BOARD ARIZONA STATE RETIREMENT SYSTEM

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Paul Matson
Director

AGENDA

NOTICE OF COMBINED PUBLIC MEETING AND POSSIBLE EXECUTIVE SESSION OF THE ARIZONA STATE RETIREMENT SYSTEM BOARD

3300 North Central Avenue, 10th Floor Board Room
Phoenix, AZ 85012

July 26, 2019
8:30 a.m.

Pursuant to A.R.S. § 38-431.02(F), notice is hereby given to the Trustees of the Arizona State Retirement System (ASRS) Board and to the general public that the ASRS Board will hold a meeting open to the public on Friday, July 26, 2019, beginning at 8:30 a.m., in the 10th Floor Board Room of the ASRS offices at 3300 N. Central Avenue, Phoenix, Arizona 85012. Trustees of the Board may attend either in person or by telephone conference call.

The Chair may take public comment during any agenda item. If any member of the public wishes to speak to a particular agenda item, they should complete a “Request To Speak” form indicating the item and provide it to the Board Administrator.

Pursuant to A.R.S. § 38-431.03(A)(3), the ASRS Board of Trustees may vote to go into executive session, which will not be open to the public, for the purpose of obtaining legal advice on any item on the Agenda.

This meeting will be teleconferenced to the ASRS Tucson office at 4400 East Broadway Boulevard, Suite 200, Tucson, Arizona 85711. The conference call to Tucson will be disconnected after 15 minutes if there are no attendees in the Tucson audience.

The Agenda for the meeting is as follows:

1. Call to Order; Roll Call; Opening Remarks .... Mr. Jim Hillyard
Chair

2. Approval of the Minutes of the May 31, 2019 Public Meeting of the ASRS Board *(estimated time: 1 minute)* .... Mr. Jim Hillyard

3. Presentation, Discussion, and Appropriate Action Regarding ASRS Budget-Related Topics, including:

   a. Presentation/update of the ASRS Appropriated and Continuously Appropriated Budget Plans to include the ASRS Administrative and Investment Spending Plans for FY 2020.
   b. Presentation of the ASRS Appropriated and Continuously Appropriated Budget Request and the ASRS Administrative and Investment Spending Plans for FY 2021.

(*estimated time: 20 minutes*)........ Mr. Jim Hillyard
Chair, Operations, Audit, & Legislative Committee
.... Mr. Paul Matson
Director
.... Mr. Anthony Guarino
Deputy Director and Chief Operations Officer
.... Ms. Martha Rozen
Chief of Administrative Services
.... Mr. Christopher Gustafson
Budget and Procurement Manager
.... Ms. Kerry White
Assistant Chief Investment Officer

4. Presentation, Discussion and Appropriate Action Regarding the Actuarial Audits of the:

   a. Pension Plan
   b. Health Benefit Supplemental Program
   c. Long Term Disability (LTD) Plan

(estimated time: 45 minutes) .... Mr. Paul Matson
.... Mr. Brad Ramirez
Vice President & Consulting Actuary, Segal Consulting
.... Mr. Ryan Falls
Senior Consultant & Actuary, Gabriel, Roeder, Smith & Company
.... Mr. Paul Wood
Consultant and Actuary, Gabriel, Roeder, Smith & Company

5. Presentation, Discussion, and Appropriate Action Regarding the ASRS Investment Program Update

   a. ASRS Fund Positioning
   b. IMD Investment House Views
   c. IMD Projects, and Asset Class Committee (ACC) Activities
   d. MSCI Risk Report

(estimated time: 20 minutes) .... Mr. Paul Matson
.... Mr. Karl Polen
Chief Investment Officer

6. Presentation, Discussion, and Appropriate Action Regarding Appointment of Board Committee Officers and Membership *(estimated time: 10 minutes)* .... Mr. Jim Hillyard

7. Presentation, Discussion, and Appropriate Action Regarding Staff Recommended Updates to the ASRS Board Governance Policy Handbook *(estimated time: 10 minutes)*… ....
.... Mr. Jim Hillyard
....Mr. Paul Matson

8. Presentation, Discussion, and Appropriate Action Regarding the Director's Report as well as Current Events

   a. 2019 Compliance Report
   b. 2019 Operations Report
   c. 2019 Budget and Staffing Reports
   d. 2019 Cash Flow Statements
   e. 2019 Appeals Report
   f. 2019 Employers Reporting

(estimated time: 5 minutes)...Mr. Paul Matson
....Mr. Anthony Guarino

9. Presentation and Discussion Regarding Informational Updates from Prior and Upcoming Committee Meetings *(estimated time: 15 minutes)*
   a. Operations, Audit and Legislative Committee (OALC)....................Mr. Jim Hillyard, Chair
   ....Mr. Anthony Guarino
   The next OALC Meeting will be held on October 9, 2019.
   b. Investment Committee (IC) .... Mr. Clark Partridge, Chair
   .... Mr. Karl Polen
   The next IC Meeting is scheduled for September 16, 2019.
   c. Appeals Committee (AC) ....Mr. Kevin McCarthy, Chair
   ....Mr. Anthony Guarino
   The next AC Meeting is scheduled for August 13, 2019.

10. Board Requests for Future Agenda Items *(estimated time: 1 minute)* .... Mr. Jim Hillyard

11. Call to the Public .... Mr. Jim Hillyard

    Those wishing to address the ASRS Board are required to complete a Request to Speak form before the meeting indicating their desire to speak. Request to Speak forms are available at the sign-in desk and should be given to the Board Administrator. Trustees of the Board are prohibited by A.R.S. § 38-431.01(H) from discussing or taking legal action on matters raised during an open call to the public unless the matters are properly noticed for discussion and legal action. As a result of public comment, the Board may direct staff to study and/or reschedule the matter for discussion and decision at a later date.

12. The next regular public ASRS Board meeting is scheduled for Friday, September 27, 2019, at 8:30 a.m., at 3300 N. Central Avenue, in the 10th Floor Board Room, Phoenix, Arizona.

13. Adjournment of the ASRS Board.

A copy of the agenda background material provided to Board Trustees (with the exception of material relating to possible executive sessions) is available for public inspection at the ASRS offices located at 3300 North Central Avenue, 14th Floor, Phoenix, Arizona and 4400 East Broadway Boulevard, Suite 200, Tucson, Arizona. The agenda is subject to revision up to 24 hours prior to meeting. These materials are also available on the ASRS website (https://www.azasrs.gov/content/board-and-committee-meetings) approximately 48 hours prior to the meeting.

Persons with disabilities may request a reasonable accommodation such as a sign language interpreter or alternate formats of this document by contacting Tracy Darmer, ADA Coordinator at (602) 240-5378 in Phoenix, at (520) 239-3100, ext. 5378 in Tucson, or 1-800-621-3778, ext. 5378 outside metro Phoenix or Tucson. Requests should be made as early as possible to allow time to arrange the accommodations.

Dated July 19, 2019

ARIZONA STATE RETIREMENT SYSTEM

Signed Copy on File
Joyce Williams
Board Administrator

Signed Copy on File
Paul Matson
Director

Agenda Item #2

ARIZONA STATE RETIREMENT SYSTEM

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Paul Matson
Director

MINUTES
PUBLIC MEETING
ARIZONA STATE RETIREMENT SYSTEM BOARD

Friday, May 31, 2019
8:30 a.m.

The Arizona State Retirement System (ASRS) Board met in the 10th Floor Board Room of the ASRS Office, 3300 N. Central Avenue, Phoenix, Arizona 85012.

Mr. Kevin McCarthy called the meeting to order at 8:31 a.m. on behalf of the Chair and Vice-chair, who were both attending the meeting via teleconference.

The meeting was teleconferenced to the ASRS office at 4400 E. Broadway, Tucson, Arizona 85711.

1. Call to Order; Roll Call; Opening Remarks

Present: Mr. Tom Manos, Chair (Via teleconference)
Mr. Jim Hillyard, Vice-chair (Via teleconference)
Mr. Rene Guillen
Mr. Kevin McCarthy
Mr. Michael Miller
Mr. Clark Partridge

Excused: Mr. Michael Lofton

Two vacant positions.

A quorum was present for the purpose of conducting business.

2. Approval of the Minutes of the March 29, 2019 Public Meeting and Executive Session of the ASRS Board

Motion: Mr. Clark Partridge moved to approve the minutes of the March 29, 2019 Public Meeting and Executive Session of the ASRS Board. Mr. Rene Guillen seconded the motion.

By a vote of 6 in favor, 0 opposed, 0 abstentions, 1 excused, and 2 vacancies, the motion was approved. The Trustee votes were as follows:

Mr. Tom Manos – approved
Mr. Jim Hillyard – approved
Mr. Rene Guillen – approved
Mr. Michael Lofton – excused
Mr. Kevin McCarthy – approved
Mr. Michael Miller – approved
Mr. Clark Partridge – approved

3. Approval of the Minutes of the April 23, 2019 Ad hoc Public Meeting of the ASRS Board

Motion: Mr. Michael Miller moved to approve the minutes of the April 23, 2019 Ad hoc Public Meeting of the ASRS Board. Mr. Rene Guillen seconded the motion.

By a vote of 6 in favor, 0 opposed, 0 abstentions, 1 excused, and 2 vacancies, the motion was approved. The Trustee votes were as follows:

Mr. Tom Manos – approved
Mr. Jim Hillyard – approved
Mr. Rene Guillen – approved
Mr. Michael Lofton – excused
Mr. Kevin McCarthy – approved
Mr. Michael Miller – approved
Mr. Clark Partridge – approved

4. Approval of the Minutes of the April 23, 2019 Public Meeting and Operations Educational Seminar

Motion: Mr. Rene Guillen moved to approve the minutes of the April 23, 2019 Public Meeting and Operations Educational Seminar of the ASRS Board. Mr. Michael Miller seconded the motion.

By a vote of 6 in favor, 0 opposed, 0 abstentions, 1 excused, and 2 vacancies, the motion was approved. The Trustee votes were as follows:

Mr. Tom Manos – approved
Mr. Jim Hillyard – approved
Mr. Rene Guillen – approved
Mr. Michael Lofton – excused
Mr. Kevin McCarthy – approved
Mr. Michael Miller – approved
Mr. Clark Partridge – approved

5. Approval of the Summary of Discussion of the May 2, 2019 Operations Educational Seminar

Motion: Mr. Clark Partridge moved to approve the minutes of the May 2, 2019 Operations Educational Seminar of the ASRS Board. Mr. Rene Guillen seconded the motion.

By a vote of 6 in favor, 0 opposed, 0 abstentions, 1 excused, and 2 vacancies, the motion was approved. The Trustee votes were as follows:

Mr. Tom Manos – approved
Mr. Jim Hillyard – approved
Mr. Rene Guillen – approved
Mr. Michael Lofton – excused
Mr. Kevin McCarthy – approved
Mr. Michael Miller – approved
Mr. Clark Partridge – approved

6. Presentation, Discussion, and Appropriate Action Regarding the ASRS 2019 Legislative Initiatives

Ms. Jessica Thomas, Government Relations Officer, provided an update regarding the ASRS 2019 legislative agenda. The Legislature has adjourned sine die as of May 28, 2019. All five agency bills pursued by the ASRS have been signed and will become effective ninety days thereafter, making the effective date August 27, 2019.

HB2007: ASRS; Political Subdivision Plans; Adjustments – This bill addresses service purchase arrangements when a new employer joins the ASRS as well as allows employers to make current year payroll adjustments for instances where contributions were not previously withheld.

SB1016: ASRS; Ineligible Contributions; Unfunded Liability – This bill addresses ineligible contributions and allows the ASRS to charge the employer who submits ineligible contributions an unfunded liability cost that is accrued when the ASRS is required to pay out a higher benefit.

SB1017: ASRS; Paying Interest; Authorization – This bill prohibits the ASRS from paying interest on any amount paid to a member, an alternate payee, or an employer unless specifically authorized by statute.

SB1018: ASRS; Compensation; Definition – This bill creates a new definition for compensation for members whose membership began on or after January 1, 2020.

SB1079: ASRS; Long-Term Disability Program – This bill will allow the ASRS to conduct investigations to prevent LTD fraud.

Ms. Thomas provided an update on a bill that affects the ASRS but was not initiated by the ASRS.

SB1213 ASRS; Return to Work – This bill addresses the payment of an alternate contribution rate that is assessed on behalf of a retired member returning to work. This bill has been sent to the Governor and is expected to be signed.

Ms. Thomas fielded questions from the Board and discussion ensued.

7. Presentation, Discussion, and Appropriate Action Regarding the ASRS Investment Program Updates

Mr. Karl Polen, Chief Investment Officer, updated the board on the investment program and provided results for periods ended March 31, 2019. He noted that portfolio remains conservatively positioned in a late cycle environment with underweight equities and overweight cash.

He noted that fiscal year-to-date returns are a little over 3% with excess return of about 1.5%.

For periods ended March 31, 2019 he noted the following:

- Total fund returns of 4.7%, 9.3%, 6.8% and 11.3% beat their benchmarks by 3%, 2.5%, 1.8% and 1.3% for the one, three, five and ten year periods respectively.
- For the ten year period, the dollar value add from this excess performance is nearly $4 billion.
- This performance placed ASRS in the top 5% of public pension plans for the ten year period and in the top quartile for all other periods reported.

- Tactical positioning has added significant value to the portfolio over longer periods but was neutral in the most recent year, with positive contribution from the underweight equities posture but negative contribution from the short duration posture anticipating increases rates that did not occur.
- Equity returns beat their benchmarks in aggregate.
  - Private equity outperformed its benchmarks by 21% for the one year period and 7% for the five year period.
  - Internally managed portfolios and futures implementation added to excess performance.
  - Factor portfolios underperformed due to high performance in growth and mega-cap names, which are underweighted in the factor portfolios.
- Real estate portfolios outperformed for all time periods reported with strongest performance in the separate account portfolio which is the focus for future investment.
- The credit portfolios outperformed in all time periods with particularly strong performance in late 2018 due to a selloff in the bank loan market which is the benchmark for the strategy.
- The core bond portfolio continues to outperform for longer time periods but suffered in the most recent year because of unanticipated declines in longer rates while the portfolio was positioned for a rising rate environment.

8. Presentation, Discussion, and Appropriate Action Regarding Board Elections of Chair and Vice-chair

Motion: Mr. Tom Manos moved to nominate Mr. Jim Hillyard as the ASRS Board Chair. Mr. Clark Partridge seconded the motion.

By a vote of 6 in favor, 0 opposed, 0 abstentions, 1 excused, and 2 vacancies, the motion was approved. The Trustee votes were as follows:

Mr. Kevin McCarthy – approved
Mr. Tom Manos – approved
Mr. Rene Guillen – approved
Mr. Jim Hillyard – approved
Mr. Michael Lofton – excused
Mr. Michael Miller – approved
Mr. Clark Partridge – approved

Motion: Mr. Jim Hillyard moved to nominate Mr. Clark Partridge as the ASRS Board Vice-chair. Mr. Michael Miller seconded the motion.

By a vote of 6 in favor, 0 opposed, 0 abstentions, 1 excused, and 2 vacancies, the motion was approved. The Trustee votes were as follows:

Mr. Kevin McCarthy – approved
Mr. Tom Manos – approved
Mr. Rene Guillen – approved
Mr. Jim Hillyard – approved
Mr. Michael Lofton – excused
Mr. Michael Miller – approved
Mr. Clark Partridge – approved

9. Presentation, Discussion, and Appropriate Action Regarding Director's Report as well as Current Events

Mr. Matson relayed the following information to the Trustees:

- Mr. Dave King, formerly the Assistant Director of the Member Services Division, is now the Assistant Director for the Technology Services Division.
- Mr. Jeremiah Scott, formerly Senior Strategic Planner and Lean Manager in Strategic Planning and Analysis, is now the Assistant Director of the Member Services Division (effective June 3, 2019).
- Mr. Russ Levine, Health and Disability Plan Manager, is currently spending a significant amount of time working on driving down costs for pre-65 Medicare eligible members and finding improved dental programs.
- The State just compiled the results and ASRS will be analyzing the data from the State Engagement Study. Mr. Matson will be reporting the results to the Board at a later date.
- Mr. Matson introduced Mr. Chris Gustafson, new Budget and Procurement Manager, to the Board.
- New Assistant Attorney General, Ms. Cassie Adams, will begin her assignment with the ASRS on Monday, June 3, 2019.

Mr. Matson answered questions from Trustee members.

10. Presentation and Discussion Regarding Informational Updates from Prior and Upcoming Committee Meetings

a. Operations, Audit and Legislative Committee (OALC)

Mr. Jim Hillyard announced the next OALC meeting will be held on July 10, 2019.

b. Investment Committee (IC)

Mr. Clark Partridge announced the next regularly scheduled IC meeting is to be held on June 17, 2019.

c. Appeals Committee (AC)

Mr. Kevin McCarthy announced the next AC meeting is scheduled to be held on June 11, 2019.

11. Board Requests for Future Agenda Items

No requests were made.

12. Call to the Public

No one from the public requested to speak.

13. The next regular ASRS Board meeting is scheduled for Friday, July 26 at 8:30 a.m., at 3300 N. Central Avenue, 10th Floor Board Room, Phoenix, Arizona.

Mr. McCarthy noted the next Board meeting is scheduled for Friday, July 26, 2019 at 8:30 a.m.

14. Adjournment of the ASRS Board

Motion: Mr. Clark Partridge moved to adjourn the May 31, 2019 public meeting of the Board at 9:07 a.m. Mr. Rene Guillen seconded the motion.

By a vote of 6 in favor, 0 opposed, 0 abstentions, 1 excused, and 2 vacancies, the motion was approved. The Trustee votes were as follows:

Mr. Tom Manos – approved
Mr. Jim Hillyard – approved
Mr. Rene Guillen – approved
Mr. Michael Lofton – excused
Mr. Kevin McCarthy – approved
Mr. Michael Miller – approved
Mr. Clark Partridge – approved

Respectfully Submitted by:

Joyce Williams
Board Administrator
ARIZONA STATE RETIREMENT SYSTEM

Agenda Item #3

ARIZONA STATE RETIREMENT SYSTEM

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Paul Matson
Director

MEMORANDUM

TO: Mr. Jim Hillyard, Chair, Arizona State Retirement System (ASRS) Board

FROM: ASRS Operations, Audit and Legislative Committee (OALC)
Mr. Paul Matson, Director
Mr. Anthony Guarino, Deputy Director and Chief Operations Officer
Ms. Martha Rozen, Chief of Administrative Services
Mr. Chris Gustafson, Budget and Procurement Program Manager
Ms. Kerry White, Assistant Chief Investment Officer

DATE: July 12, 2019

RE: **Agenda Item #3**: Presentation, Discussion, and Appropriate Action Regarding ASRS Budget-Related Topics Including:

a. Presentation/update on the ASRS Appropriated and Continuously Appropriated Budget Plans and the ASRS Administrative and the Investment Spending Plans for FY 2020.
b. Presentation of the ASRS Appropriated and Continuously Appropriated Budget Request and the ASRS Administrative and the Investment Spending Plans for FY 2021.

Purpose
To review the ASRS appropriated and continuously appropriated budgets and the ASRS administrative and investment spending plans for fiscal years (FY) 2020 and 2021.

Recommendation
For agenda item 3.b, staff recommends that the OALC accept and forward to the ASRS Board of Trustees the following:

1) An appropriated budget request for FY 2021 in the amount of $24,194,000, with an understanding there may ultimately be changes to the total appropriated budget amount due to legislative and executive recommendations.

2) The proposed administrative spending plan of $30,033,300 and continuously appropriated investment spending plan of $138,267,200 for FY 2021 subject to revised management projections, and to include private markets performance incentives and other fees when identified and paid.

Background
Attached to this memorandum are materials previously presented to the OALC by ASRS staff with the following change:

The amount reported in Attachment C – Note 3 has been changed from $73,562,800 to $80,474,900 to reflect updated reporting.

OALC Materials

July 10, 2019

ARIZONA STATE RETIREMENT SYSTEM

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Paul Matson
Director

MEMORANDUM

TO: Mr. Jim Hillyard, Chair, Arizona State Retirement System (ASRS) Operations, Audit and Legislative Committee (OALC)

FROM: Mr. Anthony Guarino, Deputy Director and Chief Operations Officer
Ms. Martha N. Rozen, Chief of Administrative Services
Mr. Chris Gustafson, Procurement and Budget Program Manager
Ms. Kerry White, Assistant Chief Investment Officer

DATE: June 26, 2019

RE: **Agenda Item #3**: Presentation, Discussion, and Appropriate Action Regarding ASRS Budget-Related Topics Including:

a. Presentation/update on the ASRS Appropriated and Continuously Appropriated Budget Plans and the ASRS Administrative and the Investment Spending Plans for FY 2020.

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For agenda item 3.b, staff recommends that the OALC accept and forward to the ASRS Board of Trustees the following:

1) An appropriated budget request for FY 2021 in the amount of $24,194,000, with an understanding there may ultimately be changes to the total appropriated budget amount due to legislative and executive recommendations.

2) The proposed administrative spending plan of $30,033,300 and continuously appropriated investment spending plan of $138,267,200 for FY 2021 subject to revised management projections, and to include private markets performance incentives and other fees when identified and paid.

Budget Process

The ASRS vision includes being a leader in the area of operational effectiveness, and our values describe the culture we believe is necessary to achieve that vision. Through a formalized budget process, and in partnership with the executive and legislative branches, the ASRS historically has been able to develop and implement fiscally responsible spending plans that are flexible and support key agency strategic objectives and priorities as well as reflect a commitment to achieving efficiencies through maximizing resources and constraining costs.

Both the vision and the values serve as guideposts to the ASRS Strategic Plan, which establishes priorities, goals, and key performance indicators (KPIs) in support of overall purpose and mission. In accordance with Strategic Priority #4 – Optimize Operational Effectiveness, during the last three fiscal years the ASRS has continued to focus on targeted reductions to achieve budget and staffing goals.

As a result of strategic planning, the agency is on target to achieve or stay within the risk tolerance of established Key Performance Indicators (KPI) as planned by June 30, 2020.

	Base Administrative Budget Actual and Projected Spend Dollars in Thousands				**Total Administrative Budget** Projected Spend Dollars in Thousands		
Category	**FY 2017**	**FY 2020**	**% Baseline Change**		**FY 2019**	**FY 2020**	**% YOY Change**
PS and ERE	$ 17,938.5	$ 19,303.3	7.6%		$ 19,409.4	$ 20,757.3	6.9%
P&O	$ 6,078.4	$ 3,526.0	(42.0)%		$ 5,696.7	$ 5,014.8	(12.0)%
Travel	$ 56.7	$ 79.0	39.3%		$ 54.0	$ 79.0	46.3%
OOE	$ 4,226.7	$ 4,146.6	(1.9)%		$ 4,765.5	$ 4,191.6	(12.0)%
Equipment	$ 221.6	$ 389.5	75.8%		$ 170.1	$ 389.5	129.0%
Total	$ 28,521.9	$ 27,444.4	**-(3.78)%**		$ 30,095.7	$ 30,432.2	**1.12%**

KPI - Percent reduction in base administrative expenses from July 1, 2017 to June 30, 2020 (excluding special line item expenditures)

Standard and Risk Tolerance = -3.0%

KPI - Total annual administrative expense variance (including special line item expenditures for service/security enhancements and anticipated cost reductions)

Standard = -1.5%   Risk Tolerance = +3.0%

Building the FY 2020 and FY 2021 Budget

The ASRS has focused a great deal of time and attention on the future to manage budgets and implement strategies designed to improve operational effectiveness and/or make the ASRS more cost effective. This has set in motion a full review of the spending plan – with a new objective of remaining relatively flat in base administrative expenditures for the next several fiscal years. This includes aligning resources and dollars with the appropriate funding as outlined in the Arizona Revised Statutes.

For FY 2020 and FY 2021, the ASRS leadership through its efforts to build the spending plans, identified two critical components to the success of the agency: 1) *Data, transactional and network security and 2) Information technology applications development and infrastructure architecture enhancements.* As technology rapidly changes the ASRS has determined that targeted investments are needed to ensure the agency is positioned to implement future changes in an agile, resilient and secure manner.

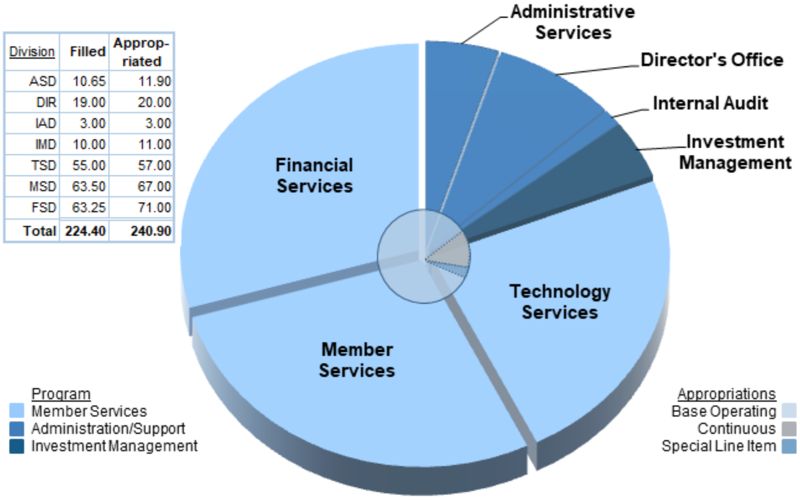
Data, Transactional and Network Security Program

Beginning in July 2016, the agency began building a development and support security team by reallocating resources and focusing on the areas of data and network security and fraud. Because fraud efforts center on functions, applications, and processes related to the disbursement of pension-related benefits, the ASRS utilizes continuously appropriated funds for the associated personal services, employee related expenses, and professional and outside services costs.

The team's activities and related projects are a component of the entire cadre of security efforts, however only portions of the team's expenses are currently funded with continuously appropriated funds; the remainder are paid for with appropriated dollars. Data, transactional and network security requires a significant amount of multi-faceted resources and this dual allocation of resources between budget sources creates a fiscal disconnect in groups that are, in reality, interconnected.

Allocation of A FTEs
as of 7/1/2019
(by division, program, and appropriations)

Division	Filled	Approp-riated
ASD	10.65	11.90
DIR	19.00	20.00
IAD	3.00	3.00
IMD	10.00	11.00
TSD	55.00	57.00
MSD	63.50	67.00
FSD	63.25	71.00
Total	**224.40**	**240.90**



In order to maintain a robust data, transactional and network security program, staff recommends shifting all resources allocated to the security team to continuous appropriations. In doing so, the amount of funding attributed to this shift - an estimated $694,300 - is identified in the Base Administrative Budget as expected unspent funds for projected reversion.

Information Technology Applications Development and Infrastructure Architecture Enhancements

Information technology provides the framework for the ASRS business model. As the landscape continues to change and gain sophistication, IT organization, skills, processes, and tools, particularly as they relate to security levels and risk mitigation, need to continue to progress to effectively support and align business and service requirements. The ASRS requires resources who are dedicated subject matter experts to:

- Implement and execute identified improvement initiatives;
- Configure and optimize the use of new or existing tools;
- Stay relevant and establish new measures as IT security and risk are redefined;
- Ensure compliance with regulatory requirements.

The following projects are currently in progress or have been supported previously by the OALC and the ASRS Board of Trustees:

- Benefits Disbursement project – to reduce the annual costs, over time, for all categories of disbursements. FY 2020 represents the final year of this project.
- Automation Upgrades and Oracle Modernization project – to achieve a standards-based set of technologies by re-engineering business process to increase productivity, reduce costs, mitigate risks, and improve member service. FY 2021 represents the final year of this project.
- Information Protection and Security project – to increase the security of Personally Identifiable Information (PII) and create a more robust data logging system and stronger monitoring tools for internal applications. This will reduce access and exposure to PII during the course of performing business functions, as well as improve the ASRS's privacy and security posture.

A. FY 2020 Appropriated Budget and Spending Plans

The ASRS FY 2020 and FY 2021 administrative spending plans, as presented in sections A. and B. of this document, further support system and technology modernizations and re-engineering of processes, with the goal of avoiding future costs associated with more costly transactions and processes.

Staff recommends amending the FY 2020 spending plan to include the following projects:

- Technology Improvements project – to achieve operational efficiency as well as to position the agency for a successful migration to the cloud by re-designing the ASRS application architecture into a continuous integration continuous deployment (CICD) pipeline or implementing a DevOps methodology. By setting up the required infrastructure and environment, the agency will be able to develop, build, and deploy on a more agile and frequent implementation schedule – reducing business delays and manual processes while optimizing the utilization of future cloud services.

  As projected unspent appropriations funding is identified for FY 2020, this recommendation does not require an increase in appropriations.
- Risk Mitigation project – to mature the ASRS data, transactional and network security program by implementing a long-term strategy and continuous processes for mitigating any security gaps and reducing the time to vulnerability remediation. For several years, the ASRS has, in consultation with external firms, assessed its security and privacy maturity and has implemented processes to improve physical, data, transactional, privacy, and cash control security. Information, privacy and system security requires a sustained effort to maintain and expand fraud detection capabilities; to minimize, identify, and remove vulnerabilities; and to integrate approaches and practices across agency functions.

In summary, the following highlights the changes staff is recommending in the spending plans for FY 2020:

- A shift of $694,300 from the Base Operating Appropriations to Continuous Appropriations for data and network security services that the agency and board have deemed consistent with continuously appropriated services as outlined in A.R.S 38-721(C)(4).
- Expenditures of approximately $270,000 for the Technology Improvements project utilizing Base Operating Appropriations.
- Expenditures of approximately $280,000 for the Risk Mitigation project utilizing Continuous Appropriations.

These changes to FY 2020 allow the agency to expedite needed projects, as well as keep the agency within the budget/spending plans from the ASRS Administrative and the Investment Spending Plans for FY 2020 as approved by the Board on August 31, 2018.

See Attachments A and B for a summary and associated detail of the ASRS administrative spending plan for FY 2020.

FY 2020 Investment Spending Plan

The ASRS FY 2020 investment spending plan includes expenditures for the following in order to meet investment objectives:

Internal investment management

- ASRS Investment Management Division (IMD) staff base salaries and employer-paid expenses (benefits and payroll taxes), travel, education and training, rent, and other operational costs.

External investment management

- Public Markets
  - Investment management fees. The majority of quarterly investment management fees are calculated based on the market value of the investments, using the assumption of a 7.5% annual rate of return less estimated net cash flows of 2.5%. Accordingly, the fees are directly correlated with both investment performance as well as net cash flows. A number of external investment managers employ an overlay strategy and have structured agreements to pay fees only when targeted results are achieved. Such fees are not projected and are only reported, on a cash basis, when identified and paid.

  - Transactional and other fees include foreign taxes and commissions on derivatives and other incidental costs.

- Private Markets - Private Equity, Real Estate, and Private Credit
  - Investment management fees. These fees are calculated based on the percentage of committed capital to the program. These fees are correlated to capital commitments in the program and are calculated on a cash basis.

  - Performance incentive and other fees include performance incentives and carried interest, which are only paid if earned - upon successful performance of the manager after other return criteria are met – or incurred, and other contractually agreed-upon fees and expenses. Due to the nature of the investments and contingent variables, estimated annual performance incentive and other fees are not projected and are only reported, on a cash basis, when identified and paid.

Consulting fees

- Investment-related consulting and legal fees, electronic information services and subscriptions, custodial banking administrative fees, and external auditing service fees. In order to gain insight into portfolios, investment performance, compliance, and investment opportunities, the ASRS utilizes supplemental, coordinated services of external professionals and data platforms.

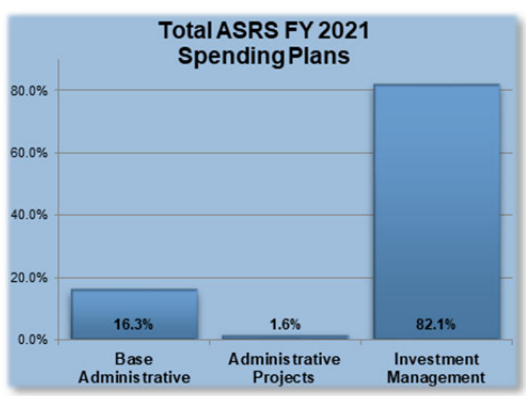
See Attachment C for a summary and associated detail of the ASRS investment spending plan.

B. FY 2021 Appropriated Budget Request and Spending Plans

The ASRS FY 2021 appropriated budget request is $24,194,000, which maintains current appropriations levels. Additionally, please note, the base administrative budget is projected to experience a slight reduction in continuous appropriations.

Staff also recommends the FY 2021 spending plan to include budget for the final year of the following projects:

- Automation Upgrades and Oracle Modernization project
- Technology Improvements project
- Risk Mitigation project



Continuing and new projects include:

- Information Protection and Security project. FY 2021 represents the second year of the three-plus year project.
- Retiree Payroll Applications project - to update the pension payroll application coding to achieve

efficiency in producing timely and accurate payments. The current payroll processing applications are written in aging code and are batch based, which increases support costs and creates delays in pension payroll processing. FY 2021 represents the first year of the approximately four-year project.

See Attachment D for a summary of the ASRS FY 2021 appropriated budget request and Attachment E for the FY 2021 administrative spending plan.

FY 2021 Investment Spending Plan

The ASRS FY 2021 investment spending plan includes the following:

- Continuously appropriated funding for the ASRS investment management program. Expenditures include investment management, consulting, legal, custodial banking, and external financial services fees; data subscriptions and analytics services; and FTE salaries and benefits, as well as travel, education, and other operational costs.

See Attachment C for a summary and associated detail of the ASRS investment spending plan.

Attachments

Agenda Item 3.a

A: FY 2020 ASRS Administrative Spending Plan
B: Administrative Projects Detail
C: ASRS Investment Spending Plan

Agenda Item 3.b

D: FY 2021 Appropriated Budget Request
E: FY 2021 ASRS Administrative Spending Plan
C: ASRS Investment Spending Plan

FY 2020
ASRS Administrative Spending Plan

	Base Administrative Budget			Obj by 6/30/2020: -3.00% Projected: -3.78%	Administrative Projects Budget					Obj YOY: -1.50% Projected: 1.12%
	Base Operating Appropriations +	Long Term Disability Appropriations +	Pension Payroll, Rent, and Actuarial Fees Continuous Appropriations* =	Base Administrative Budget Subtotal +	Technology Services Improvements Projected Unspent of Base Appropriations +	Automation Upgrades and Oracle Modernization Special Line Item Appropriations +	Benefits Disbursement Continuous Appropriations +	Information Protection Security Continuous Appropriations* +	Risk Mitigation Continuous Appropriations* =	Administrative Budget Total
Personal Services (PS) and Employee Related Expenses (ERE)										
Salaries and wages, employer costs for benefits, taxes, andADOA Charges	17,067,200	-	1,650,700	18,717,900	-	1,007,700	151,500	294,800	-	20,171,900
Variable Compensation Strategies Plan payments to employees	276,000	-	-	276,000	-	-	-	-	-	276,000
Investment Incentive Compensation Plan payments to investment management employees	309,400	-	-	309,400	-	-	-	-	-	309,400
Total PS and ERE	**17,652,600**	**-**	**1,650,700**	**19,303,300**	**-**	**1,007,700**	**151,500**	**294,800**	**-**	**20,757,300**
Professional and Outside Services (P&O)										
LTD Program administrative costs for claim processing	-	1,600,000	-	1,600,000	-	-	-	-	-	1,600,000
Pension payroll disbursement processing	-	-	130,100	130,100	-	-	-	-	-	130,100
IT development support and business applications	652,300	-	162,900	815,200	225,000	661,800	132,600	189,400	-	2,024,000
Actuarial and benefit consulting services	-	-	367,600	367,600	-	-	-	-	-	367,600
IT security professional services and consulting	188,000	-	-	188,000	-	-	-	-	280,000	468,000
Legal fees for external counsel, attorney general charges/staff, administrative hearing costs	370,100	-	-	370,100	-	-	-	-	-	370,100
Other outside services	55,000	-	-	55,000	-	-	-	-	-	55,000
Total P&O	**1,265,400**	**1,600,000**	**660,600**	**3,526,000**	**225,000**	**661,800**	**132,600**	**189,400**	**280,000**	**5,014,800**
Travel										
In-state travel for member and employer outreach	30,000	-	-	30,000	-	-	-	-	-	30,000
Out-of-state travel to pension industry and educational conferences	49,000	-	-	49,000	-	-	-	-	-	49,000
Total Travel	**79,000**	**-**	**-**	**79,000**	**-**	**-**	**-**	**-**	**-**	**79,000**
Other Operating Expenditures (OOE)										
Office rent	-	-	1,554,100	1,554,100	-	-	-	-	-	1,554,100
Software licenses and support	1,363,900	-	-	1,363,900	45,000	-	-	-	-	1,408,900
Telecommunications	276,000	-	-	276,000	-	-	-	-	-	276,000
ADOA Risk Management insurance premiums	279,600	-	-	279,600	-	-	-	-	-	279,600
Newsletter printing and mailing	130,000	-	-	130,000	-	-	-	-	-	130,000
Professional dues, subscriptions, and publications	80,000	-	197,300	277,300	-	-	-	-	-	277,300
Postage and delivery	80,000	-	82,000	162,000	-	-	-	-	-	162,000
Education, training and conferences; employee tuition	30,000	-	-	30,000	-	-	-	-	-	30,000
Equipment repair and maintenance	20,000	-	-	20,000	-	-	-	-	-	20,000
Other operating supplies and expenditures	53,700	-	-	53,700	-	-	-	-	-	53,700
Total OOE	**2,313,200**	**-**	**1,833,400**	**4,146,600**	**45,000**	**-**	**-**	**-**	**-**	**4,191,600**
Equipment										
Agency furniture purchases/replacement	20,000	-	-	20,000	-	-	-	-	-	20,000
Network, server, PC and related devices replacement and additions	369,500	-	-	369,500	-	-	-	-	-	369,500
Total Equipment	**389,500**	**-**	**-**	**389,500**	**-**	**-**	**-**	**-**	**-**	**389,500**
TOTAL	**$ 21,699,700**	**$ 1,600,000**	**$ 4,144,700**	**$ 27,444,400**	**$ 270,000**	**$ 1,669,500**	**$ 284,100**	**$ 484,200**	**$ 280,000**	**$ 30,432,200**
APPROPRIATED/BUDGETED AMOUNTS	**22,394,000**	**1,800,000**	**4,144,700**	**28,338,700**	**Projected Unspent**	**1,669,500**	**284,100**	**484,200**	**280,000**	**31,056,500**
FY 2020 PROJECTED SPEND	**21,699,700**	**1,600,000**	**4,144,700**	**27,444,400**	**270,000**	**1,669,500**	**284,100**	**484,200**	**280,000**	**30,432,200**
FY 2020 PROJECTED UNSPENT/REVERSION	**694,300**	**200,000**	**-**	**894,300**	**(270,000)**	**-**	**-**	**-**	**-**	**624,300**

***Arizona Revised Statute § 38-721(C) lists specific expenditures that are continuously appropriated in the amount deemed necessary by the Board, including rent, actuarial consulting fees, and costs associated with administering retiree pension benefits and disbursements**

Attachment A

Administrative Projects Detail

Approved Projects

FY 2014 to FY 2021

Automation Upgrades and Oracle Modernization Project Special Line Item Appropriations (Non-Lapsing) (PIJ RT13001: Oracle Forms and Reports Modernization)

Objective: Evolve legacy technologies to newer open standards-based technologies and re-engineer business processes to increase productivity, reduce costs, mitigate risks, protect and secure information, improve member satisfaction and improve service turnaround time to members.

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Project Totals
APPROPRIATED LINE ITEM BUDGET	1,390,000	4,484,500	2,270,000	2,070,000	-	-	-	-	-	-	-	10,214,500
ACTUAL AND ESTIMATED SPEND	1,117,400	1,736,200	909,100	1,041,100	1,364,200	1,470,200	1,669,500	906,800	-	-	-	10,214,500

FY 2016 to FY 2020

Benefits Disbursement Project Continuous Appropriations (PIJ RT15003: ASRS Benefits Disbursement)

Objective: Develop platform and disbursement-related processes to administer the entire benefit cycle in-house, which includes benefit calculations, electronic payment transmission, printing/mailing checks and remittance advices, and tax withholding/reporting.

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Project Totals
PIJ FUNDING PROJECTION	950,400	658,100	676,800	696,000	35,500	-	-	-	-	3,016,800
ACTUAL AND ESTIMATED SPEND	637,700	691,700	843,200	560,100	284,100	-	-	-	-	3,016,800

FY 2020 to FY 2023

Information Protection and Security Project Continuous Appropriations (PIJ RT19002: Information Protection and Security)

Objective: Increase the security of Personally Identifiable Information (PII) and create a more robust data logging system for internal applications.

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Project Totals
PIJ FUNDING PROJECTION	484,200	765,600	758,600	758,600	-	2,767,000
ESTIMATED SPEND	484,200	765,600	758,600	758,600	-	2,767,000

New Project Requests

FY 2020 to FY 2021

Technology Services Improvements Project Base Operating Appropriations (Projected Unspent)

Objective: To achieve operational efficiency as well as to position the agency for a successful migration to the cloud by implementing continuous integration continuous deployment (CICD) or DevOps methodology, setting up the required infrastructure and environment, and migrating some ASRS data center components to the ADOA Shared Hosted Data Center.

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Project Totals
FUNDING PROJECTION	270,000	381,000	-	-	-	651,000
ESTIMATED SPEND	270,000	381,000	-	-	-	651,000

FY 2020 to FY 2021

Risk Mitigation Project Continuous Appropriations

Objective: Mature the ASRS security program by implementing a long-term strategy and continuous processes for mitigating any security gaps and reducing the time to vulnerability remediation.

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Project Totals
PIJ FUNDING PROJECTION	280,000	280,000	-	-	-	560,000
ESTIMATED SPEND	280,000	280,000	-	-	-	560,000

FY 2021 to FY 2024

Retiree Payroll Application Project Continuous Appropriations (PIJ in process)

Objective: Update the pension payroll application coding to achieve efficiency in producing timely and accurate payments.

	FY 2021	FY 2022	FY 2023	FY 2024	Project Totals
PIJ FUNDING PROJECTION	329,700	659,300	659,300	214,200	1,862,500
ESTIMATED SPEND	329,700	659,300	659,300	214,200	1,862,500

ASRS Investment Spending Plan

		FY 2019 ESTIMATED		FY 2020 PROJECTION		FY 2021 PROJECTION
Investment Management Expenses*						
Internal Investment Management						
Salaries and benefits	$	1,494,000	$	1,547,300	$	1,547,300
Investment Incentive Compensation Plan (ICP)[1]	$	293,800	$	309,400	$	309,400
Travel, education and training, rent, and other operational expenses	$	266,400	$	265,100	$	266,000
Public Markets						
External investment management fees	$	12,858,800	$	4,416,000	$	4,642,000
Transactional and other fees[2]	$	5,181,600	$	5,000,000	$	5,000,000
Private Markets[3]						
Private Equity management fees	$	53,746,000	$	58,646,000	$	61,845,000
Real Estate management fees	$	10,297,200	$	18,062,000	$	18,262,000
Private Credit management fees	$	26,575,900	$	28,015,300	$	29,177,700
Custodial Banking, Security Lending and Master Cash STIF Fees	$	3,000,000	$	4,030,500	$	4,030,500
Investment Management Expenses Subtotal	**$**	**113,713,700**	**$**	**120,291,600**	**$**	**125,079,900**
Investment Related Consulting, Legal and Information Services Expenses*						
Investment Consulting Services	$	4,469,900	$	5,342,300	$	5,370,300
Investment Related Legal Services	$	3,830,800	$	4,240,000	$	4,240,000
Investment Electronic Information Services	$	2,828,000	$	3,204,500	$	3,457,000
External Financial Consulting Services	$	121,500	$	120,000	$	120,000
Services Expenses Subtotal	**$**	**11,250,200**	**$**	**12,906,800**	**$**	**13,187,300**
Total Continuously Appropriated Investment Expenses	**$**	**124,963,900**	**$**	**133,198,400**	**$**	**138,267,200**

[1] The ICP is paid with base operating budget appropriated dollars.

[2] Fees for investment managers employing an overlay strategy are not projected and are only reported, on a cash basis, when identified and paid.

[3] Due to the nature of the investments and contingent variables, estimated annual performance incentive and other certain fees and expenses that are contractually agreed upon are not projected and are only reported, on a cash basis, when identified and paid. The ASRS has paid approximately $80,474,900 in performance incentive and other fees in FY 2019.

***Arizona Revised Statute § 38-721(C) specific expenditures are continuously appropriated in the amount necessary to meet the Board's investment objectives , including investment management and related consulting fees**

FY 2021
Appropriated Budget Request

	FY 2019 Appropriations	FY 2020 Appropriations	Request FY 2021 Appropriations
Appropriated FTEs	245.9	240.9	240.9
Personal Services & Employee Related Expenditures	$ 18,281,900	$ 18,346,900	$ 18,346,900
Professional and Outside Services	$ 1,277,400	$ 1,265,400	$ 1,265,400
Travel - In State	$ 30,000	$ 30,000	$ 30,000
Travel - Out of State	$ 49,000	$ 49,000	$ 49,000
Other Operating Expenditures	$ 2,302,500	$ 2,313,200	$ 2,313,200
Equipment	$ 389,500	$ 389,500	$ 389,500
Base Operating Budget Subtotal	**$ 22,330,300**	**$ 22,394,000**	**$ 22,394,000**
Long Term Disability Program Administration (LTD)	**$ 2,200,000**	**$ 1,800,000**	**$ 1,800,000**
Total Appropriated Operating Budget	**$ 24,530,300**	**$ 24,194,000**	**$ 24,194,000**
Special Line Item Appropriations One-time IT Expenses	$ 500,000	$ -	$ -
Total Appropriated Budget	**$ 25,030,300**	**$ 24,194,000**	**$ 24,194,000**

Changes to Appropriations	FY 2020		FY 2021	
	Change relative to FY 2019 Total Appropriated Budget		Change relative to FY 2020 Total Appropriated Budget	
FY 2020 - FTE Resource Reallocation	-5.0	-2.0%	0.0	0.0%
FY 2020 - Statewide Adjustments (increase in retirement, IT pro rata, and health insurance employer costs)	$ 63,700	0.3%	$ -	0.0%
FY 2020 - LTD Administration Fees	$(400,000)	-1.6%	$ -	0.0%
FY 2020 - Remove One-time IT Expenses	$(500,000)	-2.0%	$ -	0.0%
Subtotals	$(836,300)	-3.2%	$ -	0.0%

Attachment D

FY 2021
ASRS Administrative Spending Plan

	Base Administrative Budget			Obj by 6/30/2023: 0.00% Projected: -0.27%	Administrative Projects Budget					Obj YOY: -1.50% Projected: -1.33%
	Base Operating Appropriations +	Long Term Disability Appropriations +	Pension Payroll, Rent, and Actuarial Fees Continuous Appropriations* =	Base Administrative Budget Subtotal +	Technology Services Improvements Projected Unspent of Base Appropriations +	Automation Upgrades and Oracle Modernization Special Line Item Appropriations +	Information Protection Security Continuous Appropriations* +	Retiree Payroll Application Continuous Appropriations* +	Risk Mitigation Continuous Appropriations* =	Administrative Budget Total
Personal Services (PS) and Employee Related Expenses (ERE)										
Salaries and wages, employer costs for benefits, taxes, andADOA Charges	17,067,200	-	1,690,700	18,757,900	-	605,400	589,600	173,300	-	20,126,200
Variable Compensation Strategies Plan payments to employees	276,000	-	-	276,000	-	-	-	-	-	276,000
Investment Incentive Compensation Plan payments to investment management employees	309,400	-	-	309,400	-	-	-	-	-	309,400
Total PS and ERE	**17,652,600**	**-**	**1,690,700**	**19,343,300**	**-**	**605,400**	**589,600**	**173,300**	**-**	**20,711,600**
Professional and Outside Services (P&O)				-						
LTD Program administrative costs for claim processing	-	1,600,000	-	1,600,000	-	-	-	-	-	1,600,000
Pension payroll disbursement processing	-	-	112,100	112,100	-	-	-	-	-	112,100
IT development support and business applications	627,600	-	54,500	682,100	225,000	301,400	169,000	156,400	-	1,533,900
Actuarial and benefit consulting services	-	-	340,000	340,000	-	-	-	-	-	340,000
IT security professional services and consulting	188,000	-	-	188,000	-	-	-	-	280,000	468,000
Legal fees for external counsel, attorney general charges/staff, administrative hearing costs	359,800	-	-	359,800	-	-	-	-	-	359,800
Other outside services	90,000	-	-	90,000	-	-	-	-	-	90,000
Total P&O	**1,265,400**	**1,600,000**	**506,600**	**3,372,000**	**225,000**	**301,400**	**169,000**	**156,400**	**280,000**	**4,503,800**
Travel										
In-state travel for member and employer outreach	30,000	-	-	30,000	-	-	-	-	-	30,000
Out-of-state travel to pension industry and educational conferences	49,000	-	-	49,000	-	-	-	-	-	49,000
Total Travel	**79,000**	**-**	**-**	**79,000**	**-**	**-**	**-**	**-**	**-**	**79,000**
Other Operating Expenditures (OOE)										
Office rent	-	-	1,589,000	1,589,000	-	-	-	-	-	1,589,000
Software licenses and support	1,376,900	-	-	1,376,900	145,000	-	7,000	-	-	1,528,900
Telecommunications	276,000	-	-	276,000	-	-	-	-	-	276,000
ADOA Risk Management insurance premiums	279,600	-	-	279,600	-	-	-	-	-	279,600
Newsletter printing and mailing	130,000	-	-	130,000	-	-	-	-	-	130,000
Professional dues, subscriptions, and publications	80,000	-	197,300	277,300	-	-	-	-	-	277,300
Postage and delivery	80,000	-	86,900	166,900	-	-	-	-	-	166,900
Education, training and conferences; employee tuition assistance	30,000	-	-	30,000	11,000	-	-	-	-	41,000
Equipment repair and maintenance	20,000	-	-	20,000	-	-	-	-	-	20,000
Other operating supplies and expenditures	40,700	-	-	40,700	-	-	-	-	-	40,700
Total OOE	**2,313,200**	**-**	**1,873,200**	**4,186,400**	**156,000**	**-**	**7,000**	**-**	**-**	**4,349,400**
Equipment										
Agency furniture purchases/replacement	39,500	-	-	39,500	-	-	-	-	-	39,500
Network, server, PC and related devices replacement and additions	350,000	-	-	350,000	-	-	-	-	-	350,000
Total Equipment	**389,500**	**-**	**-**	**389,500**	**-**	**-**	**-**	**-**	**-**	**389,500**
TOTAL	**$ 21,699,700**	**$ 1,600,000**	**$ 4,070,500**	**$ 27,370,200**	**$ 381,000**	**$ 906,800**	**$ 765,600**	**$ 329,700**	**$ 280,000**	**$ 30,033,300**
APPROPRIATED/BUDGETED AMOUNTS	**22,394,000**	**1,800,000**	**4,070,500**	**28,264,500**	**Projected Unspent**	**906,800**	**765,600**	**329,700**	**280,000**	**30,546,600**
FY 2021 PROJECTED SPEND	**21,699,700**	**1,600,000**	**4,070,500**	**27,370,200**	**381,000**	**906,800**	**765,600**	**329,700**	**280,000**	**30,033,300**
FY 2021 PROJECTED UNSPENT/REVERSION	**694,300**	**200,000**	**-**	**894,300**	**(381,000)**	**-**	**-**	**-**	**-**	**513,300**

***Arizona Revised Statute § 38-721(C) lists specific expenditures that are continuously appropriated in the amount deemed necessary by the Board, including rent, actuarial consulting fees, and costs associated with administering retiree pension benefits and disbursements**

Attachment E

Agenda Item #4

ARIZONA STATE RETIREMENT SYSTEM

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Paul Matson
Director

MEMORANDUM

TO: Mr. Jim Hillyard, Chair, Arizona State Retirement System (ASRS) Board

FROM: Mr. Paul Matson, Director

DATE: July 19, 2019

RE: **Agenda Item #4:** Presentation, Discussion, and Appropriate Action Regarding the Actuarial Audits of the:
a. Pension Plan
b. Health Benefit Supplemental Program
c. Long Term Disability (LTD) Program

Purpose
At least every five years the ASRS retains a second independent (a firm different from the retained actuarial firm that performed the relevant actuarial valuation) actuarial firm conduct an actuarial audit of the last actuarial valuation. This is considered good practice and is relatively common.

Recommendation
Move to accept and implement beginning with the June 30, 2019 valuation, the actuarial audit recommendations to:

1) Move to a 25 year amortization period for new actuarial accrued unfunded liabilities;
2) Implement a 30% corridor between market value funded status and asset smoothed actuarial value funded status, and
3) Further study including recent experience in the phase-in method for the contribution rate increases.

And to further study the remainder of the recommendations in the next actuarial experience study.

Background
For the current actuarial audit, the ASRS retained Segal (a large nationally recognized actuarial firm) to conduct the actuarial audit for the period ending June 30, 2018. Segal has completed their audit and their actuarial audit report is included for your review. In summary, the audit confirmed that the results of the actuarial calculations as of June 30, 2018 are reasonable, and that the calculations are based on generally accepted actuarial principles and practices. In general terms, the areas that Segal has recommended that the Board review during the next experience study fall into the following two broad categories:

A. Investment Related

This area includes expected rates of return, real rates of return, capital market volatility, correlations between capital markets, arithmetic versus geometric applications, and how these relationships relate to the long term expected rate of return and the value of the PBI. I concur that the ASRS should review these areas again during the next experience study, which would be done as a usual course of our experience study.

B. Actuarial Methods Related

This area includes various methods that the ASRS's actuary utilizes when conducting an actuarial valuation. Rather than wait for the next experience study, I suggest that the Board consider modifying our current methods in three specific areas as follows. Each of these changes would generally be considered good practice.

1. <u>Amortization of unfunded actuarial accrued liability</u>

I suggest that the Board consider moving from the current 30 year amortization period to a 25 year amortization period for Pension (ASRS currently uses 15 years for Health Benefit Supplement (HBS) and Long-Term Disability (LTD)) for actuarial valuations beginning June 30, 2019. It is my understanding that the ASRS's current actuary would support this action. This action would not result in any change in contribution rates or funded status that would otherwise result from the June 30, 2019 actuarial valuation. It would however more quickly amortize any future unfunded actuarial accrued liabilities.

2. <u>Corridor</u>

I suggest that the Board consider implementing a 30% corridor for actuarial valuations beginning June 30, 2019. It is my understanding that the ASRS's current actuary would support this action. This action would not result in any change in contribution rates or funded status that result from the June 30, 2019 actuarial valuation. It would however better ensure that actuarial and 'asset-unsmoothed' funded statuses are limited in how much they may diverge, and that the resulting calculated contribution rates are more limited in how they may vary from those resulting from any future financial positive or negative dislocation.

3. <u>Contribution Phase-In</u>

I suggest that the Board consider including recent experience when calculating the phase-in of contribution rate increases for actuarial valuations beginning June 30, 2019. It is my understanding that the ASRS' current actuary would support this action. This action may result in a 'very modest decrease to the very modest expected increase' in the contribution rates that would otherwise result from the June 30, 2019 actuarial valuation.

Attachments:
- ASRS Report of an Actuarial Audit by Segal Consulting

Arizona State Retirement System

AUDIT OF JUNE 30, 2018 ACTUARIAL VALUATION

July 2019

DRAFT

Segal Consulting

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July 19, 2019

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

Dear Members of the Board:

We are pleased to present the results of this audit of the June 30, 2018 Actuarial Valuations for the Arizona State Retirement System (ASRS) Plan and Long Term Disability (LTD) Program. The purpose of this audit was to verify the calculations completed by Gabriel, Roeder, Smith & Company (GRS) and to offer comments on the methodology and the results of their actuarial valuations.

This review was conducted by Brad Ramirez, a Fellow of the Society of Actuaries, Member of the American Academy of Actuaries, and an Enrolled Actuary under ERISA, and John Monroe, an Associate of the Society of Actuaries, Member of the American Academy of Actuaries, and an Enrolled Actuary under ERISA. This review was conducted in accordance with the standards of practice prescribed by the Actuarial Standards Board.

The assistance of GRS and ASRS is gratefully acknowledged.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We appreciate the opportunity to serve as an independent actuarial advisor to ASRS's Board of Trustees, and we are available to answer any questions you may have on this report.

Sincerely,

Brad Ramirez, FSA, MAAA, FCA, EA	John Monroe, ASA, MAAA, EA
Vice President and Actuary	Vice President and Actuary

EK/

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July 19, 2019

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Summary of Findings and Recommendations

This report has been prepared by Segal Consulting (Segal) to present an audit of the June 30, 2018 Actuarial Valuations for the ASRS Plan and LTD Program performed by GRS for ASRS.

Summary of Results

This audit report includes an independent reproduction of the detailed valuation results that appear in the June 30, 2018 valuation reports prepared by GRS. This audit was based on actuarial reports, employee data and supplemental information provided by both ASRS and GRS.

We have performed this actuarial audit of ASRS's June 30, 2018 Actuarial Valuations to provide assurance to ASRS's Board of Trustees that the actuarial calculations are reasonable and that the actuarial process was conducted according to generally accepted actuarial principles and practices.

Our audit confirms that the results of the actuarial calculations as of June 30, 2018 are reasonable, and that those calculations are based on generally accepted actuarial principles and practices.

Our findings and recommendations are summarized as follows:

- Our first focus was on matching the core numbers on which the plans' ultimate costs depend: the Present Value of Future Benefits. The results of this analysis is shown below. We also focused on (i) the correct implementation of the actuarial assumptions as determined by the 2016 Actuarial Experience Study, (ii) the valuation of members hired after July 1, 2011 since important distinctions in plan provisions are applicable to these members and (iii) the determination of the contribution rate after reflecting the phase-in of the impact of the changes in actuarial assumptions from the 2016 experience study.

- Segal's *total Present Value of Future Benefits* for the combined 401(a) and 401(h) portions of the ASRS Plan as of June 30, 2018 is 99.7% of GRS's present value.

- Segal's *total Actuarial Accrued Liability* for the combined 401(a) and 401(h) portions of the ASRS Plan as of June 30, 2018 is 100.1% of GRS's liability.

- Segal's *employer and member contribution rate* for the combined 401(a) and 401(h) portions of the ASRS Plan before reflecting the phase-in of the impact of the assumption changes) as of June 30, 2018 is 98.8% of GRS's rate.
  - After reflecting the phase-in, Segal's *employer and member contribution rate* is 97.5% of GRS's phased-in rate.

- Our comparison of the demographics of the 2018 data provided by ASRS with the valuation data used by GRS for the June 30, 2018 actuarial valuations indicates that GRS made some changes to the original data before the valuation was performed. These changes were based on discussions that GRS has with ASRS staff each year to ensure that all data elements are properly applied when measuring the liabilities. We have included a few comments in Section II under Step 1 regarding the data process. We understand that GRS has discussed these comments with ASRS staff to confirm the appropriate treatment of the data in the valuation.

- We reviewed the actuarial assumptions used in the valuation and believe that the assumptions are reasonable for use in the actuarial valuation and in compliance with the Actuarial Standards of Practice. This review is discussed in further detail in Section II under Step 5.

- For the investment rate of return assumption, GRS recommended a decrease from 8.00% to 7.50% in the last experience study. As an independent check, we applied two different models to review the 7.50% investment return assumption. Under one of the models, the 7.50% investment return assumption is reasonable and complies with the Actuarial Standards of Practice (ASOP). However, one of the models indicated that the investment return assumption may be on the high side based upon the underlying target asset allocation. We believe that a further reduction in the assumed real rate of return should be considered during the next experience study.

- GRS includes an explicit assumption for future Permanent Benefit Increases (PBIs) of 0.3% per year for eligible retirees and beneficiaries. This assumption was developed in the 2016 experience study using stochastic modeling based on the standard deviation of the target asset allocation using historical volatility. We strongly concur with GRS' introduction of this assumption as part of the 2016 experience study. In prior valuations, this provision was not valued in calculating the liabilities or the contributions.
  - Our modeling indicates that future PBIs could be larger than the current 0.3% assumption. However, we acknowledge that this assumption is significantly impacted by the expected return and standard deviation of the portfolio used in the modeling. In addition, the amounts of deferred investment gains and losses at the time the modeling is performed also have a significant impact on the results. We recommend that this assumption continue to be carefully monitored.

- We also have a few other comments regarding the valuation of PBIs that are shown under Step 5 in Section II. We recommend that GRS consider these issues when setting the assumption for future PBIs in the next experience study and valuing these increases in future actuarial valuations.

- The UAAL is funded as a level percentage of payroll using a "layered" approach. The amortization period for the 401(a) portion of the benefits is 30 years, with each year's changes amortized over a closed period. Based on this methodology, the UAAL for each new layer actually increases for 7 years. The UAAL also does not fall below the original amount until the 14th year, which is about half way into the amortization schedule. This effect of "negative amortization" is not uncommon in public pension plan funding. The stakeholders should be aware of the risks in this approach.
  - In recent years, a number of parties have issued papers with guidance on setting funding policies. These include the California Actuarial Advisory Panel (CAAP), Conference of Consulting Actuaries Public Plans Community (CCA) and the Government Finance Officers Association (GFOA). A 30-year amortization is a non-recommended practice

under both the CAAP and the CCA papers and falls outside the recommended range in the GFOA paper.

- We recommend that the UAAL amortization policy, particularly the UAAL amortization period, be reviewed with the ASRS Board. If the Board decides to transition to a shorter amortization period it could be done on a prospective basis. This would allow the current amortization layers to continue under their current schedules.

➤ The asset smoothing method used applies a 10-year smoothing for all investment gains/losses on a market value basis (as compared to the assumed return), with each annual gain or loss recognized over a 10-year period at the rate of 10% per year. However, offsetting unrecognized gains and losses are immediately recognized, with the shortest remaining bases recognized first and the net remaining bases continue to be recognized on their original timeframe. There is no corridor around the Market Value of Assets (MVA), so there is no restriction on how far the Actuarial Value of Assets (AVA) may vary from the MVA.

- This methodology will generally result in the AVA staying relatively close to the MVA, except in a period of sustained actuarial gains or losses, which is why we believe consideration should still be given to adding a "corridor" of at most 30%, where the AVA is limited to be within 70% and 130% of the MVA. The addition of a 30% corridor would also be consistent with the GFOA, CAAP and CCA papers described earlier regarding setting funding policies.
- In addition, based on our experience, the immediate recognition of offsetting investment gains and losses is not a common practice for public sector retirement systems and should also be reviewed.

➤ The ASRS Board elected to phase-in the impact of new actuarial assumptions adopted for the June 30, 2017 valuation over a five-year period. The valuation report includes both the contribution rates before and after the phase-in. The phase-in of the contribution rate impact of assumptions is a common practice for public sector retirement systems. In addition, the impact of the assumption changes is being phased-in and there is no phasing in of the assumption change itself. We concur with this approach.

- However, it is our understanding that the current methodology is phasing in the impact of the assumption changes by first determining their impact on the contribution rate and then increasing the contribution rate calculated under the prior assumptions (both determined as of the time the experience study was adopted) by an equal amount each year over the period of time between experience studies (five years). This means that any impact on the contribution rate due to actuarial experience beginning with the first valuation under the new assumptions is not reflected, or more specifically is being deferred to some future year (presumably when the next experience study is performed).
- The Board should consider an approach that reflects actuarial gains and losses in each year's contribution rate instead of just reflecting the impact of the phase-in on the prior year contribution rate. A commonly used phase-in approach reduces the contribution rate (prior to phase-in) by the unrecognized portion of the phase-in at each valuation date. This approach allows for each year's actuarial experience gains and losses to be treated equally and fully reflected in the contribution rate after phase-in.

- We also reviewed the GRS actuarial valuation reports in detail. We have confirmed that the GRS report contains required disclosures including those necessary to comply with Actuarial Standards of Practice (ASOP). In particular, the June 30, 2018 GRS valuation report already contains information that will be required to be disclosed starting with the June 30, 2019 actuarial valuation in regards to the new ASOP No. 51 regarding assessment of risk.

- Most of our comments on the content of the valuation reports were minor. We believe that the plan provisions described in the actuarial valuation report are overall consistent with governing law and employee handbooks. A list of suggested changes to the valuation report for GRS to consider can be found in Section II under Step 5.

Section I – Purpose and Scope

Purpose of the Actuarial Audit

Segal Consulting has performed an actuarial audit of the ASRS Plan and the ASRS LTD Program as of June 30, 2018 to provide assurance to ASRS's Board of Trustees that the actuarial calculations are reasonable and that the actuarial process was conducted according to generally accepted actuarial principles and practices.

Scope of the Actuarial Audit

The scope of the audit, as described in our Proposal Letter for Actuarial Audit Services, includes the following:

- Comparison of the plan provisions described in the actuarial valuation reports to governing law and employee handbooks for consistency
- Review of the actuarial assumptions to determine the reasonableness of assumptions and compliance with the Actuarial Standards of Practice
- Review of the actuarial funding policy to assess whether it is reasonable and appropriate
- Review of the actuarial valuation reports and provide recommendations for improvement, if applicable
- Comparison of the census data used by the actuary for the valuations to the census data provided by the System to assess whether the valuation census data is reasonable and consistent with the System data
- Review of detailed sample test life output, supplied by the System actuary, to determine if the calculations are accurate and reasonable
- Review of any unique aspects of the valuation process, as requested by the System
- A complete reconstruction of the valuation data file from the census data provided by the System
- A parallel valuation in which all of the plan liabilities are recalculated

Section II – Results

Results of the Actuarial Audit

Several steps are involved in conducting an actuarial audit of a retirement benefits program. Outlined below are the primary steps we took to comply with the scope of the audit services. Following each step is a description of our observations.

Step 1: Compare the demographics of the 2018 data provided by ASRS with the valuation data used by GRS for the June 30, 2018 Actuarial Valuations.

Results

Exhibit A provides a comparison of the number of participants, their average ages, average salaries (active members), average service (active members) and average benefits (pensioners). This exhibit indicates that GRS had to make some adjustments, estimations or corrections to the data received from ASRS. In general, the data received by GRS was not entirely "valuation ready." Changes made to the data were based on discussions that GRS has with ASRS staff each year to ensure that all data elements are properly applied when measuring the liabilities. Overall, our comments below would not have a significant effect on the valuation results, but should be considered by GRS in the 2019 valuation.

Observations

1. There were approximately 1,000 records that were included on the "Critical Period Non Ret File.xlsx" file with a status of "Inactive". They are all listed with a "drop date" that was after the date of the valuation (i.e., June 30, 2018). We were unable to locate these members in the valuation data files provided by GRS. If these are members that were due a refund of contributions, and the contribution refunds were not reflected in the financial statements as of June 30, 2018, then a liability for the value of their contributions should be included in the valuation. It is our understanding that GRS has had discussions with ASRS staff regarding the appropriate treatment of the data for these members in the valuation.

2. There were approximately 800 records that were included on the "ACTUAR_SUSPEND_FYE2018.xlsx" file that we were unable to locate in the valuation data files provided by GRS. It is our understanding that the members on this file are "members that were suspended and entitled to a continuing benefit". We note that about 700 of these members were coded as deceased. It is our understanding that GRS has also had discussions with ASRS staff regarding the appropriate treatment of the data for these members in the valuation.

3. GRS provided us a document which detailed the methodology that they use to calculate a "smoothed salary", which is then projected to calculate the valuation payroll. For the majority of members, they average the "annualized earnings" from the last two years and project forward with ½ year of the applicable salary scale.

a. We were able to replicate this process and match the smoothed salary for the majority of members. However, we note that GRS is using the “Gross Salary” as reported by ASRS, without any adjustment to a full-time equivalent or annualized basis. While we believe this to be a reasonable method for the majority of active members, there are some members who, through this methodology, might still be valued with an artificially low salary. We recommend GRS review their procedure and determine whether the “Gross Salary” should first be adjusted to an annualized basis or certain other adjustments to the compensation data should be made.

Step 2: Develop a valuation program based on the relevant provisions of the Arizona Revised Statutes as summarized in the Summary Plan Descriptions, using the actuarial methods and assumptions outlined in the most recent valuation report, and further defined by GRS.

Observations

1. We modified our valuation software so that it more closely mimics the middle of the plan year timing of decrements used by GRS.

2. Our valuation program reflects all of the current actuarial assumptions that were adopted as part of the 2016 experience study.

3. Our valuation program also reflects the distinctions in plan provisions that apply to members hired on or after July 1, 2011. This includes the five-year period for determining average monthly compensation and the changes to retirement eligibility.

Step 3: Run the valuation program with specific individuals (test lives) who illustrate particular benefit provisions and compare results to GRS’s results.

Results

Exhibit B provides a comparison of Segal’s and GRS’s test life results for the present value of future benefits.

- *Present Value of Future Benefits (PVB):* This liability represents the current value of the member’s projected benefits, recognizing the time value of money (discounted using the investment return assumption), the salary increase assumption and the probabilities of retirement, death, disability and turnover. This value is the cornerstone for the entire valuation as it represents the amount needed to provide all future expected benefit payouts for current members, based on the valuation assumptions.
  - The ratios of Segal’s results to GRS’s results, on a total present value of future benefits basis, range from 94% to 102% for the active test lives and 100% to 101% for the inactive and retired test lives.
  - We believe our results for these testlives are within an acceptable range of GRS’s results to provide assurance that the significant plan liabilities are properly valued.

Observations

1. Segal's valuation system generally assumes active members decrement (i.e., retire, terminate, etc.) at the beginning of each plan year (July 1). The GRS system, in contrast, assumes decrements occur in the middle of the year (January 1). As part of this audit for ASRS, we have changed our timing of the decrement to allow for the middle of the year timing for the decrements assumed by GRS. Either methodology is acceptable, with each actuarial firm establishing its own approach for the assumed timing of decrements.

2. Some differences in the results are expected due to differences between Segal and GRS's valuation systems. Differences could include such things as the rounding used in the calculations of ages or the assumed timing for salary increases or benefit payments. Various methodologies are acceptable, with each actuarial firm establishing its own approach. Given the differences in the valuation systems, we would not expect to match GRS's results exactly.

3. The actuarial assumptions adopted by the Board of Trustees in conjunction with the 2016 experience study were used to value the test lives.

Step 4: Run the valuation program with all participant data, compile results, and compare to GRS's results.

Results

Exhibit C provides a comparison by Plan of Segal's results and GRS's results including (i) the present value of future benefits, (ii) the actuarial accrued liability, (iii) the unfunded actuarial accrued liability (UAAL), (iv) the total (employer plus member) contribution rate, (v) the member contribution rate and (vi) the employer contribution rate.

- Arizona State Retirement System – Funding 401(a) Plan
  - In total, the present value of future benefits determined by Segal is 99.7% of the amount determined by GRS.
- Arizona State Retirement System – Funding 401(h) Plan
  - In total, the present value of future benefits determined by Segal is 99.5% of the amount determined by GRS.
- Arizona State Retirement System – Long Term Disability Program
  - In total, the present value of future benefits determined by Segal is 96.9% of the amount determined by GRS.
- The funding method adopted by ASRS, the Entry Age Actuarial Cost Method, separates the present value of future benefits for active members into two components, the actuarial accrued liability and the present value of future normal costs. Simply stated, the Entry Age Actuarial Cost Method determines a level cost as a percentage of pay for each year of service, called the normal cost. The actuarial accrued liability is the accumulated value of past normal costs (less any expected benefits, and assuming all actuarial assumptions were

exactly realized), while the present value of future normal costs represents the current value of future normal costs required to fully fund the member's projected benefits before the member is expected to retire.

- The method used to separate the present value of projected benefits into its two components can differ somewhat between valuation systems, even though the underlying funding method used in the systems is the same.

- The present value of future normal costs is allocated between member contributions and employer contributions. The Segal and GRS valuation systems have slight differences and we would expect minor discrepancies in this allocation.

- The accrued liability also depends in part on the valuation system's methodology for separating the present value of projected benefits into its two components – the actuarial accrued liability (AAL) and the present value of future normal costs. In total, the AAL determined by Segal for the combined 401(a) and 401(h) portions of the ASRS Plan is 100.1% of the amount determined by GRS. The unfunded actuarial accrued liability (UAAL) is simply the difference between the accrued liability and the actuarial value of assets. Therefore, differences in the accrued liabilities due to the variations in the valuation systems also impact the unfunded accrued liabilities.

- Segal's total (employer plus member) normal cost contribution rate for the combined 401(a) and 401(h) portions of the ASRS Plan as of June 30, 2018 is 97.8% of GRS's total normal cost rate.

- Segal's UAAL contribution rate for the combined 401(a) and 401(h) portions of the ASRS Plan as of June 30, 2018 is 100.3% of GRS's rate.

- Segal's member contribution rate for the combined 401(a) and 401(h) portions of the ASRS Plan <u>before</u> reflecting the phase-in of the impact of the assumption changes) as of June 30, 2018 is 98.8% of GRS's rate.

- Segal's employer contribution rate for the combined 401(a) and 401(h) portions of the ASRS Plan <u>before</u> reflecting the phase-in of the impact of the assumption changes as of June 30, 2018 is 98.8% of GRS's rate.

- Segal's member contribution rate for the combined 401(a) and 401(h) portions of the ASRS Plan <u>after</u> reflecting the phase-in of the impact of the assumption changes) as of June 30, 2018 is 97.5% of GRS's rate.

- Segal's employer contribution rate for the combined 401(a) and 401(h) portions of the ASRS Plan <u>after</u> reflecting the phase-in of the impact of the assumption changes as of June 30, 2018 is 97.5% of GRS's rate.

Observations

1. In determining the UAAL contribution rate, GRS uses a methodology that first projects the outstanding balances of the various UAAL layers to the next valuation date (i.e. one year in the future). Based on those projected outstanding balances and the remaining amortization periods as of that same date, they determine the UAAL amortization payments for each

layer. The total of these amortization payments is then converted to a percent of the expected payroll for the year that begins on the next valuation date. It is our understanding that the purpose of this methodology is to adjust for the one-year delay between the valuation date and the date that the contribution rates are implemented. We believe that the methodology they are applying is reasonable for this purpose.

2. There are some differences in the methodology used by Segal and GRS to phase-in the impact of the assumption changes from the 2016 experience study. This is discussed in further detail below under Step 5, where we comment on the methodologies used in the GRS valuation report.

Step 5: Evaluate the valuation results, assumptions and methodologies as presented in the GRS actuarial valuation reports.

Observations

We reviewed the actuarial assumptions used in the valuation and believe that the assumptions are reasonable for use in the actuarial valuation and in compliance with the Actuarial Standards of Practice. The focus of our comments regarding the actuarial assumptions is to comment on those items which, in our opinion, are subject to improvement, so as to contribute to the improvement of the experience study process.

Investment Return Assumption

- For the investment rate of return assumption, GRS recommended reducing the assumption from 8.00% to 7.50%, net of investment related expenses in the 2016 experience study.

- In their review of the investment return assumption, GRS used capital market assumptions from NEPC (the system's investment consultant), a survey of four investment consulting firms maintained by GRS and also a survey from Horizon Actuarial Services. GRS also used the target asset allocation from 2017.

- Models used by actuarial firms to develop a discount rate can be based on expected or mean arithmetic average returns, which correspond to an expected or mean level of future assets. In other words, if a retirement system uses the expected arithmetic average return as the discount rate in the funding valuation, that retirement system is expected to have no surplus or asset shortfall relative to its expected obligations assuming all actuarial assumptions are met in the future. Models can also be based on median geometric average returns and we believe that GRS is developing a discount rate using this approach, which correspond to a median level of future assets.
  - What is not commonly understood is that both of these approaches recognize that when returns are volatile, the compound or "geometric" historical returns will be less than the simple arithmetic average of the year-by-year historical returns. The difference is best understood by focusing on the assets that are expected to accumulate to fund the system's liabilities, rather than the average future investment returns. Because of the (small) possibility of very high returns, the expected value (probability-weighted outcome) of future assets is higher than the median value (50/50 chance) of future assets. This means, somewhat counter-intuitively, that "expecting" to have future assets that match your

future liabilities is not the same as there being a 50/50 chance of having future assets higher or lower than those liabilities.

- When setting the investment return assumption, we believe that both approaches are permitted under ASOP No. 27 "Selection of Economic Assumptions for Measuring Pension Obligations."

- Most of the capital market assumptions used by GRS produced an expected compound geometric return in the range of 6.80% to 7.30%. The expected returns varied depending on the source of the capital market assumptions and the time horizon.

- As an independent check, Segal has applied a model based on arithmetic returns that we use for our public retirement systems to review the 7.50% investment return assumption. While, our model does not generally produce an absolute investment return recommendation, it is very useful for comparing the level of risk inherent in the investment return assumptions adopted by a given retirement system at different points in time or with other retirement systems that have previously been analyzed using that model.
  - This model is based on an average of a sample of arithmetic real rate of return assumptions provided to us by seven investment advisory firms retained by Segal's public sector clients. We believe these averages are a reasonable consensus forecast of long-term future market returns in excess of inflation by asset class. Our model is based on the target asset allocation that was adopted in 2018 and is slightly different than the allocation used by GRS in their 2016 experience study.
  - Based on the application of our model, we believe that the level of risk implicit in the 7.50% investment return assumption, along with a 2.30% price inflation assumption, is higher when compared to recommendations we have made to other retirement systems. In particular, based on this model, the confidence level associated with meeting the 7.50% assumption is less than 50%. The assumed real rate of return of 5.20% is generally higher than that used by our other clients. We believe that a reduction in the assumed real rate of return should be considered during the next experience study, based upon the current target asset allocation.

- The model that we use includes a reduction for expected investment expenses. Those investment expenses are based on recent actual investment expenses and represent about 0.6% of assets. It is unclear whether the GRS model makes an adjustment for investment expenses, but we believe that they do not as there was no mention of those expenses in the development of the rate of return assumption.
  - This may be because the expected returns used are based on portfolio benchmark indices, which are expected to have minimal expenses. Or it may be because most of the investment expenses are associated with active portfolio management expenses. As allowed under ASOP No. 27, it can be assumed that additional returns ("alpha") are earned to offset the active management expenses. We recommend that GRS consider clarifying their treatment of investment expenses in their recommended investment return assumption as part of the next experience study.

- In recent reviews of the investment return assumption that we performed for our clients, we have also applied an alternative model that is based on forward looking expected geometric returns. Under this model we have not reduced the investment return assumptions to anticipate future investment expenses. We believe that this model is more consistent with the model used by GRS to develop their recommendations in the 2016 experience study.

- For comparison purposes, we evaluated the 7.50% assumption based on the expected geometric average return for the entire portfolio, gross of investment expenses. Note that this alternative model uses a different set of capital market assumptions based on a survey maintained by Horizon Actuarial Services. Under that model, over a 20-year period, there is a 53% likelihood that future average geometric returns will meet or exceed 7.50%.[1] Therefore, we believe that the current 7.50% investment return assumption is reasonable and complies with ASOP No. 27.

Mortality Assumption

- The non-disabled retiree mortality assumptions used by GRS are based on a mortality table constructed using actual ASRS experience. The table was developed on a benefit-weighted basis since benefit amounts are a significant predictor of life expectancy. Future mortality improvement is projected on a generational basis using the ultimate mortality improvement rates found in the MP projection scales. While we do not have the underlying data that was used to construct the table, we concur with GRS's description of the development of the mortality assumption and believe it is reasonable.

- The Retirement Plans Experience Committee (RPEC) of the Society of Actuaries has recently published the Pub-2010 Public Retirement Plans Mortality tables (Pub-2010). For the first time, the Pub-2010 mortality tables are based exclusively on public sector pension plan experience in the United States. Within the Pub-2010 family of mortality tables, there are separate tables by job categories of General, Safety and Teachers.

  - In the next experience study, we recommend that GRS consider whether to use these new mortality tables along with setting the mortality tables based on job class for members in the ASRS.

  - GRS should also consider using the latest MP projection scale without adjustment unless there is sufficient plan experience to justify an alternative assumption. We note that GRS included justification for using the ultimate mortality improvement rates in the previous experience study.

Assumption for Future Permanent Benefit Increases (PBIs)

- GRS includes an explicit assumption for future PBIs of 0.3% per year for eligible retirees and beneficiaries. This assumption was developed in the 2016 experience study using stochastic modeling based on the standard deviation of the target asset allocation using historical volatility. In the assumptions section of the actuarial valuation report GRS notes that "In an effort to support contribution stability, assumed PBIs are accumulated across successive valuations and reduced when actual PBIs are paid."

[1] We performed this stochastic simulation using the capital market assumptions included in the 2018 survey prepared by Horizon Actuarial Services. That simulation was performed using 10,000 trial outcomes of future market returns, using assumptions from 20-year arithmetic average returns, standard deviations and correlation matrix that were found in the 2018 survey that included responses from 34 investment advisors.

- We concur with the use of stochastic modeling to model the impact of this plan provision. We also concur with the inclusion of an explicit assumption for future PBI increases in the actuarial valuation. On page C-10 of the 2016 experience study, GRS includes a table that shows that the assumption for future PBI increases is dependent on whether the investment return assumption is 8.00%, 7.75% or 7.50%. This assumes that if there were three different asset allocations or sets of capital market assumptions that produce these expected investment returns, then the impacts on the assumed future PBIs will differ. We agree with GRS that different assumptions regarding future investment returns will result in different assumptions for future PBI increases.

- We performed our own stochastic modeling of future investment returns. Our modeling indicates that future PBIs could be larger than the current 0.3% assumption. However, we acknowledge that this assumption is significantly impacted by the expected return and standard deviation of the portfolio used in the modeling. In addition, the amounts of deferred investment gains and losses also have a significant impact on the results. When GRS performed this analysis back in 2017, there were significant amounts of deferred losses to recognize which would suppress future allocation of investment earnings to PBIs. There are now significant deferred gains for future recognition as of the June 30, 2018 valuation. All other things being equal, this increases the potential for future allocations of investment earnings to PBIs. We recommend that this assumption continue to be carefully monitored.

- The PBI assumption may warrant more frequent review since it depends on past investment experience (deferred gains or losses) as well as future expectations for asset returns and volatility. Most importantly, though, we strongly concur with GRS' introduction of this assumption as part of the 2016 experience study. In prior valuations, this provision was not valued in calculating the liabilities or the contributions.

- In applying this assumption, our understanding is that GRS applies a PBI of 0.3% per year starting with the July 1 following the valuation date (i.e., July 1, 2018 for the June 30, 2018 valuation). However, GRS should consider reflecting known information about future PBIs as of the valuation date.
  - For example, the actual PBIs as of July 1, 2018 (0%) and July 1, 2019 (0%) were already known based on the June 30, 2017 and June 30, 2018 valuations, respectively. It was also known in the June 30, 2018 valuation that an amount equal to $62.6 million will be allocated to the July 1, 2020 PBI. GRS should consider including a liability equal to this amount in the June 30, 2018 valuation for the July 1, 2020 PBI. Future PBIs could then be projected after that date at 0.3% per year.

- Based on our understanding of the Arizona Statute, future PBIs are likely to eventually increase since the calculation of the PBI reserve is based on the present value of benefits for <u>all</u> retirees and beneficiaries, whereas the group of members eligible for these increases is limited to those hired before September 13, 2013. Eventually, the reserve is likely to become large enough in relation to the remaining liabilities of eligible members so as to provide for lifetime annual increases equal to the cap of 4% per year. It is also unclear to us how any additional excess earnings in the reserve would be applied after there are no longer any members who are eligible to receive the PBI. GRS should consider these issues when setting the assumption for future PBIs in the next experience study and valuing these increases in future actuarial valuations.

Other Assumptions

- GRS assumes that 60% of future retirees will elect to receive the post-retirement health insurance premium supplement and that 40% of those retirees will elect the dependent premium supplement. They also implicitly assume that all members over age 65 will have Medicare Part A and B. There was no data shown in the experience study to justify the use of these assumptions.
  - We recommend that GRS include at least some data in the next experience study to justify their assumptions.
  - In addition, GRS should consider expanding the description of these assumptions to include that they are applied to members with a health flag but had no benefit amounts reported. GRS should also add their assumption regarding Medicare to their valuation report.
- There is an assumption for Optional Form Load of 0.174% that is added to 401(a) liabilities for non-retired members. In the valuation report, GRS mentions that this assumption is to account for the election of optional forms other than a single life annuity. In correspondence with GRS, they mentioned that the load was established as part of the 2012 experience study. The assumption was not studied in detail in the 2016 experience study. We recommend that GRS perform a more detailed analysis of this assumption in the next experience study and provide disclosure regarding exactly how it is calculated.
- GRS provided us a file containing the full set of retirement rates used in their actuarial valuation. We note that some of the retirement rates reported in that file were not consistent with the proposed retirement rates shown on pages E-1 through E-3 of the 2016 experience study report. We recommend GRS review the assumptions that they are using to confirm they are consistent with their experience study.
- When calculating the valuation payroll, GRS generally first projects the member's average salary over the last two years with one-half of a year's worth of the applicable salary scale (based on the member's years of service), and then projects that amount again with a full year's worth of the applicable salary scale.
  - We recommend that GRS consider providing disclosure regarding this process in the assumptions section along with a justification for why 1.5 years of salary scale is applied.
  - Furthermore, we note that the application of the one-half followed by the one year of salary scale was not consistent. For example, for a member with 12.2 years of service, we observed that one half of the **12** years of service salary scale (i.e., 3.30%) was applied, and then one year of the **11** years of service salary scale (i.e., 3.40%) was applied. We suggest GRS review this methodology to confirm that it was intentional to use two different salary scales and to also go backwards in applying their scales (i.e., using 12 years of service and then using 11 years of service).
- GRS uses three distinct "pop-up" factors, which correlate with members with an optional joint and survivor form of benefit of either 50%, 66.67% or 100%. There was no mention of how these estimates were made (in the experience study or in the valuation). GRS should consider disclosing this in the assumptions section and reviewing these assumptions in the next experience study.

- GRS uses three distinct estimations to calculate the unreduced benefit amounts, which correlate with members with a certain and life form of benefit with either a 5, 10 or 15 year certain period. There was no mention of how these estimates were made (in the experience study or in the valuation). GRS should consider disclosing this in the assumptions section and reviewing these assumptions in the next experience study.

- GRS applies a three-year certain period when valuing single life annuities for current and future retirees. This assumption reflects anticipated potential payments for refunds of unused member contributions. These could potentially be paid if a retired member dies before their accumulated benefit payments exceed their member contributions.

  - The description of this assumption in the valuation report makes it sound like this assumption is only applied to inactive members that have terminated employment. Through correspondence with GRS, we understand that this assumption applies to all current and future retirees, and we recommend a note to clarify this assumption going forward.

  - In addition, GRS should review whether or not a three-year certain period is a long enough period since the ASRS member contribution accounts are relatively large and the implied certain period could be much higher for many members.

- GRS has an assumption that there is a three-year age difference between the member and their spouse, with husbands being older than their wives. GRS confirmed that they apply this three-year age difference for current actives when valuing the 401(h) liabilities, but they are not applying the age difference for current inactives. We recommend that GRS be consistent with the application of this assumption and through our correspondence with GRS they indicated that they plan to update the methodology used for the inactive members in the next valuation.

- GRS should consider mentioning in the valuation report the Internal Revenue Code 401(a)(17) compensation limit currently in effect and the assumption that it will increase by 2.3% per year.

<u>Plan Provisions</u>

- We compared the plan provisions described in the actuarial valuation reports against those found in governing law and employee handbooks for consistency. Overall, we believe that the plan provisions are consistent with governing law and employee handbooks. Our comments are as follows:

  - Some of the early retirement factors shown in the GRS valuation report are different from those shown in the Summary of Plan Description found on the ASRS website. For example, ages 58 through 61 for members with 19 years of service differ between the two documents. GRS should review and confirm whether the correct early retirement factors are used.

  - GRS confirmed that they value the benefits associated with the Optional Premium Benefit Program. However, there is no mention of it in the plan provisions. GRS should consider including a brief mention of this benefit in the plan provisions.

Funding Policy

- We reviewed the actuarial funding policy to assess whether it is reasonable and appropriate. The focus of our comments regarding the funding policy is to comment on those items which, in our opinion, are subject to improvement. Our comments are as follows.
  - There was a recommendation in the prior actuarial audit completed in 2014 that the ASRS Board consider adopting a formal funding policy. In 2015 a formal funding policy was adopted. By developing a formal funding policy, ASRS has increased transparency and enabled explicit consideration of each component of the policy. We have provided further comments below focusing on three aspects of the funding policy.

UAAL Amortization Policy

- The UAAL is funded as a level percentage of payroll using a "layered" approach. Under the layered approach each new amount of UAAL is amortized over a separate, fixed (i.e., closed or declining) period. The amortization period for each new layer is 30 years for the 401(a) portion and 15 years for the 401(h) portion and LTD. This approach has the advantage of identifying the source of each dollar of current UAAL, as well as when each portion of UAAL will be fully amortized. We concur with use of the layered approach.

- The vast majority of public plans use level percent of pay amortization where the payments increase each year in proportion to the assumed payroll growth assumption (currently 2.50% per year) for the entire active workforce. That means that the amortization payments start lower than the corresponding level dollar payments, but then increase until they are higher. We concur with the use of level percentage of pay amortization.

- The UAAL amortization periods for public plans typically range from 15 to 30 years. The amortization period should not be set so short that it creates too much volatility in the contributions yet it should not be so long that it constitutes a shift of cost to future funding sources. Balancing these two conflicting considerations is a key element of setting amortization periods. Another consideration (under level percent of pay amortization) is how much and in what circumstances negative amortization is an acceptable consequence of using longer amortization periods.
  - Negative amortization is when the UAAL increases during the early years of the amortization period even though contributions are being made to amortize the UAAL. This happens because with level percent of pay amortization, the lower early payments can actually be less than the interest on the outstanding balance of the UAAL. Under the current set of assumptions for ASRS, this happens whenever the amortization period is 24 years or longer. This means that the outstanding balance of the UAAL does not begin to decrease until the 8th year (i.e., when there are 23 years left in the amortization period). It also means that the outstanding balance will not fall below the original amount until the 14th year, which is about half way into the amortization schedule.
  - Item 1. on page 19 of the June 30, 2018 actuarial valuation for the 401(a) portion shows a UAAL from the previous year of $15.4 billion. Item 7. shows an expected UAAL for the current year of $15.8 billion. The difference between these two numbers is very roughly $400 million and is the negative amortization that was experienced during the 2017/2018 plan year under the UAAL amortization policy.

- An illustrative comparison of UAAL contributions under different amortization periods is provided in Attachment 1. Attachment 2 shows the outstanding UAAL balances under these same amortization periods using an original UAAL of $1 billion as an example. While there is nothing inherently wrong with some amount of negative amortization for some period of time, the ASRS Board should be aware of its consequences, especially for level percent of pay amortization that is substantially longer than 20 years, such as the 30-year amortization period that is currently in place. Attachment 2 shows that the example UAAL balance would increase for 7 years and it does not fall below the original $1 billion balance until 14 years from the beginning of the amortization.

- Under the prior Governmental Accounting Standards Board (GASB) accounting standards, the maximum allowable amortization period was 30 years for financial reporting. The current GASB standards do not contain specific requirements for funding policy, other than requiring any actuarially determined contributions that the entity chooses to disclose be in accordance with the Actuarial Standards of Practice (which provide a considerable degree of latitude in recommending funding policies). Partly in response to the perceived gap in funding policy guidance, a number of parties have issues papers on this topic, including the selection of amortization periods, in recent years:
  - California Actuarial Advisory Panel (CAAP) – "Actuarial Funding Policies and Practices for Public Pension and OPEB Plans"
  - Conference of Consulting Actuaries Public Plans Community (CCA) – "Actuarial Funding Policies and Practices in Public Pension Plans"
  - Government Finance Officers Association (GFOA) – "Core Elements of a Funding Policy"
  - The GFOA paper is the least specific, recommending an amortization period of no greater than 25 years, but ideally in the range of 15 to 20 years. The CAAP and CCA papers both contain detailed (and nearly identical) analysis of the amortization periods for different sources of UAAL, but in brief, their model practices include 15 to 20 years for gains and losses, 15 to 25 years for assumption changes, periods based on demographic matching for plan amendments, and 30 years for any surplus, if applicable. Note that a 30-year amortization period is a "non-recommended" practice under both the CAAP and the CCA papers.

- Based on the above, we recommend that the UAAL amortization policy (particularly the UAAL amortization period) be reviewed with the ASRS Board. If the Board decides to transition to a shorter amortization period it could be done on a prospective basis. This would allow the current amortization layers to continue under their current schedules.

<u>Asset Smoothing Method</u>

- The asset smoothing method used applies a 10-year smoothing for all investment gains/losses on a market value basis (as compared to the assumed return), with each annual gain or loss recognized over a 10-year period at the rate of 10% per year. However, offsetting unrecognized gains and losses are immediately recognized, with the shortest remaining bases recognized first and the net remaining bases continue to be recognized on their original timeframe.

- There is currently no "corridor" around the Market Value of Assets (MVA), so there is no restriction on how far the Actuarial Value of Assets (AVA) may vary from the MVA.

- An essential part of the public sector budgeting process is that material budget items, including pension contributions, should have a level cost pattern from year to year to the extent possible. Segal recognizes the importance of this requirement and assists clients in establishing reasonable methodologies for recognizing investment gains and losses and limiting the potential volatility that may result in increased contributions due to investment results.

- The actuary's guide for determining the reasonableness of an asset smoothing method is ASOP No. 44. The following is an excerpt from this ASOP that establishes the qualities a reasonable asset smoothing method must exhibit.

From the Actuarial Standard of Practice (ASOP) No. 44:

3.3 Relationship to Market Value *- If the considerations in Section 3.2 have led the actuary to conclude that an asset valuation method other than market value may be appropriate, the actuary should select an asset valuation method that is designed to produce actuarial values of assets that bear a reasonable relationship to the corresponding market values. The qualities of such an asset valuation method include the following:*

a. Given the inherent volatility in markets, the asset valuation method is likely to produce actuarial values of assets that are sometimes greater than and sometimes less than the corresponding market values.

b. The asset valuation method is likely to produce actuarial values of assets that, in the actuary's professional judgment, satisfy both of the following:

1. The asset values fall within a reasonable range around the corresponding market values. For example, there might be a corridor centered at market value, outside of which the actuarial value of assets may not fall, in order to assure that the difference from market value is not greater than the actuary deems reasonable.

2. Any differences between the actuarial value of assets and the market value are recognized within a reasonable period of time. For example, a formula addresses differences between the actuarial value of assets and the market value in a manner that, in the actuary's professional judgement, is rational, systematic, and produces an actuarial value of assets that is expected to converge toward market value at a pace that the actuary deems reasonable, assuming constant asset returns in future periods.

In lieu of satisfying both (1) and (2) above, an asset valuation method could satisfy section 3.3(b) if, in the actuary's professional judgment, the asset valuation method either (i) produces values within a sufficiently narrow range around market value or (ii) recognizes differences from market value in a sufficiently short period.

- Two key principles arise from ASOP No. 44. First, an acceptable asset smoothing approach must create asset values that fall within a reasonable range around market value, and second, that gains and losses are recognized in a reasonable period of time. In lieu of satisfying both of these principles, a smoothing method could satisfy the requirements if, in the actuary's professional judgment, the range around market value is sufficiently narrow or the differences are recognized in a sufficiently short period.

- We believe that, within the meaning of ASOP No. 44, 10 years may not be a sufficiently short period for the AVA to return to the MVA. This means the AVA must remain within a reasonable range of the MVA. Accordingly, for any of our clients using 10-year asset smoothing we would recommend the use of a corridor of at most 30% around the MVA in the event there is a sustained period of either gains or losses. This would limit the AVA to be within 70% and 130% of the MVA. We believe this would comply with the ASOP in regards to producing a sufficiently narrow range around the MVA.

> Note that under the method used by ASRS offsetting unrecognized gains and losses are immediately recognized. This "enhancement" to the method was recommended by GRS as part of the 2016 experience study. Page C-22 of the GRS experience study contains the following text:
  - "This method has the benefit of ensuring that any individual gain or loss is recognized in a reasonable timeframe, while eliminating the artificial volatility that is introduced from the more traditional asset smoothing methods."
- This methodology will generally result in the AVA staying closer to the MVA, except in a period of sustained actuarial gains or losses, which is why we believe consideration should still be given to adding the corridor. The addition of a corridor would also be consistent with the GFOA and CCA papers described earlier regarding setting funding policies.
- Since the shortest remaining unrecognized gain and loss bases are offset first, any unrecognized gains or losses will be recognized over a longer period. For example, in the June 30, 2018 valuation report, the only remaining unrecognized gains are to be recognized over 9 and 10 years. This illustrates how this method results in a slow recognition of any net unrecognized gains or losses as they are always spread over the long end of the 10 years.
- Based on our experience, the immediate recognition of offsetting investment gains and losses in the asset smoothing method is not a common practice amongst public sector retirement systems. Furthermore, because the effective smoothing periods may remain close to 10 years, this method behaves like a "rolling" version of asset smoothing where, for example, investment losses are never fully recognized by the smoothing method but are continually deferred until they are explicitly offset by future investment gains.
- We believe it may have made more sense to apply the offsetting after all of the deferrals for 2018 had been determined. Instead, GRS applied the offsetting before (i.e., they applied the offsetting to the 2017 deferral amounts for bases established before June 30, 2018), which then effectively changed the net deferral for the 2018 valuation. If GRS would have applied the offset after determination the net deferrals for 2018 would have been unchanged by the offsetting methodology.

> Based on the above, we recommend that the asset smoothing method be reviewed with the ASRS Board. The introduction of a corridor of at most 30% around the MVA should be considered along with additional review and reconsideration of the methodology that immediately recognizes offsetting investment gains and losses.

Phase-in of Impact of Changes in Actuarial Assumptions from 2016 Experience Study

- The ASRS Board elected to phase-in the impact of new actuarial assumptions adopted for the June 30, 2017 valuation over a five-year period. The valuation report includes both the contribution rates before and after the phase-in. The phase-in of the contribution rate impact of assumptions is a common practice for public sector retirement systems. Some systems routinely phase-in such rate changes whenever assumptions are changed. Furthermore, recent guidance on funding policy from both the CAAP and the CCA views this as an acceptable practice as long as the phase-in period is no longer than the time until the next experience study, which we note is consistent with the current policy.

- In addition, the impact of the assumption changes is being phased-in and there is no phasing in of the assumption change itself. We concur with this approach.

- It is our understanding that GRS is phasing in the impact of the assumption changes by first determining their impact on the contribution rate and then increasing the contribution rate calculated under the prior assumptions (both determined as of the time the experience study was adopted) by an equal amount each year over the period of time between experience studies (five years).
  - The effect of this approach is that any impact on the contribution rate due to actuarial experience beginning with the first valuation under the new assumptions is not reflected, or more specifically is being deferred to some future year (presumably when the next experience study is performed), with the exception of the observation we note below.
  - Based on the projections shown on page 3 of the June 30, 2018 valuation, it appears that GRS may intend to eventually reflect favorable experience by setting the contribution rate equal to the lower of the phased rate and the calculated rate. This approach may therefore be asymmetrical in its treatment of actuarial gains and losses, as we did not observe the contribution increase as a result of the experience losses that occurred in the June 30, 2017 valuation. However, we note that there does not appear to be any explanation in the funding policy or valuation report as to exactly how the phase-in policy will work.
  - GRS should consider an approach that reflects both actuarial gains and losses in each year's contribution rate instead of just reflecting the impact of the phase-in on the prior year contribution rate. A commonly used phase-in approach reduces the contribution rate (prior to phase-in) by the unrecognized portion of the phase-in at each valuation date. This approach allows for each year's actuarial experience gains and losses to be treated equally and fully reflected in the contribution rate after phase-in.

- The contribution rate after phase-in determined by Segal as shown on the last page of Exhibit C reflects this approach. We have also recalculated the GRS contribution rate after phase-in using this approach and the resulting contribution total rate would be 11.79% of pay for both employer and member. These contribution rates are 0.15% of pay lower than the contribution rates after phase-in determined by GRS since they reflect the actuarial experience gain during 2018/2019.

- GRS should consider including more details and disclosure regarding how the phase-in is intended to work, especially in regards to how actuarial experience gains and losses are to be recognized on an annual basis, in the valuation report and also possibly in the funding policy.

<u>Other Comments</u>

- We reviewed the actuarial valuation reports in detail. We have confirmed that the GRS report contains required disclosures including those necessary to comply with Actuarial Standards of Practice (ASOP). In particular, the June 30, 2018 GRS valuation report already contains information that will be required to be disclosed starting with the June 30, 2019 actuarial valuation in regards to the new ASOP No. 51 regarding assessment of risk.

- Table 10 of the actuarial valuation report includes a schedule called the "Solvency Test". This schedule is required to be included in the system's Comprehensive Annual Financial Report (CAFR) each year. The name of this schedule has been changed recently and should be called "Schedule of Funded Liabilities by Type". This is shown on page 36 of the GFOA checklist.

Section III – Exhibits

Exhibit A – Analysis of Participant Data

Arizona State Retirement System
June 30, 2018 Actuarial Valuations

Active Membership

	Count[2]	Average Age[3]	Average Service	Average Salary[4]
ASRS Data	207,050	46.0	9.4	$44,734
GRS Data	207,119	45.4	9.4	$47,901
Ratio ASRS/GRS	**1.00**	**1.01**	**1.00**	**0.93**

Retired Membership

	Count[2]	Average Age[3]	Average Monthly Allowance
ASRS Data	153,908	71.9	$1,703
GRS Data	146,956	71.1	$1,678
Ratio ASRS/GRS	**1.05**	**1.01**	**1.01**

Inactive Membership

	Count[2]	Average Age[3]
ASRS Data	248,873	47.2
GRS Data	233,484	47.5
Ratio ASRS/GRS	**1.07**	**0.99**

2 The counts shown for the ASRS data includes all members on the raw data files. The difference between the ASRS data and the GRS data represents the data clean up that GRS must perform (such as removing members who withdrew contributions, died during the year, or those that may have been reported on multiple files). In addition, the ASRS data counts for inactive membership also include approximately 3,400 members who are currently enrolled in the LTD Program, which are removed by GRS and valued separately.

3 The average age shown for the ASRS data is before any adjustment for members with missing dates of birth, whereas the average age shown for the GRS data includes an assumption for these members.

4 The average salary shown for the GRS data represents the projected valuation payroll. GRS generally calculates this salary by first developing a smoothed salary, and then projecting that salary forward. The average salary shown for ASRS represents the unaltered salary from the data files. As noted in Section II, GRS provided us the steps that they take in this calculation and we believe they are generally reasonable.

Exhibit B – Test Life Comparison

Arizona State Retirement System
June 30, 2018 Actuarial Valuations

Active Membership – 401(a)

	Active #1		Active #2		Active #3	
	GRS	Segal	GRS	Segal	GRS	Segal
PVB – Retirement	$53,676	$53,408	$32,956	$32,549	$139,334	$138,234
PVB – Termination	$41,690	$40,971	$27,605	$27,049	$0	$0
PVB – Death	$3,141	$3,306	$1,041	$1,100	$3,367	$3,470
PVB – Disability	$3,060	$3,157	$1,463	$1,907	$4,669	$4,653
Total PVB	$101,568	$100,841	$63,066	$62,606	$147,370	$146,356
Ratio Segal/GRS Total PVB		99.3%		99.3%		99.3%

	Active #4		Active #5		Active #6	
	GRS	Segal	GRS	Segal	GRS	Segal
PVB – Retirement	$26,919	$26,610	$119,588	$122,760	$83,301	$84,900
PVB – Termination	$4,001	$3,962	$0	$0	$0	$0
PVB – Death	$835	$864	$3,399	$2,945	$1,917	$1,944
PVB – Disability	$1,241	$1,241	$764	$709	$1,093	$954
Total PVB	$32,997	$32,677	$123,751	$126,414	$86,312	$87,799
Ratio Segal/GRS Total PVB		99.0%		102.2%		101.7%

Active Membership – 401(h)

	Active #1		Active #2		Active #3	
	GRS	Segal	GRS	Segal	GRS	Segal
Total PVB	$1,564	$1,563	$684	$679	$7,637	$7,637
Ratio Segal/GRS Total PVB		99.9%		99.4%		100.0%

	Active #4		Active #5		Active #6	
	GRS	Segal	GRS	Segal	GRS	Segal
Total PVB	$3,994	$3,986	$6,706	$6,722	$5,757	$5,434
Ratio Segal/GRS Total PVB		99.8%		100.2%		94.4%

Exhibit B – Test Life Comparison (continued)

Arizona State Retirement System
June 30, 2018 Actuarial Valuations

Active Membership – Long Term Disability Program

	Active #1		Active #2		Active #3	
	GRS	Segal	GRS	Segal	GRS	Segal
Total PVB	$1,413	$1,359	$810	$805	$1,596	$1,542
Ratio Segal/GRS Total PVB		96.2%		99.4%		96.6%

Retired Membership – 401(a) and 401(h)

	Retiree #1		Retiree #2		Retiree #3	
	GRS	Segal	GRS	Segal	GRS	Segal
Benefit (w/ Assumed PBI)	$19,383	$19,383	$1,854	$1,854	$3,243	$3,243
PVB – 401(a)	$224,947	$225,018	$21,888	$21,894	$38,737	$38,765
PVB – 401(h)	$9,596	$9,596	$0	$0	$0	$0
Total PVB	$234,543	$234,614	$21,888	$21,894	$38,737	$38,765
Ratio Segal/GRS Total PVB		**100.0%**		**100.0%**		**100.1%**

	Retiree #4		Retiree #5		Beneficiary #1	
	GRS	Segal	GRS	Segal	GRS	Segal
Benefit (w/ Assumed PBI)	$49,128	$49,128	$29,545	$29,545	$69,315	$69,315
PVB – 401(a)	$571,602	$571,602	$350,713	$351,962	$794,242	$794,242
PVB – 401(h)	$15,207	$15,207	$24,053	$24,053	$0	$0
Total PVB	$586,809	$586,809	$374,766	$376,015	$794,242	$794,242
Ratio Segal/GRS Total PVB		**100.0%**		**100.3%**		**100.0%**

Exhibit B – Test Life Comparison (continued)

Arizona State Retirement System
June 30, 2018 Actuarial Valuations

Retired Membership – 401(a) and 401(h) (continued)

	Beneficiary #2		Previously Disabled #1	
	GRS	Segal	GRS	Segal
Benefit (w/ Assumed PBI)	$18,847	$18,847	$11,866	$11,866
PVB – 401(a)	$145,330	$145,330	$96,679	$96,679
PVB – 401(h)	$0	$0	$9,593	$9,593
Total PVB	$145,330	$145,330	$106,272	$106,271
Ratio Segal/GRS Total PVB		**100.0%**		**100.0%**

Retired Membership – Long Term Disability Program

	LTD #1		LTD #2	
	GRS	Segal	GRS	Segal
LTD Gross Benefit	$23,547	$23,547	$17,892	$17,892
401(a) Deferred Benefit	$19,653	$19,653	$15,997	$15,997
PVB – LTD	$72,671	$72,339	$53,666	$53,757
PVB – 401(a)	$107,556	$109,023	$102,464	$103,282
PVB – 401(h)	$25,898	$25,898	$13,021	$13,021
Total PVB	$206,125	$207,260	$169,151	$170,060
Ratio Segal/GRS Total PVB		**100.6%**		**100.5%**

Exhibit B – Test Life Comparison (continued)

Arizona State Retirement System
June 30, 2018 Actuarial Valuations

Inactive Membership

	Inactive #1		Inactive #2		Inactive #3	
	GRS	Segal	GRS	Segal	GRS	Segal
PVB – 401(a)	$302,650	$302,653	$9,216	$9,216	$9,497	$9,497
PVB – 401(h)	$11,776	$11,610	$0	$0	$0	$0
Total PVB	$314,426	$314,264	$9,216	$9,216	$9,497	$9,497
Ratio Segal/GRS Total PVB		**99.9%**		**100.0%**		**100.0%**

	Inactive #4		Inactive #5	
	GRS	Segal	GRS	Segal
PVB – 401(a)	$5,528	$5,531	$7,971	$7,972
PVB – 401(h)	$536	$555	$0	$0
Total PVB	$6,064	$6,085	$7,971	$7,972
Ratio Segal/GRS Total PVB		**100.3%**		**100.0%**

Exhibit C – Comparison of Results

Arizona State Retirement System
June 30, 2018 Actuarial Valuations

Present Value of Future Benefits (PVB) ($ shown in thousands)

	401(a)		401(h)		Total	
	GRS	Segal	GRS	Segal	GRS	Segal
Active:						
Death	$661,083	$679,943	$0	$0	$661,083	$679,943
Withdrawal	$2,574,668	$2,573,923	$11	$13	$2,574,679	$2,573,936
Disability Deferred Retirement	$635,668	$622,228	$33,381	$32,781	$669,049	$655,009
Retirement	$24,173,282	$24,041,343	$835,484	$823,528	$25,008,766	$24,864,871
Active PVB	$28,044,700	$27,917,438	$868,875	$856,321	$28,913,575	$28,773,759
Inactive PVB	$2,526,462	$2,518,744	$102,607	$101,781	$2,629,069	$2,620,525
Retiree PVB[5]	$30,602,702	$30,581,804	$914,372	$917,997	$31,517,074	$31,499,801
Total PVB	$61,173,864	$61,017,986	$1,885,854	$1,876,099	$63,059,718	$62,894,085
Ratio Segal/GRS Total PVB		**99.7%**		**99.5%**		**99.7%**

	LTD	
	GRS	Segal
Active PVB	$228,132	$222,742
Current LTD PVB	$187,100	$179,460
Total PVB	$415,232	$402,201
Ratio Segal/GRS Total PVB		**96.9%**

5 Includes PVB for beneficiaries, formerly disabled, benefit increases for other-than-plan members and post-1981 System members.

Exhibit C – Comparison of Results (continued)

Arizona State Retirement System
June 30, 2018 Actuarial Valuations

Unfunded Actuarial Accrued Liability (UAAL) ($ shown in thousands)

	401(a)		401(h)		Total	
	GRS	Segal	GRS	Segal	GRS	Segal
Actuarial Accrued Liability	$52,546,438	$52,600,566	$1,630,300	$1,636,265	$54,176,738	$54,236,831
Actuarial Value of Assets	$36,984,395	$36,984,395	$1,608,500	$1,608,500	$38,592,895	$38,592,895
UAAL	$15,562,042	$15,616,171	$21,800	$27,766	$15,583,842	$15,643,937
Funded Ratio	70.4%	70.3%	98.7%	98.3%	71.24%	71.16%
Ratio Segal/GRS						
Actuarial Accrued Liability		**100.1%**		**100.4%**		**100.1%**
Actuarial Value of Assets		**100.0%**		**100.0%**		**100.0%**
UAAL		**100.3%**		**127.4%**		**100.4%**

Contribution Rates – Before Phase In

	401(a)		401(h)		Total	
	GRS	Segal	GRS	Segal	GRS	Segal
Total Normal Cost Rate	14.41%	14.12%	0.50%	0.47%	14.91%	14.59%
UAAL Contribution Rate	10.30%	10.33%	0.05%	0.06%	10.35%	10.39%
Total Contribution Rate (Employer and Member)	24.71%	24.44%	0.55%	0.52%	25.26%	24.96%
Member Rate	12.63%	12.48%	0.00%	0.00%	12.63%	12.48%
Employer Rate	12.08%	11.96%	0.55%	0.52%	12.63%	12.48%
Ratio Segal/GRS						
Total Normal Cost Rate		**98.0%**		**94.0%**		**97.8%**
UAAL Contribution Rate		**100.3%**		**109.9%**[6]		**100.3%**
Total Contribution Rate		**98.9%**		**94.5%**		**98.8%**
Member Rate		**98.8%**		**N/A**		**98.8%**
Employer Rate		**99.0%**		**94.5%**		**98.8%**

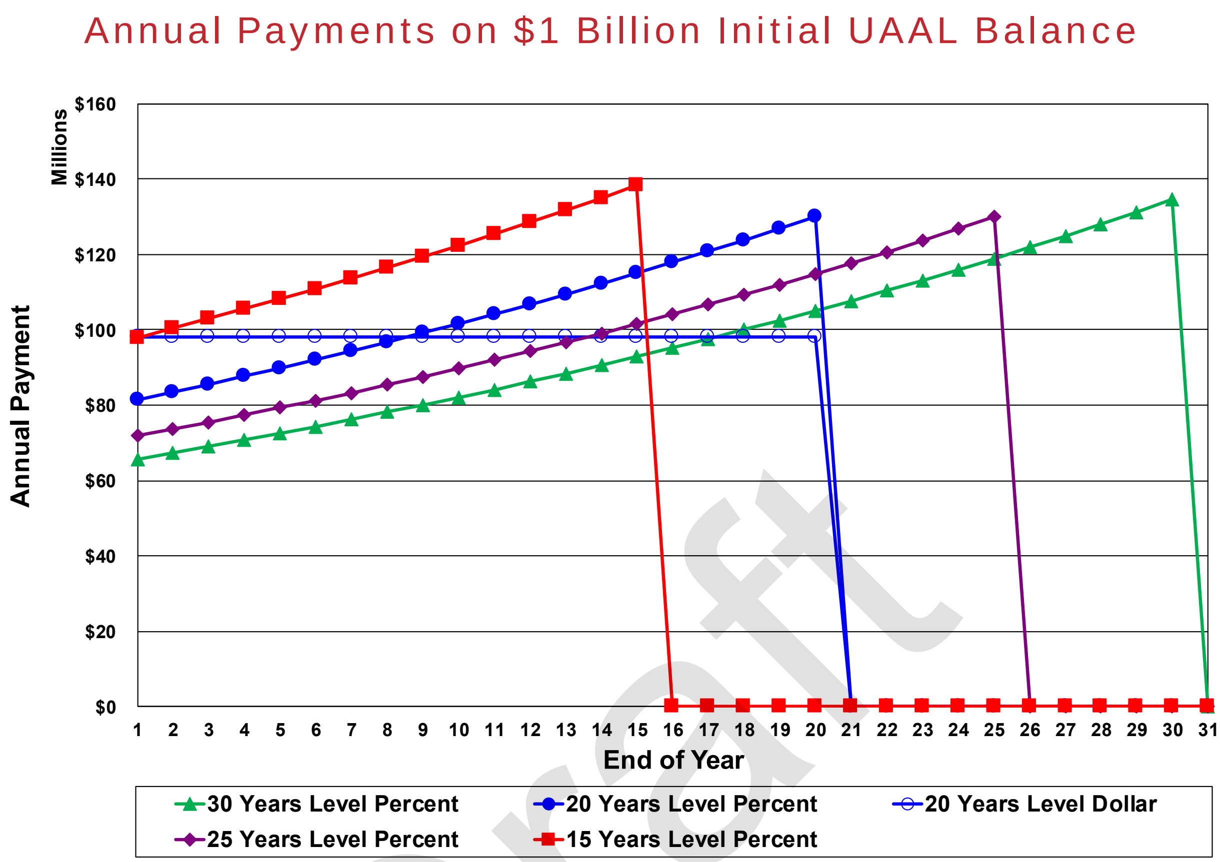
6 Note this ratio of 110% is calculated using the unrounded values for the UAAL contribution rate.

Contribution Rates – After Phase In[7]

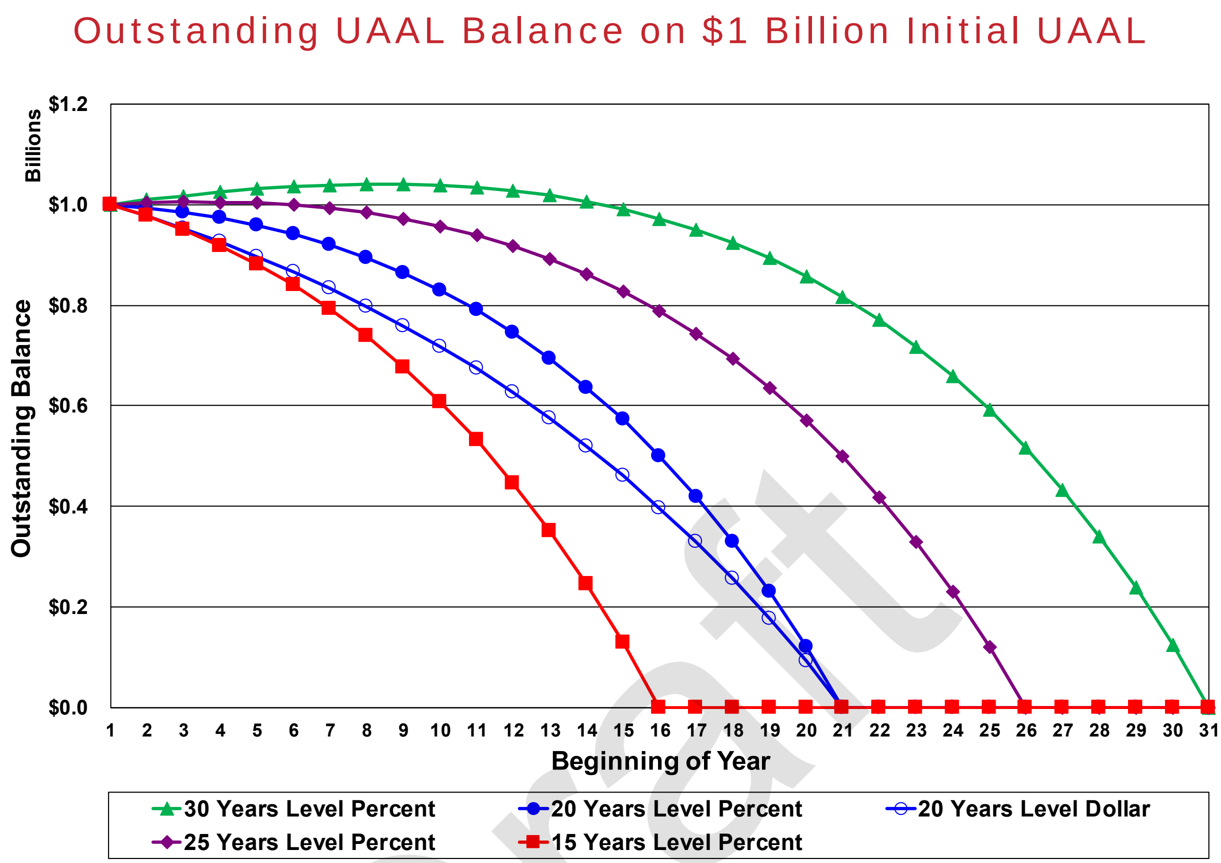
	401(a)		401(h)		Total	
	GRS	Segal	GRS	Segal	GRS	Segal
Total Contribution Rate (Employer and Member)	23.39%	22.79%	0.49%	0.49%	23.88%	23.28%
Member Rate	11.94%	11.64%	0.00%	0.00%	11.94%	11.64%
Employer Rate	11.45%	11.15%	0.49%	0.49%	11.94%	11.64%
Ratio Segal/GRS						
Total Contribution Rate		**97.4%**		**100.0%**		**97.5%**
Member Rate		**97.5%**		**N/A**		**97.5%**
Employer Rate		**97.4%**		**100.0%**		**97.5%**

[7] See page 21 for a discussion regarding the differences in the phase-in methodology used in the results shown for GRS and Segal.

Attachment 1 – Annual Payments on UAAL



Attachment 2 – Outstanding UAAL Balance



5584980v11/03375.009

Agenda Item #5

CIO Board Report

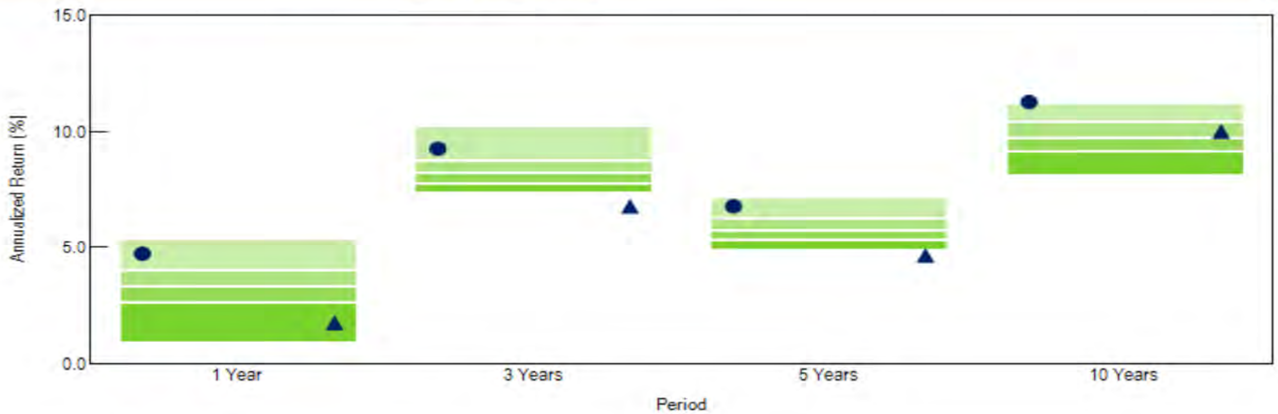
Arizona State Retirement System

July 26, 2019

ASRS Returns Compared to Public Fund Universe for the period ended 03/31/2019

UNIVERSE COMPARISON

InvestorForce Public DB > $1B Net Return Comparison
Ending March 31, 2019



Return (Rank)	1 Year	3 Years	5 Years	10 Years
5th Percentile	5.4	10.2	7.1	11.2
25th Percentile	4.0	8.8	6.3	10.5
Median	3.4	8.3	5.8	9.8
75th Percentile	2.6	7.8	5.4	9.2
95th Percentile	0.9	7.4	4.9	8.1

	1 Year	3 Years	5 Years	10 Years
● Total Fund	4.7	9.3	6.8	11.3
Total Fund Percentile Rank	12	14	12	5
Total Fund Ordinal Rank	9	11	9	3
Number of Funds In Universe	77	77	74	68
▲ Interim SAA Policy	1.8	6.8	4.7	10

ASRS Goals Met for the period ended 03/31/2019

ASRS INVESTMENT OBJECTIVES

Goal #4: Design, implement, and maintain an investment management program that maximizes rates of return for acceptable of levels of risk.

a) Develop, approve and implement an Asset Allocation program that is expected to achieve a 20-year rolling average annual return at or above the actuarial assumed return
Goal met: Yes

b) Achieve a total fund net return in the top quartile of the peer universe
Goal met: Yes

c) Achieve a 1 year total fund net return greater than the Strategic Asset Allocation Benchmark
Goal met: Yes

d) Achieve a 3-year total fund net return greater than the Strategic Asset Allocation Benchmark
Goal met: Yes

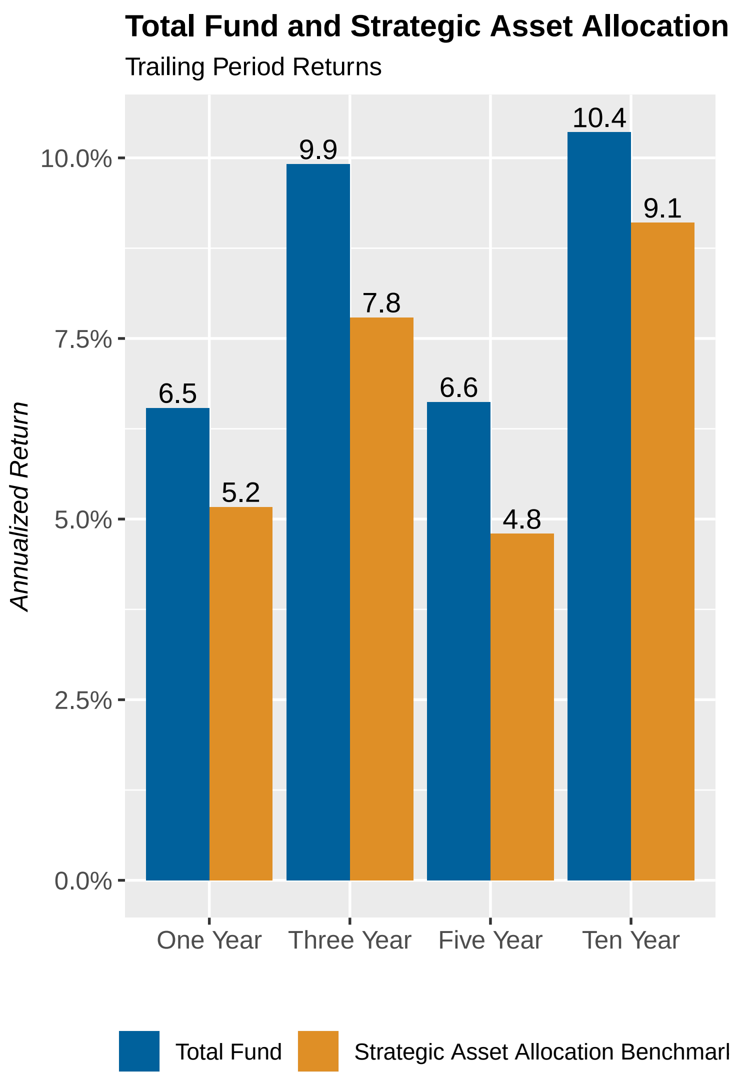
e) Achieve 1 year asset class net returns greater than the respective Asset Allocation Benchmarks
Goal met: Yes

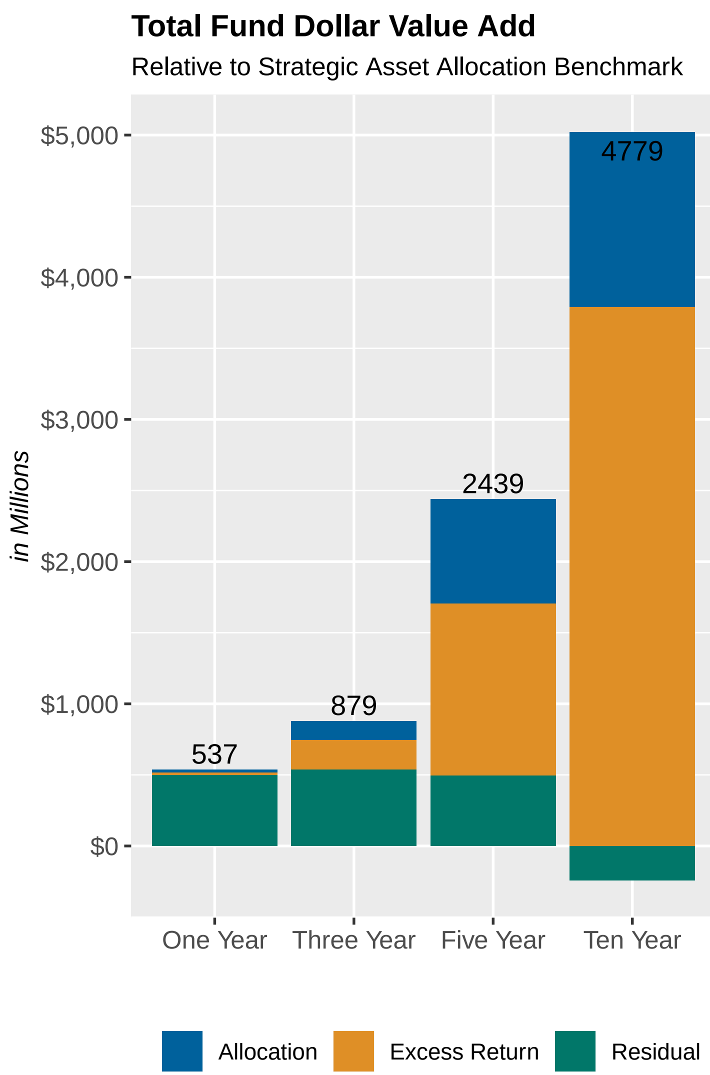
f) Achieve 3 year asset class net returns greater than the respective Asset Allocation Benchmarks
Goal met: Yes

g) Sufficient cash will be maintained to meet all payment requirements
Goal met: Yes

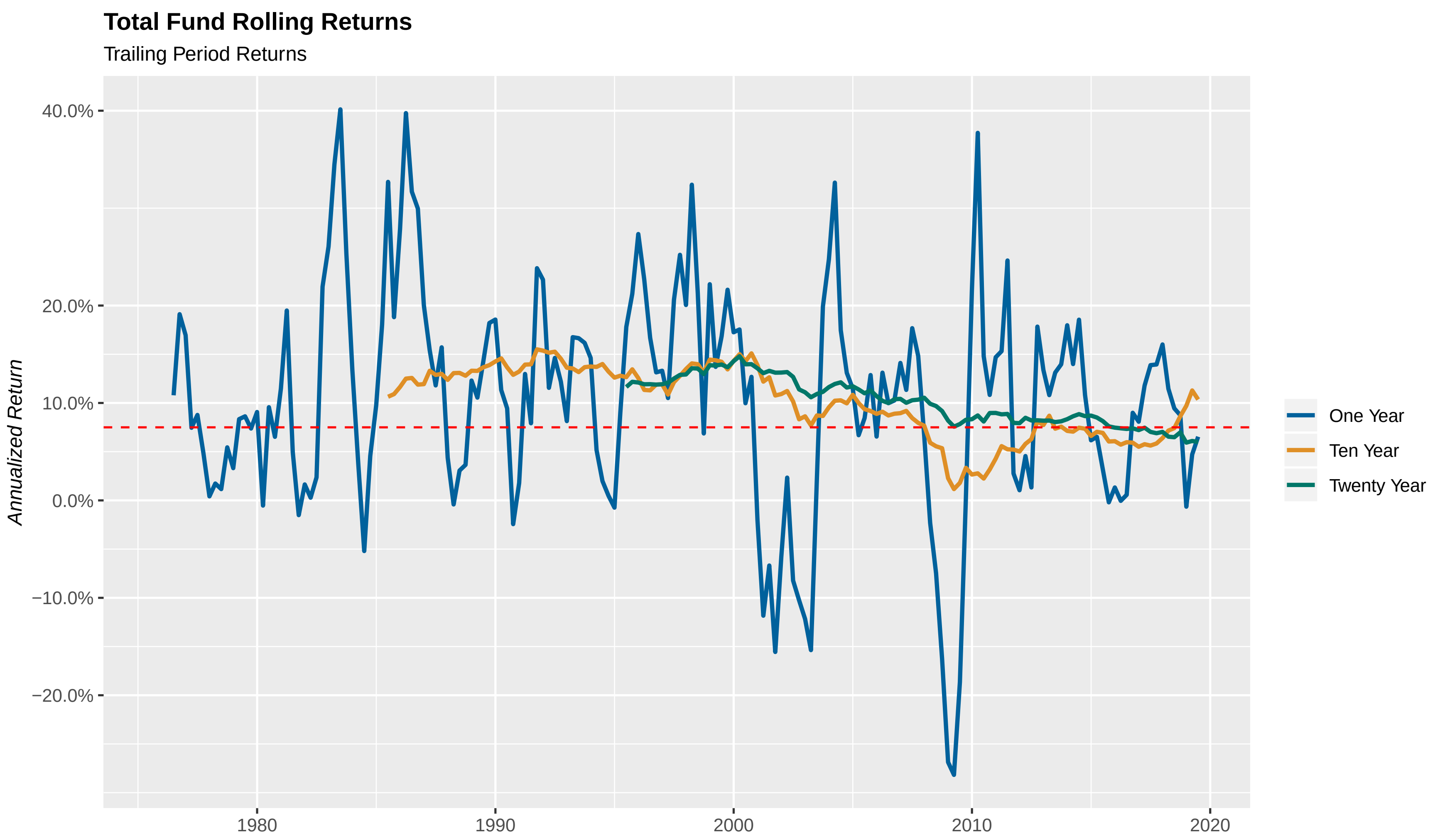
Source: ASRS Strategic Plan, August 2018

Total Fund Returns & Dollar Value Add for the period ended 06/30/2019

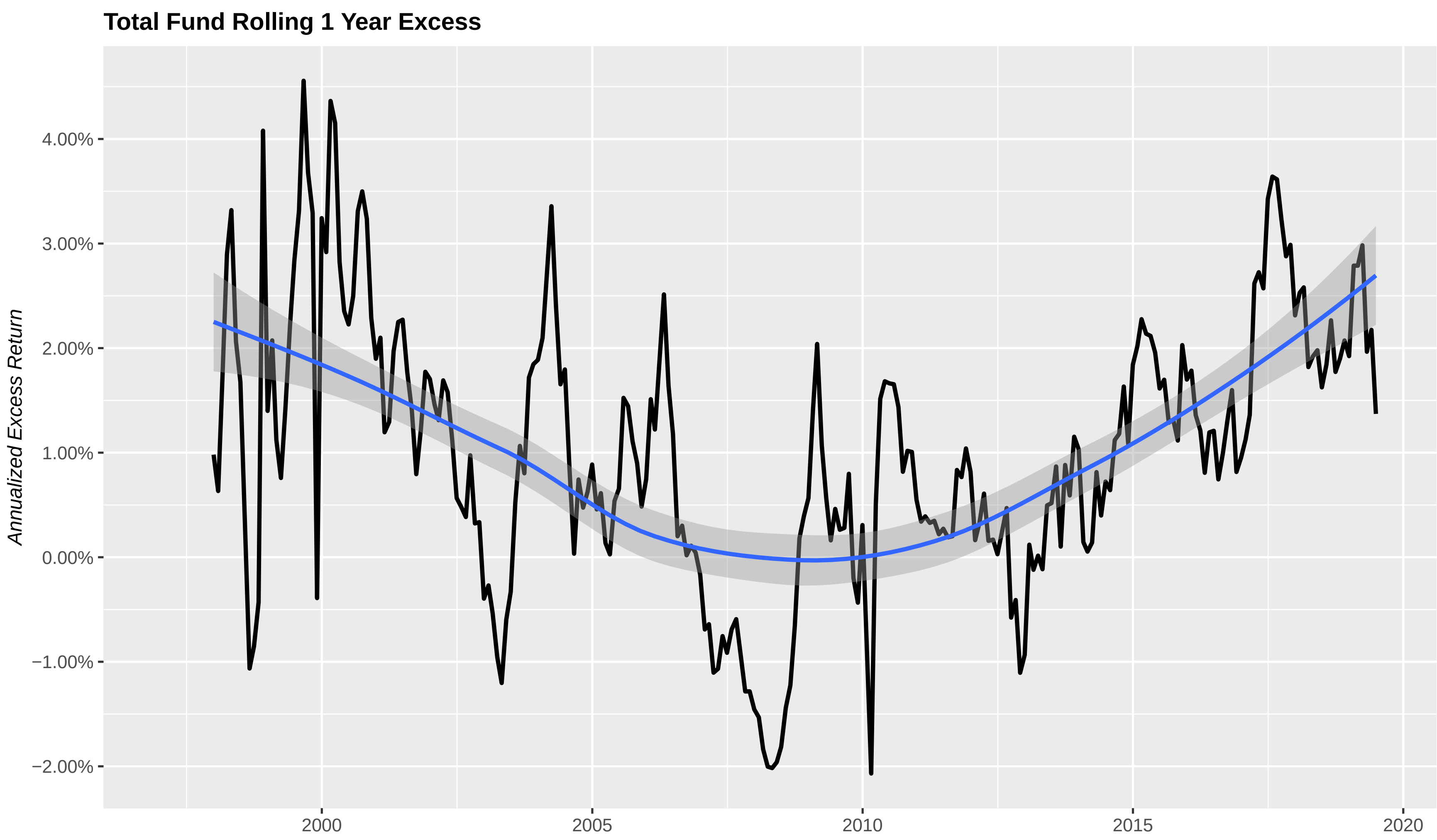




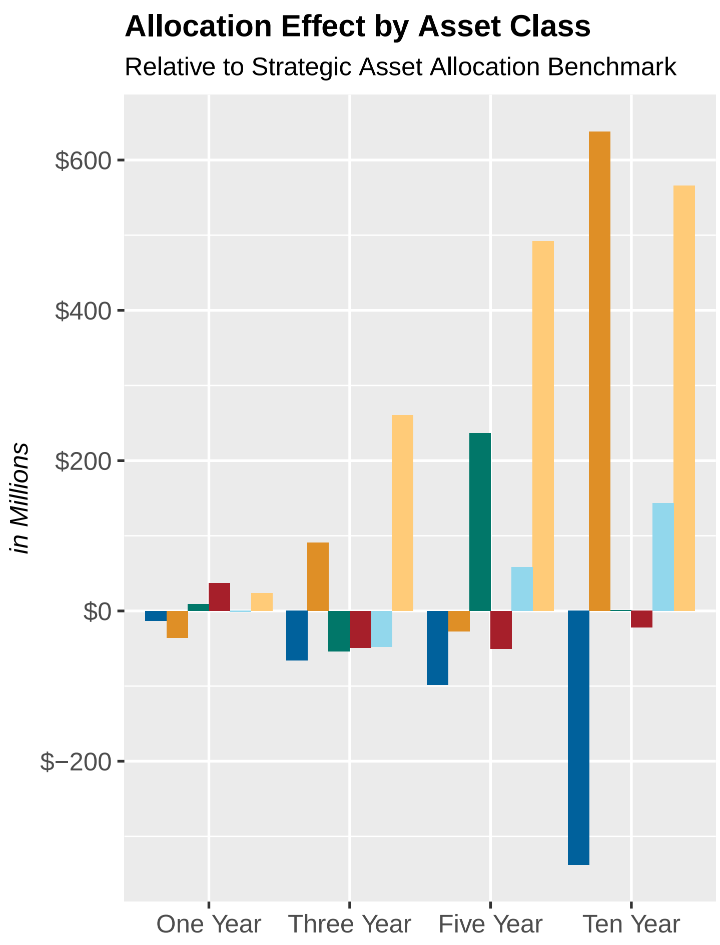
Total Fund Returns for the period ended 06/30/2019

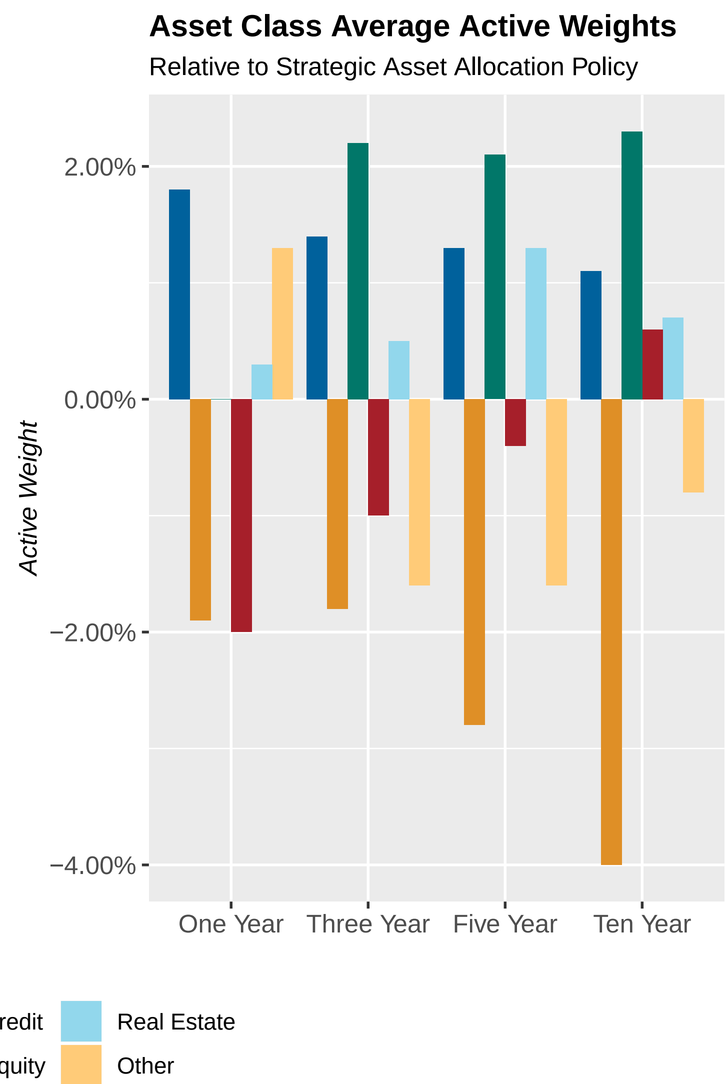


Total Fund Rolling 1 Year Excess Return for the period ended 06/30/2019



Allocation Effect for the period ended 06/30/2019



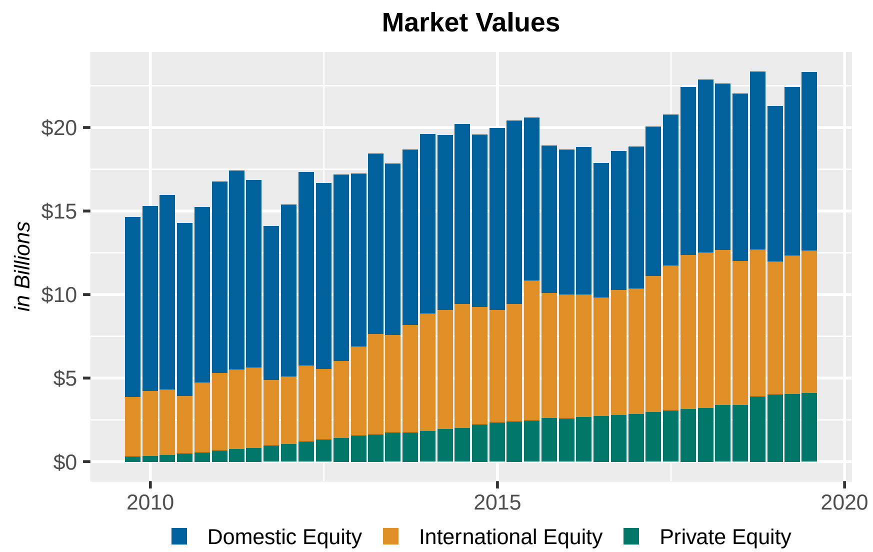


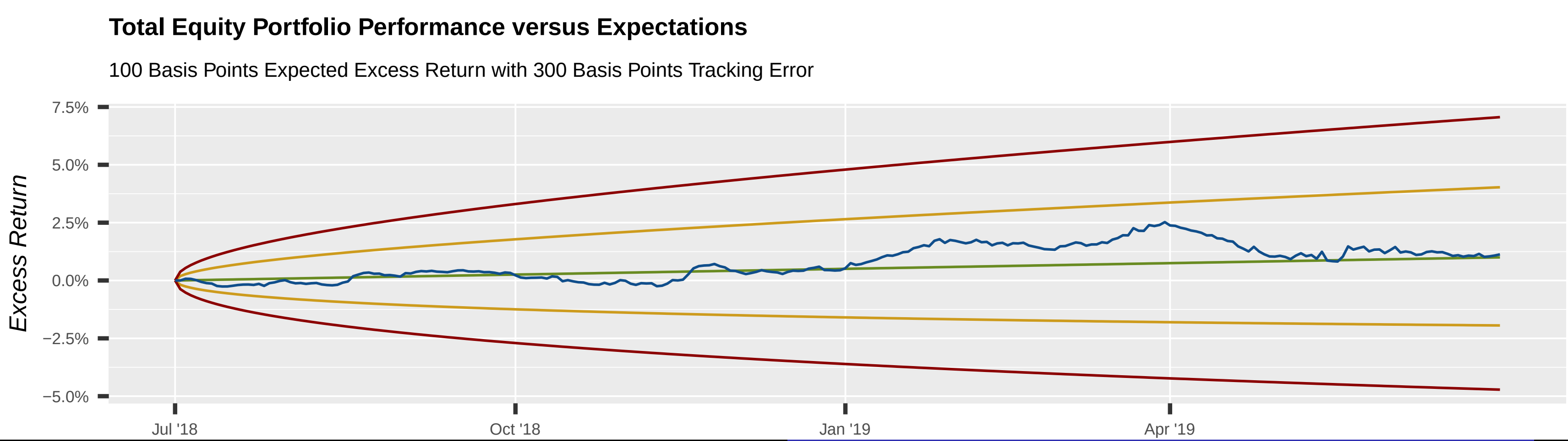
Total Equity for the period ended 06/30/2019

Annualized Returns

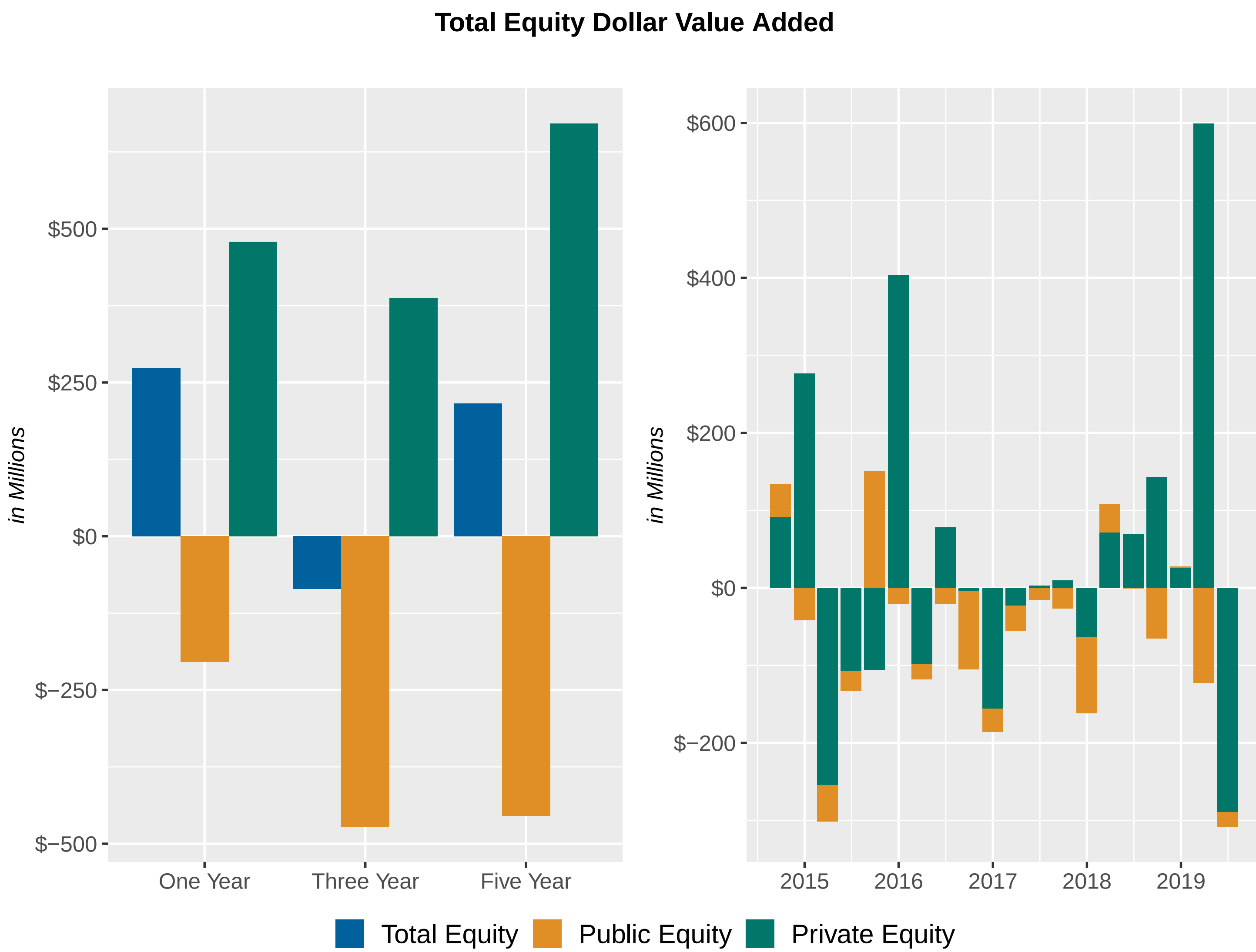
Composite	FYTD	One Year	Three Year	Five Year
Equity	5.54%	5.54%	11.78%	7.16%
Benchmark	4.3%	4.3%	12.09%	7%
Excess	1.23%	1.23%	-0.31%	0.16%
Public Equity	3.76%	3.76%	11.06%	6.37%
Benchmark	4.89%	4.89%	11.95%	6.87%
Excess	-1.12%	-1.12%	-0.89%	-0.49%
US Equity	7.3%	7.3%	12.82%	9.69%
Benchmark	8.96%	8.96%	14.11%	10.48%
Excess	-1.65%	-1.65%	-1.3%	-0.79%
International Equity	0.07%	0.07%	9.21%	2.34%
Benchmark	0.26%	0.26%	9.37%	2.48%
Excess	-0.19%	-0.19%	-0.16%	-0.14%
Private Equity	4.89%	14.03%	14.97%	12.05%
Benchmark	13.2%	3.24%	12.65%	7.19%
Excess	-8.32%	10.79%	2.32%	4.86%

Note: Private Equity Returns are reported on a quarter-lagged basis height

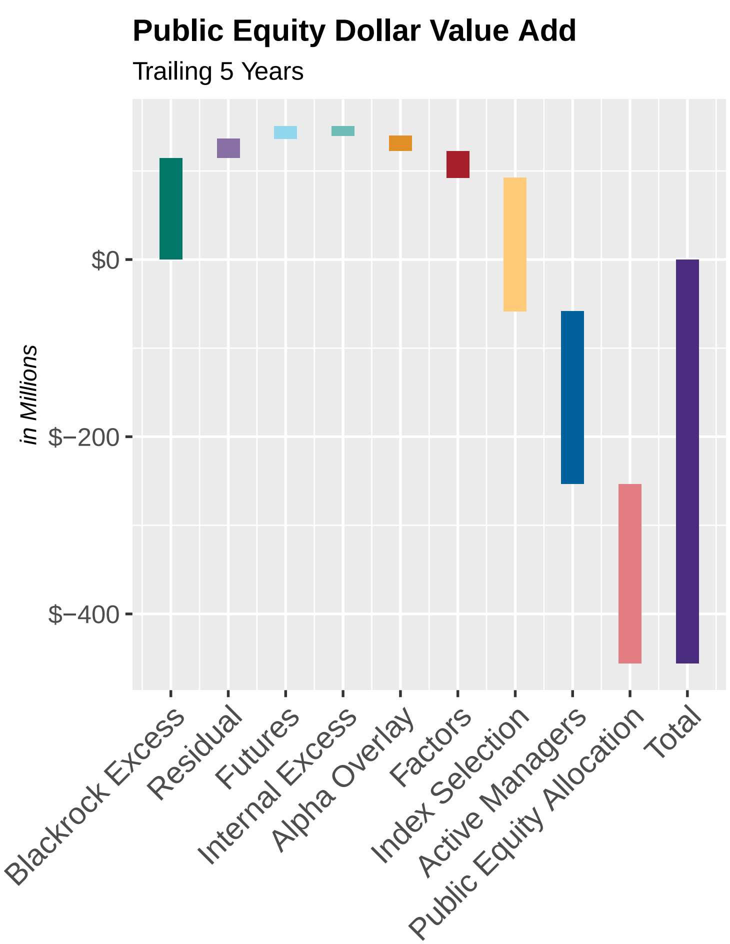


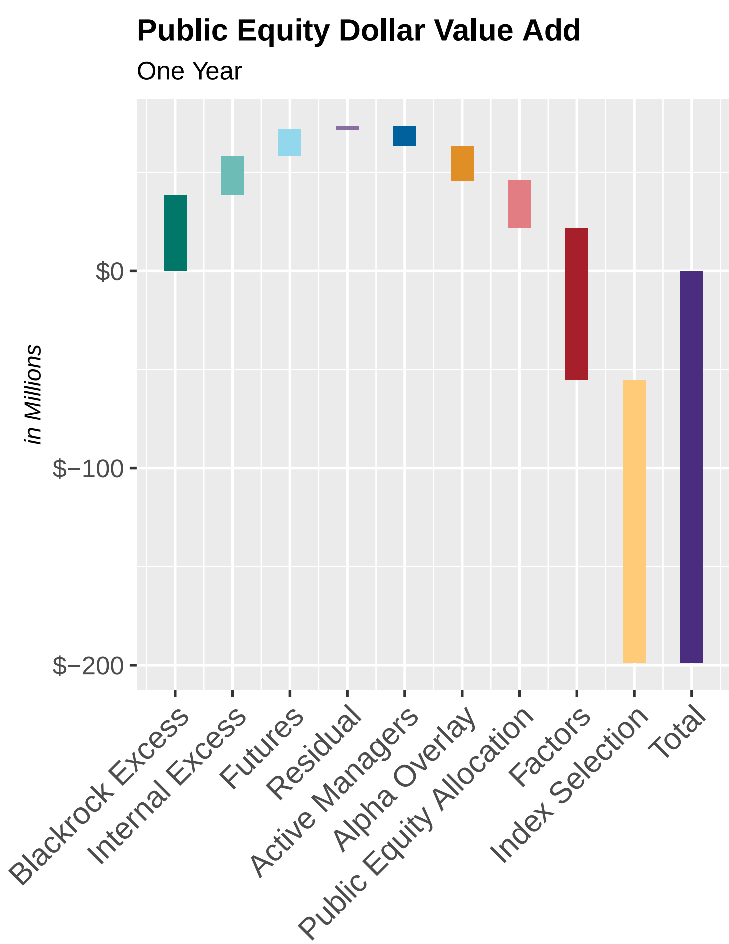


Total Equity & Dollar Value Add for the period ended 06/30/2019



Public Equity "Levers" for the period ended 06/30/2019





Levers: Active Managers, Blackrock Excess, Futures, Internal Excess, Residual, Alpha Overlay, Factors, Index Selection, Public Equity Allocation, Total

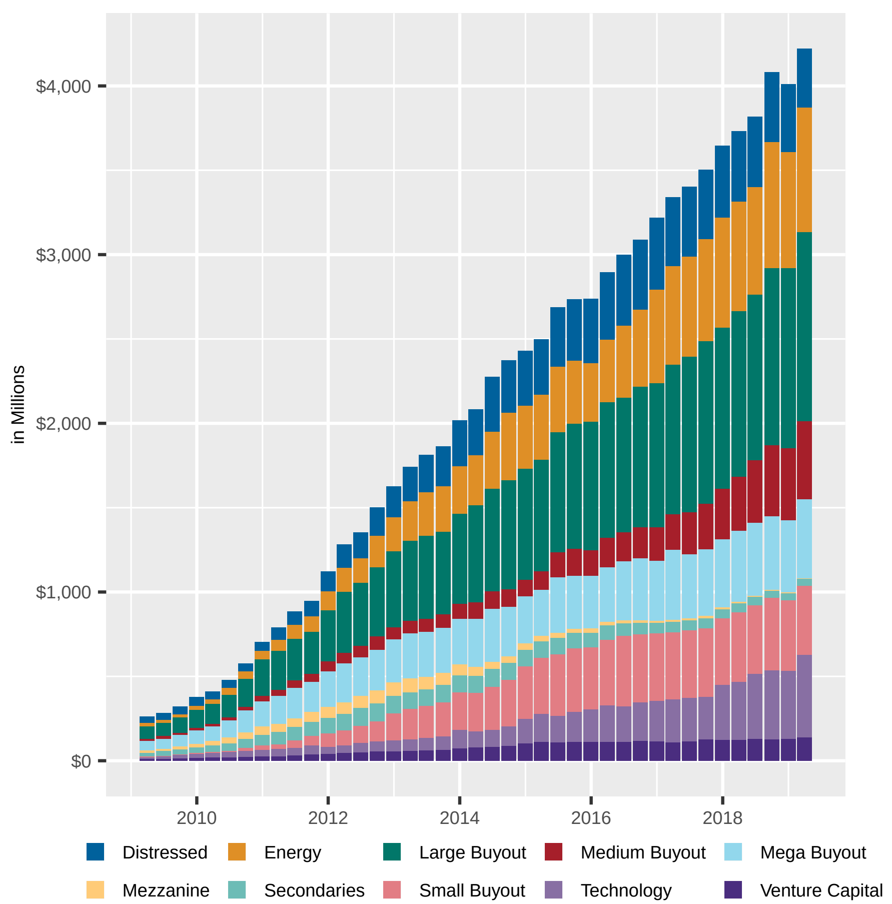
Private Equity for the period ended 03/31/2019

Private Equity Internal Rate of Returns

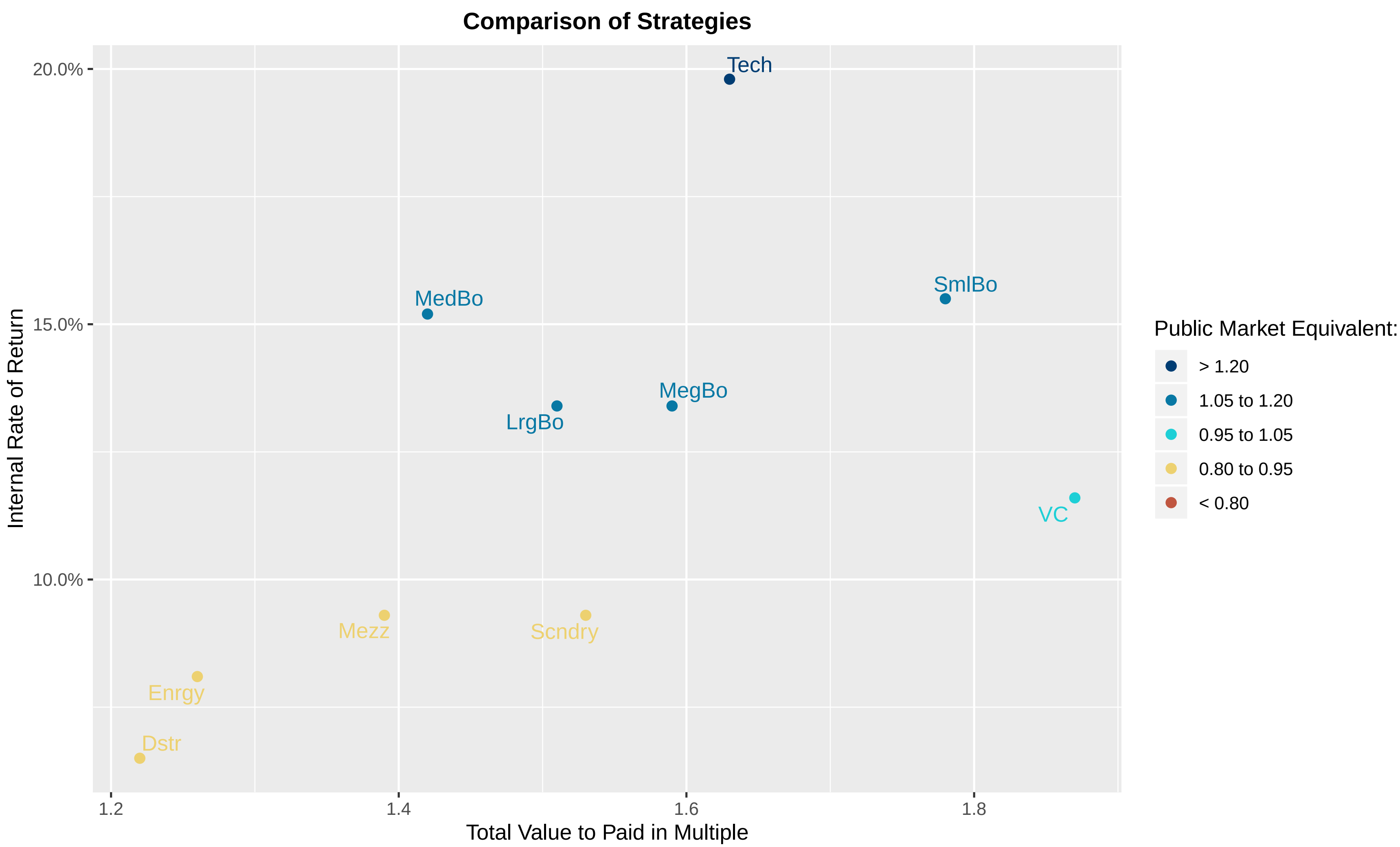
Category	Quarter	1 Year	3 Year	5 Year	Inception
Private Equity	4.9%	14%	15%	12.1%	12.5%
Benchmark	13.2%	3.2%	12.6%	7.2%	11.2%
Excess	-8.3%	10.8%	2.3%	4.9%	1.3%
Distressed	-2.1%	-4.7%	2.6%	2.8%	6.5%
Mega Buyout	8.3%	15.4%	18.8%	14.6%	13.4%
Small Buyout	3.4%	30.2%	21.7%	19.5%	15.5%
Energy	5.5%	7.3%	12.9%	5.1%	8.1%
Large Buyout	4.2%	12.9%	15.3%	12.3%	13.4%
Medium Buyout	2.9%	16.8%	16.3%	18.7%	15.2%
Mezzanine	-3.2%	-7.8%	6.6%	8%	9.3%
Secondaries	4.3%	2.4%	6.8%	6.2%	9.3%
Technology	10.4%	30.9%	22.3%	22.2%	19.8%
Venture Capital	8.6%	17.2%	14.4%	13.7%	11.6%

Note: Private Equity Returns are reported on a quarter-lagged basis height

Net Asset Value by Strategy



Private Equity for the period ended 03/31/2019

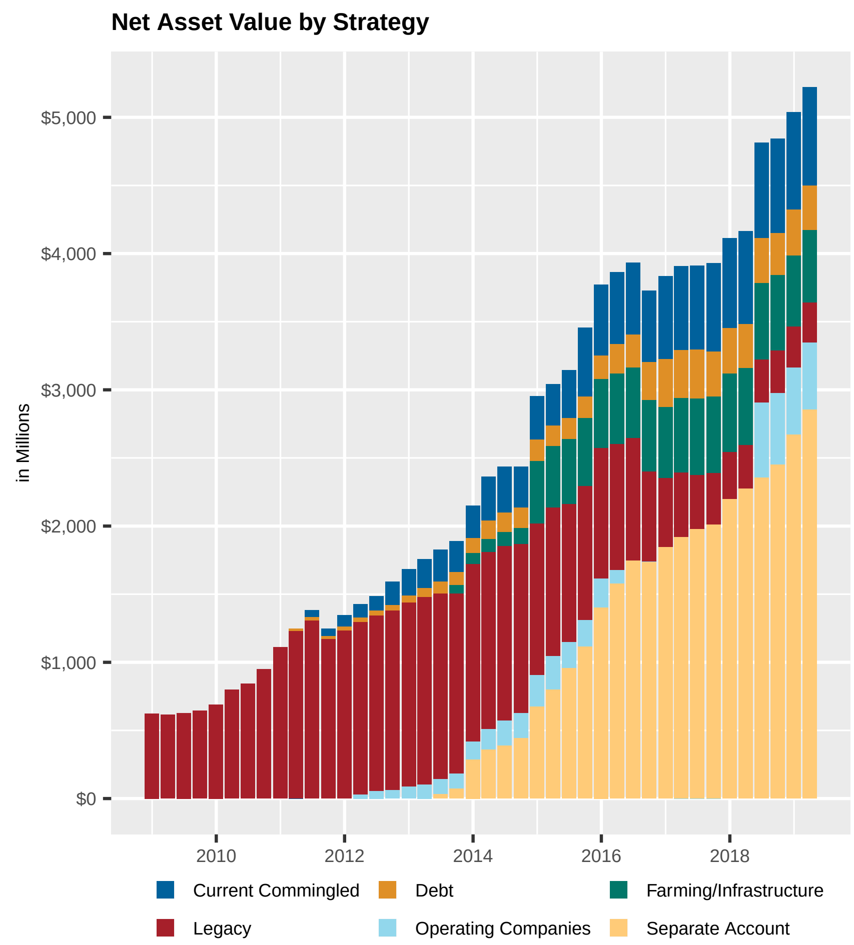


Real Estate for the period ended 03/31/2019

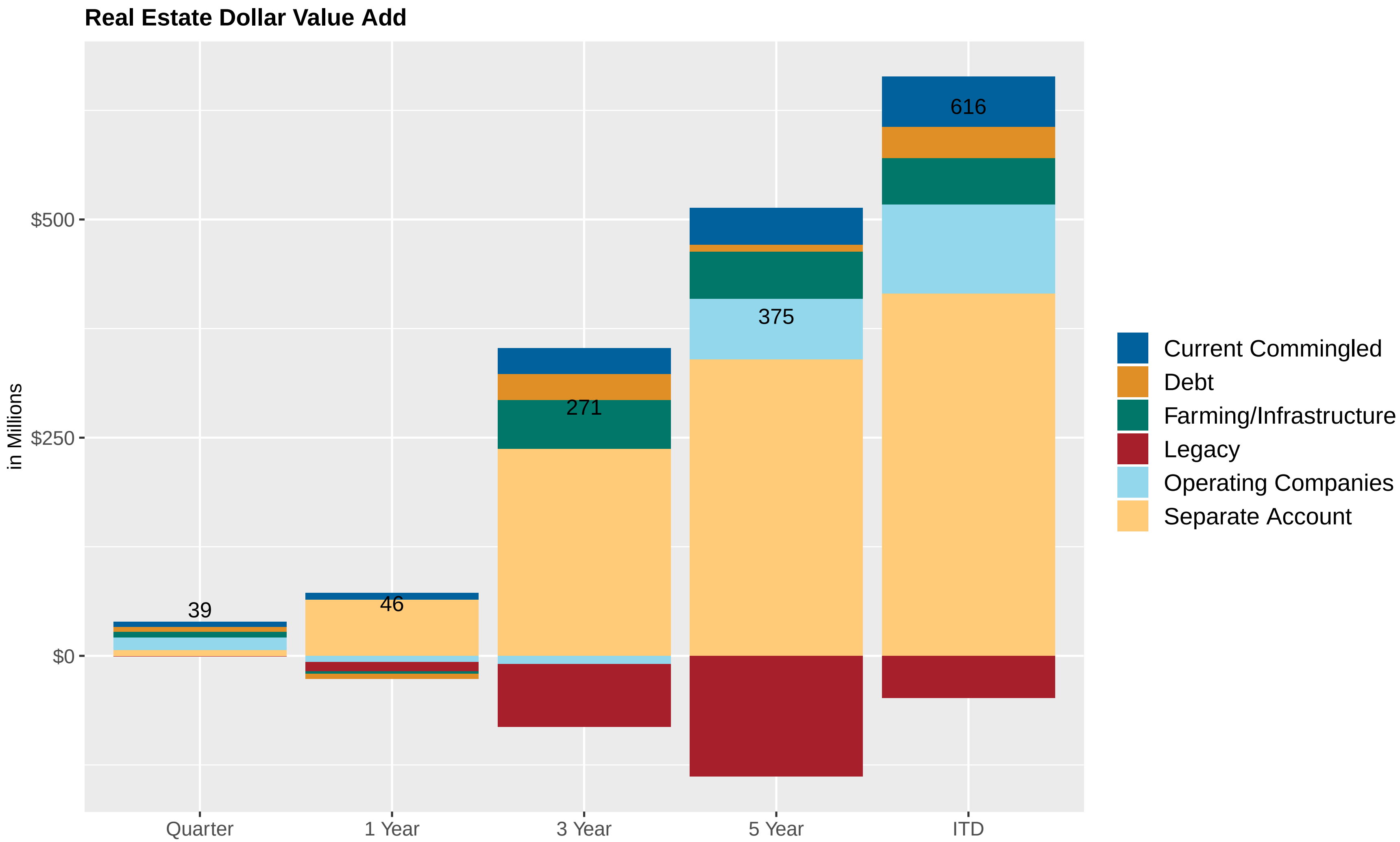
Real Estate Internal Rate of Returns

Category	Quarter	1 Year	3 Year	5 Year	Inception
Real Estate	1.94%	7.6%	8.9%	10.6%	8.8%
Benchmark	1.2%	6.7%	6.9%	8.7%	7.1%
Excess	0.74%	1%	2.1%	1.8%	1.7%
Separate Account	1.41%	9.6%	11.3%	12.8%	13.6%
Operating Companies	4.13%	5%	4.8%	15.7%	17.1%
Farming/Infrastructure	2.51%	6.3%	9.3%	7.9%	7.8%
Legacy	1.02%	3.1%	2.5%	7.8%	5.8%
Current Commingled	2.04%	7.8%	8.6%	10.6%	11.2%
Debt	2.91%	4.8%	10.3%	9.5%	11.7%

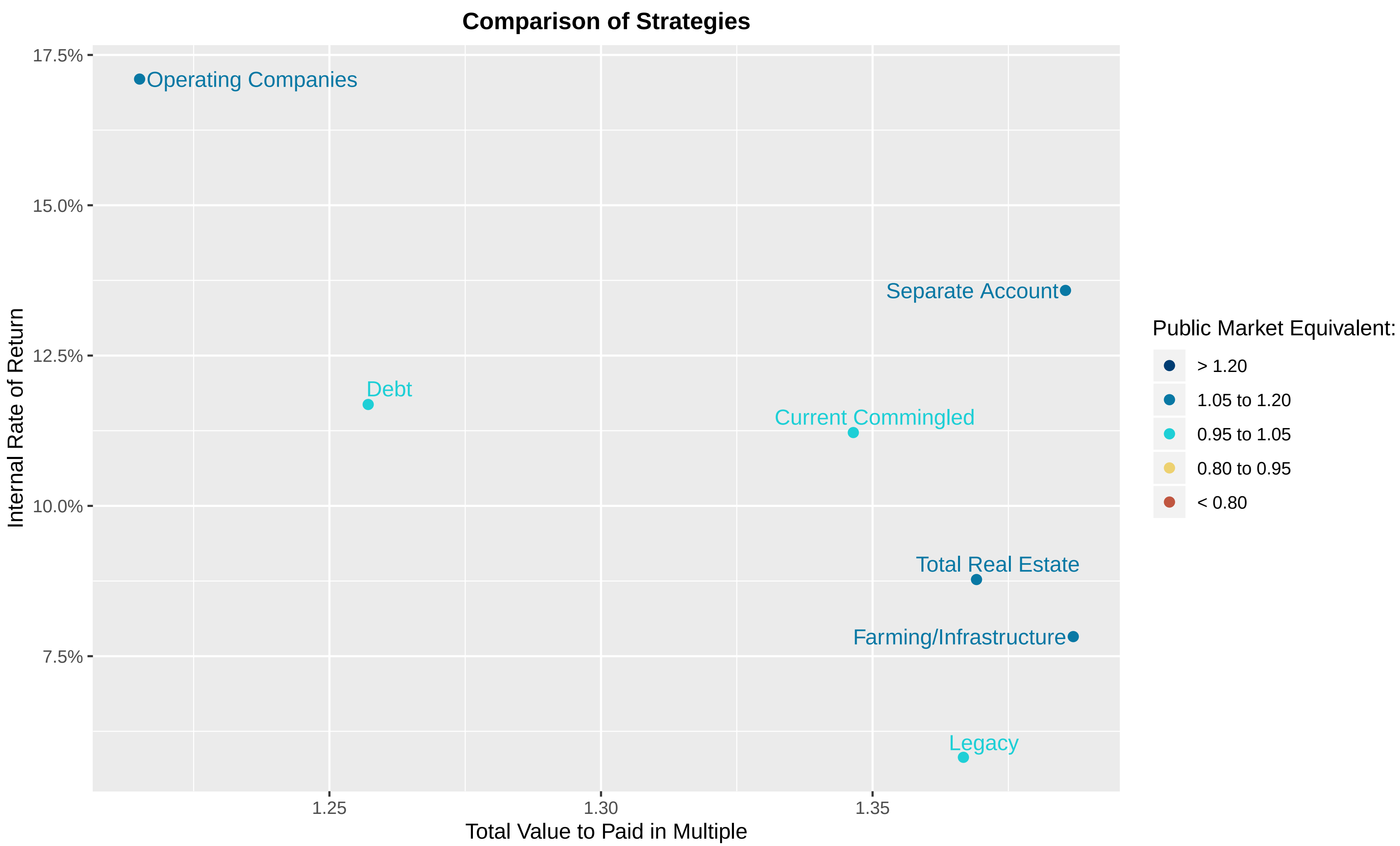
Note: Real Estate Returns are reported on a quarter-lagged basis height



Real Estate Dollar Value Add for the period ended 03/31/2019



Real Estate Strategy Comparison for the period ended 03/31/2019

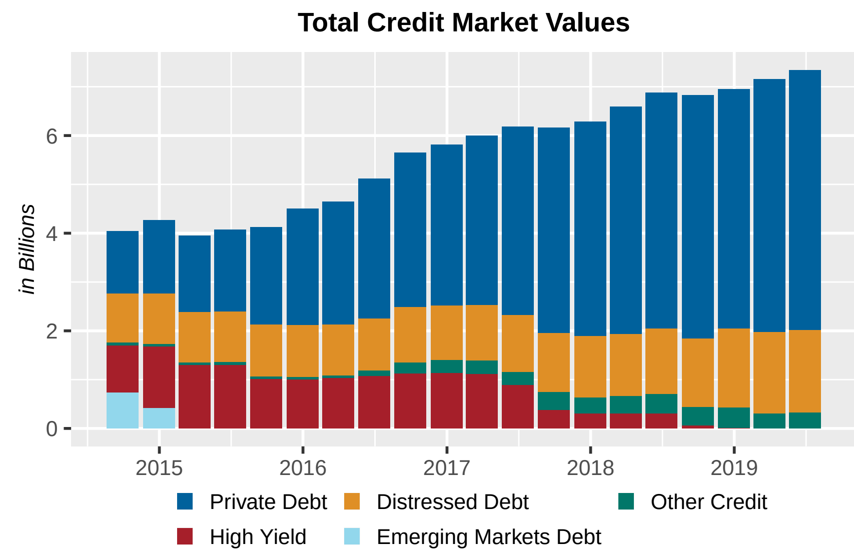


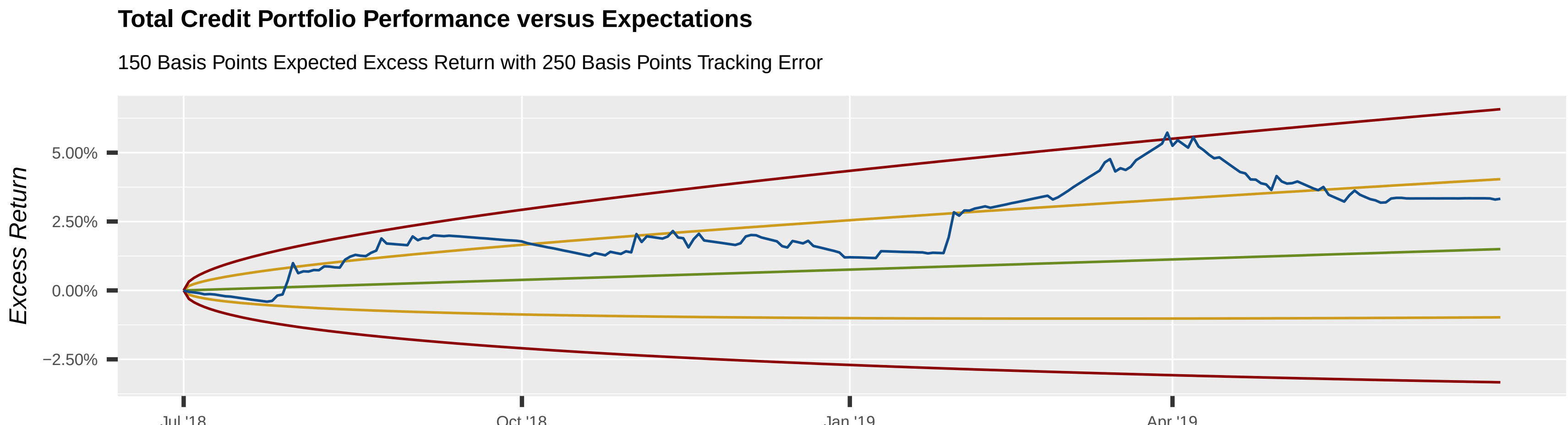
Total Credit for the period ended 06/30/2019

Annualized Returns

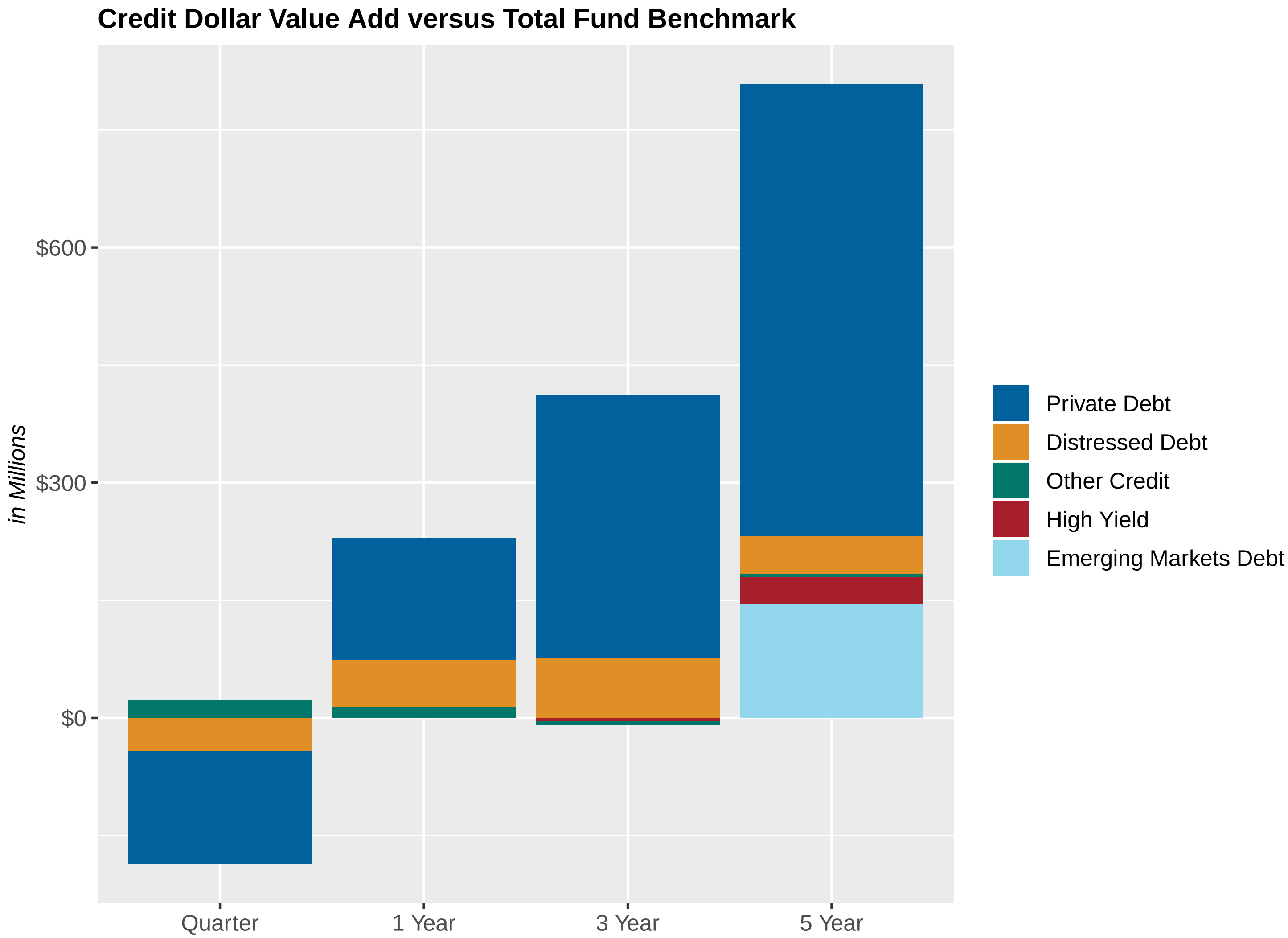
	1 Year	3 Year	5 Year
Total Credit	9.05	10.15	7.22
Blended Benchmark	5.54	8.08	4.14
Total Credit Excess	3.52	2.07	3.08
Private Debt	9.13	10.86	10.28
S&P/LSTA Leveraged Loan + 250 Basis Points	5.54	8.30	6.20
Private Debt Excess	3.59	2.56	4.08
Distressed Debt	7.58	9.76	6.55
Fixed 8% Return/LSTA Blend	2.20	5.97	6.72
Distressed Debt Excess	5.39	3.79	-0.16
Other Credit	0.20	4.95	6.55
Fixed 8% Return/LSTA Blend	2.46	5.44	6.72
Other Credit Excess	-2.26	-0.49	-0.16
High Yield	-7.48	1.58	1.67
Barclay's High Yield Index	7.48	7.52	4.70
High Yield Excess	-14.96	-5.94	-3.02

Note: Private, Distressed and Other Credit are reported a quarter-lagged basis height

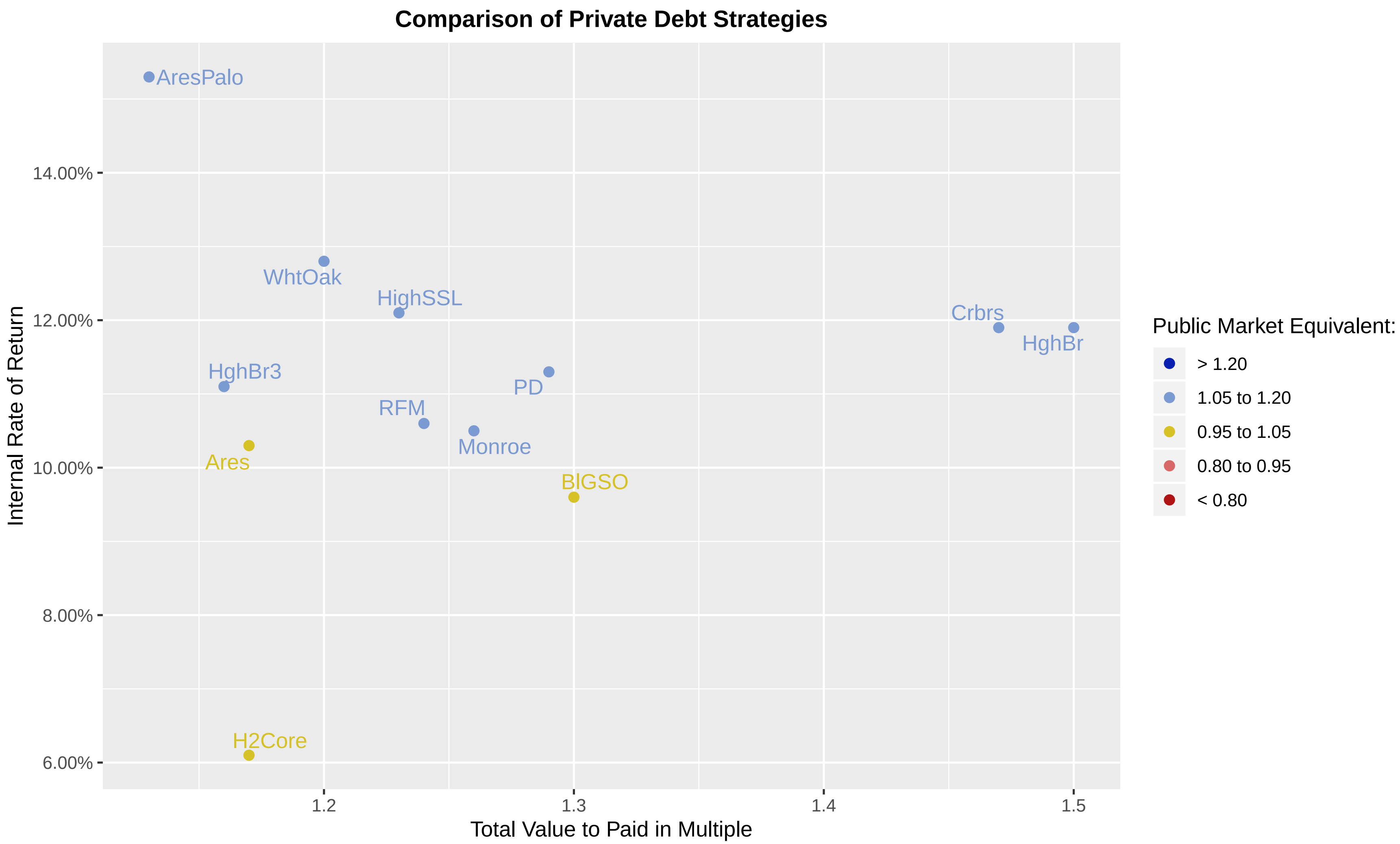




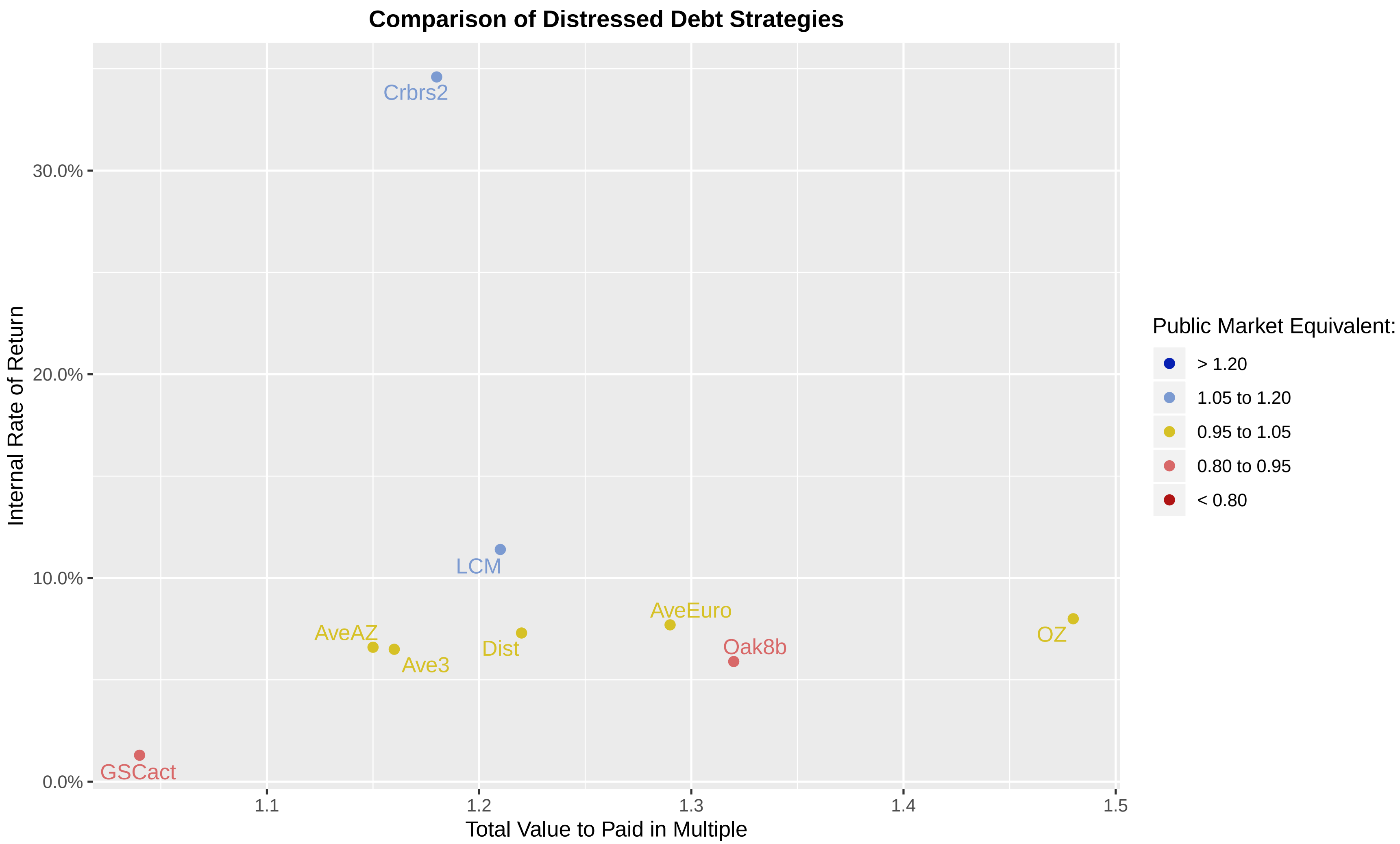
Credit Dollar Value Added for the period ended 06/30/2019



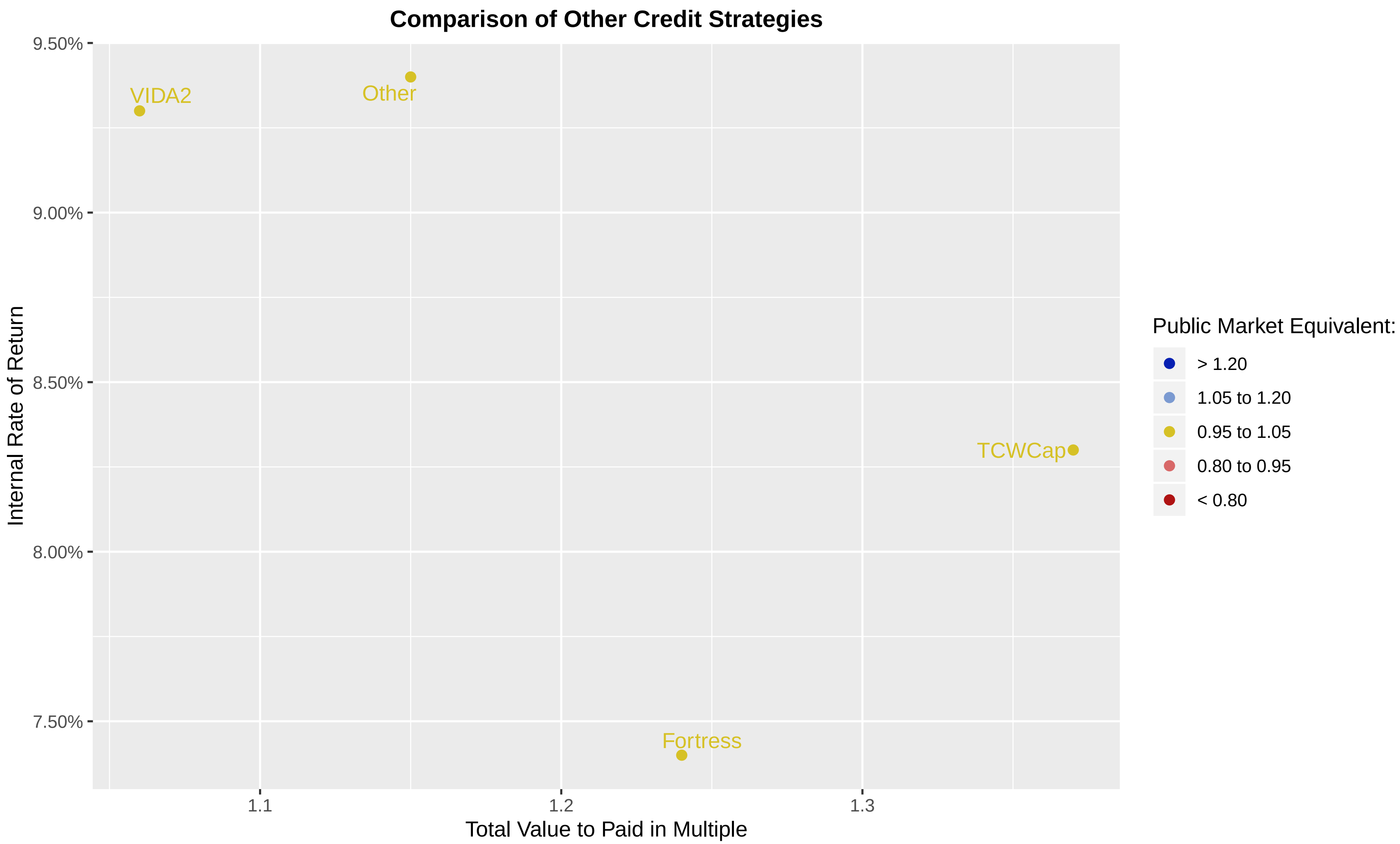
Private Debt: Total Value to Paid in Multiple & Public Market Equivalent for the period ended 03/31/2019



Distressed Debt: Total Value to Paid in Multiple & Public Market Equivalent for the period ended 03/31/2019



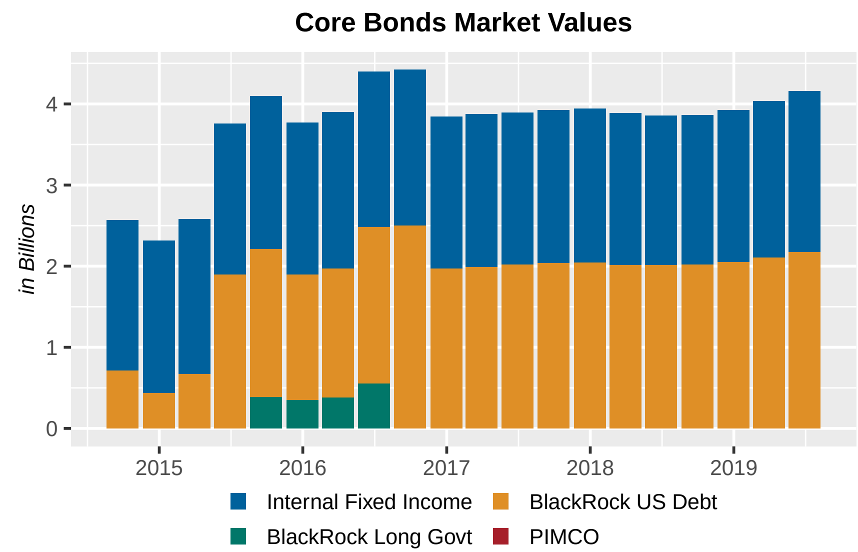
Other Credit: Total Value to Paid in Multiple & Public Market Equivalent for the period ended 03/31/2019

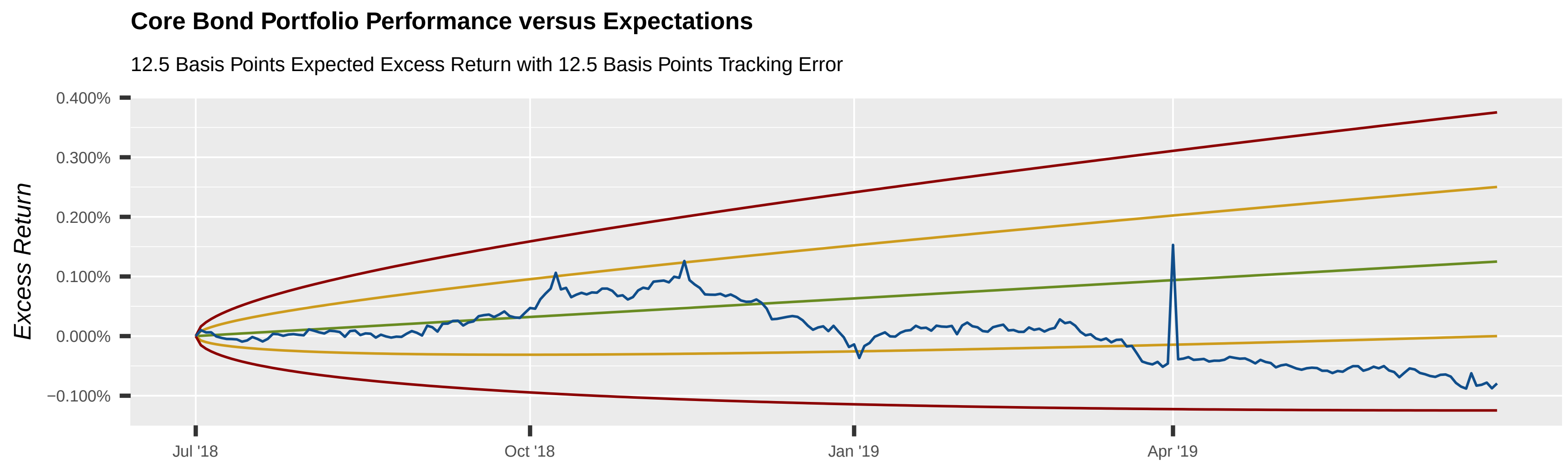


Core Fixed Income for the period ended 06/30/2019

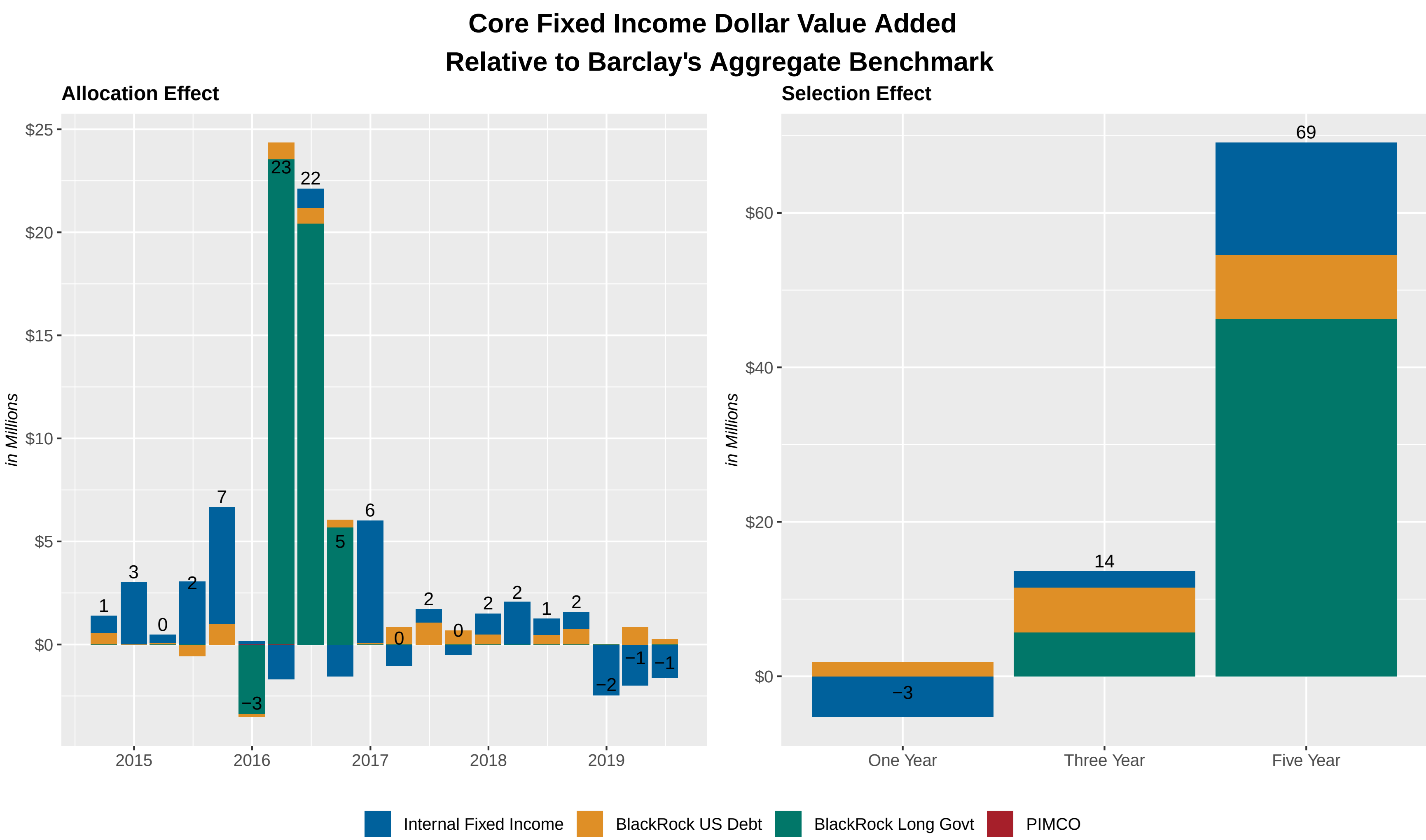
Annualized Returns

	FYTD	1 Year	3 Year	5 Year
Core Bond Composite	7.79	7.79	2.40	3.23
Barclay's Aggregate	7.87	7.87	2.31	2.95
Core Composite Excess	-0.08	-0.08	0.09	0.28
Internal Fixed Income	7.59	7.59	2.35	3.08
Barclay's Aggregate	7.87	7.87	2.31	2.95
Internal Fixed Income Excess	-0.28	-0.28	0.03	0.13
BlackRock US Debt Fund	7.96	7.96	2.40	
Barclay's Aggregate	7.87	7.87	2.31	
BlackRock Excess	0.09	0.09	0.09	





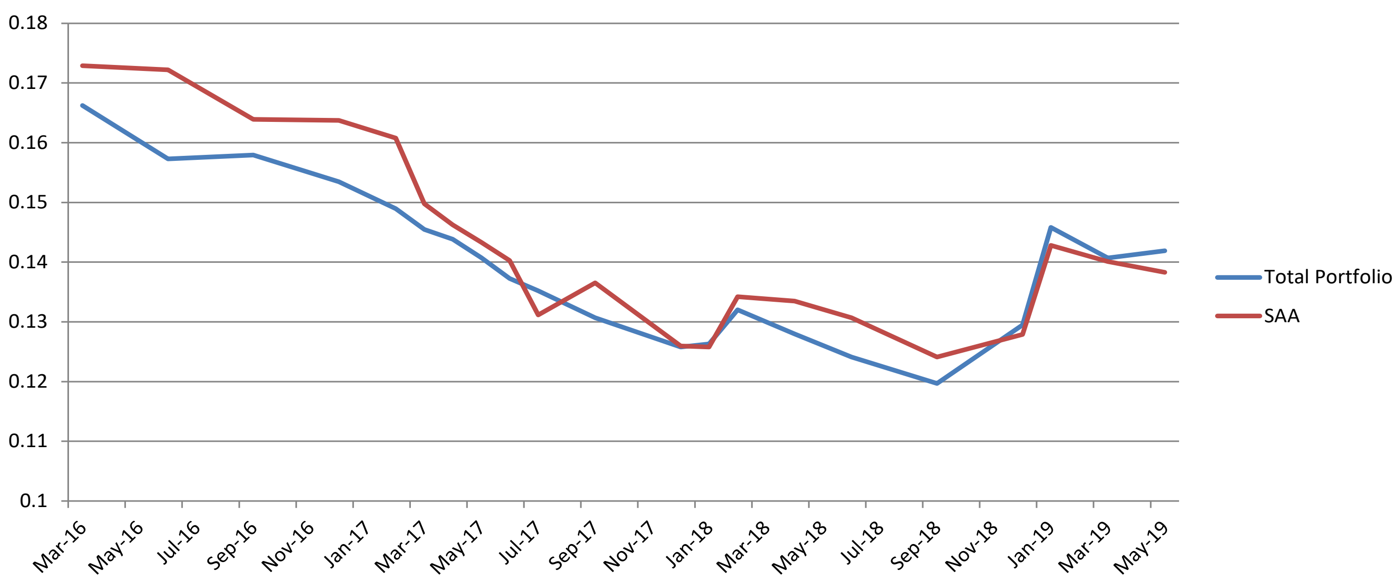
Core Fixed Income Dollar Value Added for the period ended 06/30/2019



Total Portfolio Value-At-Risk 5/31/2019

TOTAL PORTFOLIO VALUE-AT-RISK (VAR)

As of May 31st, 2019 Total VaR for ASRS Portfolio was 14.19%, indicating that there is a 5% chance that portfolio could lose ~$5.56B in a given year. Note that a 5% event is expected to occur every 20 years



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— GENERAL —

Agenda Item #6

There are no materials for this agenda item.

Agenda Item #7

ARIZONA STATE RETIREMENT SYSTEM

3300 NORTH CENTRAL AVENUE • PO BOX 33910 • PHOENIX, AZ 85067-3910 • PHONE (602) 240-2000
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TOLL FREE OUTSIDE METRO PHOENIX AND TUCSON 1 (800) 621-3778
WWW. AZASRS.GOV

Paul Matson
Director

MEMORANDUM

TO: Mr. Jim Hillyard, Chair, Arizona State Retirement System (ASRS) Board

FROM: Mr. Paul Matson, Director

DATE: July 8, 2019

RE: **Agenda Item #8**: Presentation, Discussion, and Appropriate Action Regarding Staff Recommended Updates to the ASRS Board Governance Policy Handbook

Purpose
To present recommended revisions to the ASRS Board Governance Policy Handbook.

Recommendation
To accept the recommended revisions to the ASRS Board Governance Policy Handbook.

Background
Section B of the Handbook states, “This Handbook will be reviewed by the Board at least triennially or more often if necessary. It will be updated at the Board’s direction. The Executive Director will recommend modifications for the Board’s consideration.”

The revisions to the handbook are being submitted for Board consideration and approval.

Many of the recommended modifications are technical or of a clarifying nature.

Attachments: Redlined version of ASRS Board Governance Policy Handbook

Arizona State Retirement System

Board Governance Policy Handbook

APPROVED: January 16, 2004

REVISED:

December 17, 2004
February 18, 2005
December 6, 2005
December 15, 2006
April 18, 2008
May 14, 2009
July 31, 2009
April 16, 2010
April 15, 2011
July 15, 2011
October 19, 2012
October 25, 2013
January 24, 2014
February 26, 2016
September 30, 2016
May 26, 2017
June 29, 2018

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A. VISION STATEMENT AND CORE VALUES

How...

ASRS Employees Deliver Service With PRIDE!

PROFESSIONALISM

We promote, strive for and expect individuals, teams, and divisions to possess professional qualities and skills to lead the organization.

- Displays a friendly, respectful and courteous demeanor even when confronted by adversity
- Has proactive and responsive approach to internal and external customer needs
- Possesses good communication and active listening skills
- Is a trusted contributor (manager, leader, SME, analyst, teammate)
- Takes personal accountability • Has subject matter expertise
- Has critical thinking skills • Has an honest, fair, non-judgmental mind-set
- Is adaptable to beneficial change • Adheres to the ASRS Code of Conduct

RESULTS

We treasure the achievements of individuals, teams, divisions and the agency that energize the organization.

- Meets goals and objectives
- Completes projects
- Produces quality work products
- Satisfies customers
- Attains individual accomplishments
- Manages risks successfully

IMPROVEMENT

We appreciate individuals, teams or divisions who drive the agency forward with new,innovative ideas and solutions.

- Promotes new ideas
- Enhances outcomes and performance
- Solves problems
- Enhances morale
- Improves relationships
- Increases efficiency, effectiveness or reduces costs

DIVERSITY

We recognize that utilizing different talents, strengths and points of view, strengthens the agency and helps propel outcomes greater than the sum of individual contributors.

- Encourages an attitude of openness and a free flow of ideas and opinions
- Treats others with dignity and respect
- Works effectively to accomplish goals with teams comprised of dissimilar individuals
- Recognizes and promotes skills in others attained on and off the job

EXCELLENCE

We celebrate individuals, teams and divisions who exceed expectations and deliver service with a PRIDE that permeates the organization.

- Surpasses member, stakeholder and associate expectations
- Demonstrates a willingness to go the extra mile to engender a positive public image
- Embraces change in a manner that inspires others
- Accepts responsibility and challenges with enthusiasm
- Takes a personal interest in promoting teamwork through effective use of communication (verbal, non-verbal, written and technological techniques)
- Creates a motivated, healthy and productive work environment that celebrates and rewards the accomplishments of others

ARIZONA STATE RETIREMENT SYSTEM

B. ASRS BOARD CHARTER

Consistent with recognition of the fiduciary duties imposed upon each individual member of the Board, they are referred to in this Governance Handbook as "Trustees."

The Board recognizes a sound governance structure is essential to fulfilling its duties and responsibilities. The Board prepared and adopted this Governance Handbook to establish the framework within which the Board intends to set governance and oversight policy.

The purpose of the Handbook is twofold. First, it is to provide orientation material for new Trustees (and executive staff) as to the roles, responsibilities, structure, procedures, policies, and activities in the governance and oversight of the ASRS. Second, it is to serve as an ongoing reference manual for current Trustees and ASRS staff.

This Handbook will be reviewed by the Board at least triennially or more often if necessary. It will be updated at the Board's direction. The Executive Director will recommend modifications for the Board's consideration.

The Board's Role

The ASRS Board was established under state law to govern and administer the ASRS. The Board has only those powers and duties that have been delegated to it by the Legislature. Within this role, the Trustees have a duty as fiduciaries under the law to act solely for the benefit of members and beneficiaries. (A.R.S. § 38-714, Arizona Constitution, Article 29, Section 1)

The Board views itself as being primarily an oversight and strategic policy-making body. The Board has delegated the leadership, management and administrative functions to the ASRS Director and staff, subject to ongoing monitoring and oversight. The Board has also delegated the hiring and termination of investment managers, the Real Estate and Private Equity Consultants, and other Asset Class Consultants to the (Director's) Asset Class Committees. The Board does not engage in regular day-to-day management functions of the ASRS.

Board Composition (A.R.S. § 38-713)

The Board is composed of nine Trustees who are appointed by the Governor pursuant to the following statutory requirements:

1. Five Trustees must be members of the ASRS as follows:
   a. An educator
   b. An employee of a political subdivision
   c. A retired member
   d. An employee of the state
   e. An at-large member representing any ASRS member group
2. Four Trustees are not members of the ASRS and represent the public.

Trustee Terms, Resignations, and Vacancies

1. Each Trustee is appointed for a term of three years. The terms of office are staggered with three positions beginning and expiring on the third Monday in January of each year.
2. Trustees continue to serve in their positions after the expiration of their terms of appointment in accordance with law.
3. Individual Trustees may resign from their position on the Board by providing appropriate notice to the Governor. In such case, the resignation is not effective until accepted by the Governor. (A.R.S. §§ 38-291, 38-294)
4. Trustee position vacancies that otherwise occur before the expiration of a term will be filled by the Governor. (A.R.S. §§ 38-211, 38-713)
5. A position shall be deemed vacant if a trustee ceases to discharge their duties for a period of three consecutive months. (A.R.S. § 38-291)
6. Insufficient participation or engagement by a Trustee will be addressed by the Board Chair who will speak to the Trustee. If that does not resolve the problem, the Chair will contact the Governor's Office for assistance.

Duties and Responsibilities

The Board proactively oversees the delivery of ASRS benefits and investment of trust assets. Consistent with fiduciary standards the ASRS Board will:

1. Oversee and participate in the long-term strategic planning process for the ASRS.
2. Appoint, annually evaluate, and, if necessary, remove the Director in accordance with state law.
3. Delegate the leadership, management and administrative responsibilities of the ASRS to the Director through the Director Position Description.
4. Delegate the hiring and termination of investment managers, the Real Estate and Private Equity Consultants, and other Asset Class Consultants to the Director through the asset class committee structure.
5. Approve the creation or dissolution of standing and special committees of the Board.
6. Approve the selection, and termination, and oversee the performance of the following external service providers:
   a. Plan actuary and actuarial auditor
   b. External financial auditor
   c. General investment consultant(s)
   d. Third-party administration providers for medical insurance, dental insurance, and long-term disability benefits
7. Review and approve macro-level strategic investment policies which guide the strategic vision for ASRS investments.
   a. SIP001 Asset Allocation (PLAN)
   b. SIP002 Fund Position and Rebalancing (PLAN)
   c. SIP005 Securities Litigation
   d. SIP006 Investment Manager , Partner, and Co-Investment Selection and Oversight
   e. SIP007 Funding Policy
8. Establish high level or significant actuarial funding methods and assumptions~~,~~ ~~benefit option factors, and~~ ~~an~~including the asset valuation method, consistent with state law.
9. Conduct an annual actuarial valuation of the ASRS liabilities and submit the results to the Governor and the state legislature as required by state law.
10. Conduct an actuarial experience investigation study at least every five years.
11. Review the Actuarial Cost Allocation method in use at least every five years and make changes if appropriate. ~~This review to take place within one year of the actuarial experience study.~~
12. Conduct an independent third-party audit of the actuarial valuation~~funding~~ of the ASRS benefits at least every five years.
13. Review, approve, and monitor the budget and budget change proposals.
14. Ensure the integrity of the financial control and reporting system.
15. Provide technical and administrative information and make recommendations on legislative proposals affecting the ASRS, without advocating for or against pension benefits modifications.
16. Develop and approve other governance policies, directives, and rules for the administration of the ASRS as may be adopted from time to time.
17. Obtain periodic updates from Board Committees regarding oversight activities.
18. Review agency enterprise risk management activities periodically as recommended by the Operations, Audit and Legislative Committee.
19. Biennially approve the internal audit plan.
20. Review and approve recommendations of the Director to appoint or remove the agency's Chief ~~i~~Internal A~~a~~uditor.

Comment [brianc1]: To match the IA Charter

C. TRUSTEE POSITION DESCRIPTION

Primary Responsibility

Each Trustee is individually a fiduciary for the governance and oversight of the ASRS and is obligated to act solely for the exclusive benefit of the ASRS members and beneficiaries. (Arizona Constitution, Article 29, Section 1, and A.R.S. § 38-714)

Commitments

Trustees must be willing and able to devote the necessary time to fulfill their duties on the Board. This commitment includes the responsibility to:

1. Oversee the operations of the agency.
2. Act as a member of a nine-member board of trustees to provide leadership and set the strategic direction for the ASRS.
3. Prepare for and attend scheduled Board and Committee meetings.
4. Be an informed and active member of the Board, fully participating in the decisions and actions of the Board and its committees by making independent assessments and reasonable judgments.
5. Acquire and maintain the knowledge necessary to perform the duties of a Trustee.
6. Follow policies and procedures established by the Board.
7. Be accurate when communicating with other Trustees, members, beneficiaries, interested parties, the public, and ASRS staff, and always be clear on whether the statements being made are the position of the Board or solely the position of the individual Trustee.
8. Act collegially with the other Trustees and staff in the conduct of ASRS business.
9. Bring to the attention of the Board matters of concern that affect the conduct of the business of the Board or the ASRS.
10. Comply with the Board's Code of Ethics.
11. Adhere to state law regarding confidentiality and privacy of member records and benefits.
12. Adhere to Open Meeting Law. (A.R.S. §§ 38-431 et seq.)
13. Assume responsibility for evaluating the Trustee's own performance, the overall performance of the entire Board, and the performance of the Director.
14. Seek the advice of the Director and other Trustees when necessary to fulfill their fiduciary duties.
15. Delegate leadership, management and administrative responsibilities to the ASRS Director and where appropriate to outside service providers.

Trustee Fiduciary Responsibilities

Trustees have a duty to the beneficiaries to invest and manage the funds of the trust as a prudent investor would, in light of the purposes, terms, distribution requirements, and other circumstances of the trust.

1. This standard requires the exercise of reasonable care, skill, and caution, and is to be applied to investments not in isolation but in the context of the trust portfolio and as a part of an overall investment strategy, which should incorporate risk and return objectives reasonably suitable to the trust.
2. In making and implementing investment decisions, the Trustee has a duty to diversify the investments of the trust unless, under the circumstances, it is prudent not to do so.
3. In addition, the Trustee must:
   a. conform to fundamental fiduciary duties of loyalty and impartiality;
   b. act with prudence in deciding whether and how to delegate authority; and
   c. incur only costs that are reasonable in amount and appropriate to the investment responsibilities of the trusteeship.

Trustee Access to ASRS Resources

1. A Trustee shall not give instructions or assign tasks to individual ASRS staff.
2. A Trustee shall refrain from making negative comments on staff performance other than to the Director or acting Director.
3. A Trustee should make every effort to access ASRS resources through action of the full Board.

4. A Trustee may request from the Director, or the Director's designee, information or assistance necessary to meet the Trustee's responsibilities.
5. The Director may seek the advice of the Chair and Legal Counsel or refer the matter to the full Board before complying with individual Trustee requests that, in the Director's opinion, would require a significant amount of ASRS resources or cause disruption to the regular administration of the ASRS.
6. The Director shall share any vital or useful information resulting from a Trustee request with other Trustees.
7. The Director may refuse requests of individual Trustees that are in conflict with this policy.

D. DIRECTOR POSITION DESCRIPTION

General

1. The Board will appoint the Director who shall serve at the pleasure of the Board. (A.R.S. § 38-715)
2. The Director reports to the full Board.

Delegation of Responsibilities

1. Subject to the areas reserved to the Board by state law or the ASRS Board Charter, the Director is responsible for managing the regular operations of the ASRS in accordance with Board policies and directives.
2. The Director may make prudent delegation of the Director's responsibilities to other ASRS staff or outside service providers unless specifically prohibited by law or the Board.

Specific Duties and Responsibilities

The Director will:

1. Provide leadership to the ASRS in fulfilling its statutory purpose and achieving the vision, values, investment principles, and goals outlined in the strategic plan.
2. Maintain effective and credible relationships with the members and beneficiaries of the ASRS, participating employers, executive officers of state government, the legislature, employee and retiree organizations, the media, and the public at large.
3. Project a positive image as Director of the ASRS.
4. Act as official spokesperson for the Board and the ASRS.

   With respect to legislation; if draft legislation is proposed affecting the ASRS that the ASRS Board has not already taken a position on, the Director will discuss such draft legislation at his discretion with legal representation, and the Board Chair or acting Board Chair, to formulate an agency response.

   If the draft legislation does not pertain to a benefit modification, the Director may provide relevant information and also support or oppose the draft legislation.

   If the draft legislation pertains to a benefit modification, the Director may provide relevant information but will not support or oppose the draft legislation.

   If a single piece of draft legislation covers both a benefit modification item as well as a non-benefit modification item, the Director may support or oppose the legislation, but will communicate that the support or opposition relates to the non-benefit modification item and not the benefit modification item.
5. Act as liaison between the Board and other ASRS staff and service providers.
6. Safeguard the assets of the ASRS by appointing a custodian and developing and implementing proper internal controls.
7. Account for and be responsible for ASRS data, the collection of income from all sources, maintenance of accounts, and distribution of benefits.
8. Monitor the operational and funded status of the benefit plans under the ASRS.
9. Identify strategic issues involving the design or ongoing administration of the defined benefit plan, defined contribution system, health insurance programs, long term disability program, the supplemental retirement savings plan, and the supplemental salary deferral plan. Initiate analysis or action as appropriate.
10. Provide necessary staffing, support and resources to the Board and its committees.
11. Proactively assist and advise the Board and its committees with regard to issues requiring Board policy or action.
12. Appoint or remove the Deputy Director, Chief Investment Officer, and Assistant Director(s) positions or other staff as required.
13. Appoint the State Social Security Representative when such duties reside at the ASRS.
14. Recommend to the Board the appointment or removal of the internal auditor.
15. Perform annual performance evaluations of those who have a direct reporting relationship to the Director.
16. Be responsible for the recruitment, hiring and day-to-day management of employees.
17. Ensure the accurate and timely distribution of pension benefits, survivor benefits, and refunds.

18. Review and approve transfers between the ASRS and other retirement plans. (A.R.S. §§ 38-730 and 38-921)
19. Review and approve domestic relations orders. (A.R.S. § 38-773)
20. Review and approve employer applications for ASRS membership. (A.R.S. § 38-729)
21. Adjust the maximum compensation limits (A.R.S. § 38-746), contribution limits (A.R.S. § 38-747) and maximum retirement benefit amounts (A.R.S. § 38-769) when the limits and amounts are adjusted by the United States Secretary of the Treasury pursuant to the Internal Revenue Code.
22. Maintain a process for handling member and participating employer appeals of staff decisions and statutory interpretations.
23. Manage or oversee appeal settlements.
24. Assist the Board in reviewing and adopting actuarial assumptions, funding methods, benefit option factors and actuarial valuation methods for the ASRS.
25. Initiate the annual actuarial valuations, periodic actuarial experience studies and independent actuarial audits as required by state law or Board policy and work with the actuary in determining and/or recommending appropriate assumptions.
26. Oversee and assist the Chief Investment Officer in developing macro-level strategic investment policies.
27. Review and approve standard operating procedures for the Investment Management Division.
28. Execute and manage investments in accordance with Board directives.
29. Assist the Board in soliciting and selecting of the following service providers:
    a. Consulting actuaries and actuarial auditors
    b. External financial auditor
    c. General investment consultants
    d. Third-party administration providers for medical insurance, dental insurance and long-term disability benefits
30. Approve contract extensions.
31. Approve the selection and termination of the Supplemental Retirement Savings Plan (SRSP) and the Supplemental Savings Deferral Plan (SSDP) investment options, and third-party administrators.
32. Review and approve, with the consensus of the CIO, recommendations from ASRS asset class committees, to hire and terminate investment managers/partners.
33. Review and approve recommendations from ASRS asset class committees to hire and terminate asset class consultants.
34. Except as otherwise noted, oversee the performance of all other service providers to the ASRS.
35. Develop and recommend to the Board, an appropriated operating budget. Manage and monitor expenditures within the budget and provide reports to the Operations, ~~and~~ Audit and Legislative Committee or Board as necessary or directed.
36. Manage and monitor continuously appropriated expenditures as prescribed in A.R.S. § 38-721.
37. Oversee the preparation of the ASRS Comprehensive Annual Financial Report.
38. Develop and deliver all operational and actuarial reports to the Governor and state legislature as required by state law after approval by the Board.
39. Perform other duties delegated by the Board.
40. Administer the Supplemental Retirement Savings Plan (SRSP) and report to the Investment Committee annually.
41. Administer the Supplemental Salary Deferral Plan (SSDP) and report to the Investment Committee annually.
42. Review, analyze, implement and present the ASRS Funding Policy (SIP007) to the Board every three years or whenever a significant event impacts the policy or whenever the Director recommends modification.

E. ELECTION OF BOARD OFFICERS

Board Officers

The Board will elect the following Board officers:

1. Board Chair
2. Vice-chair

Election Procedure

1. Any Trustee may serve as a Board officer.
2. Any Trustee may make nomination(s) for Board officer positions, including him/herself.
3. Nominations will be made at the regular meetings of the Board in approximately May of each year.
4. Board officers will be elected by majority vote at a regular meeting of the Board prior to the start of a fiscal year. The Board Chair position shall be elected first, followed by the Board Vice-chair position.

Term

Board officers will serve for the fiscal year following their election. A Board officer typically may not serve more than three consecutive terms in one of the Board officer positions but may serve an unlimited number of non-consecutive terms.

Resignations and Vacancies

1. A Board officer may resign from their position by providing written notice to the Board and also informing the Director by copying him/her on the notice.
2. Board officer vacancies that otherwise occur before the expiration of a term will be filled by the Board for the balance of the term in a manner agreed upon by the Board.

Removal

The Board may remove an officer before the end of the officer's term at any time by majority vote. The vacant officer position ~~must~~ should be filled at either the next meeting of the Board or the next regular meeting of the Board.

F. BOARD CHAIR POSITION DESCRIPTION

Responsibilities and Commitments

The Chair holds a position of leadership for the Board and the ASRS and must be willing and able to devote the time necessary to fulfill these special responsibilities as the leader of the Board. This commitment includes the responsibility to:

1. Convene and conduct Board meetings in a collegial, fair, and efficient manner following Board policies, procedures, and applicable state law.
2. Review and approve the agenda for regular and special Board meetings and include any issues requested by the Trustees or the ASRS Director in accordance with Section G. *Board and Committee Meeting Protocol* of this Handbook.
3. Ensure proper and timely flow of adequate information to the Board.
4. Solicit input from Trustees regarding matters before the Board.
5. Ensure adequate time is provided for effective study and discussion of business being considered by the Board.
6. Schedule executive session meetings as necessary and in compliance with state law.
7. Make committee assignments, including chair and vice-chair positions to committees, taking into account the desires of the Trustees.
8. Execute such documents and other legal instruments on behalf of the ASRS as required by state law or authorized by the Board.
9. Discuss performance and behavior issues with Trustees who are having a negative impact on the ASRS.
10. Perform all other duties specifically identified by the Board.

Duties of Vice-chair

The Vice-chair will act as temporary Chair in the absence of the Chair.

G. BOARD AND COMMITTEE MEETING PROTOCOL

Rules of Order and Quorum

1. The Board and its committees shall operate under the Arizona Open Meeting Law and the general guidance of Robert's Rules of Order.
2. A quorum must be present for the Board or its committees to conduct business. A majority of the Board or committee will constitute a quorum.
3. Board or committee members may not attend meetings through delegates or authorize voting by proxy.

Scheduling of Regular, Special, and Emergency Meetings

1. The Board will adopt an annual schedule identifying the time and location of regular meetings. The Board may schedule some meetings outside of the City of Phoenix metropolitan area. The Board or Board Chair may modify this schedule at his/her discretion.
2. The Board Chair, or any four Trustees, may call for special or emergency meetings of the Board.
3. The Director, at his discretion or as requested by the Board Chair, may post any Board Committee meeting as a dual Board and Committee meeting in order to permit interested Board members not on the particular committee to attend and participate in discussions. The committee meeting will be conducted under the committee's charter and the non-committee Trustees will not make or vote on committee motions.

Meeting Notices

1. At least twenty-four hour notice of all Board and committee meetings, including executive sessions, will be provided to the public in accordance with Arizona Open Meeting Law. (A.R.S. § 38-431.02)
2. If permitted per Arizona Open Meeting Law, in the case of an emergency meeting requiring immediate action to avoid some serious consequence, shorter notice may be provided.
3. The Board Chair or Committee Chair shall normally provide the Trustees with seven calendar days' notice of all Board and committee meetings.

Trustee Attendance by Electronic Media

A Trustee may participate in any meeting of the Board by telephone or video conference in a manner consistent with Arizona Open Meeting Law and applicable Arizona Attorney General Opinions. (A.R.S. § 38-431)

Meeting Agendas

1. The Board Chair in consultation with the Director will prepare an agenda for each Board meeting containing the specific matters to be discussed, considered or decided at the meeting.
2. The Board may discuss, consider, or make decisions only on matters on the agenda.
3. Items can be placed on a Board meeting agenda by:
   a. The Board Chair
   b. A Trustee
   c. A Board Committee
   d. The Director

   The Board Chair will add requested items to the Board meeting agenda within three months of the request. A longer period may be agreed upon by the Chair and the requestor.
4. The agenda for an executive session must contain a general description of the matter to be considered or decided at the meeting. (A.R.S. § 38-431.02)

Meeting Materials

1. The Director will make every reasonable effort to distribute related Board meeting materials to the Trustees at least five calendar days before each meeting.
2. The Director shall prepare a summary of the issues to be discussed, a staff or committee recommendation, if applicable, and a proposed motion or motions for the Board to consider.

Public Access and Testimony at Board Meetings

1. All meetings of the Board or committees are public and all persons who wish to attend may do so in accordance with Arizona Open Meeting Law. (A.R.S. §§ 38-431 et. Seq.)
2. Every agenda for regular Board or committee meetings will provide the public an opportunity to be heard. The Board Chair or Committee Chair may prescribe the time and manner of such public comment.
3. With regard to matters raised by a member of the public for which proper public notice has not been provided**,** no action may be taken at that meeting. The Board or committee may request the Director to investigate the issue further and report back to the Board or committee at a later meeting.
4. The Director, in consultation with the Chair, will convene meetings in facilities and locations that provide the public with reasonable access.
5. An individual who intends to speak at a meeting may be required by the Board to sign a register to permit compliance with minute taking required under state law.

Executive Sessions

1. The Board and its committees may conduct business in executive session as permitted by state law. (A.R.S. § 38-431) Executive sessions shall be presided over by the Chair of the Board or committee.
2. Executive sessions shall be closed to the public and subject to the following conditions:
    a. The executive session must be held during a regular, special, or emergency meeting of the Board or committee.
    b. The executive session must address only those subject matters permitted under Arizona Open Meeting Law (A.R.S. § 38-431, § 38-797.03):
        - Discussion or consideration of employment, assignment, appointment, promotion, demotion, dismissal, salaries, disciplining or resignation of a public officer, appointee or employee of any public body.
        - Discussion or consideration of records exempt by law from public inspection, including the receipt and discussion of information or testimony that is specifically required to be maintained as confidential by state or federal law.
        - Discussion or consultation for legal advice with the attorney or attorneys of the public body.
        - Discussion or consultation with the attorneys of the public body in order to consider its position and instruct its attorneys regarding the public body's position regarding contracts that are the subject of negotiations, in pending or contemplated litigation or in settlement discussions conducted in order to avoid or resolve litigation.
        - Discussions or consultations with designated representatives of the public body in order to consider its position and instruct its representatives regarding negotiations with employee organizations regarding the salaries, salary schedules or compensation paid in the form of fringe benefits of employees of the public body.
        - Discussion, consultation or consideration for international and interstate negotiations or for negotiations by a city or town, or its designated representatives, with members of a tribal council, or its designated representatives, of an Indian reservation located within or adjacent to the city or town.
        - Discussions or consultations with designated representatives of the public body in order to consider its position and instruct its representatives regarding negotiations for the purchase, sale or lease of real property.
        - Per A.R.S. § 38-797.03, discussions resulting from a member appeal of an administrative law judge determination regarding their long term disability rights, benefits or obligations if such person requests a review of the determination in an executive session.
    c. The executive session must satisfy all of the state's notice requirements under Arizona Open Meeting Law.
3. The Board will take no action while in executive session. Any such action must be taken during that portion of a meeting that is open to the public.

4. Trustees are prohibited under state law from publicly disclosing the discussions held in executive session. The Chair shall remind the Board or committee of this prohibition at the beginning of each executive session.

Meeting Minutes and Board Records

1. The Director will ensure that minutes of all meetings of the Board and committees are taken and public meeting minutes will be made available to the public as required by state law.
2. The Director will direct staff to prepare a written copy of the Board minutes taken at prior meetings of the Board and present it to the Board for approval at a subsequent meeting.
3. The Director will maintain records of the Board activities and actions in accordance with state law and such other documents necessary to establish a due diligence record of the Board's activities.

H. BOARD COMMITTEES and CHARTERS

General

The Board may establish standing or special committees to conduct the business of the full Board subject to the following conditions and limitations:

1. Board committees are responsible for overseeing various aspects of the ASRS administration and only have the authority to make recommendations to the Board.
2. Board committees may not act or speak for the Board.

Standing Committees

1. Standing committees are permanent committees established by the Board.
2. The standing committees of the Board are as follows:
   a. Operations, Audit and Legislative Committee (OALC)
   b. Investment Committee (IC)
   c. Board Appeals Committee (AC)

Special Committees

1. Special committees may be established from time to time by the Board Chair to address limited purposes and for limited times.
2. Special committees cease to exist automatically upon the completion of their stated purpose as determined by the Committee Chair.

Committee Members

1. The Board Chair shall appoint members of each committee for one-year terms.
2. The Board Chair shall appoint a chair and vice-chair for each committee. These committee officer position appointments will be for one-year terms.
3. The Board Chair may remove or replace members of a committee and committee officers before the end of the terms if the Chair determines such action is in the best interest of the ASRS.

Committee Operating Rules

1. The Committee Chair shall call committee meetings.
2. Committee meetings shall be subject to all of the public notification and meeting requirements established for the full Board in Section G of this Handbook.
3. Committee meetings are open to all Trustees, but only committee members may participate in the dialog or vote. However, if the meeting is posted as a dual meeting of the committee and Board, all participating Trustees may participate in the dialog but only committee members may vote.
4. The committees shall report to the Board, summarizing activities and recommendations on matters that have been referred to them.
5. The Director shall provide staffing, consulting, or other resources and support to Board committees as may be necessary and within budget to meet the responsibilities assigned by the Board.

Standing Committee Charters

Operations, Audit and Legislative Committee Charter

General

The Operations, Audit and Legislative Committee (OALC) is a standing committee of the Board responsible for overseeing the general operations and administration of the ASRS including agency strategic planning, legislative matters and administrative rules; recommending Board action when required.

Composition

The ~~Operations, Audit and Legislative Committee~~ OALC is composed of three or four members at the discretion of the Board Chair. Committee members are appointed by the Board Chair.

Responsibilities

1. **Oversight**

   The OALC will meet regularly to oversee ASRS performance in meeting strategic goals and objectives, managing administrative risks, and reviewing legislative proposals and rules. Areas of responsibility are as follows:

   a. Member services, including all outreach, education, walk-in counseling, member correspondence, and call center services and programs.
   b. Employer services, including all outreach, education and call center services and programs.
   c. Technology services, including development, maintenance, performance, and compliance with state or industry standards.
   d. General accounting and financial reporting, including investment accounting, payroll, accounts receivable and payable, pension payroll, and contribution reporting.
   e. Collection and maintenance of member/employer accounts, including contributions, salaries and service, and demographic data.
   f. Benefit administration, including calculations and disbursements for all benefit types.
   g. Strategic, agency-wide staffing issues.
   h. Agency privacy and information security.
   i. Enterprise risk management.
   j. Legislative affairs and rules administration.
   k. Administration of the ASRS medical and dental insurance programs.
   l. Administration of the ASRS long term disability program.
   m. Review appropriated budget request proposals; ongoing administration of the ASRS appropriated budget and continuously appropriated budget.
   n. General contract management and procurement.
   o. Strategic planning and strategic initiatives affecting operations, legislation, or administration.

2. **The OALC will Operate as the Audit Committee for the Agency**

   Areas of responsibility are as follows:

   a. Review, accept, and oversee changes to the biennial Audit Plan, and determine if the changes require Board review.
   b. Review and follow up on audits.

3. **Actions Requiring Independent Board Review**

   The OALC will use its discretion in reporting or making recommendations to the Board except in cases when Board action is required by governance policy. Specifically, the OALC will forward its recommendations to the Board on the following matters:

   a. Selection or removal of a vendor or vendors to administer the ASRS medical or dental insurance programs.
   b. Selection or removal of a vendor to administer the ASRS long term disability program.
   c. Selection or removal of the ASRS external or internal auditor.
   d. Review of the agency's risk management activities (as recommended by the OALC).

e. Biennial approval of the internal audit plan.
f. Appropriated budget request proposals.
g. Legislative recommendations.
h. Rule administration.

Internal Audit Charter

Introduction

The Internal Audit Division (IAD) is a vital part of the ASRS, providing independent, objective assurance and consulting services designed to add value and improve the organization's operations. The IAD is responsible for helping the ASRS leadership accomplish its objectives by performing independent assessments of the systems of risk management, internal controls and operating efficiency, guided by professional standards and in bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes. The IAD aspires to enhance and protect organizational value by providing risk-based and objective assurance, advice and insight.

Organizational Status

The organizational status and support accorded to the IAD by the ASRS Board of Trustees (Board), the Operations, Audit and Legislative Committee (OALC), and senior management are major determinants of the scope and value of the internal audit function to the agency.

The Chief Internal Auditor(CIA) reports functionally to the Board through the OALC and administratively to the Director of the ASRS. The Director in consultation with the OALC or OALC Chair evaluates the performance, and subject to required Arizona Department of Administration(ADOA) guidelines, determines the remuneration of the CIA. The OALC in consultation with the Director will recommend to the Board the appointment and removal of the CIA.

Internal Audit personnel are independent of the ASRS activities they audit and will have no authority or responsibility for any of the procedures or activities of the ASRS. The ~~-~~CIA and internal audit staff are not authorized to perform operational duties for the organization. Additionally they are not authorized to initiate or approve accounting transactions external to the IAD. Internal audit staff is not authorized to direct the activities of any organization employee not employed by the ~~internal audit division~~IAD. This independence promotes essential impartial and unbiased judgments, and assures appropriate consideration and effective action on audit findings and recommendations.

The ~~-~~CIA shall have free unrestricted access to the Chair of the OALC and the Chair and members of the Board, subject to applicable state and federal laws.

To accomplish audit objectives, Internal Audit staff is authorized to have full, free, and unrestricted access to any of the ASRS records, property, personnel, employer members, contractors, vendors, members and retirees relevant to any subject under review. Where the need is indicated, special arrangements will be made for the examination of confidential information. Internal auditors will exercise due diligence in the safeguarding and use of these resources. The CIA shall ensure that internal audit staff is instructed in the handling and safeguarding of confidential information.

Internal Audit Standards

Internal Audit activities comply with the following:

- ASRS objectives and policies;
- International Standards for the Professional Practice of Internal Auditing and the Code of Ethics of the Institute of Internal Auditors, Inc.;
- Generally accepted government auditing standards; and
- All other applicable professional standards.

Objectives and Scope of Activities

The objectives of the IAD are to (1) provide independent assurance to the Board, OALC, and management that the organization's assets are safeguarded, operating efficiency is enhanced, and compliance is maintained with prescribed laws, and the agency's policies, and (2) provide assessments and advice for improving the agency's governance or management by incorporating lean principles, efficient and mature processes, risk management, and control without the IAD assuming management responsibility.

The scope of internal audit work includes (1) the examination and evaluation of the adequacy and effectiveness of the agency's network of risk management, internal control systems, and governance processes and (2) the quality of performance in carrying out assigned responsibilities.

The scope of the above work includes:

- Developing a biennial audit plan using risk analysis, and obtaining approval from the Board;
- Ensuring that risks within and outside the organization are appropriately identified and managed;
- Reviewing the reliability and integrity of financial and operating information and the means used to identify, measure, classify, and report information;
- Evaluating compliance with current policies, plans, procedures, laws, and regulations;
- Appraising the safeguarding, and economical and efficient use of the agency's resources;
- Reviewing operations or programs to ascertain whether results are consistent with established objectives, goals, strategies and risks, and are in synchrony with industry best practices and whether the operations or programs are being carried out as planned;
- Evaluating in-system design related to internal controls;
- Performing special reviews and investigations as requested by the Director, the Board, and the OALC;
- Investigating reported fraud occurrences by following the agency's "Fraud, Criminal Acts, Internal Investigation and Whistleblower Policy;"
- Investigating reported occurrences of fraud, embezzlement, theft, waste, etc., and recommending controls to prevent or detect such occurrences;
- Ensuring quality and continuous improvement are fostered in the agency's control process;
- Performing reviews or investigations of employers as requested by the Director, the Board, and the OALC;
- Auditing contractors, including third-party administrators, to ensure they are meeting the objectives of the contracts, while in conformance with applicable laws, regulations, policies, procedures and best practices; and.
- Recommending opportunities for improving member service, management of risks, internal control, governance, and the organization's effectiveness.

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Reporting

The results of internal audits are reported to the OALC, the Director, appropriate managers, and oversight bodies. On a quarterly basis, or more frequently at the request of the OALC Chair, the ~~Chief of Internal Audit~~CIA will meet with the OALC to discuss the status of the audit plan and other significant issues involving the IAD.

The IAD will establish and maintain a system for tracking corrective action for significant audit findings reported by internal and external auditors.

Management will provide the corrective action accomplished to the IAD on a timely basis for tracking, consolidation and reporting purposes.

An external peer review of the IAD will be performed every five years and the results reported to the OALC.

Authority

The IAD was established by the Board of the ASRS. The Charter is incorporated into the ASRS Board Governance Policy Handbook and is approved by and all future amendments are approved by the Board through a majority vote. This Charter shall be reviewed at least triennially and updated as required by the OALC.

Investment Committee Charter

General

The Investment Committee (IC) is a standing committee of the Board responsible for assisting the Board in overseeing the ASRS investment program.

Composition

The ~~Investment Committee~~IC is composed of three or four members at the discretion of the Board Chair. Committee members are appointed by the Board Chair.

Duties and Responsibilities

1. Recommend to the Board the ASRS investment goals and objectives.
2. Recommend to the Board the ASRS strategic asset allocation policy which is expected to achieve the investment goals and objectives.
3. Recommend to the Board ASRS Strategic Investment Policies and review annually the ASRS Investment Policy Statement (IPS).
4. Review and recommend to the Board changes in investment-related sections of the ASRS Board Governance Policy Handbook.
5. Review the asset class committee's activities and asset class presentations.
6. Receive and review asset class committee minutes.
7. Review recommendations regarding changes to asset class performance benchmarks. Subsequent approval by the Board is required.
8. Review the Tactical Fund Positioning/Portfolio Rebalancing actions.
9. Recommend to the Board the selection, and termination of the ASRS general investment consultant(s) and oversee their performance.
10. Receive and discuss ASRS investment risk and compliance reports.
11. Review annually the administration of the third-party administrator for the Supplemental Retirement Savings Plan (SRSP) and annually report any issues to the Board.
12. Review annually the administration of the third-party administrator for the Supplemental Salary Deferral Plan (SSDP) and annually report any issues to the Board.
13. Review and comment if necessary on compliance reporting related to investment management.

Board Appeals Committee Charter

General

Arizona Revised Statutes § 38-714(E)(1) permits the ASRS Board to delegate to a Committee to act on its behalf for the purposes of determining the rights, benefits or obligations of any party in an appealable agency action aggrieved by a final decision of the ASRS. The Board Appeals Committee (AC) is a standing committee of the Board responsible for hearing and making determinations on appealable agency actions.

Composition

The Board ~~Appeals Committee~~AC is composed of three or four members at the discretion of the Board Chair. Committee members are appointed by the Board Chair.

Responsibilities

The Board ~~Appeals Committee~~AC has the following responsibilities:

1. To ensure appeals are heard by the Committee within the proper timeframe of the notice of appeal.
2. To hear and make rulings on appealable agency actions from ASRS members who believe agency decisions have caused them legal harm or loss. (A member may be an employee, retiree, inactive member, employer, or others who have a vested interest in decisions in which they are affected.)
3. To accept, reject, modify, or take no action on the recommendation of the Administrative Law Judge.
4. To ensure staff effectuate the decision of the Committee.

I. ASSET CLASS COMMITTEES

Purpose

Asset class committees are designed to:

1. Provide authority and responsibility to the Director, ~~CIO~~Chief Investment Officer (CIO), and ~~IMD~~ Investment Management Division (IMD)staff regarding the implementation of the ASRS Strategic Asset Allocation Policy (SAAP), associated selection of investment managers, and approval of investments.
2. Provide authority for the hiring of staff extension consultants.
3. Improve the efficiency and effectiveness of the ASRS investment decision-making process.
4. Provide consistency and uniformity in investment decision-making frameworks.

Asset class committees are not deemed to constitute a sub-committee of the Investment Committee (IC) or full Board.

Duties and Responsibilities

The Director is delegated responsibility for the management of the asset class committees. The Director may establish one or more asset class committee to perform functions described herein.

The asset class committees will meet periodically to review investment recommendations from the IMD portfolio managers. All such reviews, including the hiring and termination of investment managers and the acquisition of investments will be conducted in accordance with the requirements of SIP006.

Asset class committees will hire a Real Estate Consultant, a Private Equity Consultant and other staff extension consultants to aid the committees in the identification, diligence and monitoring of investments.

Organizational Structure/Composition/Voting Protocol

The ASRS may operate with one or more asset class committees.

Each committee will include as its voting members the Director, the CIO, the Assistant CIO and the Senior Portfolio Managers. All decisions of the asset class committee require concurrence of both the Director and the CIO. Other members of the ~~Investment Management Division (~~IMD~~)~~ and the staff extension consultants may attend the meetings as non-voting members.

To ensure the timely flow of information, the CIO will communicate to the IC, information regarding activities of the asset class committees.

Staff-extension Investment Consultants

Staff-extension investment consultants are considered as an extension of the CIO and IMD staff. Responsibility to assign investment tasks to the staff extension consultants is delegated to the CIO.

Staff-extension investment consultants will be utilized by the CIO and IMD staff to assist in the investment manager searches and other activities pertaining to the selection and monitoring of investment managers.

Selection of a particular staff-extension investment consultant will be based on those available from the approved pool of consultants and their particular strengths and ability to add value to the ASRS.

J. TRUSTEE ORIENTATION AND EDUCATION PROGRAM

General

The Board finds it is critical for the sound governance of the ASRS for Trustees to be fully informed with regard to the nature, purpose, structure, operational systems and processes of the ASRS. The Board further finds that it is important that Trustees are provided with education and training in areas that will facilitate the performance of their governance and oversight responsibilities as trustees and fiduciaries for the ASRS.

New Trustee Orientation Program

1. The Director will develop and present to new Trustees, with the Board Chair~~,~~ if available,~~,~~ ~~to new Trustees~~ an in-depth New Trustee Orientation session designed to inform new Trustees of the key functions of the ASRS and their responsibilities.
2. Newly appointed Trustees are expected as part of their fiduciary responsibilities for the ASRS to participate in the New Trustee Orientation Session within approximately two months of their appointment.
3. The Board believes the following orientation and education topics will increase Trustee understanding:
   a. History and background of the ASRS.
   b. Introduction to the executive management team and other staff as determined by the Director.
   c. The governance role of the Board and the management role of the executive staff of the ASRS.
   d. The state laws establishing the ASRS and the application of other state and federal laws.
   e. A briefing on the fiduciary duties and liabilities of Trustees and other fiduciaries of the ASRS.
   f. A briefing on conflicts of interest and ethics laws and policies and the state mandated courses on conflicts of interest laws.
   g. A review of the Board Governance Policy Handbook and other information and documentation deemed relevant by the Director or Board Chair.
   h. A review of general retirement pension, health benefits design, ~~LTD~~Long-Term Disability, and other specific benefits provided by the ASRS.
   i. A review of general actuarial funding terminology and principles and the most recent actuarial reports.
   j. A review of general institutional investment principles and the various investment policies in place.
   k. A review of the reporting and disclosure requirements of the ASRS to state entities.
   l. A review of the legal (state and federal) and political environment in which the ASRS operates.
   m. A review of the current ASRS strategic plan and new issues, trends and developments affecting the ASRS.
   n. The structure and model for the management and operation of the ASRS.
   o. The legal and legislative environment.
   p. A description and tour of ASRS offices as may be practicable.

Trustee Education Policy

1. Each Trustee is responsible for evaluating their educational needs and obtaining knowledge of specific subject matters. The Director will assist them in obtaining information on conferences or seminars to meet their education needs.
2. Trustees are to attend ongoing educational sessions to stay current on fiduciary responsibilities and are encouraged to attend conferences and seminars relating to:
   a. Investment issues and trends;
   b. Pension, health, LTD, and benefits design;
   c. Fiduciary management of employee benefit trusts;
   d. Other subjects related to the oversight of the ASRS;
   e. Training required by the ~~state~~ State of Arizona.
3. The Director will periodically provide to the Board information on available conferences and seminars.
4. The Director shall arrange for an annual fiduciary education session for the Board.

Reimbursement of Education Expenses

Payment and/or Reimbursement of travel-related expenses for Trustee orientation and education will be in accordance with the State of Arizona Accounting Manual.

K. STRATEGIC PLANNING POLICY

General

Strategic planning is essential to ensuring the sound governance, oversight, and management of the ASRS. Since 1998, the ASRS has built its operation around a strategic model based on five organizing principles:

1. Establishing clarity of purpose within its agency Vision, Mission, Values, and Objectives.
2. Performance measurement.
3. Continuous improvement.
4. Strong governance practices.
5. Cost-efficient budgets and an effective workforce.

Strategic Planning Policy

The Board and Director will work collaboratively to ensure that:

1. Strategic priorities facing the ASRS over the short, medium, and long-term are identified, discussed, prioritized, and addressed.
2. Strategic planning discussions remain focused on strategic issues.
3. Strategies are developed to address the short, medium, and long-term priorities.
4. The Board is updated on the agency's progress addressing strategic priorities.
5. Adequate resources are in place to support the successful execution of the Strategic Plan.
6. The agency's governance policy is periodically examined and updated to ensure that sound governance practices are in place.
7. Delineation of authority and autonomy is regularly discussed.

Strategic Plan Reporting

1. Once the Board has identified its strategic priorities, the Director or his proxy, will report periodically to the Board or its committees, at the discretion of the Board and the committee chairs.
2. Trustees or the Director may request that priorities be added or deleted as needed.

L. BOARD CODE OF ETHICS

General

The Board has established the following Code of Ethics for the individual Trustees to comply with applicable state law and its duties of loyalty as fiduciaries for the ASRS.

The Board recognizes that compliance with these requirements is often complex and confusing. Trustees are strongly encouraged to seek the advice of the ASRS legal counsel whenever there is uncertainty regarding the required level of compliance from the Trustee.

State Law

Trustees will adhere, without limitation, to the following state laws as such apply to the conduct of their affairs and to carrying out their duties as trustees and fiduciaries for the ASRS:

1. Conflict of Interest Laws (A.R.S. § 38-503)

   Under the conflict of interest laws, Trustees who have a conflict of interest must disclose the interest and refrain from participating in the matter.

   A.R.S. § 38-503, provides in pertinent part:

   a. Any public officer or employee of a public agency who has, or who's relative has, a substantial interest in any contract, sale, purchase or service to such public agency shall make known that interest in the official records of such public agency and shall refrain from voting upon or otherwise participating in any manner as an officer or employee in such contract, sale or purchase.

   b. Any public officer or employee who has, or who's relative has, a substantial interest in any decision of a public agency shall make known such interest in the official records of such public agency and shall refrain from participating in any manner as an officer or employee in such decision.

   The conflict of interest laws require a Trustee to examine proprietary and pecuniary interests of the Trustee and certain relatives of the Trustee. "Relative" is defined expansively and includes "the spouse, child, child's child, parent, grandparent, brother or sister of the whole or half blood and their spouses and the parent, brother, sister or child of a spouse." (A.R.S. § 38-502)

   A Trustee must recognize that even though the Trustee may not have a substantial interest in a decision or a contract, if one of the Trustee's relatives described in A.R.S. § 38-502 has a substantial interest in a decision or a contract, the Trustee must disclose the interest and refrain from participating in the matter. Trustees have an affirmative obligation to become aware of the interests of relatives in matters that may involve the Trustees.

   When a Trustee assesses whether the Trustee has a conflict of interest, the Trustee first must evaluate whether the Trustee or any of the Trustee's relatives has a "substantial interest" in the matter under consideration. An interest is "substantial" if it is not defined by statute as "remote" and if it is "any pecuniary or proprietary interest, either direct or indirect," of the Trustee or the Trustee's relatives. (A.R.S. § 38-502) The term "interest" is a pecuniary or proprietary interest, by which a person will gain or lose something, as contrasted with a general sympathy, feeling or bias.

   The Legislature has determined that certain interests do not influence a person's decisions or actions impermissibly. The Legislature has defined these interests as "remote interests" and has listed them in A.R.S. § 38-502. Unless the pecuniary or proprietary interest at issue falls within one of the situations statutorily specified by the Legislature to be remote, the interest is substantial and creates a conflict of interest.

   To determine whether a "substantial interest" exists, the Trustee should ask these questions:

   a. Will the decision affect, either positively or negatively, an interest of the Trustee or the Trustee's relatives?

   b. Is the interest a pecuniary or proprietary interest?

   c. Is the interest other than one statutorily designated as a remote interest?

If the answer to any of these questions is “yes,” then a substantial interest exists which requires disclosure and nonparticipation by the Trustee.

Any disclosure of a conflict resulting in a Trustee recusing him/herself from a Board or Committee decision will be recorded in the minutes of that meeting.

2. Gifts and Gratuities

A Trustee will not ask for or accept anything (emolument, gratuity or reward, or any promise thereof) that is not authorized by law for performing the Trustee’s duties.

A Trustee will not use or attempt to use the Trustee’s position to secure valuable things or benefits for the Trustee, unless the benefits are part of the Trustee’s normal compensation.

A Trustee may not receive or agree to receive directly or indirectly compensation other than as provided by law for any service rendered or to be rendered by the Trustee personally in any matter pending before the ASRS.

Trustees are responsible for maintaining the integrity of both the ASRS and the State of Arizona. As a result, no Trustee of the ASRS is permitted to:

a. Use his or her official position or attendance at a conference, seminar or training for personal gain.

b. Solicit gifts.

c. Accept gratuities.

d. Accept gifts or favors that may appear to be designed to influence the Trustee’s official conduct.

e. Permit him/herself to be placed under any kind of personal obligation that could lead a person to expect official favors.

The prohibitions in this policy are in effect any time Trustees can be viewed as being on official business for the ASRS or State of Arizona.

3. Contracts for supplies and services (A.R.S. § 38-503)

A Trustee may supply equipment, material, supplies or services to the ASRS **only** pursuant to an award or contract let after public competitive bidding. (A.R.S. § 38-503) The requirement of public competitive bidding is in addition to the disclosure and non-participation requirements of the Conflict of Interest Laws.

4. Disclosure of interests (A.R.S. § 38-509)

When a Trustee determines that the Trustee has a substantial interest in a matter, the Trustee must disclose the interest and withdraw from all participation in the decision or contract.

The Trustees must “maintain for public inspection in a special file all documents necessary to memorialize all disclosures of substantial interest made known pursuant to this article.” (A.R.S. §§ 38-501 to -511)

A Trustee who has a conflict of interest in any ASRS decision or in the award of a contract *must* provide written disclosure of that interest in the ASRS’ special conflict of interest file. (A.R.S. § 38-503). A Trustee may either file a signed written disclosure statement fully disclosing the interest or file a copy of the official minutes of the ASRS which fully discloses the interest. (A.R.S. §§ 38-502, -509)

Having disclosed the conflict of interest and withdrawn from participation in the matter, the Trustee must not communicate about the matter with anyone involved in the decision-making process. (A.R.S. § 38-503)

Code of Ethics

1. New Trustees are required to attend any state-provided Public Service Orientation Ethics Course.
2. Trustees shall maintain the highest ethical conduct at all times consistent with their fiduciary duty to act only for the exclusive benefit of the ASRS members and beneficiaries under state law.
3. The Trustees shall conduct themselves with integrity and exercise care, prudence and diligence in handling the affairs of the ASRS.
4. The Trustees must disclose conflicts of interest and appearance of conflicts of interest as defined under state law with respect to their fiduciary responsibility. Where a conflict of interest does exist, the Trustee must refrain from voting or otherwise participating in any manner with regard to the subject matter of the conflict.
5. The Trustees shall not:
   a. Deal with assets of the ASRS for their own interest.
   b. Accept gifts or gratuities prohibited by state law.
   c. Act in any transaction involving the ASRS on behalf of any party whose interests are adverse to the interests of the ASRS or the members and beneficiaries.
   d. Receive any monetary or other valuable consideration for their personal account from any party conducting business with the ASRS.

Loyalty Oath

Trustees are required to sign a State of Arizona Loyalty Oath upon their appointment to the ASRS Board. ~~-~~(See Appendix E.)

Political Activities

Though Staff are free to make contributions to a political campaign of a trustee or to any charitable organization associated with or supported by a Trustee, Trustees shall refrain from soliciting campaign or charitable contributions from staff, including but not limited to the purchase of, selling, distributing, or receiving payment for tickets for any political fundraiser, political meeting, or other political event.

M. BOARD PERFORMANCE EVALUATION

General

The Board will conduct an annual performance evaluation of its effectiveness and that of its committees as the governing fiduciary body for the ASRS. This will serve as a means of helping ensure that the Board continues to effectively meet its responsibilities and duties.

Board Evaluation Policy

1. The Board Chair, working with the Director, will be responsible for coordinating and conducting the Board performance evaluation process.
2. The evaluation will focus on the operations and decision-making processes of the Board as well as the outcome of ASRS actions.
3. The Board Chair will provide to each Trustee the performance evaluation forms approved by the Board. The Trustees are to conduct their evaluation in the first quarter of each calendar year, preceding the Director's evaluation.
4. The Board will seek input from the Director with respect to the staffs' perception regarding the Board's and Board Committees' performance.
5. The Board may seek input from the Assistant Attorney General regarding an annual evaluation of the Board's compliance with statutory and governance responsibilities.

Board Performance Evaluation Process and Forms

A way for the Board to maintain excellence in governance is to develop a policy of reviewing its own performance on an annual basis. A two-step evaluation process has been adopted:

Part A: Trustee Self-Evaluation

The purpose of having each individual Trustee evaluate him/herself is to encourage introspection and heighten awareness of the important areas of fiduciary responsibility. Trusteeship carries with it both a personal and collective duty to the members and beneficiaries. The "Trustee Self-evaluation" is an abbreviated outline and periodic reminder of what constitutes "good trusteeship."

It is recommended that this self-evaluation be performed annually, by each individual Trustee before the overall board evaluation is performed. Each year the Board can choose how to handle the results of the evaluations.

The Trustee Self-evaluation is for the personal use of each Trustee to facilitate the full and frank examination of each Trustee's own performance. The form need not be completed or submitted, but rather each Trustee is asked to review the questions as they contemplate their self-evaluation. The objective is for this annual exercise to be helpful to the ASRS and not embarrassing to any individual.

Part B: Overall Board Evaluation

By discussing and developing an overall board evaluation, the Board demonstrates its intention to establish a process for Trustees to evaluate Board performance with candor, objectivity, and a broad perspective. Such an evaluation process presents special challenges, and it may be difficult for Trustees to speak frankly about the performance of the Board as a whole, especially in situations where there is room for improvement. Notwithstanding this difficulty, the benefits of an annual evaluation will enhance the Board's effectiveness in carrying out the mission of the ASRS.

The "Overall Board Evaluation" form contains elements of "best practices" of public retirement systems and is for the personal use of each Trustee to facilitate the full and frank discussion among the Trustees. The completed form is to be submitted to the Board Chair who will compile the results for further discussion.

N. DIRECTOR EVALUATION PROCESS

General

The Board has delegated the responsibility of administering the ASRS to the Director and, therefore, understands that an annual evaluation of the performance of the Director's performance is important. The Board may conduct more frequent performance evaluations of the Director as it deems necessary.

Objectives

The evaluation of the performance of the Director is intended to:

1. Assist the Board in establishing and communicating clear, meaningful goals and performance targets for the Director.
2. Enable the Board to hold the Director accountable for performance.
3. Allow the Director to receive objective and timely feedback to help the Director perform at expected levels.

Evaluation Procedure and Criteria

1. The evaluation of the performance of the Director will take place by the second quarter of each calendar year after the Board's self-evaluation is completed and will cover the preceding calendar year.
2. The subject matter addressed in the performance evaluation will include:
   a. Leadership
   b. Management/Administration/Budgeting
   c. Communication
   d. Policy matters
   e. Staff development
   f. Progress toward achieving performance business objectives previously established by the Board for the year
   3. By the second quarter of each calendar year, the Board, working with the Director, may adopt additional performance goals and evaluation criteria to be used in evaluating the performance of the Director for the upcoming calendar year.
4. Other matters identified by the Board
5. The Director will prepare a written summary report of accomplishments and performance for the Board to use in their discussions of his/her performance.

   The ASRS Human Resource Department will conduct a reverse evaluation of the Director, the results of which will be presented to the Board. Participation in the reverse evaluation is voluntary and anonymous and will include the following staff:

   a. Deputy Director - Operations
   b. Chief Investment Officer
   c. Chief of Administrative Services
   d. Manager of Human Resources
   e. Manager of Management Support Services
   f. ~~Assistant Attorney General Representative~~Chief Internal Auditor
6. The Board will reach consensus and provide ~~a~~ verbal or written feedback to~~report of~~ the Director on his/her ~~'s~~ performance, and identify areas for improvement, if necessary.
7. The Board or Board Chair will meet with the Director to present and discuss the Board's evaluation of the Director's performance.

Appendix A – Trustee Self Evaluation

It is not necessary to turn this document in; it is to assist board members in contemplating their evaluation.

Review the following statements in relation to your involvement as a Trustee of the ASRS. Rank answers using the following scale: **5 - always, 4 - almost always, 3 - sometimes, 2 - almost never, 1 - never**

	5	4	3	2	1
1. I attend the Board and Committee meetings I am expected to attend.					
2. I contribute to the discussion in a meaningful and helpful way.					
3. I fully understand my fiduciary duties and act for the benefit of all members, not merely for a particular constituency.					
4. I make an effort to be educated on the aspects of the ASRS that I do not understand.					
5. I comply with state laws and Board policies regarding conflicts of interest.					
6. I read the materials distributed before the Board meeting so I can constructively participate and make timely decisions.					
7. I work with the other Trustees and the staff in a collegial way.					
8. I understand that work requests to staff and outside consultants need to be agreed to by the Board or the Director and I act accordingly.					
9. I work with the Director in a way that creates an atmosphere of trust and cooperation.					
10. I understand the Director works for the entire Board and not for individual Trustees and I act accordingly.					
11. I communicate Board governance problems to the Board Chair.					
12. As a Trustee of the Board, I have re-read Section L "Board Code of Ethics" and Appendix F "Loyalty Oath," of the Board Governance Policy Handbook and I reaffirm my understanding of these items.					

I am most concerned about the following issues:____

____

____

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____

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Appendix B – Overall Board Evaluation

Name (optional)____Date:______________________________

This document should be completed and submitted to the Board chair.

Rate the following statements in relation to the overall operation of the Board. Rank answers using the following scale: **5 - always, 4 - almost always, 3 - sometimes, 2 - almost never, 1 - never**

	5	4	3	2	1
1. The Board maintains an effective oversight role with regard to benefits and investments issues.					
2. The Board knows and understands the ASRS Strategic Plan, and reflects this understanding when addressing key issues throughout the year.					
3. The Board engages in long-range strategic thinking and planning.					
4. The Board has achieved the business objectives it set out to accomplish this past year.					
5. The Board stays abreast of issues and trends affecting the ASRS, using this information to assess and guide the ASRS over the long term.					
6. The Board conducts a comprehensive evaluation of the Director annually.					
7. The Board ensures that new Trustees receive a prompt, thorough orientation.					
8. Board meetings are conducted in a manner that ensures open communication, meaningful participation, and sound resolution of issues.					
9. The Board meeting agendas are well-balanced, allowing time for the most critical issues.					
10. The Board and Committee meetings are handled efficiently.					
11. The Committees are effective, focusing on pertinent topics and allocating reasonable time.					
12. The Board is well-educated on both benefit and investment issues.					
13. The Board recognizes its policy-making role and reconsiders and revises policies as necessary.					
14. The Board is consistently prepared for meetings.					
15. The Board as a whole, and Trustees as individuals, evaluate their performance on an annual basis.					
16. The Board reviews and adopts a reasonable operating budget that is followed and monitored throughout the year.					
17. The Board periodically monitors investment performance and measures it against relevant benchmarks.					
18. The Board periodically monitors service to members.					
19. The Board comprehends and respects the difference between its policy-making role and the Director’s management role.					
20. Board goals, expectations, and concerns are promptly, candidly and effectively communicated to the Director.					
21. The Board anticipates issues and does not often find itself reacting to “crisis” situations.					

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Identify the three greatest achievements of the Agency with Board support during the past year.

1. ____

2. ____

3. ____

What critical issues need to be addressed by the Board in the future?

____

____

____

____

What suggestions do you have for improvement of the conduct of Board and Committee meetings and for Board operation and communication?

____

____

____

____

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Appendix C – Director Evaluation

ASRS - Director Performance Evaluation

Name: Paul Matson

Title: Director

This form is to help you evaluate the performance of the Director of the ASRS. In each of the following rating categories, bullet points have been provided to assist you with your evaluation. Please rate the Director using the following scale and place the number on the "Rating" line in each category.

5 - Outstanding, 4 - Above Average, 3 - Satisfactory, 2 - Needs Improvement, 1 - Unacceptable

Leadership: Rating _________

- Establishes and maintains effective and credible relationships affecting the ASRS.
- Projects a positive image as the Director of the ASRS.
- Recognizes the needs and desires of others; treats others with regard, courtesy and respect.
- Maintains a "big picture" outlook and is aware of industry issues.
- Forecasts trends, responds to change and invites innovation.
- Solicits and acts upon ideas of others when needed.
- Stresses the importance of high quality customer service.
- Maintains a well-functioning management team.
- Participates in relevant and worthwhile professional organizations.

General Comments or Examples: (You need not address each point separately.)

___

___

___

5 - Outstanding, 4 - Above Average, 3 - Satisfactory, 2 - Needs Improvement, 1 - Unacceptable

Management/Administration/Budgeting: Rating __________

- Manages all ASRS business functions and activities in accordance with all relevant laws, Board policies and goals
- Develops reasonable budgets, communicates them to the Board, and operates within budgetary limits
- Ensures the efficient and effective functioning of the ASRS through delegation
- Follows up on Board directives to ensure proper implementation

General Comments or Examples: (You need not address each point separately.)

___

___

___

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5 - Outstanding, 4 - Above Average, 3 - Satisfactory, 2 - Needs Improvement, 1 - Unacceptable

Communication: Rating __________

- Keeps the Board and staff informed and communicates effectively with them
- Organizes ideas and information logically
- Speaks clearly and concisely, using understandable terminology
- Effectively and politely communicates with the members
- Professionally communicates with entities affecting the ASRS

General Comments or Examples: (You need not address each point separately.)

5 - Outstanding, 4 - Above Average, 3 - Satisfactory, 2 - Needs Improvement, 1 - Unacceptable

Policy Matters: Rating ___________

- Periodically reviews policies and makes recommendations for changes to the Board
- Accurately interprets Board policies and concerns, and develops a consistent direction for the staff to follow
- Initiates changes in day-to-day operations to conform to established Board policies
- Acts creatively to evaluate and recommend new initiatives or policies

General Comments or Examples: (You need not address each point separately.)

5 - Outstanding, 4 - Above Average, 3 - Satisfactory, 2 - Needs Improvement, 1 - Unacceptable

Staff Development: Rating ___________

- Creates an atmosphere that fosters teamwork, creativity and participation
- Communicates clear standards of performance for the executive staff
- Keeps informed and follows state personnel policies and procedures
- Encourages professional development of staff
- Addresses succession planning for key positions within the ASRS

General Comments or Examples: (You need not address each point separately.)

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5 - Outstanding, 4 - Above Average, 3 - Satisfactory, 2 - Needs Improvement, 1 - Unacceptable

Progress Toward Achieving Business Objectives: Rating ____________

[Previously and mutually identified goals and objectives listed here.]

1.____

2.____

3.____

4.____

5.____

General Comments or Examples: (You need not address each point separately.)

____

____

____

____

Significant Overall Accomplishments:

____

____

____

____

____

Areas Needing Improvement:

____

____

____

____

____

Overall Rating: __________

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Appendix D – General Investment Consultants

The primarily role of the ASRS general consultant(s) is to provide independent ASRS fund(s) investment reporting and performance measurement, financial market commentary and macro strategic/tactical investment advice. The general consultant attends Board and IC meetings as available/applicable, and participates in asset class committee meetings. Though not a designated asset class committee consultant, the general consultant will ensure asset class compliance with the ASRS asset allocation policy, be informed of asset class committee investment decisions, and as applicable, provide broad perspectives on opportunistic and public markets-related topics.

The general consultant will be evaluated, and interviewed by the IC, Director and CIO; the IC will make the selection and recommendation to the Board for approval. The general consultant will be hired and terminated by the Board, report to the IC and Board and, through the direction of the IC Chair, Director or CIO, be engaged at the request of the Board, IC, Director or CIO. In the event a backup general consultant is needed, a selection will be made by the IC from the approved pool of project consultants and recommended to the Board for approval.

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Appendix E – Trustee Fiduciary Liability and Coverage

The liability of the Board of Trustees and its individual members in the conduct of their duties and responsibilities is established under state law as follows:

1. The Board as a whole and its individual members are not liable for any act or failure to act that is made in good faith within the scope of their responsibilities under state law. (A.R.S. § 38-791)
2. An individual member of the Board is immune from civil liability and is not subject to suit directly or by way of contribution for any act or omission resulting in any damage or injury if the member was acting in good faith and within the scope of the member's official capacity, unless the damage or injury was caused by willful and wanton or grossly negligent conduct of the member. "Official capacity" means any decision or act taken by a member of the Board to further the purpose for which the Board is established. (A.R.S. §§ 38-717 and 41-621)
3. The state and the ASRS are immune from liability for losses arising out of a judgment against the Trustees for willful and wanton conduct resulting in punitive or exemplary damages. (A.R.S. § 41-621) Liability for such damages would be the responsibility of the Trustees personally.
4. The Arizona Department of Administration is required by statute to provide coverage to the Board and to individual Trustees under the state's risk management program (A.R.S. §§ 41-621 to -625) "against all liability for acts or omissions of any nature by members of the board while acting in an authorized governmental or proprietary capacity and within the course and scope of their employment or authority." (A.R.S. § 38-717)

Under the state's risk management program, the Board and the Trustees receive the same coverage that the state itself receives. (A.R.S. § 41-621)

Under the state's risk management program the Board and the Trustees have coverage for "liability for acts or omissions of any nature while acting in authorized governmental or proprietary capacities and in the course and scope of employment or authorization except as provided by this chapter." (A.R.S. § 41-621)

Under the state's risk management program the Board and the Trustees also have coverage for "[o]ther exposure to loss where insurance may be required to protect this state and its departments, agencies, boards and commissions and all officers, agents and employees acting in the course and scope of employment or authorization except as prescribed by this chapter." (A.R.S. § 41-621)

According to A.R.S. § 41-621 acts or omissions of a Trustee would be "within the course and scope of employment or authorization" if they:

a. Occur while performing duties or functions that the Trustees are authorized to perform.

b. Occur "substantially within" the authorized time and space limits of a Trustee's authorization.

c. Are done (or not done) at least in part to serve the Arizona State Retirement System.

Under the state's risk management program, the Attorney General's Office will defend the Board and the Trustees. The Attorney General may retain outside counsel to defend the Board and the Trustees. (A.R.S. § 41-621)

Under the state's risk management program all attorneys' fees, court costs and litigation expenses will be paid from the permanent liability loss revolving fund of the Department of Administration. (A.R.S. § 41-622) A settlement or judgment, except for punitive damages, also will be paid from this fund. (Id. and A.R.S. § 41-621)

If a Trustee is sued based on conduct outside the course and scope of a Trustee's authorization, the state is not obligated to provide coverage for that conduct. (A.R.S. § 41-621) If the conduct is clearly outside the course and scope, the state will deny coverage. (A.R.S. § 41-621) If there is a question whether the Trustees' acts were within their official capacity, the state may reserve the right to refuse to pay any judgment and will then hire outside counsel to represent the Trustees.

Losses arising from contractual breaches are not covered under the state's risk management program. (A.R.S. § 41-621)

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Appendix F – Loyalty Oath

STATE OF ARIZONA

LOYALTY OATH

A.R.S. §38-231. Officers and employees required to take loyalty oath; form; classification; definition

A. In order to ensure the statewide application of this section on a uniform basis, each board, commission, agency and independent office of this state, and of any of its political subdivisions, and of any county, city, town, municipal corporation, school district and public educational institution, shall completely reproduce this section so that the form of written oath or affirmation required in this section contains all of the provisions of this section for use by all officers and employees of all boards, commissions, agencies and independent offices.
B. Any officer or employee who fails to take and subscribe to the oath or affirmation provided by this section within the time limits prescribed by this section is not entitled to any compensation until the officer or employee does so take and subscribe to the form of oath or affirmation prescribed by this section.
C. Any officer or employee having taken the form of oath or affirmation prescribed by this section, and knowingly at the time of subscribing to the oath or affirmation, or at any time thereafter during the officer's or employee's term of office or employment, does commit or aid in the commission of any act to overthrow by force, violence or terrorism as defined in section 13-2301 the government of this state or of any of its political subdivisions, or advocates the overthrow by force, violence or terrorism as defined in section 13-2301 of the government of this state or of any of its political subdivisions, is guilty of a class 4 felony and, on conviction under this section, the officer or employee is deemed discharged from the office or employment and is not entitled to any additional compensation or any other emoluments or benefits which may have been incident or appurtenant to the office or employment.
D. Any of the persons referred to in article XVIII, section 10, Constitution of Arizona, as amended, relating to the employment of aliens, are exempted from any compliance with this section.
E. In addition to any other form of oath or affirmation specifically provided by law for an officer or employee, before any officer or employee enters upon the duties of the office or employment, the officer or employee shall take and subscribe the following oath or affirmation:

State of Arizona, County of ______________ I, _________________________(type or print name) do solemnly swear (or affirm) that I will support the Constitution of the United States and the Constitution and laws of the State of Arizona, that I will bear true faith and allegiance to the same and defend them against all enemies, foreign and domestic, and that I will faithfully and impartially discharge the duties of the office of THE ARIZONA DEPARTMENT OF ADMINISTRATION according to the best of my ability, so help me God (or so I do affirm).

______________________________________ (Signature of officer or employee)

______________________________________ (Date)

F. For the purposes of this section, "officer or employee" means any person elected, appointed or employed, either on a part-time or full-time basis, by this state or any of its political subdivisions or any county, city, town, municipal corporation, school district, public educational institution or any board, commission or agency of any county, city, town, municipal corporation, school district or public educational institution.

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Agenda Item #8

Director’s Report:

8a - Compliance

8b - Operations

8c - Budget & Staffing

8d - Cash Flow Statement

8e - Appeals

8f - Employers Reporting

Agenda Item #8a

Director’s Report
Compliance

ARIZONA STATE RETIREMENT SYSTEM

3300 NORTH CENTRAL AVENUE • PO BOX 33910 • PHOENIX, AZ 85067-3910 • PHONE (602) 240-2000
4400 EAST BROADWAY BOULEVARD • SUITE 200 • TUCSON, AZ 85711-3554 • PHONE (520) 239-3100
TOLL FREE OUTSIDE METRO PHOENIX AND TUCSON 1 (800) 621-3778
AZASRS.GOV

Paul Matson
Director

MEMORANDUM

TO: Mr. Jim Hillyard, Chair, ASRS Board of Trustees

FROM: Mr. Paul Matson, Director
Mr. Harold Mackey, Chief Internal Auditor

DATE: July 18, 2019

RE: Internal Audit review of Service Purchase and CNW Invoices for the Period January 1, 2019 to June 30, 2019

The Internal Audit Division randomly tested a sample of all service purchase invoices sent to members from January 1, 2019, through June 30, 2019 (580). A total of 223 invoices were tested. They were reviewed for accuracy of both the credited service to the member and the cost of the service purchased. The following is the breakdown of the invoices tested in our completed sample: 150 Forfeited Service (FS); and 73 Contributions Not Withheld (CNW). The sample size was determined based on the expected rate of an error occurring in relation to the entire population (plus or minus 5 percent).

During the six months tested, we found no reportable errors.

Internal Audit standard for quality is 98 percent for the sample tested. 223 correct cost letters out of 223 sampled = 100 percent quality rating.

Recommendation

The Internal Audit Division recommends suspending further monthly testing of the service purchase module. Internal Audit may from time-to-time perform periodic testing to ensure compliance.

Background

On January 1, 2019 the Internal Audit Division resumed testing of CNW and Service Purchase (SP) invoice calculation. The testing was suspended because the functionality was moved into POL. After the functionality moved to production status in November 2018, Internal Audit allowed sufficient time burn-in time.

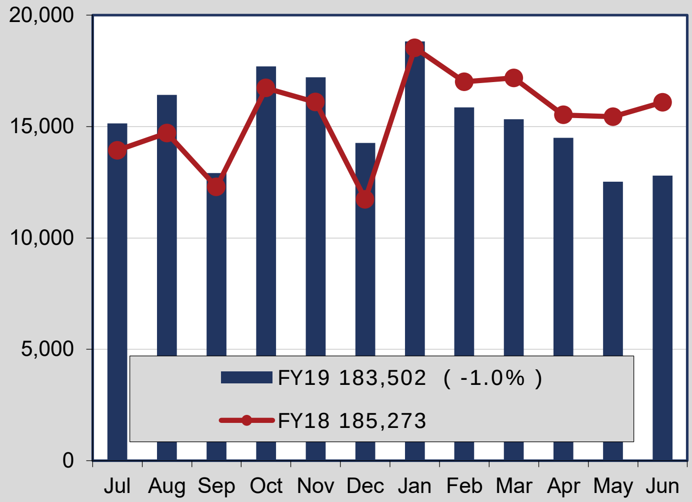
cc: Anthony Guarino, Deputy Director and Chief Operations Officer
Dave King, Assistant Director, Member Services Division
Erin Higbee, Assistant Director, Financial Services Division
Sara Orozco, Manager, Strategic Planning and Analysis
Brian Crockett, Sr. Strategic Planning Analyst

Agenda Item #8b

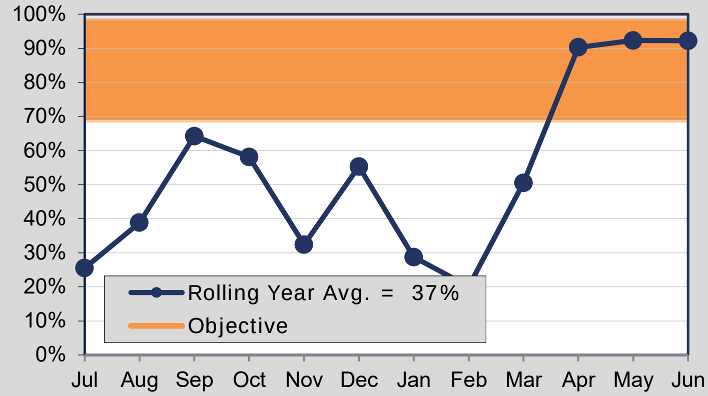
Director's Report
Operations

Member Advisory Center: Phone

Volume
comparison of calls by month and year



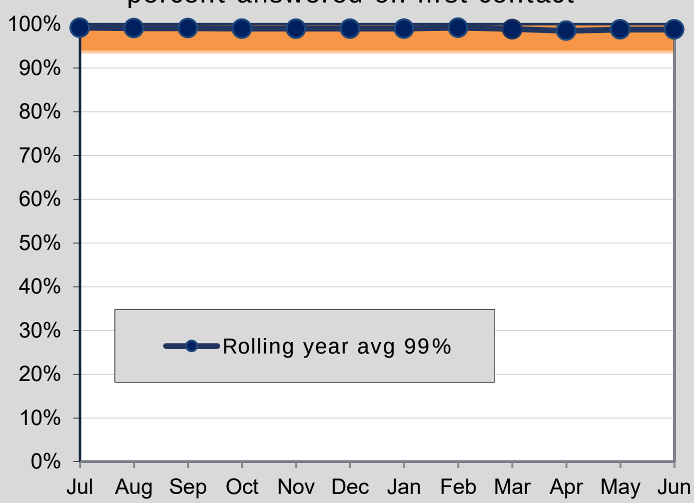
Timeliness
percent answered in 20 seconds or less



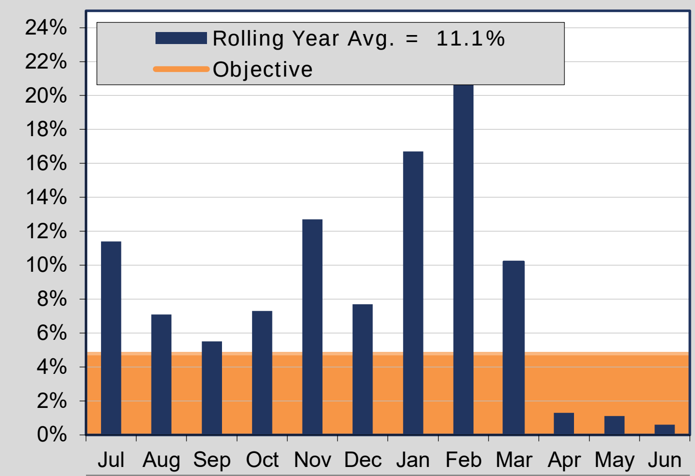
Timeliness (average wait time in seconds)

284	169	104	103	238	150	330	430	193	12	7	15
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun

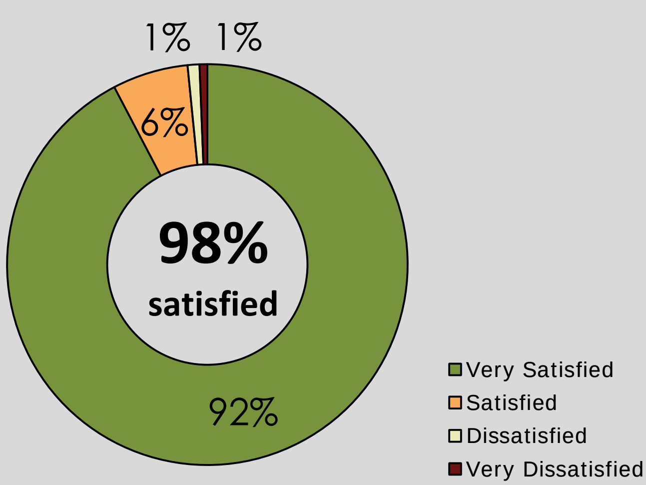
Resolution Rate
percent answered on first contact



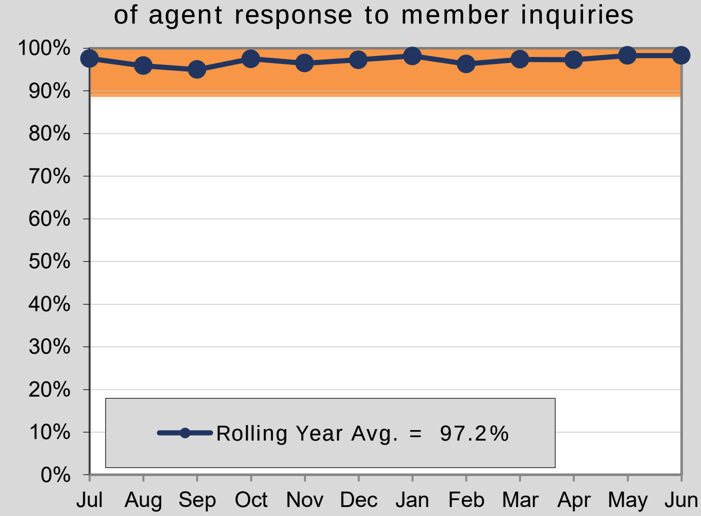
Abandonment Rate
percent of calls abandoned



Overall Satisfaction
2nd Quarter 2019



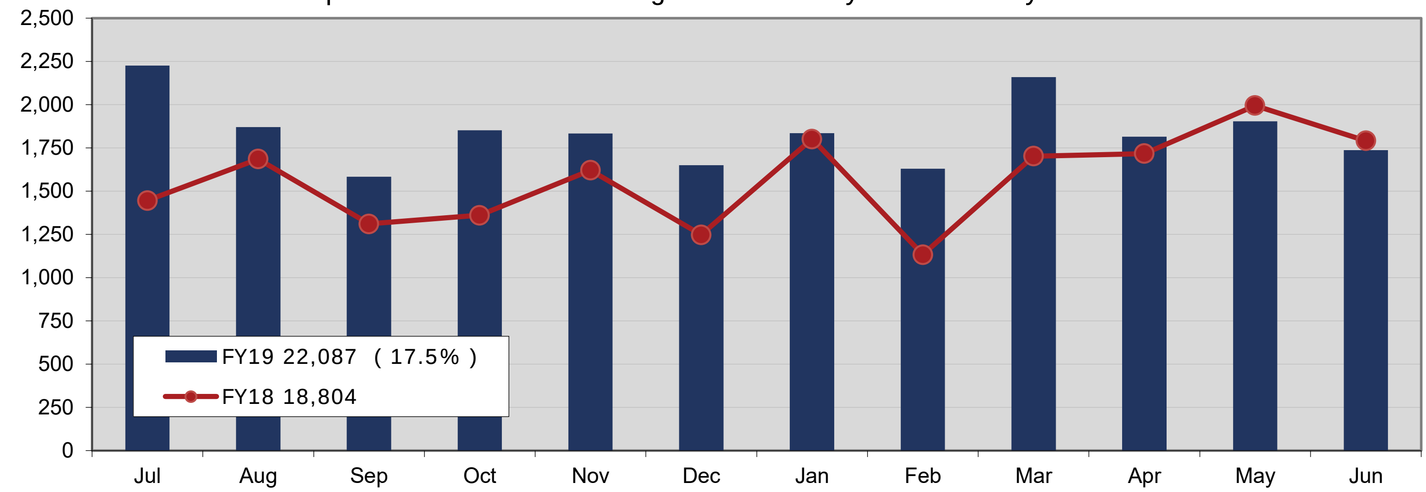
Quality
of agent response to member inquiries



Member Secure Messages (MSM)

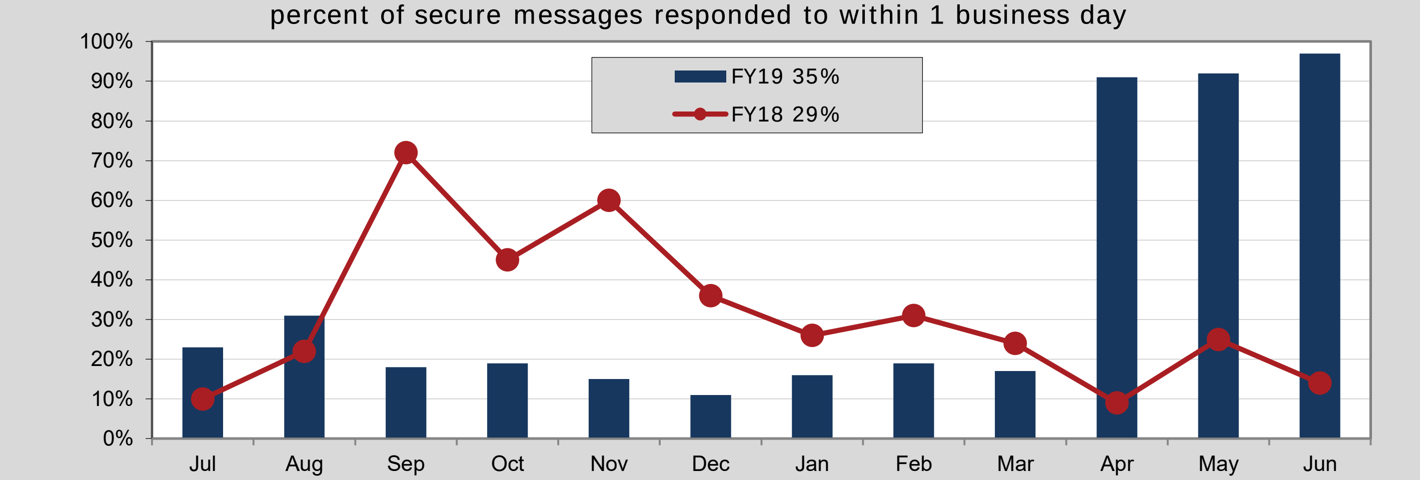
Volume

comparison of secure messages received by month and year



Timeliness

percent of secure messages responded to within 1 business day



Timeliness (average response in days)

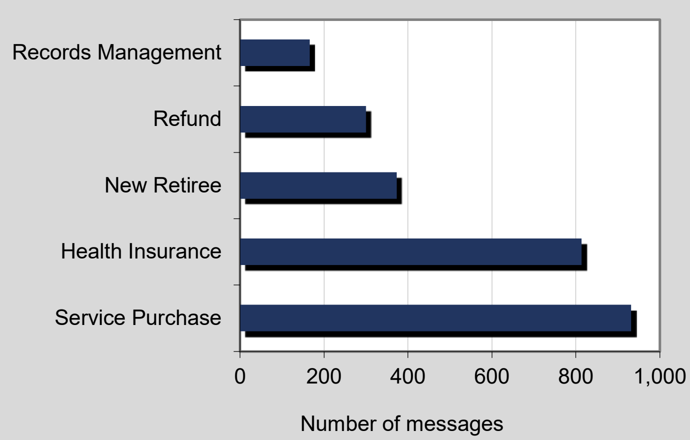
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
2.7	2.1	2.6	2.6	2.6	3.4	3.0	2.7	2.5	1.4	1.1	1.0

Timeliness (service level)

Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
23%	31%	18%	19%	15%	11%	16%	19%	17%	91%	92%	97%

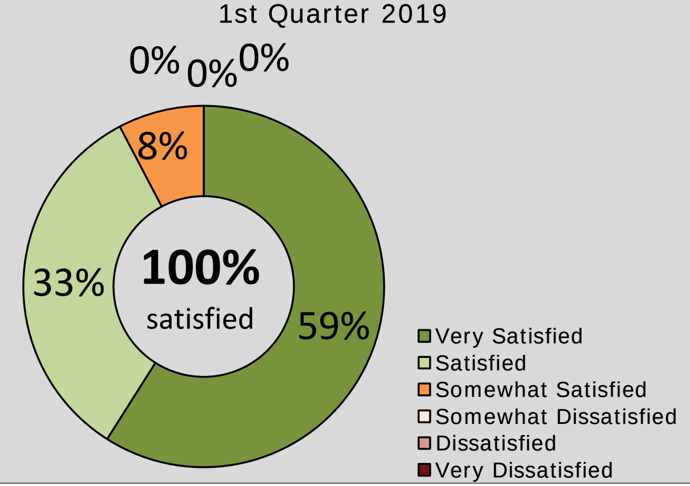
Reason for Contact

top reasons -Apr 2019

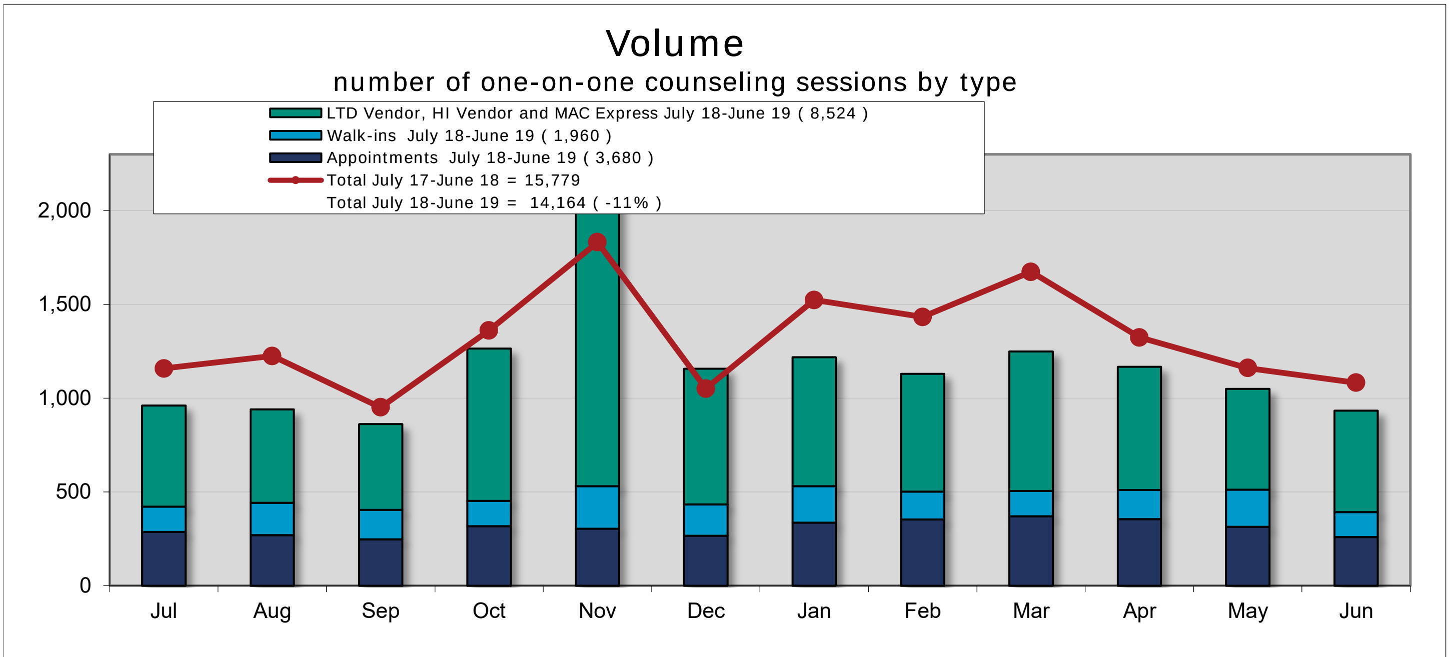


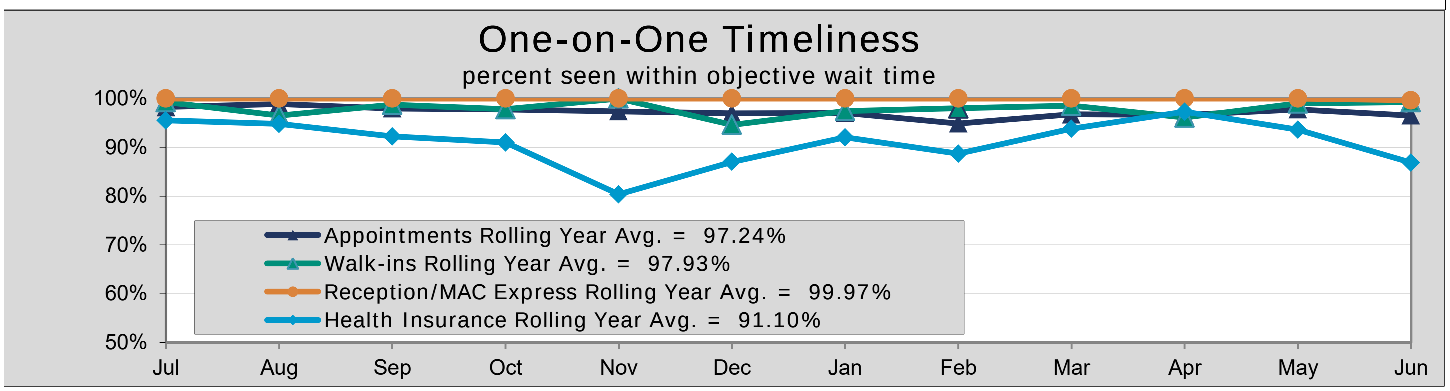
Overall Satisfaction

1st Quarter 2019



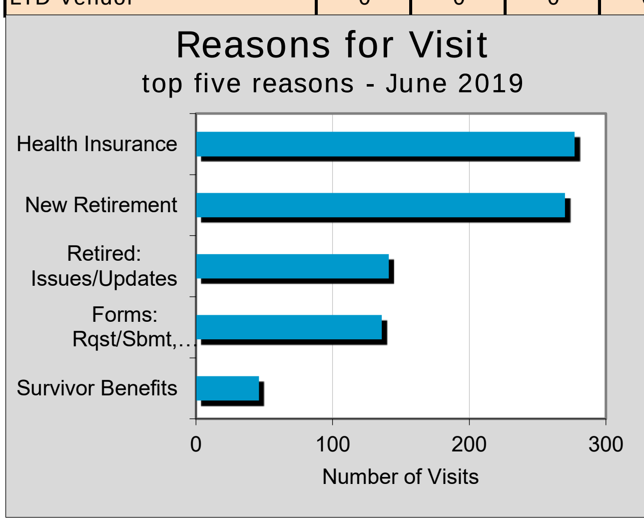
One-on-One Counseling

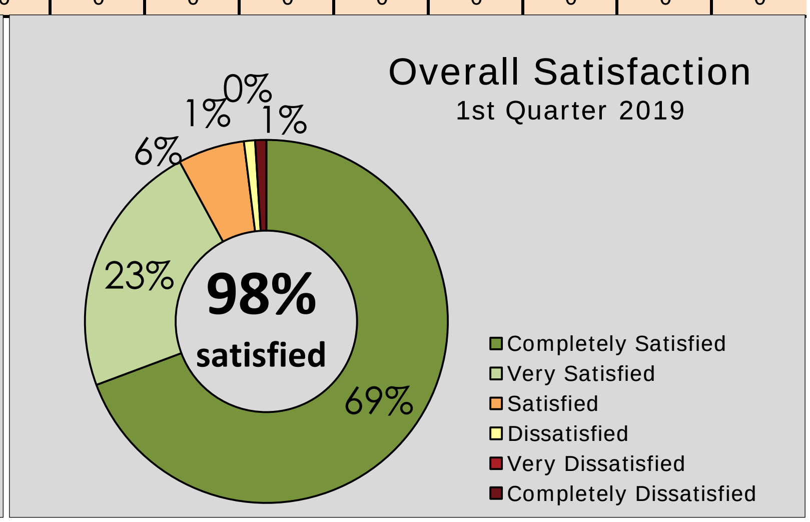




Timeliness **(average wait time in minutes)**

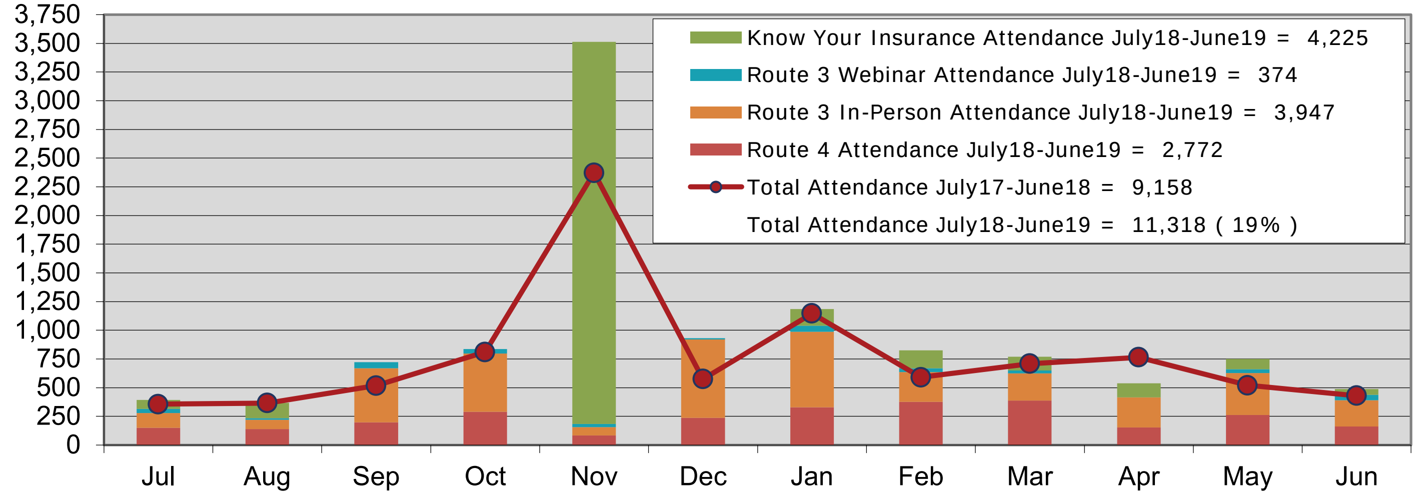
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Appointments	1	1	1	1	1	1	1	1	1	0	2	1
Walk-Ins	6	7	6	7	7	9	7	7	6	6	5	4
Reception/MAC Express	0	0	0	0	0	0	0	0	0	0	0	1
Health Insurance	4	4	5	5	11	6	6	6	5	4	5	7
LTD Vendor	0	0	0	0	0	0	0	0	0	0	0	0





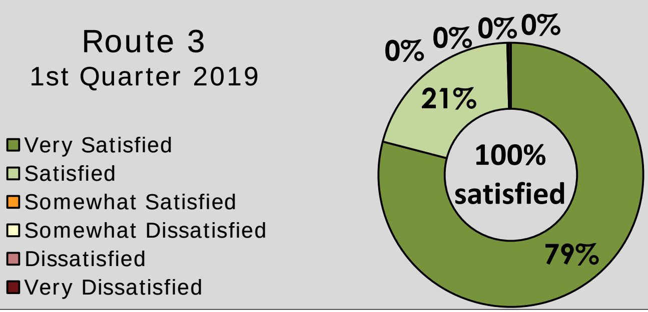
Outreach Education and Benefit Estimates

Total Meeting Attendees
by type of meeting

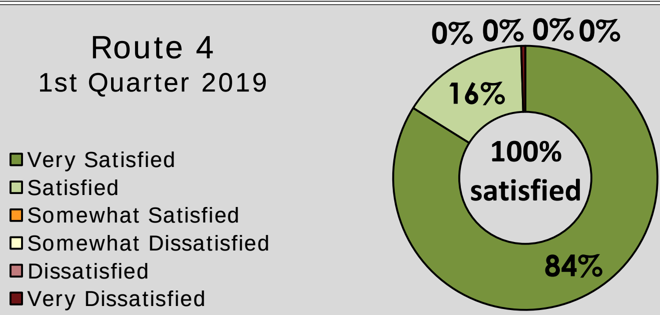


Member Satisfaction

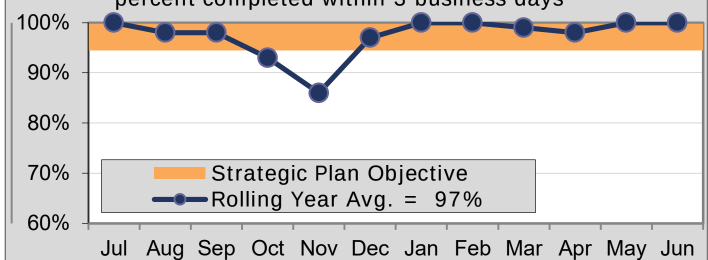
Route 3
1st Quarter 2019



Route 4
1st Quarter 2019



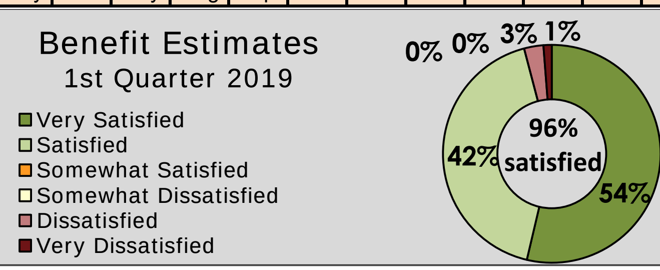
Benefit Estimate Timeliness
percent completed within 3 business days



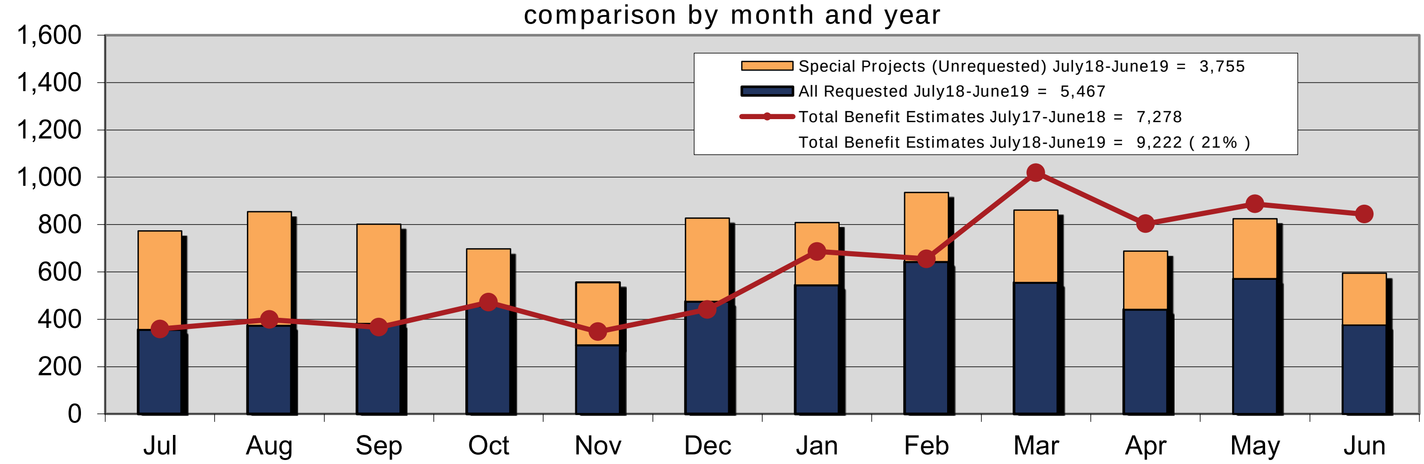
Benefit Estimate Timeliness (average TAT in days)

May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
1	1	0	1	0	1	1	0	0	0	0	0

Benefit Estimates
1st Quarter 2019



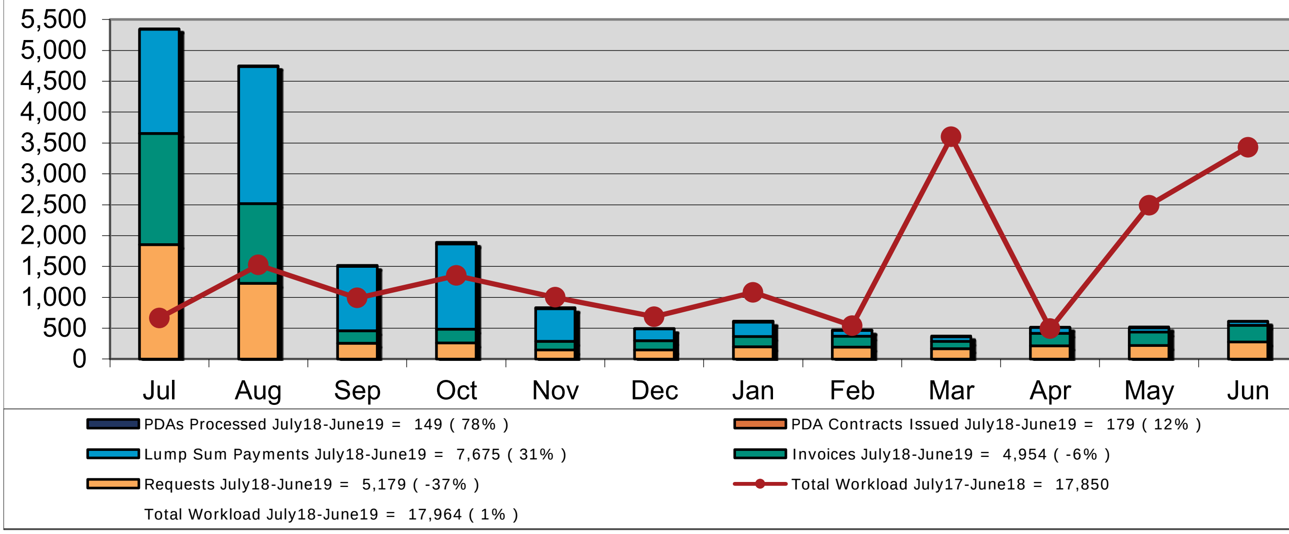
Benefit Estimate Volume
comparison by month and year



Service Purchase

Total Volume

comparison by month and year



Requests Pending as of June 30, 2019

Cost Invoices Pending

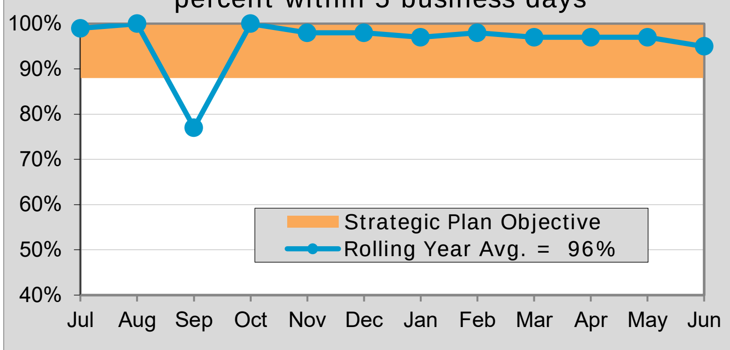
56

Payments Pending

4

Lump Sum Timeliness

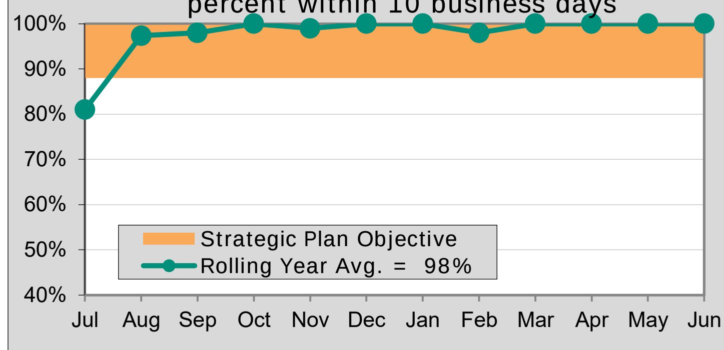
percent within 5 business days



Timeliness (average turnaround time in business days)											
3	2	5	2	1	1	1	1	1	1	1	0
July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June

Cost Invoices Timeliness

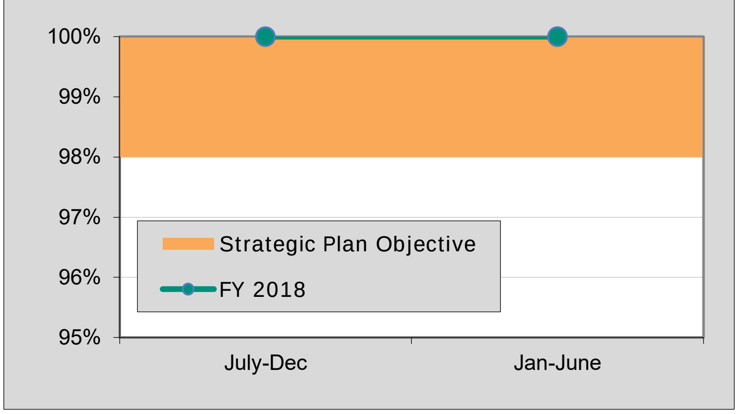
percent within 10 business days



Timeliness (average turnaround time in business days)											
7	2	6	3	3	3	2	3	4	3	2	3
July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June

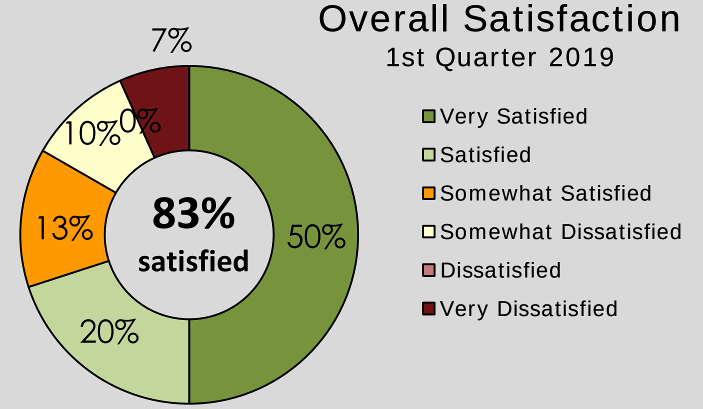
Cost Invoice Quality Rating

FY 2018

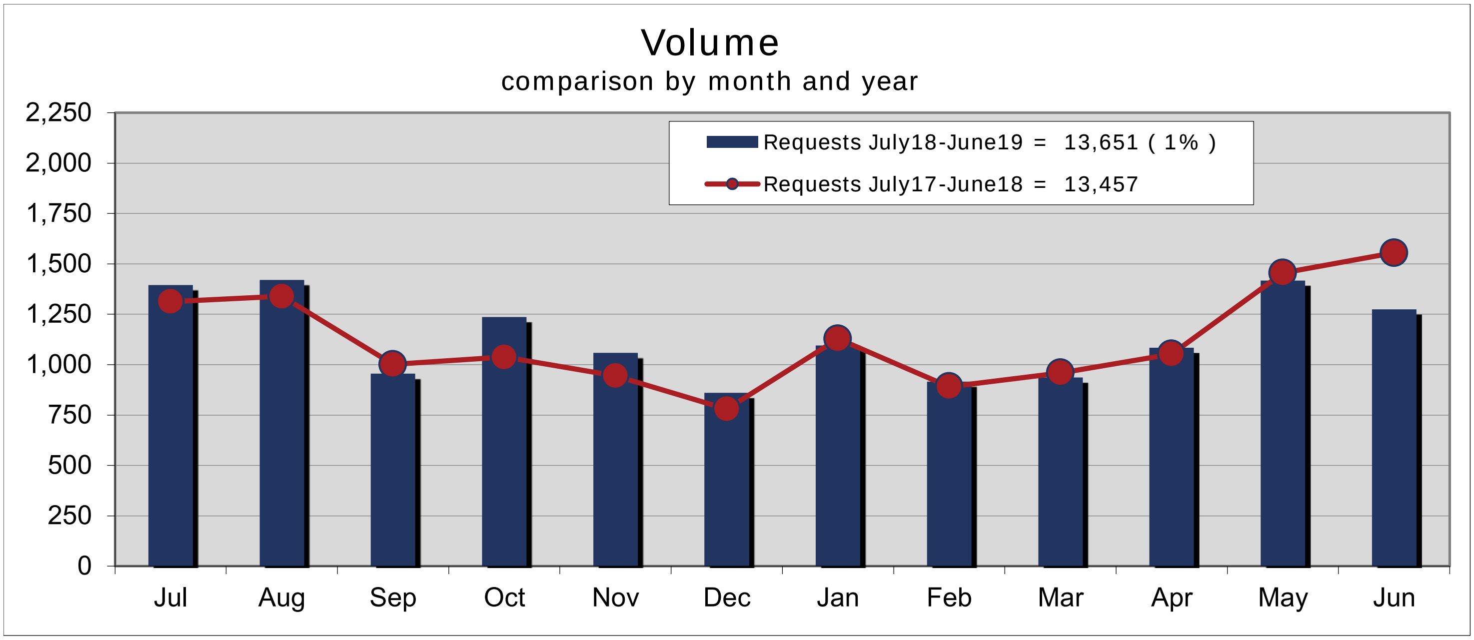


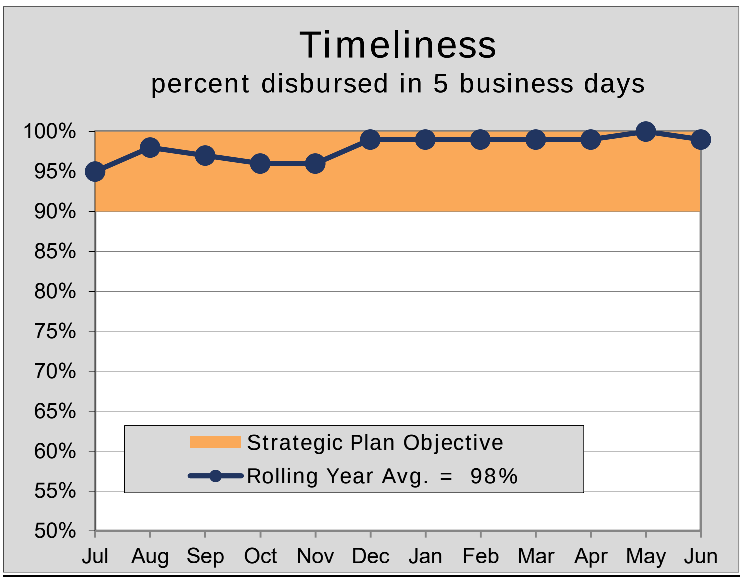
Overall Satisfaction

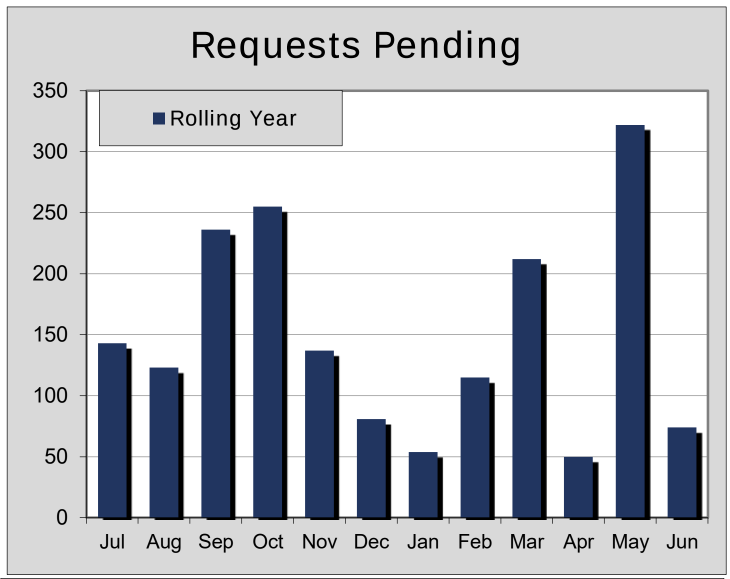
1st Quarter 2019



Refunds

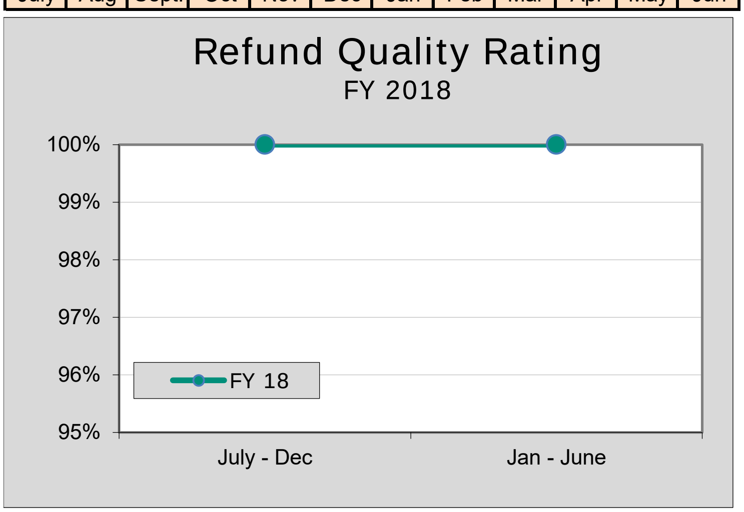


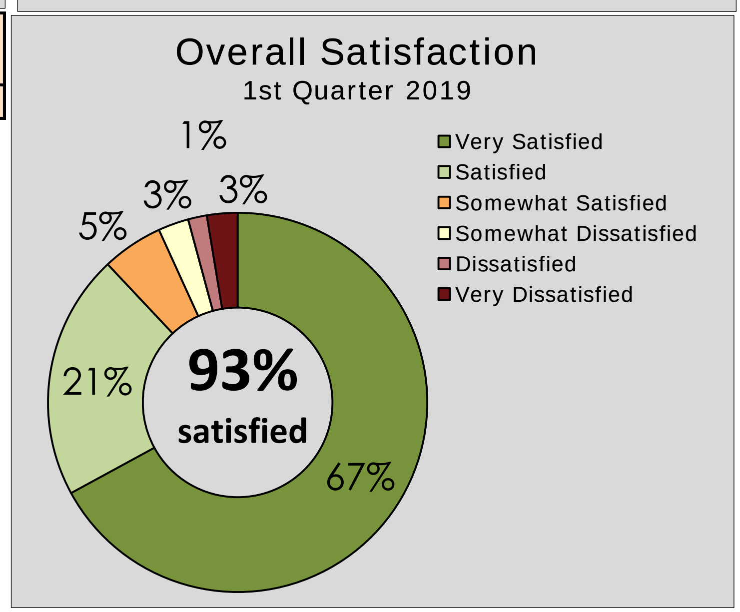




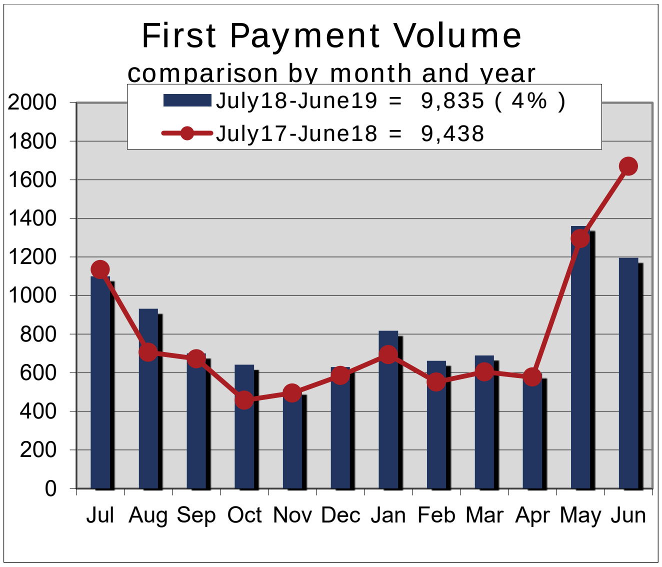
Timeliness (average turnaround time in business days)

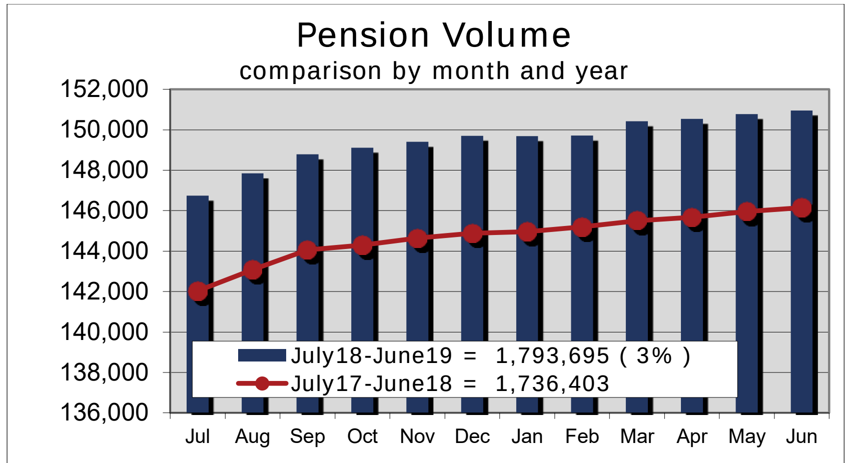
3	2	2	2	3	1	2	2	2	1	2	2
July	Aug	Sept.	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun





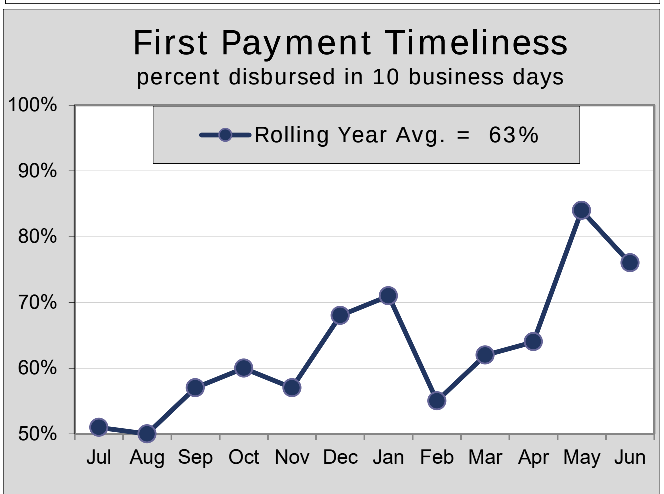
New Retiree and Pension Payroll





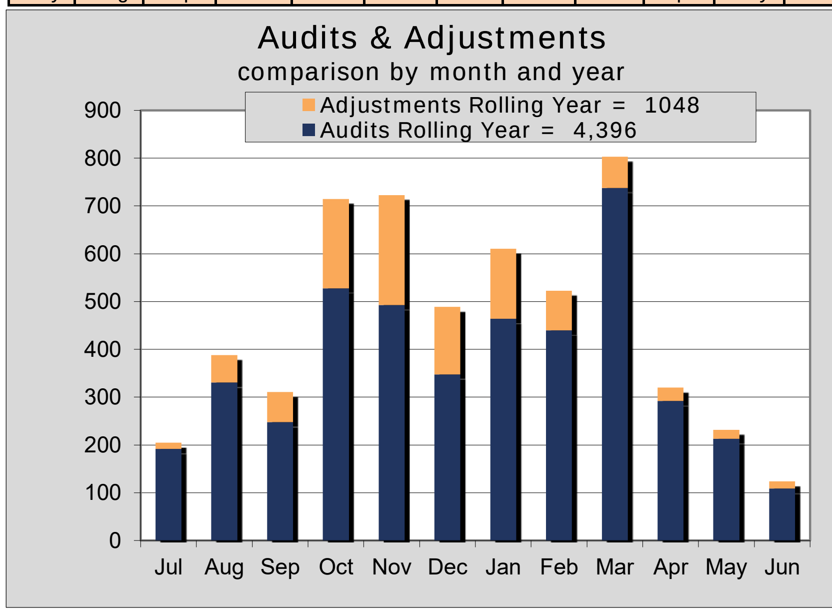
Pension Payment (percent disbursed by 1st of the month)

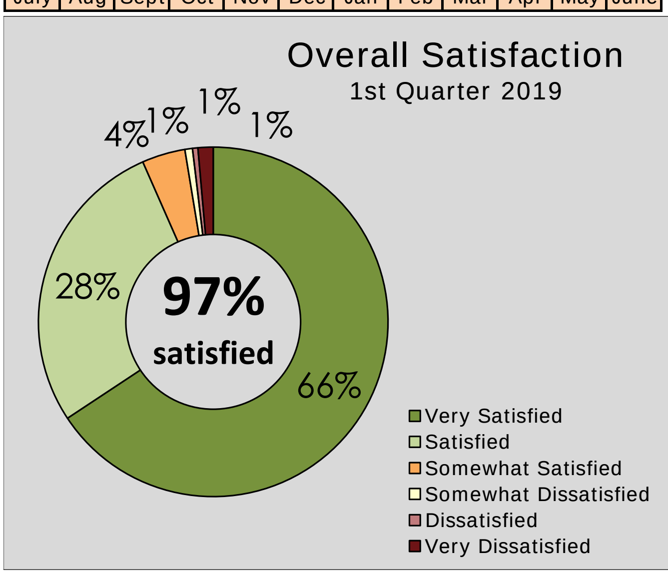
July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

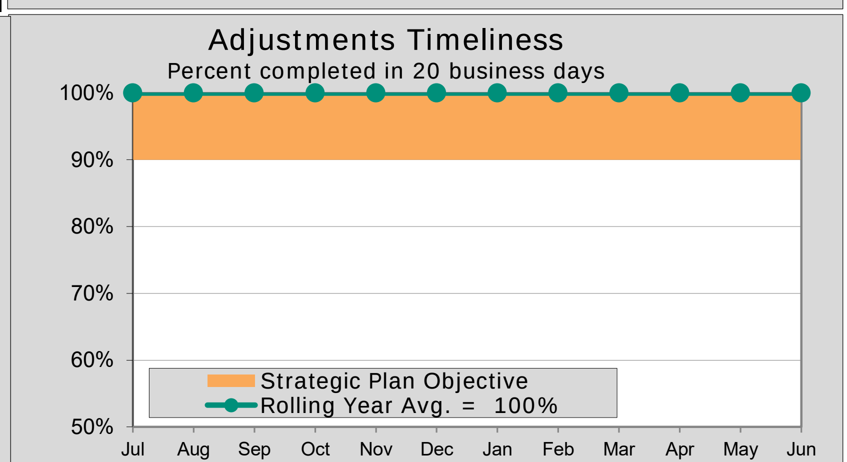


First Payment Timeliness (average turnaround time in days)

July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
18	18	19	16	14	13	11	14	15	14	9	12



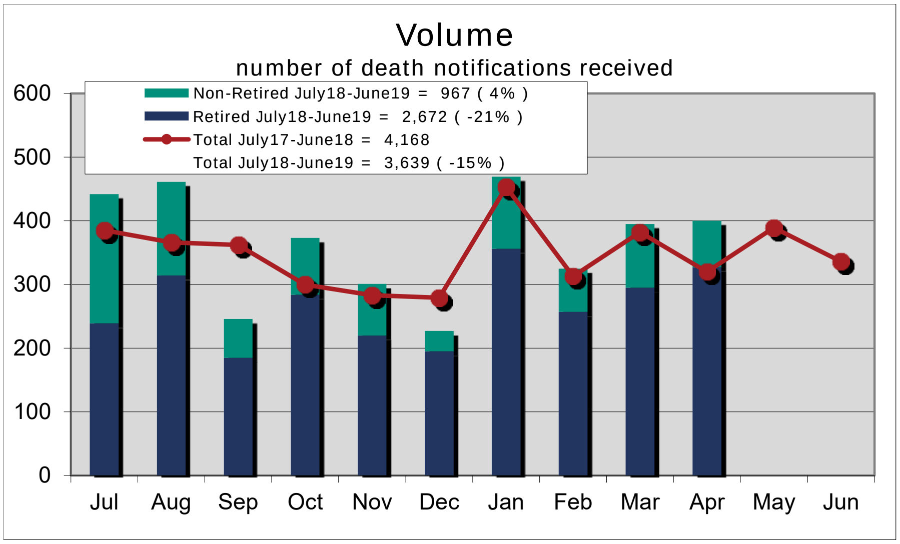


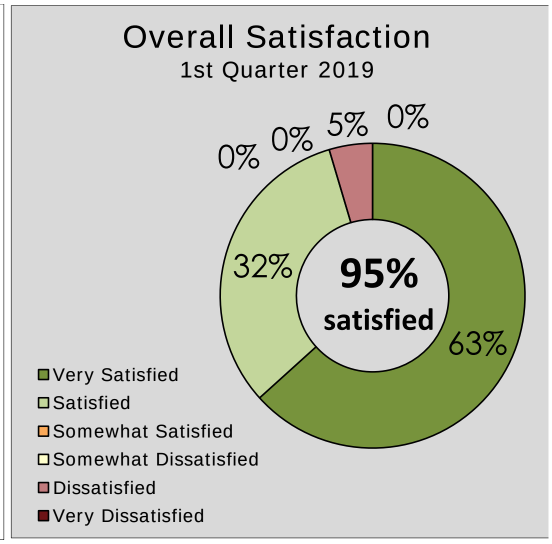


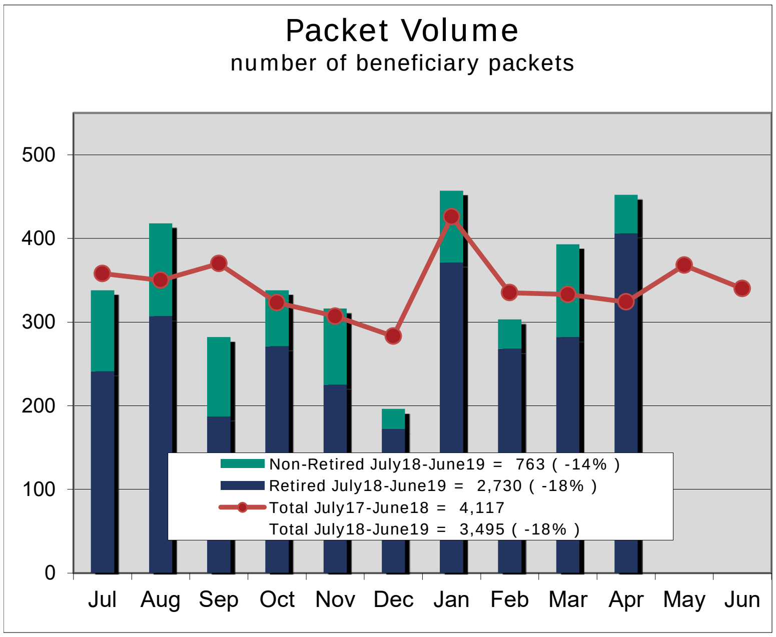
Adjustments Timeliness (average turnaround time in days)

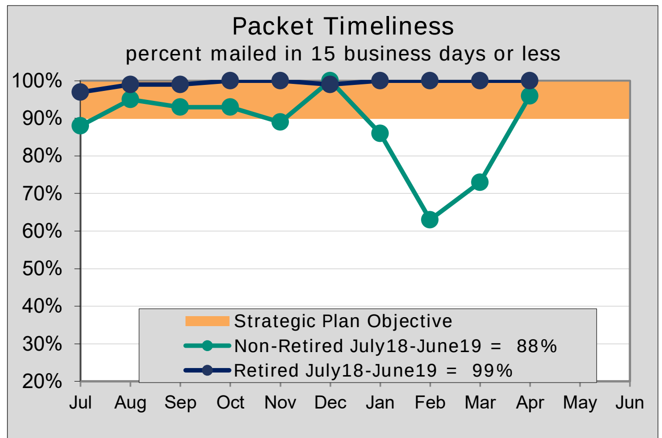
July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
11	12	7	6	4	4	4	5	5	5	5	4

Survivor Benefits



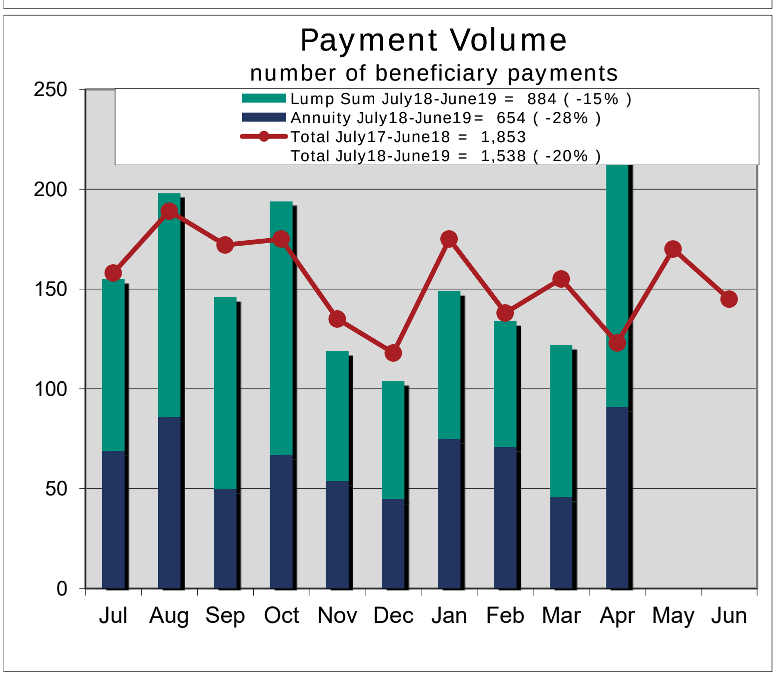


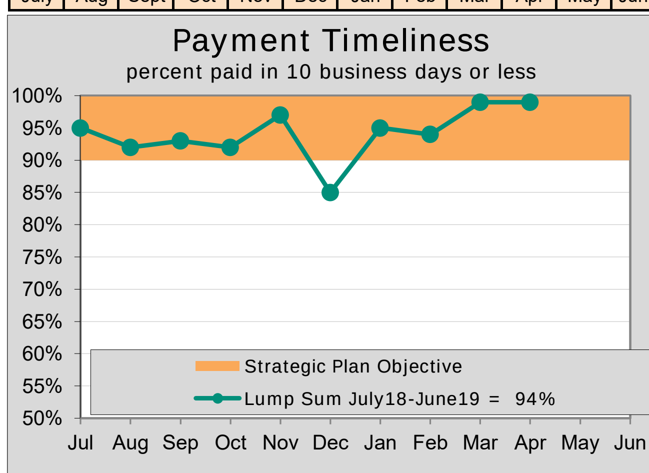




Packet Timeliness (average TAT in days)

	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Non Retired	7	5	6	5	8	5	6	8	7	4	0	0
Retired	2	2	2	1	1	2	1	2	2	2	0	0

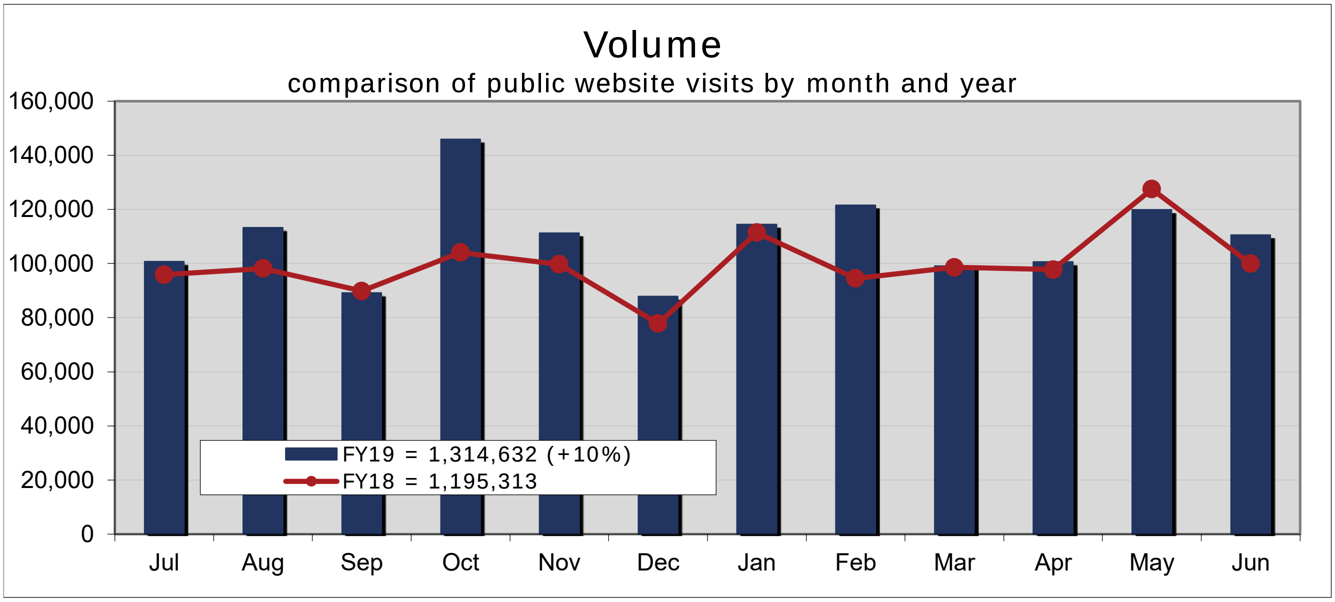


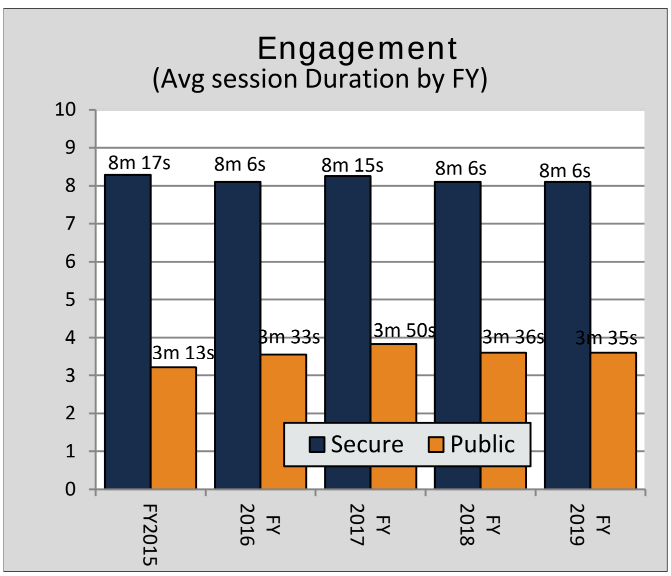


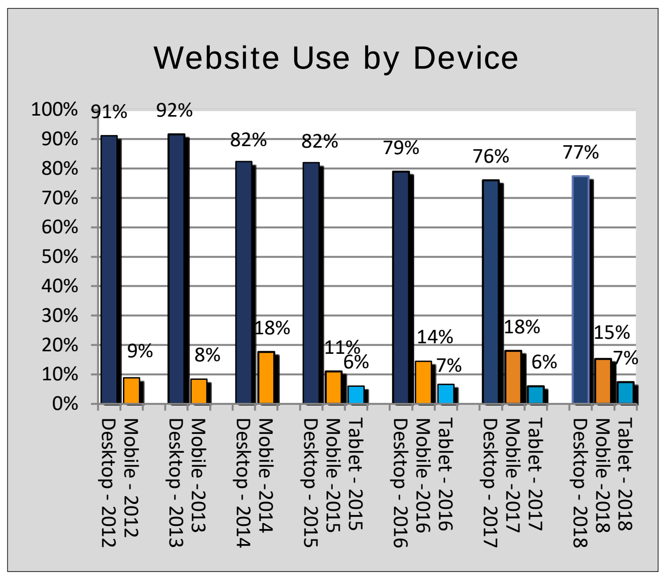
Payment Timeliness (average TAT in days)

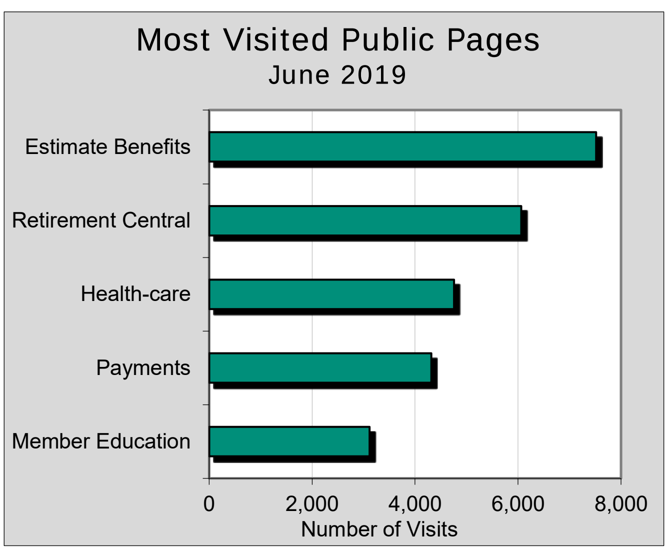
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Lump Sum (Non-Retired)	4	4	4	4	3	5	4	3	2	3	0	0
Annuity (Retired and Non-Retired)	2	2	1	2	2	2	3	2	1	4	0	0

Public Website: www.azasrs.gov







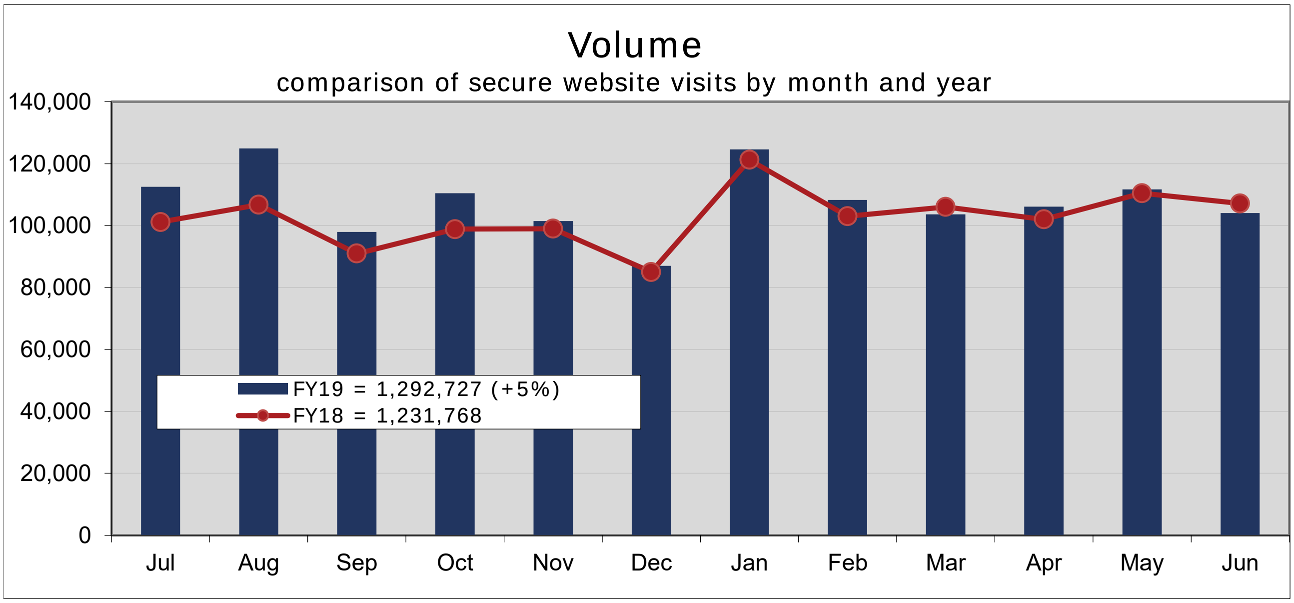


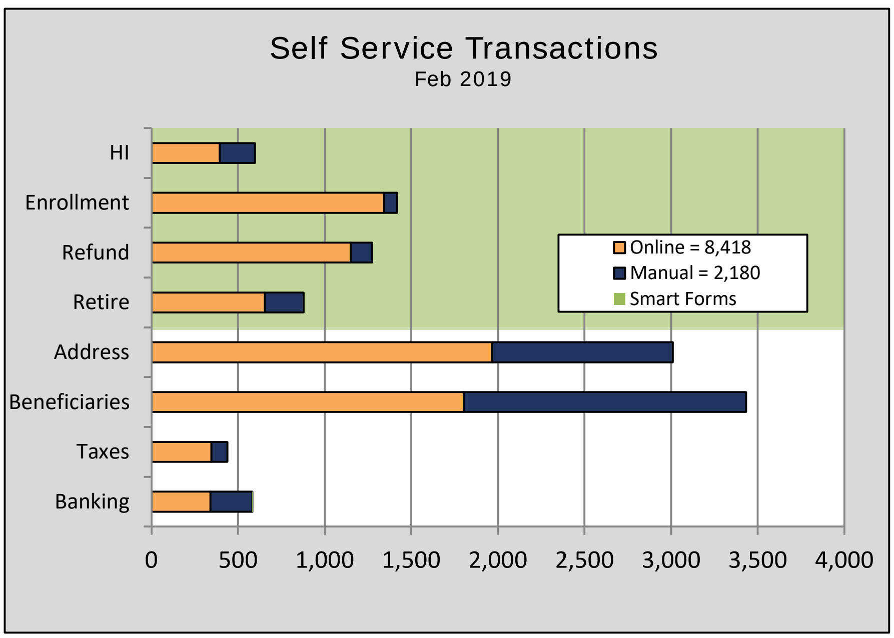
Social Media June 2019

facebook Followers: 2707 (+1%)

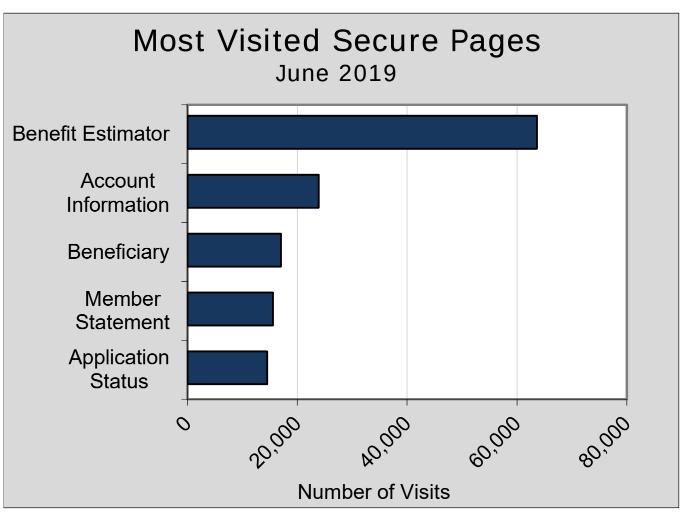
twitter Followers: 584 (+.5%)

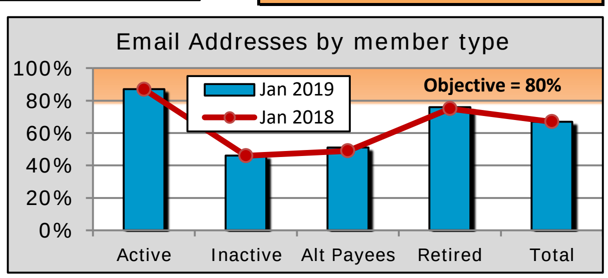
Secure Website: secure.azasrs.gov

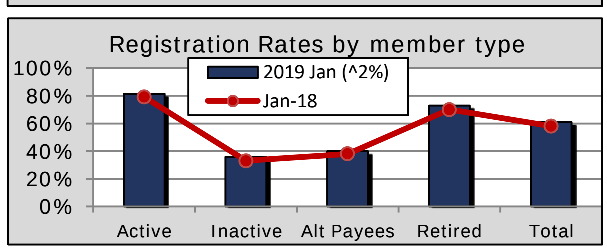




Historical Comparison of Online Usage	This month	12mo Min	12mo Max	12mo Avg	Objective
HI	66%	65%	81%	68%	75%
Enroll	95%	92%	98%	95%	99%
Ref	90%	80%	90%	85%	90%
Ret	75%	67%	79%	74%	90%
Add	75%	70%	89%	79%	75%
Bene	53%	53%	87%	81%	75%
Tax	79%	55%	93%	80%	75%
DD	58%	42%	66%	57%	75%
Total online	**69%**				







Agenda Item #8c

Director's Report
Budget & Staffing

FY 2019 ASRS Budget Report
Administrative Expenses
(Expenditures to Date as of June 30, 2019)

	Base Administrative Budget					Administrative Projects Budget		
	Base Operating Appropriations +	Long Term Disability Appropriations +	Information Systems Security Special Line Item Appropriations +	Pension Payroll, Rent, Actuarial Fees Continuous Appropriations =	Base Administrative Budget Subtotal +	Automation Upgrades and Oracle Modernizaton Special Line Item Appropriations +	Benefits Disbursement Project Continuous Appropriations =	Administrative Budget Total
Personal Services (PS)								
Salaries and wages	12,040,900		353,900	354,400	12,749,200	732,200	224,700	13,706,100
Variable Compensation Strategies Plan	262,500				262,500			262,500
Investment Incentive Compensation Plan	242,500				242,500			242,500
Total PS	**12,545,900**	**-**	**353,900**	**354,400**	**13,254,200**	**732,200**	**224,700**	**14,211,100**
Employee Related Expenses (ERE)								
Employer costs - benefits, taxes, charges	4,659,000		100,700	121,100	4,880,800	222,000	78,700	5,181,500
Total ERE	**4,659,000**	**-**	**100,700**	**121,100**	**4,880,800**	**222,000**	**78,700**	**5,181,500**
Professional and Outside Services (P&O)								
LTD Program administration		1,383,500			1,383,500			1,383,500
Pension payroll disbursement processing				685,900	685,900			685,900
IT Software Development	913,700				913,700	516,000	253,600	1,683,300
Actuarial and benefit consulting services				235,700	235,700			235,700
IT security professional services	374,500				374,500			374,500
Legal fees	409,000				409,000		-	409,000
Other outside services	79,500		45,400	-	124,900			124,900
Total P&O	**1,776,700**	**1,383,500**	**45,400**	**921,600**	**4,127,200**	**516,000**	**253,600**	**4,896,800**
Travel								
In-state	25,400				25,400			25,400
Out-of-state	26,900				26,900			26,900
Total Travel	**52,300**	**-**	**-**	**-**	**52,300**	**-**	**-**	**52,300**
Other Operating Expenditures								
Office rent				1,483,300	1,483,300			1,483,300
Software licenses and support	1,046,200		-		1,046,200			1,046,200
Telecommunications	261,700				261,700			261,700
Risk management insurance premiums	279,600				279,600			279,600
Dues, subscriptions, publications	128,100			170,600	298,700			298,700
Postage and delivery	150,700			85,600	236,300			236,300
Education, training and conferences	68,000				68,000			68,000
Equipment repair and maintenance	40,600				40,600			40,600
Other operating supplies	86,200			1,400	87,600			87,600
External printing and mailing newsletters	199,600				199,600			199,600
Total Other Operating Expenditures	**2,260,700**	**-**	**-**	**1,740,900**	**4,001,600**	**-**	**-**	**4,001,600**
Equipment								
Furniture purchases/replacement	23,800				23,800			23,800
Network, server, PC and devices	137,800				137,800		3,100	140,900
Total Equipment	**161,600**	**-**	**-**	**-**	**161,600**	**-**	**3,100**	**164,700**
TOTAL	**$ 21,456,200**	**$ 1,383,500**	**$ 500,000**	**$ 3,138,000**	**$ 26,477,700**	**$ 1,470,200**	**$ 560,100**	**$ 28,508,000**
APPROPRIATED / BUDGETED AMOUNTS	**$ 22,330,300**	**$ 2,200,000**	**$ 500,000**	**$ 3,392,700**	**$ 28,423,000**	**$ 1,470,200**	**$ 560,100**	**$ 30,453,300**
% EXPENDED YTD	96.1%	62.9%	100.0%	92.5%	93.2%	100.0%	100.0%	93.6%
% OF FISCAL YEAR ELAPSED	100.0%							

FY 2019 ASRS Budget Report
Investment Expenses
(As of June 30, 2019)

	EXPENDED YTD	ESTIMATED EXPENSES	ESTIMATED EXPENSES AS % OF TOTAL AUM	ESTIMATED EXPENSES PER MEMBER
Investment Management Expenses				
Internal Investment Management				
Salaries and benefits	$ 1,494,000	$ 1,494,000		
Investment Incentive Compensation Plan (ICP)*	$ 293,800	$ 293,800		
Travel, education and training, rent, and other operational expenses	$ 225,400	$ 266,400		
Public Markets				
External investment management fees	$ 10,265,500	$ 12,858,800		
Transactional and other fees**	$ 5,089,200	$ 5,181,600		
Private Markets				
Private Equity management fees	$ 43,921,400	$ 53,746,000		
Private Equity performance incentive and other fees***	$ 59,010,300	$ 59,010,300		
Real Estate management fees	$ 6,578,900	$ 10,297,200		
Real Estate performance incentive and other fees***	$ 9,417,800	$ 9,417,800		
Private Credit management fees	$ 14,061,100	$ 26,575,900		
Private Credit performance incentive and other fees***	$ 12,046,900	$ 12,046,900		
Custodial Banking, Security Lending and Master Cash STIF Fees	$ 2,427,000	$ 3,000,000		
Investment Management Expenses Subtotal	**$ 164,831,300**	**$ 194,188,700**	**0.48%**	**$ 325.49**
Investment Related Consulting, Legal and Information Services Expenses				
Investment Consulting Services	$ 3,805,200	$ 4,469,900		
Investment Related Legal Services	$ 2,524,000	$ 3,830,800		
Investment Electronic Information Services	$ 2,492,100	$ 2,828,000		
External Financial Consulting Services	$ 92,500	$ 121,500		
Services Expenses Subtotal	**$ 8,913,800**	**$ 11,250,200**	**0.03%**	**$ 18.86**
Total Investment Expenses	**$ 173,745,100**	**$ 205,438,900**	**0.51%**	**$ 344.35**

*** The ICP is paid with base operating budget appropriated dollars.**

**** Due to the nature of the benchmark variables, estimated performance fees for the overlay strategy are not projected and are only reported when identified and paid.**

**** Due to the nature of the investments and contingent variables, estimated annual performance incentive and other certain fees and expenses that are contractually agreed upon are not projected and are only reported, on a cash flow basis, when identified and paid. Amounts in the Estimated Expenses column are equal to the actual Expended YTD.**

FY 2019 ASRS Budget Report
Total Administrative and Investment Expenses
(As of June 30, 2019)

	EXPENDED YTD	ESTIMATED EXPENSES	ESTIMATED EXPENSES AS % OF TOTAL AUM	ESTIMATED EXPENSES PER MEMBER
Administrative Expenses (from Page 1 excluding ICP)*	**$ 28,214,200**	**$ 30,159,500**	**0.08%**	**$ 50.55**
Investment Expenses (including ICP)*	**$ 173,745,100**	**$ 205,438,900**	**0.51%**	**$ 344.35**
Total Expenses	**$ 201,959,300**	**$ 235,598,400**	**0.59%**	**$ 394.90**
ASRS Estimated Total Market Value of Assets Under Management (AUM) as of March 31, 2019				$ 40,252,844,000
ASRS Estimated Total Membership as of June 30, 2018				596,600

Fiscal Year 2019

Budget Report Summary

The Arizona State Retirement System (ASRS) administrative and investment costs are expended in accordance with Arizona Revised Statutes (A.R.S.). The ASRS utilizes both appropriated and continuously appropriated funds. Column amounts represent the expenditures in each category to date. Information on the total appropriated and estimated planned annual expenses is also included as a guide to the rate of spend during the fiscal year. Expenditures to date include 26 pay periods (100% of the annual payrolls) in FY 2019.

Appropriations

Columns labeled as *appropriations* represent **funds** that have been approved by the Legislature and the ASRS Board for fiscal year July 1, 2018 through June 30, 2019, and include:

1. **Base operating budget** – funds for administrative salaries and employee benefits, supplies, equipment and ongoing costs associated with member information and financial systems for the ASRS.

2. **Long Term Disability (LTD) Program** – funds for the administration costs of the LTD program.

3. **Information Systems Security** – funds for IT development expenses for security. Amount appropriated in FY 2019 lapses on June 30, 2019.

4. **Automation upgrades** – funds for the Oracle Forms and Reports Modernization project. Amounts appropriated in FYs 2015 to 2017 are non-lapsing, and the ASRS has the ability to utilize the unspent portion of the funds to complete the project.

Continuous Appropriations

Columns labeled as *continuous appropriations* represent funds that, in accordance with A.R.S. § 38-721(C), are continuously appropriated in the amount deemed necessary by the Board and include:

1. **Administrative costs**
   - *Pension Payroll* - funds for costs associated with administering retiree pension benefits and disbursements, including third-party payroll administration fees, postage, benefit-related consulting fees, and the ASRS Benefits Disbursement project.
   - *Rent* – funds for rent required as tenants for occupancy at 3300 N Central Avenue in Phoenix and in the leased office space in Tucson.
   - *Actuarial fees* – funds for actuarial services related to plan design, benefits, administration and valuations.

2. **Investment management and related consulting fees necessary to meet the Board's investment objectives**
   - *Internal investment management* – funds for ASRS Investment Management Division (IMD) staff salaries and employee benefits, travel, education and training, rent, and other operational costs. However, the Investment Incentive Compensation Plan (ICP) is paid with base operating budget appropriations.
   - *External investment management* – funds for:
     - Public Markets investment management fees and transactional and other fees, which include foreign taxes and commissions on derivatives and other incidental costs.
     - Private Markets investment management fees and performance incentive and carried interest fees, which are only paid if earned - upon successful performance of the manager after other return criteria are met – or incurred, and other contractually agreed-upon fees and expenses. Due to the nature of the investments and contingent variables, estimated annual performance incentive and other fees are not projected and are only reported, on a cash flow basis, when identified and paid.
   - *Consulting fees* – funds for Investment-related consulting and legal fees, electronic information services and subscriptions, custodial banking administrative fees, and external auditing service fees.

The investment continuous appropriations budget report includes projected expenditures for the current fiscal year. Actual expenditures are reported monthly and estimated annual expenses are reviewed and adjusted quarterly. The ASRS Estimated Total Market Value of Assets under Management (AUM) and ASRS Total Membership values are updated as period ending amounts are finalized.

Arizona State Retirement System
Staffing Report
(June 30, 2019)

ASRS by Division	241 Full Time Equivalents (FTEs)	New Hires	New Exits	Vacancies	Vacancy Rate
Director's Office/ Public Affairs/ Information Security (DIR)/ Leg. Liaison	20	0.0	0.0	1.0	5.00%
Administrative Services Division (ASD)	12	0.0	0.0	1.25	10.42%
Financial Services (FSD)	71	1.0	1.0	7.75	10.21%
Technology Services (TSD)	57	0.0	0.0	2.0	3.51%
Internal Audit (IAD)	3	0.0	0.0	0.0	0.00%
Investment Management (IMD)	11	0.0	0.0	1.00	9.09%
Member Services (MSD)	67	0.0	0.0	3.5	5.22%
	241	**1.00**	**1.00**	**16.50**	**6.85%**

Turnover	Hires	Exits	Total Exits (Last 12 Months)	Annualized Turnover %
	1.00	**1.00**	27.50	12.27%

Turnover benchmarks:

AZ State Personnel System 2018:	18.0%
BLS - State/Local 2018:	19.2%
Compdata – West/Not-for-profit 2018:	19.2%
Milliman AZ Comp. Survey 2019 - Gov't:	12.6%

Recruitments

Under recruitment:

- ASD: Procurement and Budget Analyst

Internal hires (transferred/promoted from within the ASRS):

- MSD: Retirement Advisor Supervisor (promotion date: 07/13/2019)

External hires (new to the ASRS):

- IMD: Portfolio Manager of Equities and Real Estate (start date: 07/22/2019)

Impact of Staffing (Vacancies, Recruitments, Internal Transfers) on ASRS Operational Performance

Agency Divisions	Services and Functions	Staffing Impact	Comments
Impact of Staffing on ASRS Operations:	**Green = Normal risk**	**Yellow = Greater than normal risk**	**Red = Negative impact**
MSD	MAC (Call Center)	●○○	
MSD	Member Education	●○○	
MSD	E-mail and Written Correspondence	●○○	
MSD	Phoenix: Appointments/Walk-ins/Outreach	●○○	
MSD	Tucson: Appointments/Walk-ins/Outreach	●○○	
MSD	Benefit Estimates	●○○	
MSD	Employer Relations	●○○	
MSD	Health Insurance/LTD Benefits Administration and Communication	●○○	
FSD	Service Purchase Processing	●○○	
FSD	Monthly Pension Payroll Processing	●○○	
FSD	New Retiree Processing	●○○	

Impact of Staffing (Vacancies, Recruitments, Internal Transfers) on ASRS Operational Performance

Agency Divisions	Services and Functions	Staffing Impact	Comments
Impact of Staffing on ASRS Operations: Green = Normal risk Yellow = Greater than normal risk Red = Negative impact			
FSD	Survivor Benefit Processing	Green	
FSD	Records Management (data processing/imaging)	Green	
FSD	Mailroom and Printing	Green	
FSD	LTD/Health Benefit Supplement Processing	Green	
FSD	Transfer Processing	Green	
FSD	General Accounting	Green	
FSD	Contribution Collections and Posting	Green	
TSD	Network Support	Green	
TSD	Business Applications Development and Support	Green	
IMD	Investment Management	Green	

Impact of Staffing (Vacancies, Recruitments, Internal Transfers) on ASRS Operational Performance

Agency Divisions	Services and Functions	Staffing Impact	Comments
Impact of Staffing on ASRS Operations:	**Green = Normal risk**	**Yellow = Greater than normal risk**	**Red = Negative impact**
DIR	Board/Executive Staff Support	●○○	
DIR	Information Security	●○○	
DIR	Strategic Planning/Analysis	●○○	
DIR	Strategic Communications	●○○	
DIR	Public Affairs	●○○	
DIR	Rule Writing	●○○	
DIR	Legislative Relations	●○○	
DIR	Defined Contributions Plans	●○○	
IA	Internal Audit	●○○	
ASD	Human Resources	●○○	
ASD	Training and Development	●○○	
ASD	Contracts and Procurement	●○○	
ASD	Facilities Management	●○○	

Impact of Staffing (Vacancies, Recruitments, Internal Transfers) on ASRS Operational Performance

Agency Divisions	Services and Functions	Staffing Impact	Comments
Impact of Staffing on ASRS Operations: Green = Normal risk Yellow = Greater than normal risk Red = Negative impact			
ASD	Budget Administration		

ASRS Out of State Travel Expenditures Paid Out 2nd Quarter 2019

*Numbers are Unaudited

Date	Purpose	Location	Attendee	Cost
April 7-10, 2019	SALGBA 2019 National Conference	Ft. Worth, TX	Russ Levine	$1,310.11
April 14-17, 2019	Qgroup Spring Conference	Charleston, SC	Karl Polen	$2,021.95
April 8-11, 2019	Atlassian Summit	Las Vegas, NV	Molly Mahai	$1,106.28
April 28-May 1, 2019	World Health Care Congress	Washington, DC	Paul Matson	2,131.25
May 2, 2019	Pegasus Annual Meeting	San Francisco, CA	Kerry White	39.49
May 4-8, 2019	National Notary Association Annual Conference	St. Louis, MO	Gloria Montiel	1,735.95
May 5-8, 2019	APPFA Spring Confernece	New Orleans, LA	Harold Mackey	$1,277.91
May 5-9, 2019	Due Diligence - IFM, L3, CIM and Related	New York, NY	Micheal Copeland	$2,001.49
May 13-16, 2019	CEM Global Pension Administration Conference	Los Angeles, CA	Paul Matson	1,365.18
May 13-16, 2019	CEM Global Pension Administration Conference	Los Angeles, CA	Brian Crockett	1,298.78
May 13-16, 2019	CEM Global Pension Administration Conference	Los Angeles, CA	Jenna Golab	1,318.34
May 22-23, 2019	VICOF II 2019 Annual Partners Meeting (Vida Capital)	Austin, TX	John Doran	$132.23
June 2-6, 2019	Palo Alto Ignite 2019 Conferrence	Austin, TX	Frank Amato	$3,098.15
June 9-12, 2019	Moody's Analytics, Continuing Education	New York, NY	Paul Matson	7,205.53
June 9-11, 2019	2019 Healthy Market Structure Conference	New York, NY	Cole Smith	1,552.80
June 10-13, 2019	AWS Public Sector Summit	Washington, DC	Dave King	2,898.79
June 10-13, 2019	AWS Public Sector Summit	Washington, DC	Molly Mahai	2,832.29
June 17-19 2019	Cerberus Capital Management Invester Conf. & Due Diligence	New York, NY	John Doran	124.30
June 30, 2019	Due Diligence, Oak Harbor Capital	Seattle, WA	John Doran	733.06
June 30, 2020	Due Diligence, Oak Harbor Capital	Seattle, WA	Al Alaimo	748.26
			Total:	**$34,932.14**

*Final amounts may vary due to adjustments in per diem and reimbursements.

Agenda Item #8d

Director's Report Cash Flow Statement

ARIZONA STATE RETIREMENT SYSTEM
COMBINED STATEMENT OF CHANGES IN TOTAL FUND CASH
FOR THE MONTH ENDED MAY 31, 2019

	Retirement Plan Fund	Retirement System Fund	Health Benefit Supplement Fund	Long-Term Disability Fund	Current Period May	Fiscal 2019 YTD May	Fiscal 2018 YTD May
ADDITIONS							
Contributions							
Member contributions	$ 121,376,168	$ 1,624	$ -	$ 1,672,854	$ 123,050,646	$ 1,090,171,764	$ 997,757,072
Employer contributions	115,395,125	1,624	4,796,783	1,672,478	121,866,010	1,091,036,498	994,679,622
Alternative contributions (ACR)	3,510,590	-	20,234	20,234	3,551,058	30,828,330	25,801,021
Transfers from other plans	102,937	-	-	-	102,937	1,172,901	1,715,819
Purchased service	1,375,215	-	152	55	1,375,422	16,137,449	21,368,279
TOTAL CONTRIBUTIONS	241,760,036	3,248	4,817,169	3,365,621	249,946,073	2,229,346,942	2,041,321,813
DEDUCTIONS							
* Investment management fees	694,316	4,210	30,331	2,974	731,831	19,131,746	42,777,414
Custody fees	629,325	-	-	-	629,325	1,363,037	1,326,579
Consultant and legal fees	563,170	-	-	-	563,170	5,317,974	5,780,046
Internal investment activity expense	193,437	-	-	-	193,437	3,829,475	3,403,154
Investment performance fees	-	-	-	-	-	68,584,137	123,157,534
Retirement and disability benefits	259,792,672	2,920,611	11,078,265	4,701,491	278,493,039	3,012,473,217	2,887,576,503
Survivor benefits	3,462,646	-	-	-	3,462,646	43,836,568	43,383,237
Refunds to withdrawing members, including interest	16,379,207	-	-	-	16,379,207	229,473,964	230,047,694
Administrative expenses	2,197,021	-	-	125,037	2,322,058	26,542,668	26,330,318
Transfers to other plans	29,306	-	-	-	29,306	161,833	410,452
Other	-	-	-	-	-	731,376	209,932
TOTAL DEDUCTIONS	283,941,101	2,924,821	11,108,596	4,829,502	302,804,020	3,411,445,995	3,364,402,863
INCREASE (DECREASE)	(42,181,066)	(2,921,573)	(6,291,427)	(1,463,881)	(52,857,947)	(1,182,099,053)	(1,323,081,050)
From securities lending activities:							
Security loan program	628,825	-	-	-	628,825	5,871,617	4,798,846
Security loan interest expense / (Rebate)	163,006	-	-	-	163,006	340,099	430,730
** Net income from securities lending activities	465,819	-	-	-	465,819	5,531,519	4,368,116
*** Capital Calls / (Distributions)							
Distressed Debt Total	7,703,841	46,709	336,535	33,001	8,120,086	287,710,739	-
Farmland and Timber	-	-	-	-	-	-	(1,387,944)
Infrastructure	-	-	-	-	-	-	(53,255,729)
Opportunistic Debt	-	-	-	-	-	-	146,545,998
Opportunistic Equity	-	-	-	-	-	-	(11,101,892)
Private Debt	-	-	-	-	-	(61,242,854)	397,243,661
Private Debt - European Credit Total	11,384,866	69,028	497,337	48,769	12,000,000	117,874,999	-
Private Debt - US Corporate Total	(3,954,619)	(23,977)	(172,754)	(16,940)	(4,168,290)	188,993,702	-
Private Debt - US RE and Asset Backed Total	32,351,994	196,154	1,413,266	138,586	34,100,000	(68,994,270)	-
Private Equity	(35,205,266)	(213,454)	(1,537,909)	(150,809)	(37,107,438)	(72,429,785)	(123,282,208)
Real Estate	52,330,096	317,283	2,285,991	224,167	55,157,537	415,736,827	659,841,583
Owned Real Estate	(1,410,964)	(8,555)	(61,637)	(6,044)	(1,487,200)	432,800	1,356,069
Other Credit Total	596,304	3,615	26,049	2,554	628,522	(151,340,363)	-
TOTAL Capital Calls	63,796,252	386,803	2,786,878	273,284	67,243,217	656,741,795	1,015,959,538
NET INCREASE (DECREASE)	$ (105,511,499)	$ (3,308,376)	$ (9,078,305)	$ (1,737,165)	$ (119,635,344)	$ (1,833,309,329)	$ (2,334,672,473)

* Investment management fees for public investment managers and other managers paid by invoice. Does not include management fees paid through capital calls.

** Securities lending activities reported on a one month lag.

*** Capital calls / (Distributions) include investment management, incentive and other fees that were paid through capital call, rather than payment of an invoice, or through a reduction of a distribution.
Current period private market activity totals represent the best available preliminary information provided by our custodial bank. Changes in preliminary reported information for prior months are reflected in the year-to-date column.

ARIZONA STATE RETIREMENT SYSTEM
COMBINED STATEMENT OF CHANGES IN TOTAL FUND CASH
FOR THE MONTH ENDED JUNE 30, 2019

	Retirement Plan Fund	Retirement System Fund	Health Benefit Supplement Fund	Long-Term Disability Fund	Current Period June	Fiscal 2019 YTD June	Fiscal 2018 YTD June
ADDITIONS							
Contributions							
Member contributions	$ 107,286,151	$ -	$ -	$ 1,476,109	$ 108,762,261	$ 1,198,927,623	$ 1,115,174,910
Employer contributions	102,896,056	-	4,239,771	1,476,496	108,612,323	1,199,955,657	1,115,293,846
Alternative contributions (ACR)	2,833,636	-	16,332	16,332	2,866,300	33,694,630	28,616,951
Transfers from other plans	134,081	-	-	-	134,081	1,306,982	2,422,677
Purchased service	1,158,246	-	869	241	1,159,357	17,296,806	23,148,598
TOTAL CONTRIBUTIONS	214,308,170	-	4,256,973	2,969,179	221,534,322	2,451,181,698	2,284,656,982
DEDUCTIONS							
* Investment management fees	1,266,452	7,641	55,197	5,354	1,334,644	20,466,390	54,468,530
Custody fees	-	-	-	-	-	1,363,037	1,326,579
Consultant and legal fees	1,322,386	-	-	-	1,322,386	6,640,866	4,290,625
Internal investment activity expense	466,264	-	-	-	466,264	4,341,817	3,972,009
Investment performance fees	-	-	-	-	-	68,715,870	123,157,534
Retirement and disability benefits	258,398,621	2,915,154	11,104,744	4,803,156	277,221,675	3,288,915,958	3,152,302,814
Survivor benefits	3,472,778	4,179	-	-	3,476,957	47,334,988	46,910,427
Refunds to withdrawing members, including interest	32,527,837	-	-	-	32,527,837	262,002,004	259,357,379
Administrative expenses	2,308,363	-	-	124,201	2,432,565	29,134,982	31,071,608
Transfers to other plans	1,445	-	-	-	1,445	163,279	417,845
Other	14,349	-	-	-	14,349	745,290	1,076,807
TOTAL DEDUCTIONS	299,778,496	2,926,974	11,159,941	4,932,711	318,798,123	3,729,824,479	3,678,352,156
INCREASE (DECREASE)	(85,470,326)	(2,926,974)	(6,902,969)	(1,963,532)	(97,263,800)	(1,278,642,781)	(1,393,695,174)
From securities lending activities:							
Security loan program	737,617	-	-	-	737,617	6,609,234	5,560,555
Security loan interest expense / (Rebate)	(95,244)	-	-	-	(95,244)	244,855	441,465
** Net income from securities lending activities	832,861	-	-	-	832,861	6,364,379	5,119,090
*** Capital Calls / (Distributions)							
Distressed Debt Total	(11,299,099)	(68,174)	(492,456)	(47,770)	(11,907,499)	275,803,240	-
Farmland and Timber	-	-	-	-	-	-	(1,387,944)
Infrastructure	-	-	-	-	-	-	(53,255,729)
Opportunistic Debt	-	-	-	-	-	-	176,526,388
Opportunistic Equity	-	-	-	-	-	-	(17,883,600)
Private Debt	-	-	-	-	-	(61,242,854)	525,902,350
Private Debt - European Credit Total	-	-	-	-	-	117,874,999	-
Private Debt - US Corporate Total	23,541,612	142,040	1,026,030	99,528	24,809,210	213,802,912	-
Private Debt - US RE and Asset Backed Total	3,074,078	18,548	133,980	12,996	3,239,602	(65,754,668)	-
Private Equity	6,057,282	36,547	263,999	25,609	6,383,437	(66,046,348)	(124,107,692)
Real Estate	343,678,568	2,073,616	14,978,779	1,452,986	362,183,949	777,920,776	662,601,190
Owned Real Estate	-	-	-	-	-	432,800	1,356,069
Other Credit Total	49,941,458	301,326	2,176,633	211,140	52,630,557	(98,709,806)	-
TOTAL Capital Calls	414,993,899	2,503,903	18,086,965	1,754,489	437,339,256	1,094,081,051	1,169,751,032
NET INCREASE (DECREASE)	$ (499,631,364)	$ (5,430,877)	$ (24,989,934)	$ (3,718,021)	$ (533,770,196)	$ (2,366,359,453)	$ (2,558,327,117)

* Investment management fees for public investment managers and other managers paid by invoice. Does not include management fees paid through capital calls.

** Securities lending activities reported on a one month lag.

*** Capital calls / (Distributions) include investment management, incentive and other fees that were paid through capital call, rather than payment of an invoice, or through a reduction of a distribution.
Current period private market activity totals represent the best available preliminary information provided by our custodial bank. Changes in preliminary reported information for prior months are reflected in the year-to-date column.

Agenda Item #8e

Director’s Report
Appeals

OUTSTANDING ASRS APPEALS

Date Received	Appeals	Issues/Questions Regarding	Status/Comments
10/26/2016	Susan Lagerman	Appellant is requesting a retroactive retirement date.	OAH hearing held on 1/5/2017. ALJ decision received on 2/13/2017 upholding ASRS decision. ASRS Appeals Committee accepted ALJ Decision on 3/31/2017. Appellant filed appeal with Superior Court 4/3/2017. Superior Court ruled in ASRS' favor on 11/28/2017. Appellant Susan Lagerman filed an appeal to the Arizona Court of Appeals on 12/8/17. Briefing completed on June 29, 2018. Court of Appeals ruled in ASRS' favor on March 7, 2019. **Appellant filed Petition for Review with Arizona Supreme Court.**
3/15/2018	Julie Schweigert	Member is appealing benefit calculation.	OAH hearing held on April 20, 2018. ALJ ruled in favor of the ASRS. ASRS Board Appeals Committee accepted the ALJ Decision on 6/12/2018 upholding the agency action. Appellant filed appeal to the Superior Court on July 17, 2018. Briefing completed on December 19, 2018. Oral Arguments conducted on February 27, 2019. Superior Court ruled in ASRS' favor on 4/25/2019. **Appellant Julie Schweigert filed an appeal to the Arizona Court of Appeals on 5/21/2019.**
6/13/2018	Elizabeth Mullavey	Member is appealing recalculation of pension benefit due to Mesa Public Schools audit.	Appellant filed this appeal on July 9, 2018. The member has agreed that a hearing will not be scheduled at this time due to a current Notice of Claim by other affected retirees in the Mesa Public Schools audit matter and possible resulting litigation in the superior court.
6/22/2018	Susan Baker	Member is appealing changing her elected 15-Year Term Certain annuity option	OAH hearing held on October 10, 2018, but the hearing was not completed. Additional hearing time with OAH rescheduled for May 20, 2019. **Appellant rescinded appeal but indicated spouse had not forgone his rights, so ALJ ruled based on evidence and testimony submitted as of May 20, 2019. ALJ ruled in favor of the ASRS on June 26, 2019. Scheduled for the August 13, 2019 Board Appeals Committee meeting.**

Information as of July 11, 2019. Updates are noted in bold font.

OUTSTANDING ASRS APPEALS

Date Received	Appeals	Issues/Questions Regarding	Status/Comments
11/16/2018	Jeffrey Pichotta	Member is appealing Long Term Disability overpayment	OAH hearing conducted on February 21, 2019. ALJ ruled in favor of the ASRS on March 7, 2019. Scheduled for the June 11, 2019 Board Appeals Committee meeting. **ASRS Board Appeals Committee accepted the ALJ Decision on 6/11/2019 upholding the agency action.**
12/6/2018	Robert Pruszynski	Appellant is a transferred out, CORP member and is now seeking an ASRS pension benefit or for PDA administrative interest to be returned to him.	OAH hearing conducted on March 8, 2019. ALJ ruled in favor of the ASRS on March 26, 2019. Scheduled for the June 11, 2019 Board Appeals Committee meeting. **ASRS Board Appeals Committee accepted the ALJ Decision on 6/11/2019 upholding the agency action.**
3/15/2019	Walter Taite	Member is appealing VA benefit offset from ASRS Long Term Disability	OAH hearing conducted on May 9, 2019. **ALJ ruled in favor of the ASRS on May 21, 2019. Scheduled for the August 13, 2019 Board Appeals Committee meeting.**
4/17/2019	Stormy Rose	Member is appealing Long Term Disability overpayment	**OAH hearing conducted on June 10, 2019. ALJ ruled in favor of the appellant on June 21, 2019. ASRS accepted ALJ decision and resolved appeal with appellant so this will not go before the Board Appeals Committee meeting.**
5/21/2019	Shari McHugh	Member is appealing Contributions not Withheld issues	**OAH hearing is currently scheduled for August 9, 2019.**
6/21/2019	Patricia Jordan	Member is appealing Long Term Disability 12 month ineligibility	**OAH hearing is currently scheduled for August 16, 2019.**

Information as of July 11, 2019. Updates are noted in bold font.

OUTSTANDING ASRS APPEALS

Date Received	Appeals	Issues/Questions Regarding	Status/Comments
7/9/2019	Harold White	Member is appealing effective date of Joint and Survivor rescind.	**OAH hearing is currently being scheduled.**

Information as of July 11, 2019. Updates are noted in bold font.

Agenda Item #8f

Director’s Report Employers Reporting

ARIZONA STATE RETIREMENT SYSTEM

3300 NORTH CENTRAL AVENUE • PO BOX 33910 • PHOENIX, AZ 85067-3910 • PHONE (602) 240-2000
4400 EAST BROADWAY BOULEVARD • SUITE 200 • TUCSON, AZ 85711-3554 • PHONE (520) 239-3100
TOLL FREE OUTSIDE METRO PHOENIX AND TUCSON 1 (800) 621-3778

Paul Matson
Director

MEMORANDUM

TO: Arizona State Retirement System (ASRS) Board

FROM: Mr. Paul Matson, Director

DATE: July 11, 2019

RE: Delinquent Employers

As of July 11, 2019, the following employers have failed to remit contributions by a date certain. These employers have received a letter advising them that the ASRS will initiate collection procedures unless they contact us within five days:

PARK VIEW MIDDLE SCHOOL	$35,600
GREEN VALLEY DOMESTIC WATER IMPROVEMENT	4,100 *
GREAT EXPECTATIONS ACADEMY	8,700 *
TELESIS CTR FOR LEARNING (PREP ACADEMY)	14,600 *
AZ COMMUNITY DEV. CORP (LA PALOMA ACAD)	55,300 *
PACE PREPARATORY ACADEMY	3,000 *
YUMA CO INTERGOV PUB TRNS AUTH YCIPTA	2,000 *
PICTURE ROCKS FIRE DISTRICT	400 *
FRANKLIN PHONETIC PRIMARY SCHOOL	14,600 *
TOTAL	$138,300 *

*Estimated amount

Agenda Items #9-13

Note: There are no materials for these agenda items.