEFITS

### 1. Eligibility

Applicable if death occurs prior to retirement.

#### 2. Benefit

Any one of the following, at the option of the beneficiary:

- a) a lump sum equal to the sum of (i) and (ii):
  - i) the sum of the member's member and employer balances, and
  - ii) the amount of the member's employee and employer accounts, along with supplemental credits, if any, transferred from the System to the Plan, with interest
- b) the beneficiary may elect to receive a monthly income, in the single life form, which is actuarially equivalent to the amount in (a) at 8%.

#### E. VESTING OF BENEFITS

#### 1. Vesting

A member is fully vested in his or her accrued benefit.

#### 2. Benefits Upon Vesting

A fully vested member is entitled to either:

- a) the enhanced refund option for members hired before July 1, 2011 or for members terminated due to an Employer Reduction in Force or position elimination for members hired on or after July 1, 2011, or
- b) the refund option for members hired on or after July 1, 2011 who are not terminated due to an Employer Reduction in Force or position elimination, or,
- c) the retirement benefit payable at normal retirement earned to the date of member's termination.

The enhanced refund option allows members who terminate prior to eligibility for retirement to receive a refund of their member contributions with interest. In addition, if a member has at least five years of service, he or she is also entitled to a share of the employer contributions with interest. The share is 25% for members with five years of service and increases 15% for each additional year of service up to a maximum of 100% for ten or more years of service. The Board reduced the interest rate to be credited on refund of contributions from 8% to 4%, effective June 30, 2005, and from 4% to 2% effective June 30, 2013.

The refund option is the same as the enhanced refund option except it does not include any shares of the employer contributions with interest.

## F. RETIREE HEALTH INSURANCE PREMIUM SUPPLEMENT

#### 1. Eligibility

Retirement or disability after 5 years of credited service and covered by an employer-sponsored group insurance program for which the retired or disabled member must pay part of the cost. Employees who elect the enhanced refund option are not eligible for this benefit.

#### 2. Benefit

The benefit is payable only with respect to allowable health insurance premiums for which the participant is responsible. The maximum benefits for participants with 10 or more years of service are:

- a) with respect to premiums paid for retirees with member only coverage:
  - \$150 per month if the retiree is under age 65
  - \$100 per month if the retiree is 65 or over
- b) with respect to premiums paid for retirees with family coverage:
  - \$260 per month if the member and dependents are under age 65
  - \$170 per month if the member and dependents are 65 or over
  - \$215 per month if the member is over age 65 and the dependent is under age 65
  - \$215 per month if the member is under age 65 and the dependent is over age 65

For members with five to nine years of service, the benefits are the same dollar amounts as above multiplied by a vesting fraction equal to 10% for each completed year of service (i.e., 50% to 90%).

## G. AUTOMATIC COST OF LIVING ADJUSTMENT BASED ON EXCESS INVEST-MENT EARNINGS

#### 1. Permanent Benefit Increase (PBI)

Retirees who have been retired one year and LTD members are eligible for a PBI up to a maximum of a 4% increase. The PBI is paid from a reserve of "Excess Investment Earnings." If there are no "Excess Investment Earnings" in reserve, then no PBI is paid.

#### 2. Permanent Benefit Increase Enhancement

Provides retired members with at least ten years of service who have been retired five or more years an additional benefit. For each complete 5-year period the member has been retired an incremental benefit is paid if monies to pay the benefit are available. This benefit is funded by an interest credit of 8.0% of the reserve for future PBIs.

PBI and enhanced PBI benefits are reflected in the valuation as soon as they are awarded. Future PBI and enhanced PBI are not included in the valuation.

Due to legislation enacted in the 2013 legislative session, PBIs and enhanced PBIs will not be awarded to members hired after September 13, 2013.

#### H. EMPLOYEE AND EMPLOYER CONTRIBUTIONS

The contribution rate for the fiscal year beginning on July 1st is based on the results of the most recent actuarial valuation as of the last day of the preceding plan year. The member's contribution rate is equal to the required employer contribution rate. The contribution rate for fiscal year 2015 is 11.48% for each member and each employer, based on the 2013 actuarial valuation. The contribution rate for fiscal year 2016 will be 11.35% based on this valuation. Interest is credited at 8.00%; however, interest is credited at 4% from July 1, 2005 and 2% from July 1, 2013 for return of contributions upon withdrawal. Please refer to the ten-year schedule of actuarially determined and actual contributions provided in Required Supplementary Information.

# STATEMENT OF ACTUARIAL METHODS AND ASSUMPTIONS RETIREMENT AND HBS

## ADOPTED BY BOARD ACTION ON MAY 24, 2013 EFFECTIVE AS OF JUNE 30, 2013

## A. Actuarial Assumptions

Determined from experience analysis from July 1, 2007 through June 30, 2012. Any changes as a result of the actuarial study or plan provisions have been taken into account in the most recent actuarial valuation.

## 1. Investment Yield Rate <sup>1</sup>

8% per annum compounded annually, net of all expenses (determined from the Board's strategic session).

#### 2. Mortality

The mortality assumption was chosen to be used from June 30, 2013 to June 30, 2017. The rates were projected to the middle point of this period and include an appropriate level of conservatism that reflects expected future mortality improvements.

#### a) Pre-retirement

Assumption: 50% of 1994 GAM – Static, Projected to 2015 With Projection Scale BB, with no setback. Rates at representative ages are shown below:

Rates of Mortality (Active)							
AGE	MALE PARTICIPANTS	FEMALE PARTICIPANTS					
20	0.000207	0.000128					
25	0.000270	0.000127					
30	0.000269	0.000146					
35	0.000292	0.000211					
40	0.000406	0.000344					
45	0.000692	0.000476					
50	0.001127	0.000639					
55	0.001882	0.000987					
60	0.003149	0.001779					
65	0.005325	0.003450					
70	0.008633	0.005639					
75	0.013718	0.009380					
80	0.023121	0.016632					
85	0.038025	0.029474					
90	0.066498	0.052712					

<sup>&</sup>lt;sup>1</sup> The assumed rate of return on pension assets is different from the rate used to discount the actuarial accrued liability.

#### b) Post-retirement

Assumptions: Non-Disabled rates are based on the 1994 GAM – Static, Projected to 2015 with Projection Scale BB with adjustments for small and large benefit amounts. Disabled rates are based on the experience of other large public sector retirement systems and ASRS' own experience. Rates (with no adjustments for benefit amount) at representative ages are shown below.

	Rates of Mortality			
	Male Part	icipants	Female Par	ticipants
AGE	NON-DISABLED	DISABLED	NON-DISABLED	DISABLED
20	0.000414	0.034940	0.000256	0.026940
25	0.000539	0.038890	0.000253	0.027440
30	0.000538	0.051100	0.000292	0.038300
35	0.000584	0.063540	0.000423	0.053930
40	0.000812	0.058810	0.000688	0.056980
45	0.001384	0.040920	0.000951	0.037590
50	0.002253	0.034740	0.001277	0.025700
55	0.003763	0.031360	0.001975	0.022840
60	0.006299	0.031110	0.003558	0.018030
65	0.010650	0.030860	0.006901	0.013930
70	0.017267	0.033730	0.011278	0.012990
75	0.027435	0.048250	0.018760	0.020770
80	0.046241	0.055540	0.033265	0.036470
85	0.076050	0.090010	0.058948	0.063400
90	0.132997	0.146340	0.105424	0.112480

#### 3. Disability Rates

Rates of Decrement Due to Disability				
AGE	UNISEX RATES			
20	0.000491			
25	0.000541			
30	0.000654			
35	0.000997			
40	0.001583			
45	0.002449			
50	0.003649			
55	0.004280			
60	0.004655			

# STATEMENT OF ACTUARIAL METHODS AND ASSUMPTIONS - RETIREMENT AND HBS (CONTINUED)

4. Withdrawal Rates (for causes other than death, disability or retirement) Rates by completed years of service are shown below:

Rate of Decrement Due to Withdrawal					
YEARS OF SERVICE	MALES	FEMALES			
0	18.50%	21.75%			
1	15.75%	17.00%			
2	12.75%	14.75%			
3	10.75%	11.75%			
4	9.50%	10.25%			
5	8.50%	9.75%			
6	7.75%	8.50%			
7	6.75%	7.75%			
8	5.75%	6.25%			
9	5.50%	5.75%			
10	5.25%	5.00%			
11	4.75%	4.50%			
12	4.25%	4.10%			
13	3.50%	3.80%			
14	3.25%	3.50%			
15	3.00%	3.25%			
16	2.75%	3.00%			
17	2.75%	2.75%			
18	2.50%	2.50%			
19	2.25%	2.25%			
20+	2.00%	2.00%			

## 5. Salary Scales

A select and ultimate salary scale made up of a merit component and general salary increase component as follows:

		Total Salary
<b>Years of Service</b>	Merit Component	Increase <sup>1</sup>
1	3.75%	6.75%
2	3.00%	6.00%
3	1.90%	4.90%
4	1.35%	4.35%
5	1.05%	4.05%
6	0.95%	3.95%
7	0.75%	3.75%
8	0.60%	3.60%
9	0.60%	3.60%
10	0.40%	3.40%
11 to 19	0.20%	3.20%
20 or more	0.00%	3.00%

<sup>&</sup>lt;sup>1</sup> Total salary increase rate = wage inflation (or growth) rate (3.00%) + merit component

## 6. Retirement Age

Select and ultimate retirement rates are used. Rates at representative ages and years of service are shown below:

Rates of Decrement Due to Retirement  YEARS OF SERVICE - ALL MEMBERS						
AGE	0-3	11-18	25	31+		
Tier 1 <sup>1</sup> :						
50	0.00%	4.00%	5.00%	25.00%		
55	0.00%	4.00%	25.00%	25.00%		
60	0.00%	9.00%	25.00%	25.00%		
62	0.00%	33.00%	25.00%	25.00%		
65	33.00%	33.00%	33.00%	33.00%		
70	15.00%	25.00%	33.00%	25.00%		
Tier 2:						
50	0.00%	4.00%	8.33%	14.00%		
55	0.00%	4.00%	10.89%	33.00%		
60	0.00%	9.00%	30.00%	25.00%		
62	0.00%	33.00%	25.00%	25.00%		
65	33.00%	33.00%	33.00%	33.00%		
70	15.00%	25.00%	33.00%	25.00%		

<sup>&</sup>lt;sup>1</sup> Tier 1 represents active members hired before July 1, 2011. Deferred vested members are assumed to retire at normal retirement age.

## 7. Future Retirees Eligible for the Health Insurance Premium Supplement

It is assumed that 60% of future retirees will be eligible to receive the post-retirement health insurance premium supplement and that 40% of those retirees will be eligible for the dependent premium supplement. These assumptions also apply to members who have been retired less than one year.

#### 8. Proportion of Vested Term Members Who Will Not Withdraw Their Contributions

It is assumed that active members who terminate (prior to eligibility for retirement) and deferred vested members who have already terminated will choose to receive the enhanced refund option if the value of the enhanced refund option is greater than the present value of the deferred benefit. Otherwise, the members are assumed to elect to receive the deferred benefit. If the member is assumed to elect the enhanced refund option, then it is also assumed that the member forfeits the health insurance premium supplement.

Members who terminate eligible for early retirement are assumed to commence payments.

#### 9. Spouse Assumptions

We assume that 100% of the members are married. We also assume that the husband is three years older than the wife.

#### 10. Modified Cash Refund Assumption

We assume that members who elect a single life annuity will receive accumulated benefit payments equal to their contributions after three years of being in receipt.

#### 11. 415 (b) Limits

415(b) limits are not applied in the Plan valuation because there is an excess plan that pays benefits above the 415(b) limit.

#### 12. Optional Form Load

A load of 0.174% has been added to the non-retired 401(a) liabilities to account for the election of optional forms other than a single life annuity.

#### 13. Alternate Contribution Rate

The past service contribution rate is adjusted to consider alternate contribution rate payments. The past amortization amount was reduced by the anticipated amount of alternate contributions, and adjusted for interest. Previously, no adjustment was made for alternate contribution rate payments.

#### 14. Adjustment for Contribution

Contribution rates are increased by ½ of a year's interest to reflect the fact that contributions are made throughout the fiscal year. Prior to the June 30, 2013 valuation, no adjustment was made for alternate contribution rate payments..

#### 15. Future Permanent Benefit Increases (PBIs)

Future PBIs are not valued for funding purposes.

#### **B.** Actuarial Value of Assets

The actuarial value of assets is equal to the market value of assets less a ten-year phase in (five-year phase-in prior to June 30, 2002) of the Excess (Shortfall) between expected investment return and actual income on the market value of assets. There is no corridor around market value within which the actuarial value is required to fall.

## C. Actuarial Funding Method

Costs are determined under the projected unit credit method. The unfunded actuarial accrued liability was previously funded on a level dollar basis over the period of time described in Section 38-737. Beginning with the June 30, 2013 valuation, the period is a closed 30-year period for the 401(a) portion of the Plan and a closed 15-year period for the 401(h) portion.

#### D. Data for Valuation

In preparing the actuarial valuation as of June 30, 2014, the actuary has relied on data and assets provided by the staff of the Arizona State Retirement System. While not verifying the data at their source, the actuary has performed tests for consistency and reasonableness.

## RETIREMENT AND HBS SCHEDULES

## **Schedule of Retirement Active Member Valuation Data**

Last 10 Years

	NUMBER OF	Contributing	Activ	ve Members		
VALUATION AS OF JUNE 30	PARTICIPATING EMLOYERS	ACTIVE MEMBERS	Al	NNUAL PAYROLL	 L AVERAGE PAY	INCREASE IN AVERAGE PAY
2005	598	212,202	\$	8,032,457,947	\$ 37,853	3.9%
2006	599	217,676		8,311,869,615	38,185	0.9%
2007	597	224,001		9,161,803,726	40,901	7.1%
2008	586	226,415		9,708,352,896	42,879	4.8%
2009	599	222,515		9,834,810,345	44,198	3.1%
2010	599	213,530		9,419,951,810	44,115	-0.2%
2011	595	208,939		9,060,630,604	43,365	-1.7%
2012	593	203,994		8,868,678,184	43,475	0.3%
2013	585	202,693		8,752,783,004	43,182	-0.7%
2014	585	203,201		8,908,620,792	43,841	1.5%

## **Schedule of Retirement Retirees Added to and Removed From Rolls**

Valuation as of June 30			ts and s Added to Is	Ben	efic	ts and ciaries from Rolls	Retirants and Beneficiaries Rolls End Is of Year		% Increase in Annual Allowance	A	verage innual owances
	NO.	Αl	ANNUAL LOWANCES	NO.	Α	ANNUAL LLOWANCES	NO.	ANNUAL ALLOWANCES <sup>1</sup>			
2005	7,005	\$	136,009,712	2,083	\$	29,472,225	73,853	\$1,336,563,347	8.7%	\$	18,098
2006	7,143		170,867,676	2,498		32,717,257	78,498	1,474,713,766	10.3%		18,787
2007	7,393		144,536,847	2,297		30,532,270	83,594	1,588,718,343	7.7%		19,005
2008	7,784		148,885,733	2,422		33,418,979	88,956	1,704,185,097	7.3%		19,158
2009	7,958		153,218,995	2,490		30,033,184	94,424	1,827,370,908	7.2%		19,353
2010	9,360		176,419,906	2,477		35,666,261	101,307	1,968,124,553	7.7%		19,427
2011	9,288		179,066,507	2,599		38,511,310	107,926	2,108,679,750	7.1%		19,526
2012	9,227		171,972,274	2,792		41,695,405	114,431	2,238,956,619	6.2%		19,566
2013	9,489		175,974,484	3,045		47,326,711	120,875	2,367,604,392	5.7%		19,587
2014	8,385		160,478,869	3,005		45,575,405	126,255	2,482,507,856	4.9%		19,663

<sup>&</sup>lt;sup>1</sup> Cost of Living Increases included here.

## Schedule of HBS Retirees Added to and Removed From Rolls

Last 6 Years<sup>1</sup>

Valuation as of June 30	Retirants and Beneficiaries Added to Rolls			from Rolls				Bene	ficia	nts and aries Rolls of Year	% Increase in Annual	An	erage inual vances
	NO.	Al	ANNUAL LLOWANCES		NO.	Α	ANNUAL ALLOWANCES	NO.	Þ	ANNUAL ALLOWANCES			
2009	N/A		N/A		N/A		N/A	54,753	\$	82,222,248	N/A	\$	1,502
2010	5,689	\$	10,358,376	\$	1,821	\$	6,487,680	57,795		86,092,944	4.7%		1,490
2011	6,047		10,459,392		3,199		7,707,744	60,643		88,844,592	3.2%		1,465
2012	5,867		9,754,788		3,285		8,936,184	63,225		89,663,196	0.9%		1,418
2013	5,861		9,434,508		4,159		9,127,908	64,927	2	89,969,796	0.3%		1,386
2014	5,609		8,620,656		3,350		8,597,436	67,186	3	89,993,016	0.0%		1,339

<sup>&</sup>lt;sup>1</sup> Information not available for prior years.

# Schedule of Funding Progress (Retirement and HBS)

Year Ended June 30	Actuarial Accrued Liabilities	crued Actuar		Assets tuarial Value % of Ac f Net Assets Liabil			Unfunded Actuarial Accrued bilities (UAL)	Covered Employee Payroll	UAL as a % of Covered Employee Payroll
2005	\$ 27,942,601,285	\$	23,836,519,123	85.3	3%	\$	4,106,082,162	\$ 8,032,457,947	51.1%
2006	29,696,631,262		24,851,522,776	83.7	7%		4,845,108,486	8,311,869,615	58.3%
2007	31,995,671,426		26,476,687,905	82.8	3%		5,518,983,521	9,161,803,726	60.2%
2008	33,870,864,745		27,851,825,730	82.2	2%		6,019,039,015	9,708,352,896	62.0%
2009	35,742,538,572		28,360,159,450	79.3	3%		7,382,379,122	9,834,810,345	75.1%
2010	37,557,862,066		28,823,144,688	76.7	7%		8,734,717,378	9,419,951,810	92.7%
2011	38,555,369,013		29,230,960,267	75.8	3%		9,324,408,746	9,060,630,604	102.9%
2012	39,952,371,191		30,229,577,272	75.7	7%		9,722,793,919	8,868,678,184	109.6%
2013	41,396,575,487		31,435,228,262	75.9	9%		9,961,347,225	8,752,783,004	113.8%
2014	42,826,013,931		32,922,116,667	76.9	9%		9,903,897,264	8,908,620,792	111.2%

<sup>&</sup>lt;sup>2</sup> Includes 627 System members receiving HBS benefits and 1,516 members receiving LTD benefits and HBS benefits.

<sup>&</sup>lt;sup>3</sup> Includes 608 System members receiving HBS benefits and 1,383 members receiving LTD benefits and HBS benefits.

# **Solvency Test** (Retirement)

Last 10 Years

			Aggrega	Net Assets Available for	Portion of Accrued Liabilities Covered by Net Assets					
Year End		ACTIVE MEMBER RETIREES AND CONTRIBUTIONS BENEFICIARIES				FINANCED PORTION)	Benefits	-		Benefits
June 30			(1)		(2)	(3)		(1)	(2)	(3)
2005		\$	3,717,945,957	\$	12,970,620,699	\$ 9,797,630,212 <sup>1</sup>	\$ 22,808,290,293	100%	100%	62.5%
2006			4,168,243,157		13,998,186,812	10,025,660,085 <sup>1</sup>	23,766,572,590	100%	100%	55.9%
2007			5,533,036,906		15,191,806,375	9,665,632,410	25,309,888,063	100%	100%	47.4%
2008			6,256,502,949		16,357,773,654	9,810,200,566	26,612,440,139	100%	100%	40.8%
2009			7,054,925,502		17,455,947,713	9,779,242,657	27,093,788,614	100%	100%	26.4%
2010	2		7,704,328,621		19,246,476,421	9,121,714,675	27,571,999,406	100%	100%	6.8%
2011			8,374,149,814		20,541,081,742	8,135,947,783	27,983,517,225	100%	95.5%	0.0%
2012			9,110,894,718		21,699,459,353	7,639,934,669	28,948,010,913	100%	91.4%	0.0%
2013			9,917,301,188		23,684,426,598	6,310,027,446	30,110,632,566	100%	85.3%	0.0%
2014			10,780,693,824		24,689,077,682	5,879,545,497	31,547,987,085	100%	84.1%	0.0%

<sup>&</sup>lt;sup>1</sup> 401(a) liabilities for 2006 and earlier include 401 (h) liabilities for inactive members.

## **Solvency Test (HBS)**

Year	End	ACTIVE	Aggregat E MEMBER IBUTIONS	R	Accrued Liabil ETIREES AND ENEFICIARIES	( I	S for: ACTIVE MEMBERS EMPLOYER FINANCED PORTION)	Net Assets Available for Benefits	Liabi	Portion of Accrued Liabilities Covered by Net Assets Available for Benefits			
June	30		(1)		(2)		(3)		(1)	(2)	(3)		
200	)5	\$	-	\$	552,285,029	\$	904,119,388 <sup>3</sup>	\$ 1,028,228,83	0 100%	100%	52.6%		
200	)6		-		578,560,443		925,980,765 <sup>3</sup>	1,084,950,18	5 100%	100%	54.7%		
200	)7		-		598,088,408		1,007,107,327	1,166,799,84	2 100%	100%	56.5%		
200	8(		-		619,808,594		826,578,982	1,239,385,59	1 100%	100%	75.0%		
200	)9		-		627,536,754		824,885,946	1,266,370,83	5 100%	100%	77.4%		
201	.0		-		652,876,059		832,466,290	1,251,145,28	2 100%	100%	71.9%		
201	.1		-		669,593,178		834,596,496	1,247,433,04	2 100%	100%	69.2%		
201	2		-		674,713,116		827,369,335	1,281,566,35	9 100%	100%	73.3%		
201	.3		-		738,731,217		746,089,038	1,324,596,69	5 100%	100%	78.5%		
201	.4		-		734,450,033		742,246,895	1,374,129,58	2 100%	100%	86.2%		

<sup>&</sup>lt;sup>3</sup> HBS Liabilities for 2006 and earlier are included in Plan liabilities for inactive members.

<sup>&</sup>lt;sup>2</sup> 2010 and subsequent years results include System liabilities and assets for members who retired or will retire on or after July1, 1981.

## **Analysis of Financial Experience for Retirement**

Last 10 Years (Dollars in Millions)

Year Ended June 30	Unfunded Actuarial Liability (UAAL) Prior Year	Normal Cost for the Year	Contributions for the Year	Interest at 8% on UAAL	On Normal Cost	On Contributions	Total	Expected UAAL	Actual UAAL	Gain (Loss) for the Year <sup>1</sup>
2005	\$ 1,846.85	\$ 958.24	\$ (861.35)	\$ 147.75	\$ 76.66	\$ (34.45)	\$189.95	\$ 2,133.69	\$ 3,677.91	\$ (1,544.22)
2006	3,677.91	1,023.15	(1,171.73)	294.23	81.85	(46.87)	329.22	3,858.54	4,425.52	(566.98)
2007	4,425.52	1,116.57	(1,527.70)	354.04	89.33	(61.11)	382.26	4,396.65	5,080.59	(683.94)
2008	5,080.59	1,165.17	(1,616.67)	406.45	93.21	(64.67)	434.99	5,064.08	5,812.04	(747.96)
2009	5,812.04	1,205.10	(1,598.33)	464.96	96.41	(63.93)	497.44	5,916.24	7,196.33	(1,280.08)
2010	7,196.33	1,234.67	(1,571.82)	575.71	98.77	(62.87)	611.61	7,470.79	8,500.52	(1,029.73)
2011	8,500.52	1,215.14	(1,619.79)	680.04	97.21	(64.79)	712.46	8,808.33	9,067.66	(259.33)
2012	9,067.66	1,170.47	(1,758.02)	725.41	93.64	(70.32)	748.73	9,228.84	9,502.28	(273.44)
2013	9,502.28	1,164.58	(1,859.21)	760.18	93.17	(74.37)	778.98	9,586.63	9,801.12	(214.49)
2014	9,801.12	1,143.11	(1,961.18)	784.09	45.72	(78.45)	751.36	9,734.41	9,801.33	(66.92)

## **Analysis of Financial Experience for HBS**

Last 10 Years (Dollars in Millions)

Year Ended June 30	Ac Li	funded ctuarial ability UAAL) or Year	C	ormal ost for the Year	Contribution for the Year				% Normal		Co	On ontributions	Гotal	pected	Actual UAAL	(Lo	Gain oss) for e Year <sup>1</sup>
2005	\$	428.57	\$	51.98	\$	(85.35)	\$	34.29	\$	4.16	\$	(3.41)	\$ 35.03	\$ 430.23	\$ 428.17	\$	2.06
2006		428.17		52.31		(93.46)		34.25		4.18		(3.74)	34.70	421.72	419.59		2.13
2007		419.59		55.04		(103.47)		33.57		4.40		(4.14)	33.83	404.99	438.39		(33.40)
2008		438.39		53.73		(99.03)		35.07		4.30		(3.96)	35.41	428.50	207.00		221.50
2009		207.00		46.38		(90.48)		16.56		3.71		(3.62)	16.65	179.55	186.05		(6.50)
2010		186.05		41.88		(59.39)		14.88		3.35		(2.38)	15.85	184.39	234.20		(49.81)
2011		234.20		40.28		(51.05)		18.74		3.22		(2.04)	19.92	243.35	256.75		(13.40)
2012		256.75		38.42		(54.46)		20.54		3.07		(2.18)	21.43	262.14	220.51		41.63
2013		220.51		35.54		(57.16)		17.64		2.84		(2.28)	18.20	217.09	160.23		56.86
2014		160.23		34.05		(53.40)		12.82		1.36		(2.14)	12.04	152.92	102.57		50.35

<sup>&</sup>lt;sup>1</sup> Gain/Loss includes assumption and plan changes.

Middle of year beginning in 2014, beginning of year prior to 2014.

Values shown for valuation dates on or after June 30, 2010, for the above two schedules, include System assets and liabilities for members who retired or will retire on or after July 1, 1981.

## ACTUARIAL CERTIFICATION – LTD



November 13, 2015

Retirement Board Arizona State Retirement System 3300 North Central Avenue 14th Floor Phoenix, Arizona 85012

#### Arizona State Long-Term Disability Program Actuarial Certification - LTD Program

This is to certify that Buck Consultants, LLC has prepared an actuarial valuation of the Arizona State Long-Term Disability Program (the LTD Program) as of June 30, 2014. The results of our valuation are contained in our Actuarial Report on the Valuation of the LTD Program as of June 30, 2014, dated January 28, 2015.

Actuarial valuations are performed annually as of June 30, the last day of both the LTD Program plan year and ASRS' fiscal year. The primary purpose of the valuation is to determine the required member and employer contribution rates, to describe the current financial condition of the LTD Program, and to analyze changes in the LTD Program's financial condition since the prior valuation.

The actuarial valuation determines the contribution rates payable by members and participating employers. These rates, when applied to payroll, yield contribution amounts sufficient to provide for the normal cost and to amortize the Unfunded Actuarial Accrued Liability (UAAL) over the period that ASRS has adopted. The contribution rates calculated become effective for the next fiscal year. For example, the rates calculated in the June 30, 2014 valuation are applicable for the fiscal year beginning July 1, 2015.

#### **Summary of Valuation Results**

The funded status of the LTD Program is determined by comparing the Actuarial Value of Assets to the Actuarial Accrued Liability. As of June 30, 2014, the funded status of the LTD Program is 84.99%. This compares to a June 30, 2013 funded status of 85.69%

The June 30, 2014 actuarial valuation establishes a total contribution rate of 0.24% of the annual compensation of members. The total normal cost rate is 0.18% of compensation, and the UAAL amortization payment is 0.06% of compensation.

#### David J. Kershner

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#### **LTD Program Terms**

The LTD Program terms are described in Section 38-797 of the Arizona Revised Statutes. All LTD benefits described in the statutes are reflected in this valuation. A summary of the LTD Program terms is listed in Section 9 of our valuation report.

#### **Member Data**

ASRS staff and Sedgwick (the administrator of the LTD Program) supplied census data for disabled and active members as of June 30, 2014. We have not audited this data, but have examined the data for reasonableness and consistency with the prior year's data. ASRS staff also supplied asset information.

The June 30, 2014 valuation includes a total of 207,407 members - 203,201 active members and 4,206 disabled members. The member data is summarized in Section 10 of our valuation report.

#### **Assumptions and Methods**

On May 24, 2013, the Board adopted revised actuarial assumptions to be effective beginning with the June 30, 2013 valuation. These assumptions were based on the experience study we performed for the five-year period ended June 30, 2012.

On November 18, 2013, the Board adopted a change in the UAAL amortization method. The new method, effective for the June 30, 2013 and later valuations, amortizes the UAAL over closed 15-year periods.

The actuarial assumptions and methods are attached to this letter and are summarized in Sections 7 and 8 of our valuation report. We believe the assumptions used in the valuation are reasonable, taking into account the experience of the LTD Program and reasonable expectations, and represent our best estimate of anticipated experience under the LTD Program.

We certify that the valuation was performed in accordance with generally accepted actuarial principles and procedures, and has been prepared in accordance with all applicable Actuarial Standards of Practice. In our opinion, the valuation results comply with the requirements of the Arizona Constitution and statutes and, where applicable, the Internal Revenue Code and the Employee Retirement Income Security Act of 1974 (ERISA). The undersigned actuaries are independent. They are both Fellows of the Society of Actuaries, Enrolled Actuaries and Members of the American Academy of Actuaries. They meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein and in our valuation report. Additionally, the valuation was reviewed by Reza Vahid (Fellow of the Society of Actuaries and Member of the American Academy of Actuaries).



We prepared the following sections in our valuation report:

- Section 3 Schedule of Funding Progress
- Section 4 Schedule of Benefit Recipients Added to and Removed from Rolls
- Section 5 Solvency Test
- Section 6 Analysis of Financial Experience

Buck Consultants, LLC

David J. Kershner, FSA, EA, MAAA Principal and Consulting Actuary

Troy Jaros, FSA, EA, MAAA, FCA Senior Consultant, Retirement Actuary



## Arizona State Long-Term Disability Program

Actuarial Assumption and Methods used in June 30, 2014 Valuation

**Discount Rate** 

8% per annum net of investment expenses

Rates of Termination of Claims in Payment due to Death or Recovery

150% of the Rates in the 1987 Commissioners' Group Long Term Disability Valuation Table (1987 CGDT) applicable to plans with a sixmonth elimination period.

**Disability Incidence Rates for Active Members** 

Age-based unisex rates as developed for the Arizona State Retirement Plan. Rates at representative ages are given below:

Age	Unisex
20	0.05%
30	0.07%
40	0.16%
50	0.36%
60	0.47%

**Offsets for Disabled Members** 

We are assuming that the amounts that Sedgwick reports as offsets (other than overpayment offsets) will continue to apply to each member's benefit until that benefit expires. For members within three years of receipt of LTD benefits, we have adjusted benefit amounts to reflect future offsets, assuming 90% of members will have offsets after 3 years.

We assume that these offsets reduce the gross benefits by 45%. We previously assumed offsets would reduce the gross benefits by 40%. We also assume that the weighted average months of overpayment is equal to 19 months.

These assumptions are reviewed annually.



Offsets for Active Members We assume that LTD Program benefits, after all

applicable offsets are 55% of the benefits before the offsets. This is the percentage that applies for

currently disabled members.

Incurred But Not Reported (IBNR) The liability for new LTD recipients was loaded by

20% to reflect IBNR.

**Alternate Contribution Rate** We have adjusted the past service contribution rate

to consider alternate contribution rate payments.

**Mid-Year Timing** We have adjusted the contribution rates to

anticipate contributions being made throughout the

year.

**Expenses** We include expenses in the liabilities. The liability

> for actives was loaded by 2.8% and the liability for currently disabled members is increased by assumed expenses according to the LTD Program

Terms.

All other assumptions are the same as those used in the valuation of the Arizona State Retirement Plan.

**Actuarial Value of Assets** The actuarial value of assets is equal to the market

> value of assets less an adjustment to reflect investment gains/losses over a 10-year period

starting as of June 30, 2006.

**Actuarial Cost Method** The actuarial cost method is the projected unit cost

method. Benefits are attributable from hire to expected date of disability. Effective with the June 30, 2013 valuation, the unfunded actuarial accrued liability is amortized over a closed 15-year period

using a level dollar amortization method.

# **GENERAL ACTUARIAL INFORMATION - LTD**

Effective October 1, 1995, to comply with Internal Revenue Code requirements, liabilities associated with the long term disability benefit were separated from the Plan. No assets were transferred to the LTD fund. Accordingly, the objectives of the funding method that the Board adopted for the LTD program have been:

- To produce a positive cash flow
- To maintain reasonably stable contribution rates
- To build up the assets gradually

## SUMMARY OF BENEFIT PROVISIONS – LTD

The Arizona State Retirement System (ASRS) Long Term Disability (LTD) Program began on July 1, 1995. The program covers ASRS LTD Program participants who become disabled on or after July 1, 1995. ASRS members who were receiving LTD benefits prior to July 1, 1995, were transferred to the program on October 1, 1995. Contributions began July 1, 1995, and are paid 50% by employers and 50% by active members.

Below we have summarized the main provisions of the LTD Program.

**Effective Date:** The plan was established effective July 1, 1995.

**Participation:** To be eligible, members must be actively at work and engaged to work at least 20 weeks in a fiscal year and at least 20 hours each week. Coverage is contingent on payment of premiums.

Contributions: Members are required to contribute to the LTD Program in accordance with the schedule ratified each year by the Board. The fiscal year 2014 rate was 0.24% of payroll. Employers have equal contributions, and the Board allocates all contributions to the LTD Program's depository.

Qualifications for Benefit: Monthly benefits are not payable until a member has been totally disabled for a period of six consecutive months. Monthly benefits are not payable to a member whose disability is due to the following:

- 1. an intentionally self-inflicted injury
- 2. war, whether declared or not
- 3. an injury incurred while engaged in a felonious criminal act or enterprise
- 4. for employees hired on or after July 1, 1998, any injury, sickness, or pregnancy for which you received medical treatment within three months prior to the effective date coverage began under the LTD Income Plan. Except for any employee who becomes an active contributing member on or after July 1, 2008 and receives medical treatment within six months prior to the date coverage begins under the LTD Income Plan. This exclusion does not apply to a disability commencing after a person has been an active contributing member of a participating employer for twelve continuous months.

Monthly benefits are not payable to a member who is receiving retirement benefits from ASRS.

**Totally Disabled:** A member is considered totally disabled if:

- 1. during the first thirty months of a period of disability, the member is unable to perform all duties of the position held by the member when the member became totally disabled; and
- 2. for a member who has received monthly benefits for 24 or more total months, that a member is unable to perform any work for compensation or gain for which the member is reasonably qualified by education, training, or experience.

**Benefit Amount:** Benefits payable from the plan equal two-thirds of a member's monthly compensation at the time of disability. Benefits are offset by:

- 1. 85% of social security disability benefits that the member or the member's dependents are eligible to receive;
- 2. 85% of social security retirement benefits that the member is eligible to receive;
- 3. all of any worker's compensation benefits;
- 4. all of any payments for a veteran's disability if both of the following apply:
  - a) the veteran's disability payment is for the same condition or a condition related to the condition currently causing the member's total disability;
  - b) the veteran's disability is due to service in the armed forces of the United States;
- 5. all of any other benefits by reason of employment that are financed partly or wholly by an employer, including payments for sick leave; and
- 50% of any salary, wages, commissions, or similar pay that the member receives or is entitled to receive from any gainful employment in which the member engages.

**Benefit Period:** Monthly benefits cease to be payable to a member at the earliest of the following:

- 1. the date the member ceases to be totally disabled;
- the date the member ceases to be under the direct care of a doctor or refuses to undergo any medical examination requested by the company selected by the Board to administer the LTD Program;
- the date the member withdraws employee contributions with interest and ceases to be a member; and
- the later of following:
  - a) the member's normal retirement date;
  - b) the month following 60 months of payments if disability occurs before age 65;
  - c) the month following attainment of age 70 if disability occurs at age 65 or after but before age 69;
  - d) the month following twelve-months of payments if disability occurs at or after age 69.

**Expenses:** Expenses associated with the operation of the LTD Program are payable by the LTD Program. The fee schedule is as follows:

> Administrative: \$13,000 / month New Claims Fee: \$420 / claim Claims Management: \$29 / claim / month

Changes in Plan Terms Since the Prior Valuation: No changes have been made since the last valuation on June 30, 2013.

## STATEMENT OF ACTUARIAL METHODS AND ASSUMPTIONS - LTD

We have prepared this report on our actuarial valuation of the assets and liabilities of the Arizona State Retirement System LTD Program as of June 30, 2014, in accordance with generally accepted actuarial principles, and with the requirements of GASB #43.

The actuarial assumptions and methods on which our valuation has been based are, in our opinion, appropriate for the purpose of our current valuation. The ASRS Board has adopted the assumptions used in this valuation in its meeting on May 24, 2013.

We have not audited the data or the asset information used in this valuation, but believe them to be complete and accurate. Refer to Section 12 of the Arizona State Retirement System Actuarial Report of the Plan as of June 30, 2014 for information on missing data assumptions used for active members.

## **Summary of Actuarial Methods**

The actuarial cost method is the projected unit credit method. Benefits are attributed from hire to expected date of disability. Assets are valued at market, less (or plus) an adjustment to reflect investment gains (or losses) over a 10-year period starting as of June 30, 2006. The unfunded actuarial accrued liability is amortized over a closed 15-year period using a level dollar amortization method.

## **Summary of Actuarial Assumptions**

The assumptions unique to the LTD valuation were as follows:

#### 1. Discount Rate

8% per annum, net of investment expenses

#### 2. Rates of Termination of Claims in Payment Due to Death or Recovery

150% of the rates in the 1987 Commissioners' Group Long Term Disability Valuation Table (1987 CGDT), applicable to plans with a six-month elimination period.

3. Disability Incidence Rates for Active Members – based on actual disability experience from experience analysis for July 1, 2007 through June 30, 2012

Age- based unisex rates as developed for the Plan. Rates at representative ages are given below:

Age	Unisex
20	0.05%
30	0.07%
40	0.16%
50	0.36%
60	0.47%

#### 4. Offsets for Disabled Members

We are assuming that the amounts the administrator reports as offsets (other than overpayment offsets) will continue to apply to each member's benefit until that benefit expires. For members within first three years of receipt of LTD benefits, we have adjusted benefit amounts to reflect future offsets, assuming 90% of members will have offsets after 3 years.

We assume that these offsets reduce the gross benefits by 45%. We also assume that the weighted average months of overpayment are equal to 19 months.

These assumptions are reviewed annually.

#### 5. Offsets for Active Members

We assume that LTD Program benefits, after all applicable offsets are 55% of the benefits before the offsets. This is the percentage that applies for currently disabled members.

#### 6. Incurred But Not Reported (IBNR)

The liability for new LTD recipients was loaded by 20% to reflect IBNR.

#### 7. Alternate Contribution Rate

We have adjusted the past service contribution rate to consider alternate contribution rate payments.

#### 8. Mid-Year Timing

We have adjusted the contribution rates to anticipate contributions being made throughout the year. Previously, these payments were not adjusted for mid-year payment.

#### 9. Expenses

We include expenses in the liabilities. The liability for actives was loaded by 2.8% and the liability for currently disabled members is increased by assumed expenses according to the Plan Provisions.

#### 10. Changes in Assumptions Since the Prior Valuation

All other assumptions are the same as those used in the valuation of the Plan.

# LTD SCHEDULES

# Schedule of Benefit Recipients Added to and Removed from Rolls

Valuation as of	В	ene	ants and ficiaries I to Rolls	Retirants and Beneficiaries Removed from Rolls			Ве	etirants and eneficiaries s End of Year	% Increase in Annual	Α	erage nnual
June 30	NO.		ANNUAL <sup>1</sup> LOWANCES	NO.		ANNUAL <sup>2</sup> LOWANCES	NO.	ANNUAL <sup>1</sup> ALLOWANCES	Allowance	Allo	wances
2005	926	\$	15,285,111	671	\$	11,000,763	4,939	\$ 65,583,564	7.0%	\$	13,279
2006	840		16,021,268	761		12,191,399	5,018	69,413,433	5.8%		13,833
2007	800		15,958,305	747		13,060,111	5,071	72,311,627	4.2%		14,260
2008	640		12,610,021	829		16,270,484	4,882	68,651,164	-5.1%		14,062
2009	723		15,966,067	893		13,502,776	4,712	71,114,455	3.6%		15,092
2010	789		17,200,407	777		15,066,829	4,724	73,248,033	3.0%		15,506
2011	752		15,000,150	867		18,071,429	4,609	70,176,754	-4.2%		15,226
2012	709		14,394,030	878		16,419,214	4,440	68,151,570	-2.9%		15,349
2013	735		15,094,316	868		17,168,470	4,307	66,077,416	-3.0%		15,342
2014	658		13,947,128	759		14,675,124	4,206	65,349,420	-1.1%		15,537

Reflects actual, but not assumed, benefit offsets. Does not include overpayment offsets.
 Includes changes in benefit amounts.

# **Schedule of Funding Progress**

Last 10 Years

(Dollars in Thousands)

Year Ended June 30	Actuarial Value of Net Assets (a)	Actuarial Accrued Liabilities (b)	Actuarial Accrued Liabilities (AAL) (b-a)	Assets as a % of Accrued Liabilities	Covered Employee Payroll (c)	% of Covered Empoyee Payroll ((b-a)/c)
2005	\$ 164,834	\$ 577,405	\$ 412,572	28.55%	\$ 8,032,458	5.10%
2006	194,297	574,701	380,404	33.81%	8,311,870	4.60%
2007	231,685	604,486	372,800	38.33%	9,161,804	4.10%
2008	274,902	553,185	278,283	49.69%	9,708,353	2.90%
2009	311,232	476,276	165,044	65.35%	9,834,810	1.70%
2010	319,308	477,266	157,958	66.90%	9,419,952	1.70%
2011	307,537	455,695	148,158	67.49%	9,060,631	1.60%
2012	295,786	439,706	143,920	67.27%	8,868,678	1.60%
2013	285,018	332,597	47,579	85.69%	8,752,783	0.50%
2014	279,560	328,928	49,368	84.99%	8,908,621	0.60%

## **Solvency Test**

Last 10 Years

(Dollars in Thousands)

	Aggregate Accrued Liabilities for:												
Year End June 30	ACTIVE MEMBER CONTRIBUTIONS	TIREES AND EFICIARIES	AC	TIVE MEMBERS (EMPLOYER FINANCED PORTION)	ı	Net Assets Available or Benefits	by Net Assets						
	(1)		(2)		(3)			(1)	(2)	(3)			
2005	-	\$	258,735	\$	318,670	:	\$ 164,834	100%	64%	0%			
2006	-		247,577		327,124		194,297	100%	78%	0%			
2007	-		274,947		329,539		231,685	100%	84%	0%			
2008	-		233,871		319,315		274,902	100%	100%	13%			
2009	-		235,921		240,355		311,232	100%	100%	31%			
2010	-		242,098		235,168		319,308	100%	100%	33%			
2011	-		234,155		221,540		307,537	100%	100%	33%			
2012	-		224,090		215,616	,	295,786	100%	100%	33%			
2013	-		207,331		125,265		285,018	100%	100%	62%			
2014	-		202,999		125,929		279,560	100%	100%	61%			

# **Analysis of Financial Experience for LTD**

As of June 30, 2014

	Lives	Reserves
1. CHANGE IN OPEN CLAIMS RESERVES		
The increase in the reserves for payments not yet due on disabled lives may be summarized as follows:		
(a) Open Claims Reserve Liability on July 1, 2013	4,307	\$ 201,704,827
(b) Change in reserve on 3,572 continuing disabled lives	N/A	(22,213,250)
(c) Reserves released on terminated lives	(759)	(17,422,864)
(d) Reserves added on new lives	658	35,495,153
(e) Open Claims Reserve Liability on June 30, 2014 = $(a) + (b) + (c) + (d)$	4,206	\$ 197,563,866
2. DEVELOPMENT OF LIABILITY (GAIN)/LOSS		
(a) Actuarial Accrued Liability as of July 1, 2013		\$ 332,596,817
(b) Normal Cost for 2013/2014		15,925,104
(c) Expected Benefit Payments for 2013/2014		62,043,579
(d) Expected Actuarial Accrued Liability on June 30, 2014		
$= (a) \times 1.08 + (b) \times 1.04 - (c) \times (1 + .08 \times 13/24)$		311,034,536
(e) Change in Plan Terms		N/A
(f) Change in Assumptions		N/A
(g) Liability (Gain)/Loss		 17,893,744
(h) Actual Actuarial Accrued Liability on June 30, 2014		
= (d) + (e) + (f) + (g)		\$ 328,928,280
3. SOURCES OF LIABILITY (GAIN)/LOSS		
(a) Offset (Gain)/Loss		\$ (586,824)
(b) Liability for members who were terminated in last year's value	uation	1,053,139
(c) More Terminations than Expected		(577,187)
(d) Fewer LTD Retirees than Expected		(1,219,998)
(e) Salary Gain on Continuing Actives		644,141
(f) New Active Entrants		3,294,779
(g) Continuing Disabled Lives (Gain)/Loss		4,192,563
(h) New Disabled Lives (Gain)/Loss		7,249,163
(i) Other (Gain)/Loss		 3,843,968
(j) Liability (Gain)/Loss		
= (a) + (b) + (c) + (d) + (e) + (f) + (g) + (h) + (i)		\$ 17,893,744

	Lives	Reserves
4. DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS	FIA C2	I/C3CI V C3
(a) Excess (Shortfall) of Investment Income:		
(i) Current Year	\$	24,669,551
(ii) Current Year – 1		9,913,473
(iii) Current Year – 2		(18,922,274)
(iv) Current Year – 3		36,999,159
(v) Current Year – 4		10,543,678
(vi) Current Year – 5		(68,696,736)
(vii) Current Year – 6		(44,661,134)
(viii) Current Year - 7		11,421,699
(ix) Current Year - 8		1,895,241
(b) Deferral of Excess (Shortfall):		
(i) Current Year (90% Deferral)		22,202,596
(ii) Current Year – 1 (80% Deferral)		7,930,778
(iii) Current Year – 2 (70% Deferral)		(13,245,592)
(iv) Current Year – 3 (60% Deferral)		22,199,495
(v) Current Year - 4 (50% Deferral)		5,271,839
(vi) Current Year – 5 (40% Deferral)		(27,478,694)
(vii) Current Year - 6 (30% Deferral)		(13,398,340)
(viii) Current Year - 7 (20% Deferral)		2,284,340
(ix) Current Year - 8 (10% Deferral)		189,524
(x) Total Deferred for the Year		5,955,946
(c) Market Value of Assets as of June 30, 2014		285,516,213
(d) Actuarial Value of Assets as of June 30, $2014 = (c) - (b)(x)$ 5. <b>DEVELOPMENT OF ASSET (GAIN)/LOSS</b>	\$	279,560,267
(a) Actuarial Value of Assets as of July 1, 2013	\$	285,018,061
(b) Contributions		42,778,807
(c) Actual Benefit Payments for 2013/2014		62,043,579
(d) Administrative Expenses		2,541,543
(e) Expected Investment Income at 8% Return =		
$((a) \times .08) + ((b) \times .08 \times 1/2) - ((c) \times .08 \times 13/24)$		21,824,042
(f) Expected Actuarial Assets as of June 30, $2014 = (a) + (b) - (c) - (d)$	l) + (e)	285,035,788
(g) Gain/(Loss) on Actuarial Assets		5,475,521
(h) Actuarial Assets as of June 30, 2014 = (f) - (g)	\$	279,560,267

The asset loss occurred because investment earnings on actuarial assets were less than expected. The actual net return on actuarial assets was 5.99%, compared to the assumption of 8%. The actual net return on market value of assets was 17.85%, compared to the assumption of 8%.

	Amount of Monthly Offsets	Number With Offsets
6. ANALYSIS OF SEDGWICK OFFSETS		
Description of Offset from Sedgwick as of June 30, 2014		
Social Security Disability	\$ 2,745,937	3,057
Social Security Retirement	79,854	82
Other	467,116	939
Total	\$3,292,907	4,078
Description of Offset from Sedgwick as of June 30, 2013		
Social Security Disability	\$ 2,721,067	3,178
Social Security Retirement	93,201	102
Other	483,420	971
Total	\$3,297,688	4,251

## LEGISLATED PLAN CHANGES ENACTED BY THE 2014 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Charter Schools

The legislation allows charter schools that obtain their charters through a university to become members of the ASRS retroactive to July 1, 2011.

#### 2. Section 218 Agreements

The legislation eliminates the requirement that employees of ASRS employers must be covered by the state's Section 218 agreement with the Social Security Administration. It also repeals the ASRS defined contribution plan established by Laws 013, Chapter 216.

#### 3. Elected Officials

Retroactive January 1, 2014, a state elected official who was elected or appointed before December 31, 2013, and who is a member of ASRS because he previously elected not to participate in the Elected Officials' Retirement Plan (EORP) is no longer required to elect to continue or resume participation in ASRS in writing and is a member of ASRS without election.

### 4. Applicable Interest Rate

The legislation confirms the ASRS practice of using a "stability period" to set and maintain the "applicable interest rate" for a year. The look-back month that is used to determine the applicable interest rate is the third full calendar month preceding the first day of the stability period.

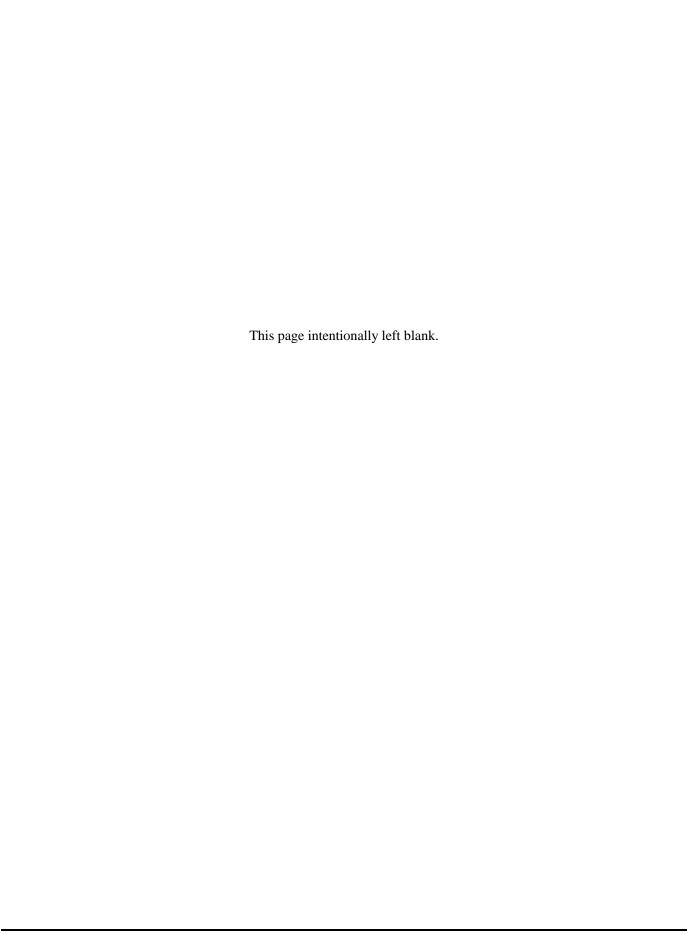
#### 5. Compensation for LTD Benefit Determinations

The legislation changes the definition of "monthly compensation" to be the median of the last six pay periods of compensation, excluding the highest two and the lowest two such pay periods. If the member was employed for fewer than six pay periods, "monthly compensation" is the median monthly compensation based on the pay periods that the member worked.

#### 6. Background Checks

The legislation allows ASRS to perform background and credit checks on current and prospective employees

These changes were taken into account in the most recent actuarial valuation.



# STATISTICAL SECTION

CLIMATE—Arizona's climate is mild, meaning there isn't much change in the weather. Due to the consistently sunny weather, more than 40 million people visit Arizona per year, helping our towns and cities prosper. Climate also plays a key role in Arizona's agricultural industry. Due to the semi-arid climate and average annual rainfall of 12 inches, farmers are able to plant and harvest crops every month of the year.

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# **Fiduciary Net Position**

Last 10 Fiscal Years (Dollars in Thousands)

<b>Retirement Fund</b>					
ASSETS	2006	2007	2008	2009	2010
Cash, Receivables, and Prepaids Investments at Fair	\$ 2,396,175	\$ 2,197,053	\$ 2,095,722	\$ 867,888	\$ 975,021
Value	25,699,691	30,978,445	29,021,366	23,379,787	24,620,142
Total Assets	28,095,866	33,175,498	31,117,088	24,247,675	25,595,163
LIABILITIES					
Investments Payable	4,853,112	6,078,211	6,368,470	4,313,128	3,404,191
Other Payables	23,108	27,729	31,431	54,094	44,012
<b>Total Liabilities</b>	4,876,220	6,105,940	6,399,901	4,367,222	3,448,203
FIDUCIARY NET POSITION	\$ 23,219,646	\$ 27,069,558	\$ 24,717,187	\$ 19,880,453	\$ 22,146,960

HBS Fund					
ASSETS	2006	2007	2008	2009	2010
Cash, Receivables, and Prepaids Investments at Fair	\$ 96,084	\$ 90,106	\$ 94,213	\$ 45,385	\$ 48,532
Value	1,081,538	1,335,221	1,273,867	1,046,717	1,101,174
<b>Total Assets</b>	1,177,622	1,425,327	1,368,080	1,092,102	1,149,706
LIABILITIES					
Investments Payable	204,237	261,980	279,619	193,139	152,374
Other Payables	3,639	394	475	1,770	1,737
<b>Total Liabilities</b>	207,876	262,374	280,094	194,909	154,111
FIDUCIARY NET POSITION	\$ 969,746	\$ 1,162,953	\$ 1,087,986	\$ 897,193	\$ 995,595

LTD Fund					
ASSETS	2006	2007	2008	2009	2010
Cash, Receivables, and Prepaids Investments at Fair	\$ 15,241	\$ 10,565	\$ 12,331	\$ 11,998	\$ 6,808
Value	180,983	233,148	233,062	215,151	243,823
<b>Total Assets</b>	196,224	243,713	245,393	227,149	250,631
LIABILITIES					
Investments Payable	-	-	-	-	-
Other Payables	222	227	222	4,341	252
<b>Total Liabilities</b>	222	227	222	4,341	252
FIDUCIARY NET POSITION	\$ 196,002	\$ 243,486	\$ 245,171	\$ 222,808	\$ 250,379

	2011	2012	2013	2014		2015
\$	1,056,204	\$ 1,006,349	\$ 1,062,311	\$ 593,804	\$	261,074
	27,911,298	26,247,996	29,225,574	33,845,069		33,771,371
	28,967,502	27,254,345	30,287,885	34,438,873		4,032,445
	2,086,445	795,215	1,187,021	708,243		342,687
	41,834	57,036	75,434	36,925		44,112
	2,128,279	852,251	1,262,455	745,168		386,799
<u></u> \$	26,839,223	\$ 26,402,094	\$ 29,025,430	\$ 33,693,705	\$3	3,645,646
	2011	2012	2013	2014		2015
\$	52,196	\$ 79,217	\$ 75,951	\$ 60,353	\$	48,294
	1,236,614	1,177,906	1,314,249	1,527,901		1,540,851
	1,288,810	1,257,123	1,390,200	1,588,254		1,589,145
	02.504	25.022	F4 026	20.720		4.4.5.47
	92,594	35,022	51,936	30,738		14,547
	1,487 <b>94,081</b>	19,282 <b>54,304</b>	2,930 <b>54,866</b>	1,274 <b>32,012</b>		1,303 <b>15,850</b>
		34,304	34,000	32,012		13,030
<u> </u>	1,194,729	\$ 1,202,819	\$ 1,335,334	\$ 1,556,242	\$	1,573,295
	2011	2012	2013	2014		2015
\$	6,371	\$ 7,172	\$ 7,254	\$ 6,864	\$	7,807
	274,734	250,594	255,636	278,932		239,711
	281,105	257,766	262,890	285,796		247,518
	_	_	_	_		_
	250	443	270	280		245
	250	443	270	280		245
<b>\$</b>	280,855	\$ 257,323	\$ 262,620	\$ 285,516	\$	247,273

# **Changes in Fiduciary Net Position**

Last 10 Fiscal Years (Dollars in Thousands)

Dating we and Free d										
Retirement Fund ADDITIONS		2006		2007		2008		2009		2010
Member Contributions	\$	570,933	\$	766,962	\$	857,813	\$	844,540	\$	808,908
Employer Contributions Purchased	Τ	477,472	7	663,544	7	759,482	7	754,044	7	763,099
Service/Transfers Net Investment Income		125,751		107,548		95,226		72,436		73,973
(Loss)		2,126,272		4,105,644		(1,963,259)		(4,433,461)		2,872,297
Total Additions/ (Reductions)		3,300,428		5,643,698		(250,738)	(	2,762,441)		4,518,277
DEDUCTIONS										
Retirement Benefits		1,538,992		1,650,818		1,768,219		1,888,931		2,031,119
Survivor Benefits		17,125		21,590		22,648		30,378		26,472
Refunds due to Separation		60,313		77,910		104,387		120,689		154,144
Transfers Out		5,129		10,117		177,176		5,706		11,455
Administration and Other		30,137		33,351		29,203		28,589		28,580
Total Deductions		1,651,696		1,793,786		2,101,633		2,074,293		2,251,770
NET CHANGE		1,648,732		3,849,912	(	(2,352,371)	(	4,836,734)		2,266,507
Fiduciary net position										
beginning of year		21,570,914		23,219,646		27,069,558		24,717,187		19,880,453
FIDUCIARY NET POSITION	\$2	3,219,646	\$2	27,069,558	\$	24,717,187	\$	19,880,453	\$	22,146,960

2011		2012		2013		2014		2015
\$ 833,287	\$	905,968	\$	948,004	\$	995,284	\$	1,031,954
786,662		852,167		911,300		965,969		1,004,747
70,812		53,659		72,023		33,485		20,702
5,406,714		322,870		3,393,599		5,514,246		849,160
7,097,475		2,134,664		5,324,926		7,508,984		2,906,563
2,166,779		2,297,947		2,406,899	\$	2,527,038	\$	2,638,462
23,949		29,731		38,442		39,334		33,034
180,719		207,289		218,607		246,201		255,606
6,256		5,024		725		915		637
 27,509		31,802		36,917		27,221		26,883
 2,405,212		2,571,793		2,701,590		2,840,709		2,954,622
 4,692,263		(437,129)		2,623,336		4,668,275		(48,059)
 22,146,960		26,839,223		26,402,094		29,025,430		33,693,705
\$ 26,839,223	<b>\$</b> :	26,402,094	\$ :	29,025,430	<b>\$</b> 3	33,693,705	\$3	33,645,646

# **Changes in Fiduciary Net Position**

Last 10 Fiscal Years (Dollars in Thousands)

HBS Fund					
ADDITIONS	2006	2007	2008	2009	2010
<b>Employer Contributions</b>	\$ 93,461	\$ 103,473	\$ 99,027	\$ 90,490	\$ 59,393
Other Income	-	-	-	-	-
Net Investment Income					
(Loss)	86,587	174,348	(87,559)	(192,303)	128,258
Total Additions/ (Reductions)	180,048	277,821	11,468	(101,813)	187,651
DEDUCTIONS					
Health Premium Benefits	80,827	83,236	85,132	87,723	87,983
Administration and Other	1,112	1,378	1,303	1,257	1,266
<b>Total Deductions</b>	 81,939	84,614	86,435	88,980	89,249
NET CHANGE	98,109	193,207	(74,967)	(190,793)	98,402
Fiduciary net position beginning of year	 871,637	969,746	1,162,953	1,087,986	897,193
FIDUCIARY NET POSITION	\$ 969,746	\$ 1,162,953	\$ 1,087,986	\$ 897,193	\$ 995,595

LTD Fund					
ADDITIONS	2006	2007	2008	2009	2010
Member Contributions	\$ 41,188	\$ 44,518	\$ 47,171	\$ 47,213	\$ 35,939
Employer Contributions Net Investment Income	41,188	44,518	47,171	47,213	35,939
(Loss)	 18,080	30,526	(21,623)	(47,726)	27,661
Total Additions/ (Reductions)	100,456	119,562	72,719	46,700	99,539
DEDUCTIONS					
Disability Benefits	66,695	69,221	68,284	65,781	69,148
Administration and Other	2,593	2,857	2,750	3,282	2,820
<b>Total Deductions</b>	69,288	72,078	71,034	69,063	71,968
NET CHANGE	31,168	47,484	1,685	(22,363)	27,571
Fiduciary net position beginning of year	 164,834	196,002	243,486	245,171	222,808
FIDUCIARY NET POSITION	\$ 196,002	\$ 243,486	\$ 245,171	\$ 222,808	\$ 250,379

2011	2012	2013	2014	2015
\$ 51,048	\$ 54,463	\$ 57,154	\$ 53,405	\$ 53,586
-	35,473	25,826	29,848	31,507
 240,994	13,439	146,737	240,538	39,022
292,042	103,375	229,717	323,791	124,115
91,699	93,915	95,763	101,746	105,913
1,209	1,370	1,439	1,137	1,149
92,908	95,285	97,202	102,883	107,062
199,134	8,090	132,515	220,908	17,053
005 505	1 104 720	1 202 910	1 225 224	1 556 242
 995,595	1,194,729	1,202,819	1,335,334	1,556,242
\$ 1,194,729	\$ 1,202,819	\$ 1,335,334	\$ 1,556,242	\$ 1,573,295
2011	2012	2013	2014	2015
\$ 21,689	\$ 20,998	\$ 20,881	\$ 21,151	\$ 10,725
21,689	20,998	21,336	21,628	10,899
FC 744	2 410	20 540	44.050	2 722
 56,744	2,419	29,540	44,950	3,722
100,122	44,415	71,757	87,729	25,346
66,124	65,190	63,613	62,044	61,045
3,522	2,757	2,847	2,789	2,544
 69,646	67,947	66,460	64,833	63,589
30,476	(23,532)	5,297	22,896	(38,243)
250,379	280,855	257,323	262,620	285,516

# **Actual Contribution Rates Last 10 Fiscal Years**

Retirement <sup>1</sup>					Figen! V	<b>'</b> 2242						
Contribution Rates	2006	Fiscal Years 2007 2000 2000 2011 2012 2013 2014 201										
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Member	6.90	8.60	9.10	8.95	9.00	9.60	10.50	10.90	11.30	11.48		
Employer	5.77	7.55	8.05	7.99	8.34	9.01	9.87	10.25	10.70	10.89		
HBS												
<b>Contribution Rates</b>	Fiscal Years											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Employer	1.13	1.05	1.05	0.96	0.66	0.59	0.63	0.65	0.60	0.59		
LTD												
<b>Contribution Rates</b>	Fiscal Years											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Member	0.50	0.50	0.50	0.50	0.40	0.25	0.24	0.24	0.24	0.12		
Employer	0.50	0.50	0.50	0.50	0.40	0.25	0.24	0.24	0.24	0.12		

<sup>&</sup>lt;sup>1</sup> The above schedule does not include System retirees.

Source: Buck Consultants, LLC

# **Members by Type of Benefit** As of June 30, 2015

Retirement											
Monthly Benefit <sup>2</sup>	Options <sup>1</sup>										
	1	2	3	4	5	6	7				
Under \$300	11,407	252	357	772	2,822	259	600				
\$300 - \$499	7,750	238	376	585	2,359	298	639				
\$500 - \$999	15,297	502	911	1,089	4,493	864	1,668				
\$1,000 - \$1,499	10,158	403	709	697	3,613	951	1,479				
\$1,500 - \$1,999	7,259	256	461	508	2,945	894	1,254				
\$2,000 - \$2,499	5,936	186	364	455	2,538	757	1,099				
\$2,500 - \$2,999	4,767	138	316	388	2,107	594	909				
\$3,000 - \$3,499	3,791	104	222	297	1,732	532	778				
\$3,500 - \$3,999	2,499	49	112	216	1,175	375	508				
\$4,000 & Over	4,123	66	187	296	1,913	711	890				
Totals	72,987	2,194	4,015	5,303	25,697	6,235	9,824				

<sup>&</sup>lt;sup>1</sup> OPTIONS KEY

1. Life Annuity refund provision

2. Life Annuity 5 year certain and life 3. Life Annuity 10 years certain and life

4. Life Annuity 15 years certain and life

5. Joint Annuity 100 percent to contingent survivor 6. Joint Annuity 66 2/3 percent to contingent survivor

7. Joint Annuity 50 percent to contingent survivor

Source: Buck Consultants, LLC

<b>HBS Monthly Benefits</b>	Members
\$1-199	74,085
\$200-299	3,303
\$300-399	235
\$400 & Over	0
Total	77,623

LTD Monthly Benefits	Members
\$1-299	7
\$300-499	25
\$500-999	299
\$1,000-1,499	863
\$1,500-1,999	1,064
\$2,000 & over	1,849
TOTAL	4,107

Source: ASRS Pension Administration System Source: Sedgwick CMS

<sup>&</sup>lt;sup>2</sup> Most recent information available is 2014.

# **Average Benefit Payments Last 10 Fiscal Years**

				Year	s of Cre	dited S	ervice			
Retirement	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+
FISCAL YEAR 2004										
Average Monthly Benefit	\$ 139	\$ 345	\$ 726	\$1,109	\$1,629	\$2,384	\$3,092	\$3,499	\$3,863	\$4,413
Number of Retirees	1,716	10,153	13,268	10,984	11,747	11,567	7,607	1,611	248	30
FISCAL YEAR 2005										
Average Monthly Benefit	\$ 125	\$ 326	\$ 687	\$1,742	\$1,995	\$2,460	\$2,894	\$3,035	\$3,082	\$2,817
Number of Retirees	1,697	10,290	13,540	19,674	16,813	8,394	2,815	550	77	3
FISCAL YEAR 2006										
Average Monthly Benefit	\$ 126	\$ 334	\$ 702	\$1,746	\$2,079	\$2,541	\$3,001	\$3,190	\$3,427	\$3,255
Number of Retirees	1,889	10,789	13,986	19,845	18,680	9,419	3,215	592	81	2
FISCAL YEAR 2007										
Average Monthly Benefit	\$ 121	\$ 329	\$ 697	\$1,743	\$2,101	\$2,572	\$3,034	\$3,268	\$3,616	\$4,542
Number of Retirees	2,124	11,416	14,534	20,663	20,232	10,474	3,454	615	78	4
FISCAL YEAR 2008										
Average Monthly Benefit	\$ 122	\$ 339	\$ 717	\$1,106	\$1,655	\$2,425	\$3,273	\$3,776	\$4,422	\$4,760
Number of Retirees	2,952	12,530	15,527	13,045	14,970	14,789	12,392	2,347	361	43
FISCAL YEAR 2009										
Average Monthly Benefit	\$ 195	\$ 339	\$ 715	\$1,105	\$1,663	\$2,435	\$3,321	\$3,862	\$4,453	\$4,845
Number of Retirees	3,385	13,236	16,321	13,658	15,995	15,587	13,314	2,499	380	49
FISCAL YEAR 2010										
Average Monthly Benefit	\$ 119	\$ 338	\$ 714	\$1,108	\$1,674	\$2,445	\$3,342	\$3,900	\$4,533	\$5,040
Number of Retirees	4,011	14,223	17,233	14,418	17,150	16,581	14,549	2,691	399	52
FISCAL YEAR 2011										
Average Monthly Benefit	\$ 121	\$ 339	\$ 716	\$1,111	\$1,681	\$2,457	\$3,368	\$3,944	\$4,661	\$5,134
Number of Retirees	4,420	15,231	18,329	15,157	18,371	17,557	15,608	2,840	426	57
FISCAL YEAR 2012										
Average Monthly Benefit	\$ 124	\$ 341	\$ 718	\$1,112	\$1,685	\$2,464	\$3,383	\$3,980	\$4,768	\$5,224
Number of Retirees	4,864	16,228	19,419	15,867	19,447	18,547	16,564	2,979	458	58
FISCAL YEAR 2013										
Average Monthly Benefit	\$ 125	\$ 344	\$ 721	\$1,113	\$1,694	\$2,468	\$3,397	\$4,022	\$4,809	\$5,229
Number of Retirees	5,422	17,223	20,406	16,637	20,540	19,522	17,448	3,121	495	61
FISCAL YEAR 2014 <sup>1</sup>										
Average Monthly Benefit	\$ 131	\$ 347	\$ 723	\$1,116	\$1,702	\$2,478	\$3,411	\$4,048	\$4,744	\$5,344
Number of Retirees	5,626	18,060	21,325	17,327	21,563	20,332	18,199	3,235	526	62

<sup>&</sup>lt;sup>1</sup> Most recent information available.

Note: The above schedule does not include System retirees. Average final salary information is not available.

Source: Buck Consultants, LLC

# **Average Benefit Payments Last 10 Fiscal Years**

HBS		Yea	ars	of Cre	dite	ed Serv	/ice			
	5	6		7		8		9	10	or more
FISCAL YEAR 2006										
Average Monthly Benefit	\$ 65	\$ 71	\$	81	\$	86	\$	103	\$	130
Number of HBS Participants	1,008	861		872		869		895		47,117
FISCAL YEAR 2007										
Average Monthly Benefit	\$ 57	\$ 69	\$	83	\$	89	\$	96	\$	130
Number of HBS Participants	1,046	877		903		885		891		49,368
FISCAL YEAR 2008										
Average Monthly Benefit	\$ 61	\$ 72	\$	76	\$	89	\$	97	\$	130
Number of HBS Participants	1,082	917		911		934		897		51,167
FISCAL YEAR 2009										
Average Monthly Benefit	\$ 61	\$ 70	\$	78	\$	89	\$	100	\$	130
Number of HBS Participants	1,123	941		916		951		906		53,198
FISCAL YEAR 2010										
Average Monthly Benefit	\$ 61	\$ 67	\$	76	\$	86	\$	97	\$	127
Number of HBS Participants	1,149	941		928		998		924		54,589
FISCAL YEAR 2011										
Average Monthly Benefit	\$ 59	\$ 67	\$	75	\$	87	\$	92	\$	126
Number of HBS Participants	1,252	1,018		999		1,057		983		58,656
FISCAL YEAR 2012										
Average Monthly Benefit	\$ 64	\$ 74	\$	78	\$	96	\$	100	\$	144
Number of HBS Participants	1,352	1,074		1,087		1,094		1,045		62,706
FISCAL YEAR 2013										
Average Monthly Benefit	\$ 64	\$ 72	\$	79	\$	85	\$	95	\$	152
Number of HBS Participants	1,402	1,120		1,130		1,161		1,074		64,354
FISCAL YEAR 2014										
Average Monthly Benefit	\$ 58	\$ 63	\$	71	\$	77	\$	83	\$	116
Number of HBS Participants	1,463	1,151		1,188		1,205		1,122		65,159
FISCAL YEAR 2015										
Average Monthly Benefit	\$ 57	\$ 62	\$	68	\$	74	\$	81	\$	116
Number of HBS Participants	1,580	1,286		1,356		1,399		1,299		70,703

Source: ASRS Pension Administration System

## **Average Benefit Payments Last 10 Fiscal Years**

FISCAL YEAR 2006 Average Monthly Benefit \$ 1,689 Number of LTD Participants 4,968  FISCAL YEAR 2007 Average Monthly Benefit \$ 1,743 Number of LTD Participants 4,976  FISCAL YEAR 2008 Average Monthly Benefit \$ 1,823 Number of LTD Participants 4,957  FISCAL YEAR 2009 Average Monthly Benefit \$ 1,886 Number of LTD Participants 4,672  FISCAL YEAR 2010 Average Monthly Benefit \$ 1,966 Number of LTD Participants 4,797  FISCAL YEAR 2011 Average Monthly Benefit \$ 1,966 Number of LTD Participants 4,797
Number of LTD Participants 4,968  FISCAL YEAR 2007 Average Monthly Benefit \$ 1,743 Number of LTD Participants 4,976  FISCAL YEAR 2008 Average Monthly Benefit \$ 1,823 Number of LTD Participants 4,957  FISCAL YEAR 2009 Average Monthly Benefit \$ 1,886 Number of LTD Participants 4,672  FISCAL YEAR 2010 Average Monthly Benefit \$ 1,966 Number of LTD Participants 4,797  FISCAL YEAR 2011
Average Monthly Benefit \$ 1,743 Number of LTD Participants 4,976  FISCAL YEAR 2008 Average Monthly Benefit \$ 1,823 Number of LTD Participants 4,957  FISCAL YEAR 2009 Average Monthly Benefit \$ 1,886 Number of LTD Participants 4,672  FISCAL YEAR 2010 Average Monthly Benefit \$ 1,966 Number of LTD Participants 4,797  FISCAL YEAR 2011
Average Monthly Benefit \$ 1,743 Number of LTD Participants 4,976  FISCAL YEAR 2008 Average Monthly Benefit \$ 1,823 Number of LTD Participants 4,957  FISCAL YEAR 2009 Average Monthly Benefit \$ 1,886 Number of LTD Participants 4,672  FISCAL YEAR 2010 Average Monthly Benefit \$ 1,966 Number of LTD Participants 4,797  FISCAL YEAR 2011
Number of LTD Participants  FISCAL YEAR 2008  Average Monthly Benefit \$ 1,823  Number of LTD Participants 4,957  FISCAL YEAR 2009  Average Monthly Benefit \$ 1,886  Number of LTD Participants 4,672  FISCAL YEAR 2010  Average Monthly Benefit \$ 1,966  Number of LTD Participants 4,797  FISCAL YEAR 2011
FISCAL YEAR 2008 Average Monthly Benefit \$ 1,823 Number of LTD Participants 4,957  FISCAL YEAR 2009 Average Monthly Benefit \$ 1,886 Number of LTD Participants 4,672  FISCAL YEAR 2010 Average Monthly Benefit \$ 1,966 Number of LTD Participants 4,797  FISCAL YEAR 2011
Average Monthly Benefit \$ 1,823 Number of LTD Participants 4,957  FISCAL YEAR 2009 Average Monthly Benefit \$ 1,886 Number of LTD Participants 4,672  FISCAL YEAR 2010 Average Monthly Benefit \$ 1,966 Number of LTD Participants 4,797  FISCAL YEAR 2011
Number of LTD Participants  FISCAL YEAR 2009  Average Monthly Benefit \$ 1,886    Number of LTD Participants  FISCAL YEAR 2010  Average Monthly Benefit \$ 1,966    Number of LTD Participants  FISCAL YEAR 2011
FISCAL YEAR 2009 Average Monthly Benefit \$ 1,886 Number of LTD Participants 4,672  FISCAL YEAR 2010 Average Monthly Benefit \$ 1,966 Number of LTD Participants 4,797  FISCAL YEAR 2011
Average Monthly Benefit \$ 1,886 Number of LTD Participants 4,672  FISCAL YEAR 2010 Average Monthly Benefit \$ 1,966 Number of LTD Participants 4,797  FISCAL YEAR 2011
Number of LTD Participants  FISCAL YEAR 2010  Average Monthly Benefit \$ 1,966  Number of LTD Participants  FISCAL YEAR 2011
FISCAL YEAR 2010 Average Monthly Benefit \$ 1,966 Number of LTD Participants 4,797 FISCAL YEAR 2011
Average Monthly Benefit \$ 1,966  Number of LTD Participants 4,797  FISCAL YEAR 2011
Number of LTD Participants 4,797 FISCAL YEAR 2011
FISCAL YEAR 2011
Average Monthly Reposit
Average Monthly Benefit \$ 1,331
Number of LTD Participants 4,785
FISCAL YEAR 2012
Average Monthly Benefit \$ 1,240
Number of LTD Participants 4,646
FISCAL YEAR 2013
Average Monthly Benefit \$ 1,244
Number of LTD Participants 4,443
FISCAL YEAR 2014
Average Monthly Benefit \$ 1,260
Number of LTD Participants 4,313
FISCAL YEAR 2015
Average Monthly Benefit \$ 1,295
Number of LTD Participants 4,107

Note: Long term disability payments are based on salary and not years of credited service.

Source: Sedgwick CMS

# **Principal Participating Employers Current Year and Nine Years Ago**

		2015			2006	
Participating Employer	COVERED EMPLOYEES	RANK	% OF MEMBERSHIP	COVERED EMPLOYEES	RANK	% OF MEMBERSHIP
Dept of Administration	27,327	1	12.93%	32,070	1	14.71%
Maricopa County	9,305	2	4.40%	8,286	3	3.80%
Mesa Unified Dist 4	8,531	3	4.04%	6,852	4	3.14%
University of Arizona	7,013	4	3.32%	6,143	6	2.82%
Tucson Unified School Dist	6,247	5	2.96%	6,245	5	2.87%
Maricopa County Community Coll.	5,911	6	2.80%	5,503	8	2.52%
Arizona State University	5,485	7	2.60%	5,039	9	2.31%
Pima County	4,885	8	2.31%	5,609	7	2.57%
Gilbert Unified Dist 41	4,477	9	2.12%			
Chandler Unified Dist 80	4,154	10	1.97%			
Maricopa County School Office				11,452	2	5.25%
Pinal County School Office				4,142	10	1.90%
All other	127,965		60.56%	126,620		58.09%
Total	211,300		100%	217,961		100.00%

Note: All participating employers participate in the retirement, HBS and LTD Plans.

Source: ASRS Pension Administration System

# ARIZONA STATE RETIREMENT SYSTEM

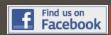
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