



Notice of Public Meeting

The Board of Retirement

of the San Mateo County Employees' Retirement Association will meet on

Tuesday, September 29, 2015, at 10:00 A.M.

PUBLIC SESSION – The Board will meet in Public Session at 10:00 a.m.

1. Call to Order, Roll Call and Miscellaneous Business

- 1.1 Administration of the Oath of Office to Reappointed and Newly Appointed Trustees
- 1.2 Report of Appointment by Chair of the Audit Committee

2. Oral Communications

- 2.1 Oral Communications from the Board
- 2.2 Oral Communications from the Public

3. Approval of the Minutes

- 3.1 Approval of Regular Board Meeting Minutes from August 25, 2015

4. Approval of the Consent Agenda*

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|----------------------------|---|
| 4.1 Disability Retirements | 4.3 Continuances |
| • Mary Burns | 4.4 Deferred Retirements |
| • Rhonda Collins | 4.5 Member Account Refunds |
| • Adam Reininger | 4.6 Member Account Rollovers |
| • Jon Roberts | 4.7 Member Account Redeposit |
| 4.2 Service Retirements | 4.8 Approval of Resolution Revising
the Investment Policy Statement to
Memorialize Past Board Actions |

5. Benefit & Actuarial Services

- 5.1 Consideration of Agenda Items, if any, removed from the Consent Agenda
- 5.2 Presentation of the June 30, 2015, Actuarial Valuation Report by Milliman, Inc.
- 5.3 Approval of Resolution Accepting the Fiscal Year 2016-2017 Employer and Member Contribution Rates and Recommendations
- 5.4 Annual Review of SamCERA's Actuarial Services Firm, Milliman, Inc.

6. Investment Services

- 6.1 Preliminary Monthly Portfolio Performance Report for the Period Ending August 31, 2015
- 6.2 Report on Annual Due-Diligence Reviews for Opportunistic Credit Managers (Angelo Gordon and Beach Point Capital)
- 6.3 Approval of Purchase of Alternative Investment (*Confidential Under Gov. Code §54956.81 and §6254.26, to be heard in Closed Session, C2*)
- 6.4 Discussion on Investment Consultant and Direction to Staff

Notice of Public Meeting

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7. Board & Management Support

- 7.1 Approval of SACRS Voting Delegate and Alternates for the SACRS Fall 2015 Business Meeting
- 7.2 Approval of San Mateo County Mosquito and Vector Control District Supplemental Contributions Memorandum of Understanding

8. Management Reports

- 8.1 Chief Executive Officer's Report
- 8.2 Assistant Executive Officers' Report
- 8.3 Chief Investment Officer's Report
- 8.4 Chief Legal Counsel's Report

CLOSED SESSION – The Board may meet in closed session prior to adjournment

- C1 Consideration of Disability Items, if any, Removed from the Consent Agenda
- C2 Approval of Purchase of Alternative Investment (*Confidential Under Gov. Code §54956.81 and §6254.26– see also item 6.4*)

9. Report on Actions Taken in Closed Session

10. Adjournment in Memory of the Following Deceased Members:

Benner, Dorothy	August 2, 2015	Crystal Springs Rehab Center
Jenkins, Risdon	August 3, 2015	Sheriff's Office
Danielson, Maryann	August 5, 2015	Parks & Recreation
Scherzinger, Dennis	August 16, 2015	Public Works
Peterson, Stewart	August 13, 2015	Probation



Scott Hood, Chief Executive Officer

Posted: September 23, 2015

(* ALL ITEMS ON THE CONSENT AGENDA ARE APPROVED BY ONE ROLL CALL MOTION UNLESS A REQUEST IS MADE BY A BOARD MEMBER THAT AN ITEM BE WITHDRAWN OR TRANSFERRED TO THE REGULAR AGENDA. ANY ITEM ON THE REGULAR AGENDA MAY BE TRANSFERRED TO THE CONSENT AGENDA. ANY 4.1 ITEMS REMOVED FROM THE CONSENT AGENDA WILL BE TAKEN UP UNDER CLOSED SESSION; ALL OTHER ITEMS REMOVED FROM THE CONSENT AGENDA WILL BE TAKEN UP UNDER ITEM 5.1.)

THE BOARD MEETS AT 100 MARINE PARKWAY, SUITE 160, WHICH IS LOCATED ON THE SE CORNER OF TWIN DOLPHIN & MARINE PARKWAY IN REDWOOD CITY. Detailed directions are available on the "Contact Us" page of the website www.samcera.org. Free Parking is available in all lots in the vicinity of the building. A copy of the Board of Retirement's open session agenda packet is available for review at the SamCERA offices and on our website unless the writings are privileged or otherwise exempt from disclosure under the provisions of the California Public Records Act. Office hours are Monday through Thursday 7 a.m. – 6 p.m.

IN COMPLIANCE WITH THE CALIFORNIA GOVERNMENT CODE AND THE AMERICANS WITH DISABILITIES ACT: SamCERA's facilities and board and committee meetings are accessible to individuals with disabilities. Contact SamCERA at (650) 599-1234 at least three business days prior to the meeting if (1) you need special assistance or a disability-related modification or accommodation, including auxiliary aids or services, in order to participate in this meeting; or (2) you have a disability and wish to receive the agenda, meeting notice, agenda packet or other writings that may be distributed at the meeting in an alternative format. Notification in advance of the meeting will enable SamCERA to make reasonable arrangements to ensure full accessibility to this meeting and the materials related to it.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Item 1.1

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer



SUBJECT: Administration of the Oath of Office to Newly Appointed Trustees

In this agenda item, the Trustee Oath of Office will be given to:

- Fourth Member, **Eric Tashman**, reappointed by the Board of Supervisors on September 22nd, 2015;
- Sixth Member, **Mark Battey**, appointed by the Board of Supervisors on September 22nd, 2015

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Item 1.2

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer 

SUBJECT: Report of Appointment by Chair of the Audit Committee

Background

The Board Chair is authorized by the Regulations of the Board of Retirement to appoint all committees.

"1.1 Election Of Chair: At the first regular meeting in July, the Board of Retirement shall elect one of its members chair for a term of one year or until his or her successor is duly elected and qualified. The Chair shall preside at all meetings of the Board, **shall appoint all committees** (*emphasis added*) and shall perform all duties incidental to that office."

Discussion

Paul Hackleman, Chair, has requested that Staff inform the Board that he has appointed the following trustees to the Audit Committee for FY 15-16:

Natalie Kwan Lloyd, Chair

Shirley Tourel

Alma Salas

Eric Tashman

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
AUGUST 25, 2015 – REGULAR BOARD MEETING MINUTES

1508.1 **Call to Order, Roll Call and Miscellaneous Business**

Call to Order: Mr. Paul Hackleman, Chair, called the Regular Meeting of the Board of Retirement to order at 10:00 a.m.

Roll Call:

Present: Lauryn Agnew, Sandie Arnott, Ben Bowler, Paul Hackleman, Natalie Kwan Lloyd, Michal Settles, and Shirley Tourel.

Excused: David Spinello, Eric Tashman, and Susan Lee (alternate).

Alternates present: Alma Salas.

Staff: Scott Hood, Michael Coultrip, Brenda Carlson, Gladys Smith, Al David, Tat-Ling Chow, Tariq Ali, Doris Ng and Kristina Perez.

Consultants: Jonathan Brody and Margaret Jadallah (SIS); Will Morrow (LRWL).

1508.1.1 **Appointment of Board Committees:** Mr. Hackleman stated that this term's committee assignments were still being determined and would be announced at a future Board Meeting.

1508.2.1 **Oral Communications From the Board:** Ms. Agnew reported her attendance at an event hosted by the Principles of Responsible Investment Association and University of California titled, "Research, Innovation and Stewardship in Responsible Investment" in Berkeley on July 28, 2015.

1508.2.2 **Oral Communications From the Public:** None.

1508.3.2 **Approval of Regular Board Meeting Minutes from July 28, 2015:** Mr. Hackleman asked if there were any changes or corrections to the Regular Board Meeting Minutes, from July 28, and none were stated.

Action: Ms. Arnott moved to approve the minutes from the Regular Meeting of July 28, 2015; and the motion was seconded by Ms. Kwan Lloyd. The motion carried with a vote of 6-0-1 with trustees Arnott, Bowler, Hackleman, Kwan Lloyd, Settles, and Tourel all in favor; none opposed. Ms. Agnew abstained, as she was not present at the July 28th Regular Meeting.

1508.4.0 **Approval of the Consent Agenda:** Mr. Hackleman asked if there were any items to be removed from the Consent Agenda, and there were no items removed for discussion.

Action: Ms. Agnew moved to approve the Consent Agenda, and the motion was seconded by Ms. Arnott. The motion carried with a vote of 7-0 with trustees Agnew, Arnott, Bowler, Hackleman, Kwan Lloyd, Settles and Tourel all in favor; none opposed.

1508.4.1 **Disability Retirements:** None.

1508.4.2 **Service Retirements:**

The Board ratified the actions as listed below for the following members regarding service retirements:

Member Name	Effective Retirement Date	Department
Andrea, Rex	June 27, 2015	Human Services Agency
Castellano, Michel	July 1, 2015	Information Services
Chao, Chun-Wan	June 13, 2015	Hospital
Gee, Sharon	June 30, 2015	Deferred Medical Center
Jeong, Leonard Gary	June 30, 2015	Public Works
Lopez, Gloria	June 3, 2015	Superior Court
Maldonado, Florence	June 4, 2015	Deferred from Public Health
Mata, Marian Changco	June 17, 2015	Deferred from Public Health

Miles, Patrick B	July 1, 2015	Behavioral Health
Obiajulu, Vincent	June 30, 2015	Probation
Ogar, Janice	June 30, 2015	Emergency Medical Services
Shore, James A	June 10, 2015	Deferred Dist Atty Office
Vidrio, Elena	June 10, 2015	Deferred Human Services Agency

1508.4.3 **Continuances:**

The Board ratified the actions as listed below for the following members regarding continuances:

Survivor's Name	Beneficiary of
Cowen, Richard	Cowen, Audrey
Hom, Richard	Hom, Choo Seng
Nocon, Vincent	Nocon, Barbara

1508.4.4 **Deferred Retirements:**

The Board ratified the actions as listed below for the following members regarding deferred retirements:

Member Name	Retirement Plan Type
Gerke, Carol	G4 Vested
Eva, Ninetter	G4 Vested – Incoming Reciprocity
Seidler, Michael	S4 Vested
Machen, Marguerite	G4 Vested
Maya, Christine	G2 Vested
Marquez, David	G7 Non Vested – Reciprocity
Piper, Elizabeth	G2 Vested – Reciprocity
Guzman, Juan	G7 Non Vested - Reciprocity
Okamura, Deann	G4 Vested – Incoming Reciprocity
Shaikh, Qaiser	G5 Non Vested – Incoming/Outgoing Recip

1508.4.5 **Member Account Refunds:**

The Board ratified the actions as listed below for the following members regarding refunds:

Member Name	Retirement Plan Type
Alvarado, Judith	G7, Non-vested
Boyett, Christopher	S7, Non-vested
Bright, Brandon	G4, Vested
Hecht, Robert	G7, Non-vested
Hott, Jason	G7, Non-vested
Izquierdo, Aura (FBO: Karina Vela)	G4, Non-vested
Livingston, Justin	G7, Non-vested
Morgan, Everett	G5, Non-vested

1508.4.6 **Member Account Rollovers:**

The Board ratified the actions as listed below for the following members regarding rollovers:

Member Name	Retirement Plan Type
Ascano, Sheena	G7, Non-vested
Bedi, Sunayana (QDRO)	G4, Non-vested
Cachuela, Honorata (FBO: Kenneth Cachuela)	G4, Vested
Espitia, Wendy	G4, Vested
Ho, Tanya	G4, Non-vested
Jones, Bryant	G7, Non-vested
Lu, Wen	G7, Non-vested
Totah, Tiffany	G5, Non-vested

- 1508.4.7 **Approval of Resolution Amending Policy and Procedure Regarding Correcting Inaccuracies in Member Accounts:** The Board approved the “Resolution Amending Policy and Procedure Regarding Correcting Inaccuracies in Member Accounts.”
- 1508.4.8 **Acceptance of Franklin Templeton Semi-Annual Compliance Certification Statement:** The Board accepted the semi-annual compliance statement of Franklin Templeton.
- 1508.5.1 **Consideration of Agenda Items, if any, Removed From the Consent Agenda:** None.
- 1508.6.1 **Preliminary Monthly Performance Report for the Period Ending July 31, 2015:** Mr. Coultrip discussed the preliminary monthly performance report with the Board. He reported that SamCERA’s net preliminary return for July was +0.5%, while the preliminary trailing twelve-month return was +5.2% net (+5.4% gross). This item was informational only and no action was taken.
- 1508.6.2 **Quarterly Investment Performance Report for the Period Ending June 30, 2015:** Mr. Coultrip introduced the Quarterly Investment Performance Report. Ms. Jadallah and Mr. Brody went over the quarterly report, page by page, reviewing managers’ performances and discussing details of the report with the Board. The net 2nd quarter total return for the SamCERA portfolio was +0.6%. The net total return for the fiscal year ending June 30, 2015 was +3.5%. This item was informational only and no action was taken.
- 1508.6.3 **Report on the Brown Advisory Annual Review:** Ms. Ng reported on the annual review of SamCERA’s Large Cap Growth Equity Manager, Brown Advisory, with the Board. The annual review meeting was held on July 29, 2015. There were no major concerns identified during the review. This item was informational and no action was taken.
- 1508.6.4 **Report on Fixed Income Annual Reviews (Western Asset, Brown Brothers Harriman, and Pyramis):** Ms. Jadallah reported on the annual review of SamCERA’s Core and TIPS managers. The annual review meetings were held on August 6, 2015. There were no significant concerns identified during the portfolio reviews. This item was informational and no action was taken.
- 1508.6.5 **Approval of Updated Asset Allocation Target Policy:** Mr. Coultrip reviewed and discussed the proposed changes to SamCERA’s asset allocation target policy with the Board. He explained that minor changes may further diversify the plan by decreasing equity risk, while keeping similar return expectations, and may decrease the volatility of returns. The proposed changes to the policy include increasing its target allocations to opportunistic credit, real estate, and absolute return. Opportunistic credit will increase to 6% from 5%, real estate will increase to 7% from 6%, and absolute return will increase to 5% from 4%. These increases will be funded by dropping the domestic equity target to 28% from 30%, and international equity to 19% from 20%.
Action: Ms. Settles moved to approve the recommended changes to SamCERA’s asset allocation target policy. The motion was seconded by Mr. Bowler and carried by a vote of 7-0 with trustees Agnew, Arnott, Bowler, Hackleman, Kwan Lloyd, Settles and Tourel all in favor; none opposed.
- 1508.6.6 **Report on SamCERA’s Security Lending Program:** Mr. Coultrip reported on SamCERA’s securities lending program with the Board. He stated the program was reviewed 6 months ago and now would be reviewed annually going forward. Mr. Coultrip reported SamCERA’s securities lending program continues to add income; and since its inception in 2007, it has earned \$6.6 million as of fiscal year end 2015. This item was informational and no action was taken.

Mr. Hackleman adjourned the meeting for a short break at 11:26 a.m., reconvening at 11:35 a.m.

1508.6.7 **Presentation on Factor-Based Investing and Fundamental Beta:** Mr. Brody and Ms. Jadallah gave a 45-minute educational presentation regarding factor-based investing and 'smart' beta, and answered questions from the Board members. This item was informational and no action was taken.

Mr. Hackleman adjourned the meeting for lunch at 12:15 p.m. and the meeting was reconvened at 12:45 p.m.

1508.6.8 **Presentation on Soft Dollars:** Vinod Pakianathan and Steven Glass from Zeno Consulting Group provided a 1.25 hour educational presentation on soft dollars and answered questions from the Board. This item was informational and no action was taken.

1508.6.9 **Discussion on the Role of Investment Committee:** Mr. Hackleman and Mr. Coultrip led the members of the Board in a discussion regarding the role and objectives of the Investment Committee. Board members offered their opinions and discussed the Investment Committee's history, ideas for how to obtain and utilize the Board's input on certain investment related matters early on in the development process rather than just when final decisions are presented for action. This item was informational and no action was taken.

1508.7.1 **Preliminary Financial Statements for the Fiscal Year Ended June 30, 2015:** Ms. Chow reported that SamCERA's fiduciary net position as of June 30, 2015 was \$3,453,866,850, reflecting an increase of 5%, or \$162 million compared to June 30, 2014. This item was informational only and no action was taken.

Ms. Kwan Lloyd was excused for the remainder of the meeting at 2:50 p.m.

1508.7.2 **Approval of Trustee Request for Additional Educational Activity:** Mr. Hood presented the request of Michal Settles for attendance at an educational activity. He explained that requests of this type would now be placed on the regular agenda and not the consent agenda, to increase transparency with regard to travel and educational expenses.

Action: Ms. Agnew moved to approve the request of Michal Settles to attend the 2015 Women's Alternative Investment Summit in New York City, on November 5-6, 2015. The motion was seconded by Mr. Bowler and carried with a vote of 6-0 with trustees Agnew, Arnott, Bowler, Hackleman, Settles and Tourel all in favor; none opposed.

1508.7.3 **Update on Progress of SamCERA's Information Technology Projects:** Mr. Ali demonstrated the new website to the Board members, and provided an update on other ongoing IT Projects. Will Morrow, of LRWL, gave a status report on the progress of the PASS Implementation Project. Mr. Morrow noted that the project is on schedule and one change order for imaging was approved. He expressed concern about the readiness of the County's SharePoint project that is needed for the imaging functionality. This item was informational and no action was taken.

1508.8.1 **Chief Executive Officer's Report:** Mr. Hood stated that he met with a representative from CEM Benchmarking; and reported that after consulting with the broker and staff, no offer would be made for increased office space for SamCERA at this time. He notified the Board that the Mosquito and Vector Control District was expected to approve an MOU for supplemental contribution at their September 9 meeting and he would bring that agreement to the September Board meeting for approval.

1508.8.2 **Assistant Executive Officers' Report:** Ms. Smith reported the recruitment for the open Retirement Analyst position has begun following Barbara Edwards' promotion. She stated issues with Workday reported at the last meeting have been resolved. Ms. Smith noted that following the launch of the new website, she and Colin Bishop will work on updating the Communications Strategic Plan; and this year's CAFR would feature photos from the County's parks.

Mr. David notified the Board the financial team is working on the CAFR and finishing up the final audit field work. He announced that SamCERA was recognized for the 12th straight year by the Government Finance Officers Association and received an award for its 2014 Popular Annual Financial Report (PAFR). He reported the CAFR would be ready for Board review in October.

- 1508.8.3 **Chief Investment Officer's Report:** Mr. Coultrip reported details about rebalancing of the fund that took place in August. He let the Board know he would be making a due diligence trip to meet with Standard Life and Baillie Gifford in September.
- 1508.8.4 **Chief Legal Counsel's Report:** Ms. Carlson updated the Board on the details of new pension reform initiative, titled the "Voter Empowerment Act of 2016," noting that if signature requirements are met, it will appear on the ballot in November 2016.

Ms. Agnew spoke at this time, as this was likely her last meeting as a Board Member. She reiterated her commitment to ESG values and requested the Board consider those ideals in future deliberations.

- 1508.10 **Adjournment:** Mr. Hackleman adjourned the meeting at 3:45 p.m. in memory of the deceased members listed below. Following the adjournment, Mr. Hood presented Trustee Lauryn Agnew with a Certificate of Appreciation for her service on the Board.

Cachuela, Honorata	July 12, 2015	Medical Center
Young, Barbara	July 19, 2015	Medical Center
Chatman, Russell	July 20, 2015	General Services
Lewis-Rakova, Wendy	July 23, 2015	Aging & Adult Services
Becks, Gelsomina	July 26, 2015	Public Health

Scott Hood
Chief Executive Officer

Kristina Perez
Retirement Executive Secretary

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Items 4.1- 4.7

TO: Board of Retirement

FROM: Elizabeth LeNguyen, Retirement Benefits Manager



SUBJECT: Approval of Consent Agenda Items 4.1 – 4.7

4.1 Disability Retirements

- a) The Board finds that **Rhonda Collins** is (1) permanently incapacitated for the performance of her usual and customary duties as a Probation Services Manager I, (2) find that her disability was a result of an injury arising out of and in the course of her employment, and (3) grant her application for a service-connected disability retirement.

- b) The Board finds that **Adam Reininger** is (1) permanently incapacitated for the performance of his usual and customary duties as a Deputy Sheriff, (2) find that his disability was a result of an injury arising out of and in the course of his employment, and (3) grant his application for a service-connected disability retirement.

- c) The Board finds that **Jon Roberts** is (1) permanently incapacitated for the performance of his usual and customary duties as a Deputy Sheriff, (2) find that his disability was a result of an injury arising out of and in the course of his employment, and (3) grant his application for a service-connected disability retirement.

- d) The Board finds that **Mary Burns** is (1) not permanently incapacitated for the performance of her usual and customary duties as a Corrections Officer and (2) deny her application for a service-connected disability retirement.

4.2 Service Retirements

The Board ratifies the actions as listed below for the following members regarding service retirements:

Member Name	Effective Retirement Date	Department
Barron, Dolores	July 8, 2015	Human Services Agency
Bloomquist, Joyce	July 18, 2015	Tax Collector
Bullivant, Joyce	July 31, 2015	Deferred from Social Services
Chevalier, Brian	July 18, 2015	Deferred from Sheriff's
Garrison, David	July 4, 2015	Controller's Office

Goodenough, Marshall	August 1, 2015	Deferred from Sheriff's
Hall, Stacy	July 4, 2015	Medical Center
Hernandez, Cristeta	July 20, 2015	Deferred from Medical Center
Holaday, Lori	July 10, 2015	Deferred from Aging and Adult Services
Holland, David	July 18, 2015	Deferred from County Manager
Mack, Vicki	August 1, 2015	Deferred from Medical Center
McFarren-Nave, Ellen	August 1, 2015	Deferred from Health Services
Miranda, Sonia	July 11, 2015	Medical Center
Misthos, George	August 1, 2015	Deferred from Family Support
Mojica, Gladys	July 11, 2015	Child Support Services
Sanderson, Katherine	July 14, 2015	Library
Schillaci (Morse), Suzanne	August 1, 2015	Deferred from Sheriff's
Trotter, Kaylynn	July 31, 2015	Deferred Public Health
White, JoAnn	August 1, 2015	Medical Center

4.3 Continuances

The Board ratifies the actions as listed below for the following members regarding continuances:

Survivor's Name	Beneficiary of:
Jenkins, Nancy	Jenkins, Risdon
Scherzinger, Kay	Scherzinger, Dennis

4.4 Deferred Retirements

The Board ratifies the actions as listed below for the following members regarding deferred retirements:

Member Name	Retirement Plan Type
Frank, Damien	G4 Vested - Reciprocity
Mullin, Amy	QDRO
Murphy, Patrick	G4 Vested - Reciprocity
Stimson, Jennifer	G4 Vested – Auto Defer

4.5 Member Account Refunds

The Board ratifies the actions as listed below for the following members regarding refunds:

Member Name	Retirement Plan Type
Farias, David	S4, Vested
Johnson, David	QDRO, Vested
Mendez, Karla	G4, Vested
Schaaf, Adam	G7, Non-vested
Siddiq, Morwarid	G7, Non-vested

4.6 Member Account Rollovers

The Board ratifies the actions as listed below for the following members regarding rollovers:

Member Name	Retirement Plan Type
Alfaro, Douglas	G4, Non-vested
Balabis, Joseph	G4, Vested
Guillaume, Elizabeth	3, G2, Vested
Jones, Sylvia	G7, Non-vested
Walan, Bradley	G7, Non-vested

4.7 Member Account Redeposit

Approval of payment period of two years for redeposit of retirement funds by Richard Daly pursuant to Government Code Section 31652. See attached memo.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Item 4.7

TO: Board of Retirement

FROM: Elizabeth LeNguyen, Retirement Benefits Manager



SUBJECT: Approval of Payment Period of Two Years for Redeposit Pursuant to Government Code Section 31652

Staff Recommendation

Approval of a payment period of two years for a redeposit of retirement funds by Richard Daly pursuant to Government Code Section 31652.

Background

Members who leave employment may withdraw their contributions and interest which, in turn, terminates their membership. If the member returns to active service, the member may at any time prior to retirement, redeposit the previously withdrawn funds along with interest that would have accrued to the account if the funds had remained on deposit. Upon completion of such redeposit, the membership is the same as if unbroken by the termination.

Discussion

Government Code section 31652 provides that the redeposit may be made by a lump sum or installment payments over a period of one year or for a longer time upon approval by the Board. Richard Daly withdrew his funds and has requested a repayment period of two years. As the interest continues to accrue until the redeposit is complete, there is no cost to the system to extend his payment period out the additional year.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Item 4.8

TO: Board of Retirement 
FROM: Michael Coultrip, Chief Investment Officer
SUBJECT: Approval of Resolution Revising the Investment Policy Statement to Memorialize Past Board Actions

Staff Recommendation

Adopt a resolution revising the SamCERA Investment Policy Statement.

Background

In June 2014 meeting, the Board adopted a new Investment Policy Statement, which has since been revised once. Since the revision in September of 2014, the Board took action on certain investment related items which staff has determined should be memorialized in the Investment Policy Statement in order that the statement reflects current practice.

Discussion

The proposed revisions to the Investment Policy Statement memorialize the Board's actions regarding the Fund's asset allocation that were made over the past year. The revisions further reflect the Board's modification to its due diligence process used for manager selection. The changes are summarized below:

1. Section 6 "Asset Allocation & Portfolio Structure", Section (A) is amended to reflect a higher allocation to passive core in the class of "Large Capitalization Domestic" as follows:

Passive Core	from	10.5%	to	15.0%
Active Core	from	4.5%	to	3.0%
Growth	from	4.5%	to	3.0%
Value	from	4.5%	to	3.0%

The above change was approved by the Board in January 2015.

2. Section 6 (B) "Fixed Income Assets," the Fixed Income Class of "Core Plus" is changed to "Core Unconstrained" to reflect the Board's action to transfer from Western Asset Core Plus fixed income mandate to the Western Asset Total Return Unconstrained mandate. Similarly in Section 10 "Fixed Income Policies," the references are changed to Core

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

Unconstrained and a clarification is made that the portfolio is not constrained to a benchmark.

The above change was approved by the Board in July 2015.

3. Section 6(F) "Asset Allocation Policy Benchmark" is amended as follows: (a) "Domestic Equity" is renamed "Public Equity" (b) BC Aggregate Index is increased from 9% to 10%; and (c) BC Multiverse Index is reduced from 4% to 3%.

This change to the fixed income manager structure was approved by the Board in July 2014.

4. Appendix C "Due Diligence Policy" reflects the Board's previous due diligence process used in the selection of investment managers in that it required a presentation to the Board by the finalist firms. The proposed change to Appendix C reflects the Board's current preferred method of staff and the investment consultant performing the due diligence on the finalists, and then making a presentation and recommendation to the Board.

The Board approved this method in December of 2014 in relation to selection of SamCERA's opportunistic credit manager and again in early 2015 for the hedge fund manager search.

As set forth above, these revisions to the current Investment Policy Statement reflect the Board's previously approved and current investment policies. There are no new changes that have not been approved by the Board included in the attached redlined document.

Attachments

Proposed Revisions to the Investment Policy Statement (Redlined Version)

Resolution Revising the Investment Policy Statement and Attached Investment Policy Statement



SamCERA's Investment Policy Statement

Approved June 2014

Revised September 2014

Revised September 2015

1.0 ESTABLISHMENT OF INVESTMENT POLICY

The Board of Retirement (the “Board”), having exclusive authority and exclusive fiduciary responsibility for the investment and administration of the Trust Fund (the “Fund”), hereby establishes the following Investment Policy (the “Policy”) for the investment of the San Mateo County Employees’ Retirement Association (“SamCERA”) assets. The Board reserves the right to amend, supplement or rescind this Policy at any time.

The purpose of this Policy is to assist SamCERA in effectively supervising its investments in order to meet the requirements of the California Constitution, the County Employees Retirement Law of 1937 (“the 1937 Act”), the Mission and Goals of SamCERA and other requirements, and to encourage effective communication between SamCERA and its investment managers (the “Manager(s)”) and investment consultants (the “Consultant(s)”).

A. GOVERNING DOCUMENTS FOR THE INVESTMENTS OF THE FUND.

The powers and duties of the Board are set forth in the 1937 Act and in Article XVI of the State Constitution. They are further defined by the Mission and Goals adopted by the Board.

SamCERA was created by San Mateo County Ordinance No. 564 adopted by the Board of Supervisors, effective July 1, 1944. This ordinance established the retirement system in accordance with the provisions of California's County Employees' Retirement Law of 1937.

Constitution of the State of California

Article XVI, Section 17, relates to the administration of the system and investment of the Fund assets. It reads in pertinent part:

“(a)...The assets of a public pension or retirement system are trust funds and shall be held for the exclusive purposes of providing benefits to participants in the pension or retirement system and their beneficiaries and defraying reasonable expenses of administering the system.

“(b) The members of the retirement board of a public pension or retirement system shall discharge their duties with respect to the system solely in the interest of, and for the exclusive purposes of providing benefits to, participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system. A retirement board's duty to its participants and their beneficiaries shall take precedence over any other duty.

“(c) The members of the retirement board of a public pension or retirement system shall discharge their duties with respect to the system with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.

“(d) The members of the retirement board of a public pension or retirement system shall diversify the investments of the system so as to minimize the risk of loss and to

maximize the rate of return, unless under the circumstances it is clearly not prudent to do so.”

The 1937 Act

The 1937 Act contains language similar to that in the State Constitution regarding the investments of the Fund:

“31595. The board has exclusive control of the investment of the employees retirement fund. The assets of a public pension or retirement system are trust funds and shall be held for the exclusive purposes of providing benefits to participants in the pension or retirement system and their beneficiaries and defraying reasonable expenses of administering the system. Except as otherwise expressly restricted by the California Constitution and by law, the board may, in its discretion, invest, or delegate the authority to invest, the assets of the fund through the purchase, holding, or sale of any form or type of investment, financial instrument, or financial transaction when prudent in the informed opinion of the board.

The board and its officers and employees shall discharge their duties with respect to the system: (a) Solely in the interest of, and for the exclusive purposes of providing benefits to, participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system.

(b) With the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.

(c) Shall diversify the investments of the system so as to minimize the risk of loss and to maximize the rate of return, unless under the circumstances it is clearly prudent not to do so.

SamCERA’s Mission and Goals

The Board has adopted a Mission and Goals statement. The Mission summarizes SamCERA’s reason to exist.

“Mission: SamCERA exists to serve as loyal fiduciary for its members and as prudent administrator of the retirement system.”

The Mission is further defined by three goals. One goal speaks to the management of the assets of the Fund. This asset management goal reads:

“Prudently manage the assets in order to appropriately fund the actuarial liabilities of the retirement system, to ensure the ability to pay all earned benefits while minimizing the costs to employers.”

In recognition of the requirements of the California Constitution, the 1937 Act, the SamCERA Mission and Goals and other legal requirements, the SamCERA Board has established this Investment Policy.

2.0 ROLES AND PRINCIPAL DUTIES

The Fund investments shall be prudently planned, implemented, managed, and monitored. The Board, Investment Committee (the “Committee”), Investment Staff (the “Staff”), Investment Consultant (the “Consultant”), Custodian Bank (the “Custodian”), and Investment Managers (the “Managers”) shall coordinate this process. The roles and principal duties of the above-mentioned parties are defined below:

A. THE BOARD shall review and approve Committee recommendations. The Board also will review, adopt and monitor all investment policies, guidelines and procedures required to prudently administer the Fund and to effectively mitigate risk to the Fund.

B. THE COMMITTEE shall identify issues pertinent to the effective investment and administration of the Fund and, on Board approval, initiate analysis of such issues by Staff, Consultant or Managers. It also reviews Staff’s and Consultant’s recommendations regarding all investment policies and Fund management. The Committee provides recommendations to the Board for adoption, oversees implementation, and monitors the investment programs in accordance with all applicable laws and Board-established policies, guidelines and procedures. Refer to Attachment A – Charter of SamCERA’s Investment Committee of the Board for detailed Committee responsibilities.

C. THE STAFF shall oversee the Fund’s investment program activities, implement the Board decisions, make recommendations to the Committee regarding Fund management, and recommend investment-related policies and procedures to the Committee. Additionally, Staff shall monitor the performance and compliance of Managers in accordance with all applicable laws, Board-established policies, guidelines and procedures, as well as Schedule B Investment Guidelines set out in the Investment Management Agreements (IMA) between SamCERA and each Manager. Staff shall also facilitate the Committee meetings and complete activities as directed by the Board.

D. THE CONSULTANT shall review, analyze and evaluate the Fund’s effectiveness and efficiency and make fund management related recommendations. Consultant assists Staff in implementing the Board decisions and developing all investment-related policies. Consultant’s responsibilities are detailed in the service agreement between SamCERA and Consultant.

E. THE CUSTODIAN shall provide custody of SamCERA’s investment assets. In addition, the Custodian will manage the securities lending program. The Custodian’s responsibilities will be detailed in the service agreement between SamCERA and Custodian.

F. THE MANAGERS shall prudently manage their mandated allocations in accordance with all applicable laws, Board-established policies, guidelines and procedures, as well as specific investment guidelines. Managers’ responsibilities will be detailed in the Investment Management Agreements (IMA) between SamCERA and each Manager.

3.0 INVESTMENT OBJECTIVES

The Board shall develop an investment program, consistent with the Investment Beliefs and General Investment Policies as stipulated in Sections 4.0 and 5.0, respectively, in order to meet the following objectives:

- A. Generate risk-adjusted returns that exceed the Asset Allocation Policy Benchmark (as defined in Section 6.0) on a net-of-fee basis over five-year rolling periods.
- B. Move toward full actuarial funding of the Pension Benefit Obligation based on GASB 25 and the Board's policy of layered fifteen-year unfunded actuarial accrued liability (UAAL) amortization periods.
- C. Achieve a Fund return that meets or exceeds the long-term forecast of capital market returns for the asset allocation portfolio benchmark over multiple economic cycles (e.g. 15-20 years).
- D. Provide a more consistent return stream than a traditional 60% Equity / 40% Fixed Income portfolio as measured by lower portfolio drawdowns over a full market cycle.

4.0 INVESTMENT BELIEFS

The following section summarizes the Board's investment beliefs that have guided it in the development of this Policy document and will guide it in the oversight of the Plan assets.

- Strategic asset allocation is the primary driver of portfolio risk and return.
- SamCERA should have a long-term horizon and not be tempted to deviate from its long-term plan in response to short-term volatility.
- Everything else being equal, simplicity is preferred over complexity.
- For those asset classes evidencing market efficiencies, the manager structure may favor the employment of passive strategies.
- Diversification is fundamental.
- There is no single definition of risk. There are various measures of 'risk' that can be used for various purposes.
- The portfolio should be diversified across many risk dimensions/timeframes.
- SamCERA should not pursue investments that will not adequately compensate it for the risks that those investments bring.
- Costs matter.

5.0 GENERAL INVESTMENT POLICIES

Consistent with the investment beliefs contained in Section 4.0, it is the investment policy of the Board to:

- A. Consistent with fiduciary standards, always act in the best economic interests of SamCERA’s plan beneficiaries and plan sponsors, and refrain from making investment decisions for political, social, or other non-economic reasons.
- B. Pursue an investment strategy that reduces the volatility of returns through prudent diversification of the portfolio across a broad selection of distinct asset classes, as provided for in Section 6.0 of this Investment Policy.
- C. Further diversify other risks, including extreme events, liquidity, and leverage by looking beyond traditional asset class definitions by utilizing multiple lenses on portfolio risks.
- D. Adopt an asset allocation target to guide the structure of the investment portfolio, as provided for in Section 6.0, and reevaluate on an annual basis.
- E. Reevaluate the asset-liability study every three to five years.
- F. Delegate full discretion to each investment manager to the extent authorized in their Investment Management Agreement (IMA).
- G. Adopt objectives that encourage investment managers to maximize their performance, within acceptable risk parameters, relative to their individual investment style benchmark.
- H. Refrain from drastically shifting asset class allocations over short time spans, unless it is in the Fund’s best interest to do so.
- I. Rebalance the portfolio in accordance to the Rebalancing Policy set forth in Section 7.0.

6.0 ASSET ALLOCATION & PORTFOLIO STRUCTURE

The target asset class allocation, rebalancing ranges, and the sub-asset class portfolio structure of the Fund shall be allocated as follows:

ASSET CLASS	TARGET ALLOCATION	REBALANCE RANGE
Public Equity	50%	±3%
Fixed Income	20%	±2%
Risk Parity	8%	±2%
Alternative Assets *	16%	±2%
Real Estate *	6%	±2%

* Recognizing the illiquidity of the asset class, rebalancing will be considered over six- to twelve-month periods.

- A. Public Equity Assets shall be allocated to managers within the following sub- asset classes:

PUBLIC EQUITY ASSET CLASSES	TARGET ALLOCATION	REBALANCE RANGE
Large Capitalization Domestic	24.0%	±2%
Passive Core	1150.05 %	±2%
Active Core	34.50 %	±2%
Growth	34.50 %	±2%
Value	34.50 %	±2%
Small Capitalization Domestic	6.0%	±2%
Growth	3.0%	±2%
Value	3.0%	±2%
International	20.0%	±2%
Passive Core	4.0%	±2%
Growth	6.0%	±2%
Value	6.0%	±2%
Small Capitalization	2.0%	±2%
Emerging Market	2.0%	±2%
TOTAL PUBLIC EQUITY	50.0%	

B. Fixed Income Assets shall be allocated to managers within the following sub-asset classes:

FIXED INCOME ASSET CLASSES	TARGET ALLOCATION	REBALANCE RANGE
Core	6.0%	±2%
Core Plus <u>Unconstrained</u>	4.0%	±2%
Opportunistic Credit	5.0%	±2%
Inflation Protection	2.0%	±2%
Global Fixed Income	3.0%	±2%
TOTAL FIXED INCOME	20.0%	

C. Alternative Assets shall be allocated to managers within the following sub-asset classes:

ALTERNATIVE ASSET CLASSES	TARGET ALLOCATION	REBALANCE RANGE

Private Equity	7.0%	±2%
Hedge Funds (Absolute Return)	4.0%	±2%
Commodities	3.0%	±2%
Real Assets	2.0%	±2%
TOTAL ALTERNATIVE ASSETS	16.0%	

D. Risk Parity Assets shall be allocated as follows:

RISK PARITY ASSET CLASSES	TARGET ALLOCATION	REBALANCE RANGE
Risk Parity	8.0%	±2%
TOTAL RISK PARITY	8.0%	

E. Real Estate Assets shall be allocated as follows:

REAL ESTATE ASSET CLASSES	TARGET ALLOCATION	REBALANCE RANGE
Core	6.0%	±2%
TOTAL REAL ESTATE	6.0%	

F. Asset Allocation Policy Benchmark

The Asset Allocation Policy Benchmark defined below is derived by assigning a passive benchmark to each of the sub-asset classes referenced in Sections 6.0 (A) through 6.0 (E) and weighting each by the Target Allocation. The performance of the Asset Allocation Policy Benchmark is computed by the Plan's investment consultant, Strategic Investment Solutions.

Benchmark	Asset Allocation Policy Benchmark
Public Domestic Equity	50%
Russell 1000 Index	24%
Russell 2000 Index	6%
MSCI ACWI x US IMI Index	20%
Fixed Income	20%
BC Aggregate Index	<u>109%</u>

BC BA Intermediate High Yield Index	5%
BC Capital US TIPS Index	2%
BC Multiverse Index	34%
Risk Parity	8%
<hr/>	
60% Russell 3000 / 40% BC Aggregate	8%
Alternatives	16%
<hr/>	
Russell 3000 +3%	7%
LIBOR + 4%	4%
DJ UBS Commodity Index	3%
CPI + 5%	2%
Real Estate	6%
<hr/>	
NCREIF ODCE	6%

7.0 REBALANCING POLICY

- A. The Chief Investment Officer (CIO) shall rebalance the portfolio as needed in conformance with the asset allocation tactical ranges set forth in Section 6.0.
- B. The potential need to rebalance will be continuously monitored, and will be subject to deviations within the established rebalance ranges specified in Section 6.0.
- C. The CIO will have discretion to rebalance to Target or to some other allocation, as long as it is within policy ranges.
- D. Cash flows will be used first to rebalance, and to the extent possible, exchange traded derivatives will be used to rebalance in a cost-effect manner.
- E. All rebalancing activity shall be reported to the Board at the next scheduled meeting.

8.0 GENERAL MANAGER INVESTMENT PERFORMANCE POLICIES

The responsibility for securities selection, purchase and sale decisions, and proxy voting (where appropriate) is delegated to the external investment managers. The individual investment guideline parameters (including diversification constraints, concentration limits, asset type exclusions, etc.) and performance objectives for each investment manager will be established within the IMA with each firm.

The Board expects to measure investment performance quarterly and will generally follow prudent time horizons when evaluating short term, intermediate term, and long term performance of its investment managers. Generally, the Board defines underperformance as: Cumulative annualized performance (net of fees) over a three-year period below a broad market-based benchmark return times 0.9, or five year return (net of fees) below the broad market based benchmark return.

Performance will also be evaluated in light of the manager's stated style and discipline.

9.0 PUBLIC EQUITY INVESTMENT POLICIES

PUBLIC EQUITY OVERVIEW: Public equity is expected to produce returns higher than that provided from fixed income but at potentially higher levels of volatility. Exposure to this asset class will provide return streams generally correlated to that of the general economic growth. There are two primary parts to the Public Equity category: 1) Domestic Equity, and 2) International Equity.

PUBLIC EQUITY MANAGER STRUCTURE:

Domestic Equity: For the domestic equity program, the majority of the tracking error will come from stock selection via active management as the overall manager structure for domestic equities will not possess any significant biases in terms of investment style. The domestic equity composite will consist of two sub-composites: 1) Large-Capitalization Equity, and 2) Small-Capitalization Equity. The large-cap composite will consist of Core, Value, and Growth. Core will consist of two strategies, one a passive and another a low-tracking error active, while the Growth and Value categories will consist of higher tracking error active strategies. The Small-Capitalization strategy will consist of actively-managed Value and Growth strategies.

International Equity: International Equity will consist of two sub-composites: 1) Developed Equity, and 2) Emerging Equity. Developed Equity will consist of a passive Core component and active Value, Growth (although both have exposure to emerging markets) and Core Small-Capitalization strategies. Emerging Market Equity will consist of an active Core mandate.

PUBLIC EQUITY PERFORMANCE OBJECTIVE:

The performance objective of the Public Equity Category is to outperform on a net-of-fee basis a customized index (Customized Benchmark Portfolio) incorporating the weighted average components for both the domestic and international equity parts (which results in the following weights: 48% Russell 1000, 12% Russell 2000, and 40% MSCI World ex US IMI), with a maximum tracking error of 3% to this benchmark.

PUBLIC EQUITY RISK EXPOSURES AND RISK MITIGATION:

The primary risk factors for Public Equity are correlation to general economic growth, high volatility in returns, and potential illiquidity in smaller-capitalization and certain emerging market stocks. SamCERA will control for these risk factors by diversifying the plan across assets that exhibit limited correlation to economic growth. In addition, SamCERA's rebalancing ranges for small-cap and emerging market equities will help ensure adequate diversification within the equity portion of the SamCERA portfolio.

ASSET CLASS	BENCHMARK INDEX
Total Public Equity	Customized Benchmark Portfolio
Domestic Equity	80% Russell 1000 / 20% Russell 2000
Large Capitalization Domestic Equity	Russell 1000
Passive Core	S&P 500
Active Core	S&P 500
Large Growth	Russell 1000 Growth
Large Value	Russell 1000 Value
Small Capitalization Domestic Equity	Russell 2000
Small Growth	Russell 2000 Growth
Small Value	Russell 2000 Value
International Equity	MSCI All Country World ex US IMI
Developed International	MSCI All Country World ex US
Developed International Passive Core	MSCI EAFE
Developed International Growth	MSCI ACWI Free ex US Growth
Developed International Value	MSCI ACWI Free ex US Value
International Small	MSCI ACWI Small Cap ex US
Emerging Markets	MSCI Emerging Markets Free

10.0 FIXED INCOME INVESTMENT POLICIES

FIXED INCOME OVERVIEW: Fixed income is expected to provide a lower but steadier stream of returns than public equity asset classes, but is also expected to reduce the risk of the overall portfolio because bonds have lower risk than most other major asset classes. That said, there are a number of sub-categories within fixed income that exhibit very different risk/return trade-offs and hold different tasks in terms of role in the portfolio. Fixed Income is broken out into five subcategories:

- 1) Core, 2) Core **UnconstrainedPlus**, 3) Opportunistic Credit, 4) Inflation Protection, and 5) Global Fixed Income

Core: Core is generally considered the lowest-risk fixed income category, and one that invests in primarily liquid, investment grade U.S. Dollar denominated bonds. It also generally consists of sectors that comprise the Barclays Aggregate Index. Core's role in the portfolio is to dampen portfolio volatility and protect the portfolio in times of economic duress.

Core **UnconstrainedPlus:** Core **UnconstrainedPlus** is a medium-risk fixed income sub-category, and contains the sectors contained in Core "plus" high yield (below investment grade bonds), non- U.S. Dollar denominated bonds, and emerging market fixed income

securities. Core Unconstrained'sPlus's role in the portfolio is a combination of total portfolio volatility dampening combined with some moderate return enhancementpotential.

Opportunistic Credit: Opportunistic Credit is expected to be the highest-risk fixed income category, and will be used to enhance return by investing in non-traditional sectors of the bond market, including bank loans, high yield bonds, convertible bonds, and CMBS/ABS securities. This sub-category will be exposed to general economic risk factors, similar to public equities.

Inflation Protection: Inflation Protection is expected to provide some protection against higher rates of inflation.

Global Fixed Income: Global Fixed Income has characteristics similar to a combination of Core and Core UnconstainedPlus but extended to a global opportunity set, and is expected to provide some portfolio volatility dampening along with some return enhancement.

FIXED INCOME PERFORMANCE OBJECTIVE:

The performance objective of the Fixed Income Composite is to outperform, on a net-of-fee-basis, a customized index incorporating the weighted average components for five sub-categories highlighted above (which results in the following weights: 46% Barclay's Capital Aggregate Bond Index, 25% Barclays BA Intermediate High Yield Index, 10% Barclays Capital US TIPS Index, and 19% Barclays Capital Multiverse Index), with a maximum tracking error of 3% to this benchmark.

FIXED INCOME RISK EXPOSURES AND RISK MITIGATION:

The fixed income sub-sectors have very different risk factor exposures, with Core being generally the lowest risk, highest liquid sub-category, while Opportunistic Credit is generally the highest risk, lowest liquid sub-category. SamCERA will take into account these unique risk factors when constructing the fixed income portfolio to help ensure that the overall risk profile of the total portfolio is consistent with expectations.

Core: The primary risk factors are sensitivity to changes in interest rates, changes in mortgage prepayment speeds, and investment-grade corporate and sovereign credit risk.

Core UnconstrainedPlus: Typically includes the risk factors found in Core with additional ~~(more—secondary)~~ exposures to high-yield default risks, emerging markets sovereign/corporate default risk, and potential illiquidity. The allocation to these risk exposures will be dynamic over time as the portfolio is not constrained to a benchmark.

Opportunistic Credit: Typically includes the risk factors contained in Core and Core UnconstrainedPlus, but, depending on the mandate, —with higher emphasis to high-yield default risks, emerging markets sovereign/corporate default risk, and potential illiquidity.

Inflation Protection: The primary risk factors are to changes in real interest rates, deflationary environments (although deflation floors could mitigate some of this risk), and potential illiquidity.

Global Fixed Income: The primary risk factors are sensitivity to global interest rates, sovereign credit risk (including emerging markets), corporate default risk, and currency impacts.

ASSET CLASS	BENCHMARK INDEX
Fixed Income	Customized Benchmark Portfolio
Domestic Fixed Income	Barclays Capital Aggregate Bond Index
Core/Core Unconstrained Plus	Barclays Capital Aggregate Bond Index
Opportunistic Credit	Barclays Capital BA Intermediate High Yield Index
Inflation Protection	Barclays Capital US TIPS Index
Global Fixed Income	Barclays Capital Multiverse Index

11.0 REAL ESTATE INVESTMENT POLICIES

REAL ESTATE OVERVIEW: Real Estate is expected to provide a return and risk profile between that provided by fixed income and equities. The majority of exposure will be in Core real estate assets of the highest quality located in the best locations in North America, Europe, and Asia. The remainder will be Value-Add properties that are expected to provide somewhat higher return potential along with somewhat higher risk. Income will be a large part of the return stream generated from this portfolio. The role of this portfolio is to provide diversification benefits, some protection against unanticipated inflation, and a steady income stream. Higher risk Opportunistic/Development real estate strategies will reside in the Private Equity composite due to their higher-risk, longer time horizon, and the less liquid nature of the investment set compared to Core and Value-Add strategies.

REAL ESTATE PERFORMANCE OBJECTIVE:

The performance objective of the Real Estate Composite is to outperform, on a net-of-fee basis, the NCREIF ODCE Index over a 5-year rolling period.

REAL ESTATE RISK EXPOSURES AND RISK MITIGATION:

Many real estate funds utilize leverage to enhance returns. Lack of liquidity is also a concern, but less so for core real estate investments. Value-add and opportunistic strategies also tend to have more exposure to general economic conditions than core properties.

These risks will be mitigated in a number of ways. First, the primary emphasis of SamCERA's real estate program will be focused on Core properties, with a secondary emphasis to Value-Add properties. Opportunistic-oriented strategies will reside in our Private Equity portfolio due to their higher risk profile. In addition, SamCERA's core real estate fund has a leverage limit of 35%, and SamCERA also sits on the Fund's Advisory Committee.

ASSET CLASS	BENCHMARK INDEX
Real Estate	NCREIF ODCE

12.0 ALTERNATIVE ASSETS INVESTMENT POLICIES

ALTERNATIVES OVERVIEW: Alternatives are investments that do not neatly fit into public equities, fixed income, or real estate. SamCERA’s alternatives program is broken out into the following four sub asset classes:

- 1) Private Equity, 2) Hedge Funds, 3) Commodities, and 4) Private Real Assets

Private Equity: Private Equity is expected to be the highest returning asset class over the long-term. Its role in the portfolio is to provide high return potential in order to maximize the ability of the Fund to meet its performance objectives. The Private Equity program will contain manager allocations to three primary sub-categories: 1) Buyouts, 2) Venture Capital, and 3) Debt/Special Situations. These allocations will be implemented via allocation to primary and secondary fund investments and co-investment opportunities. The sub-allocation target allocation and ranges around target are summarized below:

Sub-Category	Target Allocation	Range
Buyouts	60%	+/- 20%
Venture Capital	20%	0 – 30%
Debt/Special Situations	20%	+/- 10%

The responsibility for private equity sourcing is delegated to SamCERA’s investment consultant.

The private equity portfolio shall adhere to the following investment guidelines covering diversification and quality:

- (a) Diversification: Subject to availability of sufficient attractive opportunities, the portfolio is to be diversified over multiple years by the following:

Vintage Year: It is expected that roughly equal amounts of new funding will be committed in each calendar year, with deviations permitted to accommodate market opportunities and to facilitate initial entry into the asset class.

Investment Manager: No more than twenty (20) percent of the private equity portfolio's target allocation may be committed to any one investment manager (excluding fund of funds).

Geography: Through commitments to funds located and/or investing both in and outside of the United States.

Industry: It is expected that the private equity portfolio will be generally diversified by sector/industry.

(b) Quality: All commitments to private equity by SamCERA must be of institutional quality as evidenced by other tax-exempt institutional investors' commitments to the investment manager's prior or current funds.

Fund managers are expected to comply with SamCERA's private placement disclosure rules.

Hedge Funds (Absolute Return): The hedge fund category will focus on funds that have an absolute return orientation and are not expected to contain significant levels of public market beta over the long term. This category is expected to provide a diversifying return stream to the total plan that is not correlated to the public markets. Suitable investment strategies include multi-strategy funds, GTAA or global macro funds, and CTA/Managed Futures trend following funds. It is expected that this category will be implemented via commingled funds and not in separate accounts so that SamCERA's investment in any single fund would be 'ring-fenced' (i.e. any potential losses would be limited to the investment in the single fund, and not extend to the total plan assets). **Commodities:** Commodities are meant to provide some protection from higher levels of unanticipated inflation while providing a diversifying return stream from that of public markets.

Private Real Assets: Private Real Assets are expected to provide attractive total and risk-adjusted returns that exhibit low correlations with traditional asset classes but positive correlation with inflation. Private Real Assets will be composed of three sub-categories: 1) Infrastructure (Core, Secondary, Midstream Energy, and Power), 2) Mining, and 3) Farmland/Timber/Water. These allocations will be implemented via allocation to primary and secondary fund investments and co-investment opportunities. The sub-allocation target allocation and ranges around target are summarized below:

Sub-Category	Target Allocation	Range
Infrastructure	50%	+/- 50%
Mining	0%	0 – 50%

Farmland/Timber/Water

0%

0 – 50%

ALTERNATIVES PERFORMANCE OBJECTIVE:

The performance objective of the Alternatives Composite is to outperform, on a net-of-fee basis, a customized index incorporating the weighted average components for four sub-asset classes highlighted above (which results in the following weights: 44% Russell 3000+3%, 25% LIBOR+4%, 19% Dow Jones-UBS Commodity, and 12% CPI+5%).

ASSET CLASS	BENCHMARK INDEX
Alternatives	Customized Benchmark Portfolio
Private Equity	Russell 3000 + 3%
Commodities	Dow Jones-UBS Commodity
Hedge Funds	LIBOR + 4%
Real Assets	CPI + 5%

ALTERNATIVES RISK EXPOSURES AND RISK MITIGATION

Alternatives, while expected to provide attractive returns that are less correlated to the returns provided by public asset classes, also have a number of risks. Chief among these are illiquidity risk and leverage. By their nature both Private Equity and Private Real Assets are generally illiquid in that the life of these fund investments can be as long as ten to twelve years. SamCERA recognizes that this illiquidity is a necessary characteristic (and source of return premium) for these asset classes and as such will endeavor to take this illiquidity into account at the total plan level when addressing total plan liquidity needs during strategic planning asset liability studies. Leverage can be employed by alternative managers to enhance the overall risk-adjusted returns. SamCERA will control leverage exposure through partnership selection and portfolio construction and diversification.

13. RISK PARITY INVESTMENT POLICIES

RISK PARITY OVERVIEW: Risk Parity is a risk-diversified balanced portfolio that is expected to provide a more diversified return and risk profile than that of a traditional 60% equity / 40% fixed income portfolio. It is generally designed to be more balanced between equity risk, interest rate risk, and inflation risk than a traditional balanced portfolio.

RISK PARITY PERFORMANCE OBJECTIVE:

The performance objective of the Risk Parity Composite is to outperform, on a net-of-fee basis, the 60% Russell 3000 / 40% BC Aggregate over a 5 year rolling period.

RISK PARITY RISK EXPOSURES AND RISK MITIGATION:

Risk parity managers utilize leverage in order to enhance returns. Moderate leverage may be utilized and the portfolio managers should avoid strategies that might place the portfolio outside the expected ranges outlined. Gross exposures are expected to range from 250% to 350%. In addition, the risk parity portfolio shall consist of a portfolio of generally liquid trading instruments.

Counter-parties for Over the Counter (OTC) derivatives must either: (1) have a long-term rating from Standard & Poor's of at least A-, or from Moody's of at least A3; or (2) be approved by the manager's counter-party committee. In the event that the OTC derivative counterparty is an unrated affiliate whose performance is unconditionally guaranteed by the parent company, the parent's credit rating shall apply.

ASSET CLASS	BENCHMARK INDEX
Risk Parity	60% Russell 3000 / 40% BC Aggregate

14.0 QUARTERLY INVESTMENT PERFORMANCE REPORTING

The quarterly investment performance reports will be designed as a risk management tool and will afford the Board the opportunity to timely identify potential risk issues within the portfolio and to assess the relative performance of the investment managers.

The report will provide sufficient information to assess the following:

- A. Total and active risk assessment at total fund, composite and individual manager level.
- B. Performance attribution at total fund, composite and individual manager level.
- C. Adherence to the investment style for which the manager is retained, as measured by the quarterly risk adjusted active return (deviation of the manager's performance from the specified performance benchmark) over the last quarter, six months, one-, three-, and five-year periods, including updates from previous quarterly reports regarding adherence to the style for which the firm was retained;
- D. Ability of the active manager to demonstrate consistently positive information ratios, including updates from previous quarterly reports regarding the firm's information ratios;
- E. Quarterly, annual, three- and five-year total time-weighted returns relative to the specified performance benchmark and manager style peer group.

15.0 ANNUAL INVESTMENT STRATEGY

Annually, the Board/Staff shall convene an investment strategy session (typically as part of the annual retreat) with the objective of addressing strategic investment policy issues and to deliberate any policies that could benefit the performance of the retirement Fund. The agenda for these sessions should include (but is not limited to) the following information:

- (a) Compare the Fund's actual investment performance for the prior fiscal year against the investment objectives set forth in Section 3.0 and evaluate the relative success or failure of the prior year's performance; specific commentary to this objective shall be an integral part of the performance measurement process.
- (b) Compare each investment manager's investment performance for the prior fiscal year against the relevant benchmarks and peer groups and evaluate the relative success or failure of their prior year's performance.
- (c) Evaluate and review the total Fund performance attribution and contribution to return at the composite level to isolate performance drivers.
- (d) Evaluate and review the various risk exposures of the plan versus appropriate policy limits and on-going trends through time.
- (e) Evaluate and review the portfolio rebalancing activity for the year.
- (f) Evaluate the Fund's liquidity requirements for the current and next fiscal years.
- (g) Compare each investment manager's fees to their respective peer universe.

16.0 PROXY VOTING

The Investment Managers are delegated authority for the voting of proxies, subject to the following guidelines:

- A. All proxies shall be voted in the best interest of the shareholders, but in no instance shall the economic interests of the retirement Fund be subordinated to any other interest.
- B. Investment managers shall provide staff with quarterly reports on all proxies cast, in a mutually acceptable format.

17.0 SECURITIES LENDING

- A. Pursuant to Section 2.0 (E), the Custodian shall manage a securities lending program to enhance income in accordance with the terms and conditions set forth in a mutually acceptable securities lending agreement and guaranty.
- B. The Board reserves exclusive authority to approve the securities lending agreement prior to the commencement of securities lending activity.
- C. Unless otherwise specified in the agreement(s):
 - (i) All loans shall be marked-to-market daily.

(ii) Collateral on each loan shall be maintained daily at 102% of loan value for domestic securities and 105% of loan value for international securities.

(iii) Acceptable collateral shall be in the form of cash or marketable fixed income securities with maturities not greater than one year, including (1) Commercial Paper with quality ratings of P-1 and/or A-1 by Moody's Investors Services or Standard & Poor's Corporation, or their equivalents; (2) Banker's acceptances, certificates of deposits and time deposits; (3) United States Treasury and Government Agency short-term obligations; and (4) Repurchase Agreements with United States Treasury Securities and Agencies of the United States Government as collateral.

(iv) Borrower must have a long-term credit rating of either "A" from S&P or "A2" from Moody's. For split rated borrowers, the higher rating shall prevail if not the same rating, with the lower rating having a minimum long-term credit rating of either "A-" from S&P or "A3" from Moody's..

D. The Chief Investment Officer shall be responsible for monitoring the securities lending program and recommending changes as appropriate.

APPENDIX A

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Investment Committee Charter as Amended
RESOLUTION 99-00-09

This Resolution, adopted by the Board of Retirement (Board) of the San Mateo County Employees' Retirement Association (SamCERA), sets forth the Charter for the Board's Investment Committee.

WHEREAS, Article XVI, §17 of the Constitution of the State of California as amended in 1992 to read, in pertinent part, as follows:

Notwithstanding any other provisions of law or this Constitution to the contrary, the retirement board of a public pension or retirement system shall have plenary authority and fiduciary responsibility for investment of moneys and administration of the system, subject to all of the following:

(a) The retirement board ... shall have the sole and exclusive fiduciary responsibility over the assets of the ... system. The retirement board shall also have sole and exclusive responsibility to administer the system in a manner that will assure prompt delivery of benefits and related services to the participants and their beneficiaries. The assets ... are trust funds and shall be held for the exclusive purposes of providing benefits to participants ... and their beneficiaries and defraying reasonable expenses of administering the system.

(b) The members of the retirement board ... shall discharge their duties with respect to the system solely in the interest of, and for the exclusive purposes of providing benefits to, participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system. A retirement board's duty to its participants and their beneficiaries shall take precedence over any other duty.

(c) The members of the retirement board ... shall discharge their duties with respect to the system with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.

(d) The members of the retirement board...shall diversify the investments of the system so as to minimize the risk of loss and to maximize the rate of return, unless under the circumstances it is clearly not prudent to do so.

(e) The retirement board..., consistent with the exclusive fiduciary responsibilities vested in it, shall have the sole and exclusive power to provide for actuarial services in order to assure the competency of the assets of the... system. &

WHEREAS, California Government Code §31595 states, as follows:

The Board has exclusive control of the investment of the employees retirement fund. The assets of a public pension or retirement system are trust funds and shall be held for the exclusive purposes of providing benefits to participants in the pension or retirement system and their beneficiaries and defraying reasonable expenses of administering the system. Except as otherwise expressly restricted by the California Constitution and by law, the Board may, in its discretion, invest, or delegate the authority to invest, the assets of the fund through the purchase, holding, or sale of any form or type of investment, financial instrument, or financial transaction when prudent in the informed opinion of the Board...; &

WHEREAS, *The Board of Retirement*, wishes to exercise these powers as follows:

EXERCISE OF POWERS: *The Board shall exercise its investment, management and administrative authority and responsibility through the approval of motions recorded in public meeting &*

WHEREAS, the Board has adopted SamCERA's Investment Policy and amendments thereto to direct the investments of the Retirement Fund and now wishes to establish an Investment Committee to guide the future evolution of SamCERA's Investment Policy. Therefore, be it

RESOLVED that the Board hereby establishes a standing Investment Committee to direct the Board in its ongoing evaluation of SamCERA's Investment Policy, including but not limited to

- 1.0 CONDUCT ASSET ALLOCATION STUDIES
 - 1.1 Determine the characteristics of the Policy's liabilities in regards to the nature of Fund's cash flows
- 2.0 DEVELOP ASSET MIX ALTERNATIVES TO MEET LIABILITY REQUIREMENTS
 - 2.1 Establish allowable asset classes
 - 2.2 Determine asset class benchmarks
 - 2.3 Develop risk, return & correlation projections
- 3.0 EVALUATE EFFICIENT FRONTIER ALTERNATIVES
 - 3.1 Define risk, return and correlation
 - 3.2 Evaluate mean variance optimization
 - 3.3 Determine low risk alternatives and high risk alternatives
 - 3.4 Scale portfolios between two extremes
 - 3.5 Evaluate optimized efficient frontier
 - 3.6 Integrate optimized efficient frontier with asset-liability relationships
- 4.0 ANALYZE BOARD RISK TOLERANCE

- 4.1 Assess risk/reward trade-offs
- 4.2 Assess contribution rate sensitivity & variability
- 4.3 Assess ability to exceed actuarial interest rate
- 4.4 Assess comfort level with characteristics of specific asset mixes
- 5.0 RECOMMEND PREFERRED ASSET MIX
 - 5.1 Evaluate differences from current target
 - 5.2 Evaluate Board's willingness to implement new target asset mix
 - 5.3 Evaluate appropriateness of variance from peer public fund norms
- 6.0 RECOMMEND AMENDMENTS TO SAMCERA'S INVESTMENT POLICY
 - 6.1 Adjust target asset mix
 - 6.2 Introduce new benchmarks
 - 6.3 Include required asset class/portfolio modifications
- 7.0 RECOMMEND REVISIONS TO MANAGER STRUCTURE
 - 7.1 Adjust manager/style line-up as necessary
 - 7.2 Introduce new managers/asset classes
 - 7.3 Terminate managers/asset classes as necessary
 - 7.4 Establish active & passive allocation targets as appropriate
- 8.0 IMPLEMENT CHANGES TO MANAGER STRUCTURE
 - 8.1 Recommend time-line & approach to revise structure
 - 8.2 Conduct manager evaluations
 - 8.3 Establish portfolio and asset allocation rebalancing procedures
- 9.0 EVALUATE MANAGER PERFORMANCE
 - 9.1 Monitor results of managers both gross and net of investment management fees
 - 9.2 Assess consistency of portfolio decision making
 - 9.3 Evaluate organizational, ownership, personnel & other firm developments
- 10.0 RECOMMEND AND EVALUATE INVESTMENT CONSULTANT STRUCTURE & PERFORMANCE
 - 10.1 Recommend for Board determination the retention and termination of Investment Consultant(s) as necessary
 - 10.2 Define and assign special projects as warranted
 - 10.3 Monitor performance of Investment Consultant(s)
 - 10.4 Conduct evaluations of Investment Consultant(s)
 - 10.5 Evaluate organizational, ownership, personnel and other firm developments
- 12.0 INITIATE & EVALUATE SPECIAL INVESTMENT STUDIES
- 13.0 UNDERTAKE OTHER WORK ASSIGNED TO IT BY THE BOARD Be it further

RESOLVED that the Chair may appoint the members of the Investment Committee per Regulation 2.5.1. Be it further

RESOLVED that the Chief Executive Officer is hereby instructed to provide the Committee with access to all appropriate and available resources and records, so long as such access is consistent with sound fiduciary practices. Be it further

RESOLVED that the Chief Executive Officer is hereby authorized to provide compensation of \$100 per meeting for not more than two meetings per month to the members of the Committee eligible for such compensation, per GC§31521. Be it further

RESOLVED that the Board hereby reserves to itself sole authority to accept, modify, or reject the recommendations, which the Investment Committee may present from time to time pursuant to the provisions of this Resolution, per Regulation 2.3.

ADOPTED by unanimous vote, January 25, 2000

AMMENDED by unanimous vote, May 22, 2001

AMMENDED by unanimous vote, October 25, 2004

APPENDIX B

Derivatives Investment Policy

1) Introduction

There is a genuine need to allow SamCERA's separate account managers to evaluate new securities and introduce them into their portfolios, given that the investment process followed by the investment managers complies with the subsequent provisions of this policy statement. This policy statement allows SamCERA's separate account Managers to exercise reasonable investment freedom, while minimizing the possibility of adverse implications for the Board.

2) Derivative Definition

A 'derivative' commonly is defined as a financial instrument whose performance is derived, at least in part, from the performance of an underlying asset (such as a security or an index of securities).

3) Types of Securities Included or Excluded

Since the derivative sector of the market is likely to experience considerable change, provisions must be made for the general characteristics of a derivative security, its evaluation and monitoring. Therefore, it is most appropriate to not attempt to definitively list all of the derivative securities that are covered by this policy. Instead, what will be explicitly stated is the investment process that governs derivative investments and the evaluation and monitoring requirements of this policy.

4) Approach to Policy

An approach has been developed which states allowable derivative investments, limited allocation derivative investments and restricted derivative investments.

Derivative securities not specified in the above three groups of securities must be evaluated in accordance with the following section entitled Derivative Investment Process. If the security meets these provisions and the spirit of these policies, the manager may establish a prudent position in the instrument. However, the manager must be able to demonstrate the appropriateness of such an investment in light of SamCERA's guidelines.

5) Counter-Party Evaluation

When entering into a non-exchange traded derivative investment, the investment manager must fully evaluate the other side of the derivative transaction—the counter-parties to the trade. Due to the possibility of counter-party default, SamCERA's investment managers must evaluate the risks associated with the counter-party as if an investment were being made in the traditional securities issued by the counter-party.

At a minimum, the investment manager must evaluate the counter-party's following criteria:

- a) Corporate earnings stream
- b) Corporate asset quality
- c) Capitalization
- d) Corporate liquidity
- e) Moody's and Standard & Poor's debt ratings
- f) Other fundamental investment and risk characteristics

For those counter-parties that are broker/dealers, they must:

- a) Have investment grade (Moody's and S&P rated) debt
- b) Be registered with the SEC
- c) Have significant net capital to protect against potential adverse market circumstances

For those counter-parties that are financial institutions (banks), they must have:

- a) Investment grade (Moody's and S&P rated) debt
- b) Total assets in excess of \$1 billion
- c) Significant net capital to protect against potential adverse market circumstances

The investment manager must monitor individual investment and total portfolio exposure to counter-parties. Individual counter-party exposure must be well diversified and not concentrated in a small number of organizations.

6) Purposes for Derivatives

The acceptable investment purposes for the use of derivatives are as follows:

- a. Appropriate to use futures, options and forward currency contracts to assist investment managers in mitigating portfolio risk.
- b. Useful substitute for an existing, traditional investment. In certain circumstances it may be cheaper, quicker or easier to invest in a derivative instrument or security rather than transacting in the cash or traditional security market.
- c. Provides investment value to the portfolio, while being consistent with SamCERA's overall and specific investment policies.
- d. Obtains investment exposure that is appropriate with the manager's investment strategy and SamCERA's investment guidelines, but could not be made through traditional investment securities.

Given that one or more of these investment purposes are clearly met, it is the responsibility of the investment manager to explain and demonstrate how derivative investments impact portfolio risk and the context of the investment within the overall portfolio.

Any other derivative investment purpose is not allowed. Derivatives may not be introduced into the portfolio to create economic leverage or to create investment exposures that are otherwise excluded by SamCERA's Investment Policy. However, if a manager develops an investment purpose other than those listed above which he/she feels is legitimate and consistent with the spirit of SamCERA's guidelines, this purpose should be proposed in writing to the Board.

7) Investment Restrictions and Derivatives Policy

For the purpose of these guidelines, convertible debt, traditional zero coupon bonds, mortgage pass-through securities and asset-backed securities are not viewed as derivatives. Based upon the factors enumerated in the above Section 4 entitled Approach to Policy, the following guidelines have been established:

Allowable derivative investments

- a. Stable and well-structured mortgage CMO's (Collateralized Mortgage Obligations)
- b. Financial futures (if Exchange Traded)
- c. Currency forward contracts and currency options (Exchange and OTC traded)
- d. Interest rate swaps

Derivative investments with allocation limits

- a. Interest only mortgage CMO's
- b. Principal only mortgage CMO's
- c. Options (if Exchange Traded)
- d. Caps and floors as they apply to the above stated allowable derivative investments
- e. Credit Default Swaps (CDS)

Derivative investments with allocation limits, as listed above, may not represent more than 5% of the individual portfolio manager's assets (based on market value) managed for SamCERA. At the same time, derivative investments with allocation limits in aggregate may not expose the individual manager's portfolio to losses in excess of 5% of the manager's total assets. In addition, the use of options, caps and floors, and CDS may be used only for defensive investment purposes.

Managers investing in the above-defined limited allocation derivative instruments should ensure that portfolio exposure is maintained within the stated constraints, and communicate the assumptions and model used to estimate VAR (Value at Risk) and/or other reasonable risk measurement procedures annually to the Boards.

Restricted derivative investments

- a. Inverse floating rate notes and bonds
- b. Structured notes

Restricted derivatives cannot be held in SamCERA's separate account portfolios at any time.

8) Risk Analysis and Monitoring of Derivatives

For those securities that are classified as derivative investments with allocation limits, the investment managers are required to test and measure derivative investment sensitivities to changes in key risk factors. These risk factors include extreme changes in interest rates, volatility, liquidity, credit quality, and cash market prices.

These risk factors will be assessed prior to initial investment and on a quarterly basis. Results of such risk testing on derivative investments with allocation limits will be supplied to SamCERA on an annual basis (December 31). If the investment manager identifies additional risks that should be evaluated, these other risk factors should be added to the list and handled in a manner consistent with the previously stated approach.

9) Derivative Investment Process

Investment managers are expected to cover the following issues before purchasing a derivative instrument or security, whether specifically stated as an allowable derivative investment, a derivative investment with allocation limits, or a derivative not specifically discussed in the Investment Restrictions and Derivatives Policy section above:

- a. Determine if the purpose for investing in a derivative security is consistent with one or more of the purposes in the previous section entitled Purposes for Derivatives.

- b. Determine where the security fits into the classification system, if at all, stated in the Investment Restrictions and Derivatives Policy.
- c. Evaluate, at a minimum, the counter-party risk and the risks stated in the Risk Analysis and Monitoring section of the derivatives policy.
- d. Evaluate the derivative in a comparably thorough manner as the firm would any other traditional investment opportunity.

10) Reporting Requirements

It is the responsibility of SamCERA's investment managers to certify and demonstrate that their portfolios are in compliance with SamCERA's overall guidelines as well as those that apply to derivative investments. On an annual basis (December 31), SamCERA's investment managers will provide the following minimum monitoring information on all derivative securities:

- a. A general statement from the investment manager that its portfolio is in compliance with this Derivatives Policy.
- b. When stating the market value of the derivative exposure, the manager will specify the security pricing sources. The pricing source must be exchange-listed.
- c. A statement of the risks (credit risk—an evaluation of potential counter-party default on obligations, market risk—percent of portfolio invested in derivatives, and any other relevant risks) associated with the derivative investments.
- d. Potential adverse impact on market values if extreme adverse market movements occur.
- e. A statement regarding the liquidity of the derivative investments.
- f. Summary comments and the firm's list of approved counter-parties, ratings, and a statement regarding any changes to this list.
- g. An overall statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.

APPENDIX C

DUE DILIGENCE POLICY

MANUAL

POLICY

SamCERA's due diligence process requires: 1) Staff to perform on-going due diligence monitoring, 2) Consultant and Managers to make regularly scheduled due diligence presentations to Staff in SamCERA's offices, and 3) Staff and available Board members to make on-site visitations to the Consultant and Managers' offices on an as-needed basis.

PURPOSE

To discharge the fiduciary responsibilities of the Board and staff, regular due diligence with the San Mateo County Employees' Retirement Association investment managers is essential to the Board's ability to effectively monitor the performance of its investment professionals, and to the prudent discharge of the board's fiduciary duty to the beneficiaries of this multi-billion dollar retirement system.

F.01 – Due Diligence Monitoring

Individual investment managers will be monitored monthly, quarterly and annually. The managers' organizations and operations will be qualitatively monitored on a continual basis.

The Chief Investment Officer, with assistance from the Consultant, will present an investment performance report to the Board on a quarterly basis, as specified in Section 14.0 (Quarterly Investment Performance Reporting) in the Investment Policy. Performance will be measured for the total portfolio as well as individual components such as equities, fixed income and real estate portfolios. In addition, the performance of each component will be broken down into individual portfolios.

Comparisons will be made against market indices defined in this document. A variance from the stated performance objective will be calculated each quarter. Additionally, the portfolios' actual investment approach will be monitored against the required investment style to determine whether the manager is adhering to its acknowledged investment style.

The quarterly investment performance report will compare the total fund, each asset class and individual portfolio return to appropriate market indices and a representative peer group of similar funds or similar style investment managers. The report will note significant changes in the attribution of investment manager performance.

Annually, staff will request and review the Investment Manager's ADV Part II form and inform the board of significant changes in the firm or apparent conflicts of interest. In addition staff will request an annual insurance certification from each professional service provider. Where appropriate a Statement of Standards for Attestation Engagements (SSAE) No. 16 will be obtained and reviewed.

F.02 – Due Diligence Presentations

Consultants and Managers that are under contract with the Board to provide services will make a presentation to Staff at least once a year. The presentation shall include, but not be limited to, an update on the Manager's organization and business plan, changes to the investment process and investment performance. Staff may request presentations more frequently as circumstances demand. The Managers will provide on a semi-annual basis a completed Compliance Certification Statement and in-depth responses to a list of questions submitted by staff.

F.03 – Asset Categories

On-site meetings will be grouped by asset categories. This approach enables staff to readily compare and contrast investment approaches, systems, and controls utilized by the investment managers. It will also allow for a better evaluation of the existing asset diversification.

F.04 – Manager Selection Due Diligence

The Board, with the assistance of Staff and Consultant, selects Managers to manage the assets of the Fund. The Board authorizes Staff and Consultant to initiate a public markets search for a manager either to replace a manager or to fill a new mandate approved by the Board. The Consultant and Staff will conduct the search in accordance with criteria established for the search. The search criteria will include the scope of the mandate, the investment style, benchmark, and the minimum qualifications for candidates. When appropriate to better understand an investment strategy, Staff, and Consultant may perform on-site due diligence on the final candidate prior to signing the investment agreement.

The Board ~~may~~ will require ~~any~~ public markets Manager being considered as provider of professional services for SamCERA to make a formal presentation to it at a public Board meeting. The presentation ~~may~~ shall include, but not be limited to: 1) manager's organization and its staff, 2) investment philosophy and process, 3) the resources available to provide the service, 4) proposed fees and 4) performance characteristics.

Appendix D

DISCLOSURE OF PLACEMENT AGENT FEES, GIFTS, AND CAMPAIGN CONTRIBUTIONS

***Adopted by the Board of Retirement
December 14, 2010. Amended January 25, 2011.***

This policy is effective immediately upon adoption. This policy is intended to supplement any applicable provisions of state or federal law.

I. PURPOSE

This Policy sets forth the circumstances under which the San Mateo County Employees' Retirement Association (SAMCERA) shall require the disclosure of payments to *Placement Agents*, as that term is defined by Government Code section 7513.8, in connection with SAMCERA investments in or through *External Managers*, as that term is defined by Government Code section 7513.8. This Policy is intended to apply broadly to all of the types of investment partners with whom SAMCERA does business, including the general partners, managers, investment managers and sponsors of hedge funds, private equity funds, real estate funds and infrastructure funds, as well as investment managers retained pursuant to a contract. SAMCERA adopts this Policy to require broad, timely, and updated disclosure of all Placement Agent relationships, compensation and fees. The goal of this Policy is to help ensure that SAMCERA investment decisions are made solely on the merits of the investment opportunity by individuals who owe a fiduciary duty to SAMCERA.

II. APPLICATION

This Policy applies to all agreements with External Managers that are entered into after the date this Policy is adopted. This Policy also applies to existing agreements with External Managers if, after the date this Policy is adopted, the agreement is amended in any way to continue, terminate, or extend the term of the agreement or the investment period, increase the commitment of funds by SAMCERA or increase or accelerate the fees or compensation payable to the External Manager (Referred to hereafter as "Amendment".) In the case of an Amendment, the disclosure provisions of this Policy shall apply to the Amendment and not to the original agreement.

IV. RESPONSIBILITIES

A. The Board is responsible for:

1. not entering into any agreement with an External Manager that does not

agree in writing to comply with this policy.

2. not entering into any agreement with an External Manager who has violated this policy within the previous five years. However, this prohibition may be reduced by a majority vote of the board at a public session upon a showing of good cause.

B. Each External Manager is responsible for:

1. Providing a statement in writing that the External Manager will comply with this policy.
2. Providing the following information to the SAMCERA Investment Staff within 45 days of the time investment discussions are initiated by the External Manager, but in any event, prior to the completion of due diligence. In the case of Amendments, the Placement Agent Information Disclosure is required prior to execution of the Amendment.
 - a. Disclosure of payments or compensation by the External Manager or any of its principals, employees, agents or affiliates, directly or indirectly, to any person or entity to act as a Placement Agent in connection with SAMCERA investments.
 - b. A resume for each officer, partner, principal of the Placement Agent detailing the person's education, professional designations, regulatory licenses and investment and work experience. If any such person is a current or former SAMCERA Board Member, employee or Consultant or a member of the immediate family of any such person, this fact shall be specifically noted.
 - c. A description of any and all compensation of any kind provided or agreed to be provided to a Placement Agent, including the nature, timing and value thereof. Compensation to Placement Agents shall include, but not be limited to, compensation to third parties as well as employees of the External Manager who solicit or market investments to SAMCERA or who are paid based upon investment commitments secured by such employees.
 - d. A description of the services to be performed by the Placement Agent and a statement as to whether the Placement Agent is utilized by the External Manager with all prospective clients or only with a subset of the External Manager's prospective clients.
 - e. A written copy of any and all agreements between the External

Manager and the Placement Agent.

- f. A statement whether the placement agent, or any of its affiliates, are registered with the Securities and Exchange Commission or the Financial Industry Regulatory Association, or any similar regulatory agent in a country other than the United States, and the details of that registration or explanation as to why no registration is required.
 - g. A statement whether the placement agent, or any of its affiliates, is registered as a lobbyist with any state or national government.
 - h. The names of any current or former SAMCERA Board Members, employees, or Consultants who suggested the retention of the Placement Agent.
3. Providing an update of any changes to any of the information provided pursuant to section B.2 above within 14 calendar days of the date that the External Manager knew or should have known of the change in information.
4. Representing and warranting the accuracy of the information described in section B.2 above.
5. Causing its engaged Placement Agent to disclose, prior to acting as a Placement Agent to SAMCERA,
 - a. all campaign contributions made by the Placement Agent to any publicly elected SAMCERA Board Member during the prior 24-month period. Additionally, any subsequent campaign contribution made by the Placement Agent to any publicly elected SAMCERA Board Member during the time the Placement Agent is receiving compensation in connection with a SAMCERA investment shall also be disclosed.
 - b. all gifts, as defined in Government Code Section 82028, given by the Placement Agent to any SAMCERA Board Member during the prior 24-month period. Additionally, any subsequent gift made by the Placement Agent to any SAMCERA Board Member during the time the Placement Agent is receiving compensation in connection with a SAMCERA investment shall also be disclosed.
6. SAMCERA reserves the right to deem the failure to disclose the information required by 5(a) and 5(b) as a material breach of the agreement with the External Manager.

- D. SAMCERA Investment Staff (“Staff”) are responsible for:
1. Providing External Managers with a copy of this Policy at the time that discussions are initiated with respect to a prospective investment or engagement.
 2. Confirming that the information in section B above has been received within 45 days of the time investment discussions are initiated, but in any event, prior to the completion of due diligence and any recommendation to proceed with the contract or Amendment.
 3. For new contracts and amendments to contracts existing as of the date of the initial adoption of this Policy, securing the agreement of the External Manager in the final written agreement between SAMCERA and the External Manager to provide in the event that there was or is an intentional material omission or inaccuracy in the Placement Agent Information Disclosure or any other violation of this Policy, SAMCERA is entitled to the greater of the reimbursement of any management or advisory fees paid by SAMCERA for the prior two years or an amount equal to the amounts paid or promised to be paid to the Placement Agent as a result of the SAMCERA investment; and
 4. Prohibiting any External Manager or Placement Agent from soliciting new investments from SAMCERA for five years after they have committed a material violation of this Policy; *provided, however*, that SAMCERA’s Board, by majority vote at a noticed, public meeting, may reduce this prohibition upon a showing of good cause.
 5. Providing a quarterly report to the Board containing (a) the names and amount of compensation agreed to be provided to each Placement Agent by each External Manager as reported in the Placement Agent Information Disclosures, and (b) any material violations of this Policy; and maintaining the report as a public record.

DEFINITIONS:

The following definitions are current as of January 7, 2011. Should the legislature subsequently amend the definitions below, the definition of these terms as amended shall supersede the definitions contained in this policy.

As defined in California Government Code section 7513.8, “**External Manager**” means either of the following: (1) a person who is seeking to be, or is, retained by a board to manage a portfolio of securities or other assets for compensation; (2) a person who is engaged, or proposes to be engaged, in the business of investing, reinvesting, owning, holding, or trading securities or other

assets and who offers or sells, or has offered or sold, securities to a board. (All code section references are to the Government Code, unless otherwise noted.)

As defined in section 7513.8, “**Person**” means an individual, corporation, partnership, limited partnership, limited liability company, or association, either domestic or foreign.

As defined in section 7513.8, “**Placement Agent**” means any person hired, engaged, or retained by, or serving for the benefit of or on behalf of, an External Manager, or on behalf of another placement agent, who acts or has acted for compensation as a finder, solicitor, marketer, consultant, broker or other intermediary in connection with the offer or sale of the securities, assets, or services of an External Manager to a board or an Investment Vehicle, either directly or indirectly. Notwithstanding the preceding sentence, an individual who is an employee, officer, director, equity holder, partner, member, or trustee of an External Manager and who spends one-third or more of his or her time, during a calendar year, managing the securities or assets owned, controlled, invested, or held by the External Manager is not a Placement Agent.

As defined in section 7513.8, “**Investment Vehicle**” means a corporation, partnership, limited partnership, limited liability company, association, or other entity, either domestic or foreign, constituting or managed by an External Manager in which a board is the majority investor and that is organized in order to invest with, or retain the investment management services of, other External Managers.

“**Compensation**” means, for the purposes of this policy, remuneration and other benefits (including without limitation, favors) of any kind.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

RESOLUTION 15-16-___

**RESOLUTION REVISING SAMCERA'S
INVESTMENT POLICY STATEMENT**

WHEREAS, pursuant to Article XVI, Section 17, of the California Constitution, the Board of Retirement (the "Board"), has the exclusive authority and exclusive fiduciary responsibility for the investment and administration of the assets of the retirement system (the "Fund"), and on June 3, 2014, established an Investment Policy Statement (the "Policy") for the investment of the Fund assets; and

WHEREAS, the purpose of the Policy is to assist SamCERA in effectively supervising its investments in order to meet the requirements of the California Constitution, the County Employees Retirement Law of 1937 ("the 1937 Act"), the Mission and Goals of SamCERA and other requirements, and to encourage effective communication between SamCERA and its investment managers and investment consultants; and

WHEREAS, the Board desires that its Policy be reviewed and amended as necessary so as to remain up to date; and

WHEREAS, the Board has determined that the Investment Policy Statement be revised to memorialize the Board's recent actions regarding the Fund's asset allocation with regard to Large Capitalization Domestic to increase the Passive Core, the Fixed Income Assets to include "Core Unconstrained" rather than "Core Plus" and further revised to reflect the Board's current due diligence process used for manager selection; and

WHEREAS, the Board has reviewed the proposed revisions and desires to make such revisions;
Now, therefore, be it

RESOLVED, that the SamCERA "Investment Policy Statement" be revised to read as set forth in the attached document.



SamCERA's Investment Policy Statement

Approved June 2014

Revised September 2014

Revised September 2015

1.0 ESTABLISHMENT OF INVESTMENT POLICY

The Board of Retirement (the “Board”), having exclusive authority and exclusive fiduciary responsibility for the investment and administration of the Trust Fund (the “Fund”), hereby establishes the following Investment Policy (the “Policy”) for the investment of the San Mateo County Employees’ Retirement Association (“SamCERA”) assets. The Board reserves the right to amend, supplement or rescind this Policy at any time.

The purpose of this Policy is to assist SamCERA in effectively supervising its investments in order to meet the requirements of the California Constitution, the County Employees Retirement Law of 1937 (“the 1937 Act”), the Mission and Goals of SamCERA and other requirements, and to encourage effective communication between SamCERA and its investment managers (the “Manager(s)”) and investment consultants (the “Consultant(s)”).

A. GOVERNING DOCUMENTS FOR THE INVESTMENTS OF THE FUND.

The powers and duties of the Board are set forth in the 1937 Act and in Article XVI of the State Constitution. They are further defined by the Mission and Goals adopted by the Board.

SamCERA was created by San Mateo County Ordinance No. 564 adopted by the Board of Supervisors, effective July 1, 1944. This ordinance established the retirement system in accordance with the provisions of California's County Employees' Retirement Law of 1937.

Constitution of the State of California

Article XVI, Section 17, relates to the administration of the system and investment of the Fund assets. It reads in pertinent part:

“(a)...The assets of a public pension or retirement system are trust funds and shall be held for the exclusive purposes of providing benefits to participants in the pension or retirement system and their beneficiaries and defraying reasonable expenses of administering the system.

“(b) The members of the retirement board of a public pension or retirement system shall discharge their duties with respect to the system solely in the interest of, and for the exclusive purposes of providing benefits to, participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system. A retirement board's duty to its participants and their beneficiaries shall take precedence over any other duty.

“(c) The members of the retirement board of a public pension or retirement system shall discharge their duties with respect to the system with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.

“(d) The members of the retirement board of a public pension or retirement system shall diversify the investments of the system so as to minimize the risk of loss and to

maximize the rate of return, unless under the circumstances it is clearly not prudent to do so.”

The 1937 Act

The 1937 Act contains language similar to that in the State Constitution regarding the investments of the Fund:

“31595. The board has exclusive control of the investment of the employees’ retirement fund. The assets of a public pension or retirement system are trust funds and shall be held for the exclusive purposes of providing benefits to participants in the pension or retirement system and their beneficiaries and defraying reasonable expenses of administering the system. Except as otherwise expressly restricted by the California Constitution and by law, the board may, in its discretion, invest, or delegate the authority to invest, the assets of the fund through the purchase, holding, or sale of any form or type of investment, financial instrument, or financial transaction when prudent in the informed opinion of the board.

The board and its officers and employees shall discharge their duties with respect to the system: (a) Solely in the interest of, and for the exclusive purposes of providing benefits to, participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system.

(b) With the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.

(c) Shall diversify the investments of the system so as to minimize the risk of loss and to maximize the rate of return, unless under the circumstances it is clearly prudent not to do so.

SamCERA’s Mission and Goals

The Board has adopted a Mission and Goals statement. The Mission summarizes SamCERA’s reason to exist.

“Mission: SamCERA exists to serve as loyal fiduciary for its members and as prudent administrator of the retirement system.”

The Mission is further defined by three goals. One goal speaks to the management of the assets of the Fund. This asset management goal reads:

“Prudently manage the assets in order to appropriately fund the actuarial liabilities of the retirement system, to ensure the ability to pay all earned benefits while minimizing the costs to employers.”

In recognition of the requirements of the California Constitution, the 1937 Act, the SamCERA Mission and Goals and other legal requirements, the SamCERA Board has established this Investment Policy.

2.0 ROLES AND PRINCIPAL DUTIES

The Fund investments shall be prudently planned, implemented, managed, and monitored. The Board, Investment Committee (the “Committee”), Investment Staff (the “Staff”), Investment Consultant (the “Consultant”), Custodian Bank (the “Custodian”), and Investment Managers (the “Managers”) shall coordinate this process. The roles and principal duties of the above-mentioned parties are defined below:

A. THE BOARD shall review and approve Committee recommendations. The Board also will review, adopt and monitor all investment policies, guidelines and procedures required to prudently administer the Fund and to effectively mitigate risk to the Fund.

B. THE COMMITTEE shall identify issues pertinent to the effective investment and administration of the Fund and, on Board approval, initiate analysis of such issues by Staff, Consultant or Managers. It also reviews Staff’s and Consultant’s recommendations regarding all investment policies and Fund management. The Committee provides recommendations to the Board for adoption, oversees implementation, and monitors the investment programs in accordance with all applicable laws and Board-established policies, guidelines and procedures. Refer to Attachment A – Charter of SamCERA’s Investment Committee of the Board for detailed Committee responsibilities.

C. THE STAFF shall oversee the Fund’s investment program activities, implement the Board decisions, make recommendations to the Committee regarding Fund management, and recommend investment-related policies and procedures to the Committee. Additionally, Staff shall monitor the performance and compliance of Managers in accordance with all applicable laws, Board-established policies, guidelines and procedures, as well as Schedule B Investment Guidelines set out in the Investment Management Agreements (IMA) between SamCERA and each Manager. Staff shall also facilitate the Committee meetings and complete activities as directed by the Board.

D. THE CONSULTANT shall review, analyze and evaluate the Fund’s effectiveness and efficiency and make fund management related recommendations. Consultant assists Staff in implementing the Board decisions and developing all investment-related policies. Consultant’s responsibilities are detailed in the service agreement between SamCERA and Consultant.

E. THE CUSTODIAN shall provide custody of SamCERA’s investment assets. In addition, the Custodian will manage the securities lending program. The Custodian’s responsibilities will be detailed in the service agreement between SamCERA and Custodian.

F. THE MANAGERS shall prudently manage their mandated allocations in accordance with all applicable laws, Board-established policies, guidelines and procedures, as well as specific investment guidelines. Managers’ responsibilities will be detailed in the Investment Management Agreements (IMA) between SamCERA and each Manager.

3.0 INVESTMENT OBJECTIVES

The Board shall develop an investment program, consistent with the Investment Beliefs and General Investment Policies as stipulated in Sections 4.0 and 5.0, respectively, in order to meet the following objectives:

- A. Generate risk-adjusted returns that exceed the Asset Allocation Policy Benchmark (as defined in Section 6.0) on a net-of-fee basis over five-year rolling periods.
- B. Move toward full actuarial funding of the Pension Benefit Obligation based on GASB 25 and the Board's policy of layered fifteen-year unfunded actuarial accrued liability (UAAL) amortization periods.
- C. Achieve a Fund return that meets or exceeds the long-term forecast of capital market returns for the asset allocation portfolio benchmark over multiple economic cycles (e.g. 15-20 years).
- D. Provide a more consistent return stream than a traditional 60% Equity / 40% Fixed Income portfolio as measured by lower portfolio drawdowns over a full market cycle.

4.0 INVESTMENT BELIEFS

The following section summarizes the Board's investment beliefs that have guided it in the development of this Policy document and will guide it in the oversight of the Plan assets.

- Strategic asset allocation is the primary driver of portfolio risk and return.
- SamCERA should have a long-term horizon and not be tempted to deviate from its long-term plan in response to short-term volatility.
- Everything else being equal, simplicity is preferred over complexity.
- For those asset classes evidencing market efficiencies, the manager structure may favor the employment of passive strategies.
- Diversification is fundamental.
- There is no single definition of risk. There are various measures of 'risk' that can be used for various purposes.
- The portfolio should be diversified across many risk dimensions/timeframes.
- SamCERA should not pursue investments that will not adequately compensate it for the risks that those investments bring.
- Costs matter.

5.0 GENERAL INVESTMENT POLICIES

Consistent with the investment beliefs contained in Section 4.0, it is the investment policy of the Board to:

- A. Consistent with fiduciary standards, always act in the best economic interests of SamCERA’s plan beneficiaries and plan sponsors, and refrain from making investment decisions for political, social, or other non-economic reasons.
- B. Pursue an investment strategy that reduces the volatility of returns through prudent diversification of the portfolio across a broad selection of distinct asset classes, as provided for in Section 6.0 of this Investment Policy.
- C. Further diversify other risks, including extreme events, liquidity, and leverage by looking beyond traditional asset class definitions by utilizing multiple lenses on portfolio risks.
- D. Adopt an asset allocation target to guide the structure of the investment portfolio, as provided for in Section 6.0, and reevaluate on an annual basis.
- E. Reevaluate the asset-liability study every three to five years.
- F. Delegate full discretion to each investment manager to the extent authorized in their Investment Management Agreement (IMA).
- G. Adopt objectives that encourage investment managers to maximize their performance, within acceptable risk parameters, relative to their individual investment style benchmark.
- H. Refrain from drastically shifting asset class allocations over short time spans, unless it is in the Fund’s best interest to do so.
- I. Rebalance the portfolio in accordance to the Rebalancing Policy set forth in Section 7.0.

6.0 ASSET ALLOCATION & PORTFOLIO STRUCTURE

The target asset class allocation, rebalancing ranges, and the sub-asset class portfolio structure of the Fund shall be allocated as follows:

ASSET CLASS	TARGET ALLOCATION	REBALANCE RANGE
Public Equity	50%	±3%
Fixed Income	20%	±2%
Risk Parity	8%	±2%
Alternative Assets *	16%	±2%
Real Estate *	6%	±2%

* Recognizing the illiquidity of the asset class, rebalancing will be considered over six- to twelve-month periods.

- A. Public Equity Assets shall be allocated to managers within the following sub- asset classes:

PUBLIC EQUITY ASSET CLASSES	TARGET ALLOCATION	REBALANCE RANGE
Large Capitalization Domestic	24.0%	±2%
Passive Core	115.0%	±2%
Active Core	3.0%	±2%
Growth	3.0%	±2%
Value	3.0%	±2%
Small Capitalization Domestic	6.0%	±2%
Growth	3.0%	±2%
Value	3.0%	±2%
International	20.0%	±2%
Passive Core	4.0%	±2%
Growth	6.0%	±2%
Value	6.0%	±2%
Small Capitalization	2.0%	±2%
Emerging Market	2.0%	±2%
TOTAL PUBLIC EQUITY	50.0%	

B. Fixed Income Assets shall be allocated to managers within the following sub-asset classes:

FIXED INCOME ASSET CLASSES	TARGET ALLOCATION	REBALANCE RANGE
Core	6.0%	±2%
Core Unconstrained	4.0%	±2%
Opportunistic Credit	5.0%	±2%
Inflation Protection	2.0%	±2%
Global Fixed Income	3.0%	±2%
TOTAL FIXED INCOME	20.0%	

C. Alternative Assets shall be allocated to managers within the following sub-asset classes:

ALTERNATIVE ASSET CLASSES	TARGET ALLOCATION	REBALANCE RANGE
Private Equity	7.0%	±2%
Hedge Funds (Absolute Return)	4.0%	±2%
Commodities	3.0%	±2%
Real Assets	2.0%	±2%
TOTAL ALTERNATIVE ASSETS	16.0%	

D. Risk Parity Assets shall be allocated as follows:

RISK PARITY ASSET CLASSES	TARGET ALLOCATION	REBALANCE RANGE
Risk Parity	8.0%	±2%
TOTAL RISK PARITY	8.0%	

E. Real Estate Assets shall be allocated as follows:

REAL ESTATE ASSET CLASSES	TARGET ALLOCATION	REBALANCE RANGE
Core	6.0%	±2%
TOTAL REAL ESTATE	6.0%	

F. Asset Allocation Policy Benchmark

The Asset Allocation Policy Benchmark defined below is derived by assigning a passive benchmark to each of the sub-asset classes referenced in Sections 6.0 (A) through 6.0 (E) and weighting each by the Target Allocation. The performance of the Asset Allocation Policy Benchmark is computed by the Plan's investment consultant, Strategic Investment Solutions.

Benchmark	Asset Allocation Policy Benchmark
Public Equity	50%
Russell 1000 Index	24%
Russell 2000 Index	6%
MSCI ACWI x US IMI Index	20%
Fixed Income	20%
BC Aggregate Index	10%
BC BA Intermediate High Yield Index	5%
BC Capital US TIPS Index	2%
BC Multiverse Index	3%
Risk Parity	8%
60% Russell 3000 / 40% BC Aggregate	8%
Alternatives	16%
Russell 3000 +3%	7%

LIBOR + 4%	4%
DJ UBS Commodity Index	3%
CPI + 5%	2%
Real Estate	6%
<hr/>	
NCREIF ODCE	6%

7.0 REBALANCING POLICY

- A. The Chief Investment Officer (CIO) shall rebalance the portfolio as needed in conformance with the asset allocation tactical ranges set forth in Section 6.0.
- B. The potential need to rebalance will be continuously monitored, and will be subject to deviations within the established rebalance ranges specified in Section 6.0.
- C. The CIO will have discretion to rebalance to Target or to some other allocation, as long as it is within policy ranges.
- D. Cash flows will be used first to rebalance, and to the extent possible, exchange traded derivatives will be used to rebalance in a cost-effect manner.
- E. All rebalancing activity shall be reported to the Board at the next scheduled meeting.

8.0 GENERAL MANAGER INVESTMENT PERFORMANCE POLICIES

The responsibility for securities selection, purchase and sale decisions, and proxy voting (where appropriate) is delegated to the external investment managers. The individual investment guideline parameters (including diversification constraints, concentration limits, asset type exclusions, etc.) and performance objectives for each investment manager will be established within the IMA with each firm.

The Board expects to measure investment performance quarterly and will generally follow prudent time horizons when evaluating short term, intermediate term, and long term performance of its investment managers. Generally, the Board defines underperformance as: Cumulative annualized performance (net of fees) over a three-year period below a broad market-based benchmark return times 0.9, or five year return (net of fees) below the broad market based benchmark return.

Performance will also be evaluated in light of the manager’s stated style and discipline.

9.0 PUBLIC EQUITY INVESTMENT POLICIES

PUBLIC EQUITY OVERVIEW: Public equity is expected to produce returns higher than that provided from fixed income but at potentially higher levels of volatility. Exposure to this asset class will provide return streams generally correlated to that of the general economic growth. There are two primary parts to the Public Equity category: 1) Domestic Equity, and 2) International Equity.

PUBLIC EQUITY MANAGER STRUCTURE:

Domestic Equity: For the domestic equity program, the majority of the tracking error will come from stock selection via active management as the overall manager structure for domestic equities will not possess any significant biases in terms of investment style. The domestic equity composite will consist of two sub-composites: 1) Large-Capitalization Equity, and 2) Small-Capitalization Equity. The large-cap composite will consist of Core, Value, and Growth. Core will consist of two strategies, one a passive and another a low-tracking error active, while the Growth and Value categories will consist of higher tracking error active strategies. The Small-Capitalization strategy will consist of actively-managed Value and Growth strategies.

International Equity: International Equity will consist of two sub-composites: 1) Developed Equity, and 2) Emerging Equity. Developed Equity will consist of a passive Core component and active Value, Growth (although both have exposure to emerging markets) and Core Small-Capitalization strategies. Emerging Market Equity will consist of an active Core mandate.

PUBLIC EQUITY PERFORMANCE OBJECTIVE:

The performance objective of the Public Equity Category is to outperform on a net-of-fee basis a customized index (Customized Benchmark Portfolio) incorporating the weighted average components for both the domestic and international equity parts (which results in the following weights: 48% Russell 1000, 12% Russell 2000, and 40% MSCI World ex US IMI), with a maximum tracking error of 3% to this benchmark.

PUBLIC EQUITY RISK EXPOSURES AND RISK MITIGATION:

The primary risk factors for Public Equity are correlation to general economic growth, high volatility in returns, and potential illiquidity in smaller-capitalization and certain emerging market stocks. SamCERA will control for these risk factors by diversifying the plan across assets that exhibit limited correlation to economic growth. In addition, SamCERA's rebalancing ranges for small-cap and emerging market equities will help ensure adequate diversification within the equity portion of the SamCERA portfolio.

ASSET CLASS	BENCHMARK INDEX
Total Public Equity	Customized Benchmark Portfolio
Domestic Equity	80% Russell 1000 / 20% Russell 2000
Large Capitalization Domestic Equity	Russell 1000
Passive Core	S&P 500
Active Core	S&P 500
Large Growth	Russell 1000 Growth
Large Value	Russell 1000 Value
Small Capitalization Domestic Equity	Russell 2000
Small Growth	Russell 2000 Growth
Small Value	Russell 2000 Value
International Equity	MSCI All Country World ex US IMI
Developed International	MSCI All Country World ex US
Developed International Passive Core	MSCI EAFE
Developed International Growth	MSCI ACWI Free ex US Growth
Developed International Value	MSCI ACWI Free ex US Value
International Small	MSCI ACWI Small Cap ex US
Emerging Markets	MSCI Emerging Markets Free

10.0 FIXED INCOME INVESTMENT POLICIES

FIXED INCOME OVERVIEW: Fixed income is expected to provide a lower but steadier stream of returns than public equity asset classes, but is also expected to reduce the risk of the overall portfolio because bonds have lower risk than most other major asset classes. That said, there are a number of sub-categories within fixed income that exhibit very different risk/return trade-offs and hold different tasks in terms of role in the portfolio. Fixed Income is broken out into five subcategories:

- 1) Core, 2) Core Unconstrained, 3) Opportunistic Credit, 4) Inflation Protection, and 5) Global Fixed Income

Core: Core is generally considered the lowest-risk fixed income category, and one that invests in primarily liquid, investment grade U.S. Dollar denominated bonds. It also generally consists of sectors that comprise the Barclays Aggregate Index. Core's role in the portfolio is to dampen portfolio volatility and protect the portfolio in times of economic duress.

Core Unconstrained: Core Unconstrained is a medium-risk fixed income sub-category, and contains the sectors contained in Core plus high yield (below investment grade bonds), non-U.S. Dollar denominated bonds, and emerging market fixed income securities. Core Unconstrained's role in the portfolio is a combination of total portfolio volatility dampening combined with some moderate return enhancement.

Opportunistic Credit: Opportunistic Credit is expected to be the highest-risk fixed income category, and will be used to enhance return by investing in non-traditional sectors of the bond market, including bank loans, high yield bonds, convertible bonds, and CMBS/ABS securities. This sub-category will be exposed to general economic risk factors, similar to public equities.

Inflation Protection: Inflation Protection is expected to provide some protection against higher rates of inflation.

Global Fixed Income: Global Fixed Income has characteristics similar to a combination of Core and Core Unconstrained but extended to a global opportunity set, and is expected to provide some portfolio volatility dampening along with some return enhancement.

FIXED INCOME PERFORMANCE OBJECTIVE:

The performance objective of the Fixed Income Composite is to outperform, on a net-of-fee-basis, a customized index incorporating the weighted average components for five sub-categories highlighted above (which results in the following weights: 46% Barclay's Capital Aggregate Bond Index, 25% Barclays BA Intermediate High Yield Index, 10% Barclays Capital US TIPS Index, and 19% Barclays Capital Multiverse Index), with a maximum tracking error of 3% to this benchmark.

FIXED INCOME RISK EXPOSURES AND RISK MITIGATION:

The fixed income sub-sectors have very different risk factor exposures, with Core being generally the lowest risk, highest liquid sub-category, while Opportunistic Credit is generally the highest risk, lowest liquid sub-category. SamCERA will take into account these unique risk factors when constructing the fixed income portfolio to help ensure that the overall risk profile of the total portfolio is consistent with expectations.

Core: The primary risk factors are sensitivity to changes in interest rates, changes in mortgage prepayment speeds, and investment-grade corporate and sovereign credit risk.

Core Unconstrained: Typically includes the risk factors found in Core with additional exposures to high-yield default risks, emerging markets sovereign/corporate default risk, and potential illiquidity. The allocation to these risk exposures will be dynamic over time as the portfolio is not constrained to a benchmark.

Opportunistic Credit: Typically includes the risk factors contained in Core and Core Unconstrained, but, depending on the mandate, with higher emphasis to high-yield default risks, emerging markets sovereign/corporate default risk, and potential illiquidity.

Inflation Protection: The primary risk factors are to changes in real interest rates, deflationary environments (although deflation floors could mitigate some of this risk), and potential illiquidity.

Global Fixed Income: The primary risk factors are sensitivity to global interest rates, sovereign credit risk (including emerging markets), corporate default risk, and currency impacts.

ASSET CLASS	BENCHMARK INDEX
Fixed Income	Customized Benchmark Portfolio
Domestic Fixed Income	Barclays Capital Aggregate Bond Index
Core/Core Unconstrained	Barclays Capital Aggregate Bond Index
Opportunistic Credit	Barclays Capital BA Intermediate High Yield Index
Inflation Protection	Barclays Capital US TIPS Index
Global Fixed Income	Barclays Capital Multiverse Index

11.0 REAL ESTATE INVESTMENT POLICIES

REAL ESTATE OVERVIEW: Real Estate is expected to provide a return and risk profile between that provided by fixed income and equities. The majority of exposure will be in Core real estate assets of the highest quality located in the best locations in North America, Europe, and Asia. The remainder will be Value-Add properties that are expected to provide somewhat higher return potential along with somewhat higher risk. Income will be a large part of the return stream generated from this portfolio. The role of this portfolio is to provide diversification benefits, some protection against unanticipated inflation, and a steady income stream. Higher risk Opportunistic/Development real estate strategies will reside in the Private Equity composite due to their higher-risk, longer time horizon, and the less liquid nature of the investment set compared to Core and Value-Add strategies.

REAL ESTATE PERFORMANCE OBJECTIVE:

The performance objective of the Real Estate Composite is to outperform, on a net-of-fee basis, the NCREIF ODCE Index over a 5-year rolling period.

REAL ESTATE RISK EXPOSURES AND RISK MITIGATION:

Many real estate funds utilize leverage to enhance returns. Lack of liquidity is also a concern, but less so for core real estate investments. Value-add and opportunistic strategies also tend to have more exposure to general economic conditions than core properties.

These risks will be mitigated in a number of ways. First, the primary emphasis of SamCERA's real estate program will be focused on Core properties, with a secondary emphasis to Value-Add properties. Opportunistic-oriented strategies will reside in our Private Equity portfolio due to their higher risk profile. In addition, SamCERA's core real estate fund has a leverage limit of 35%, and SamCERA also sits on the Fund's Advisory Committee.

ASSET CLASS	BENCHMARK INDEX
Real Estate	NCREIF ODCE

12.0 ALTERNATIVE ASSETS INVESTMENT POLICIES

ALTERNATIVES OVERVIEW: Alternatives are investments that do not neatly fit into public equities, fixed income, or real estate. SamCERA’s alternatives program is broken out into the following four sub asset classes:

- 1) Private Equity, 2) Hedge Funds, 3) Commodities, and 4) Private Real Assets

Private Equity: Private Equity is expected to be the highest returning asset class over the long-term. Its role in the portfolio is to provide high return potential in order to maximize the ability of the Fund to meet its performance objectives. The Private Equity program will contain manager allocations to three primary sub-categories: 1) Buyouts, 2) Venture Capital, and 3) Debt/Special Situations. These allocations will be implemented via allocation to primary and secondary fund investments and co-investment opportunities. The sub-allocation target allocation and ranges around target are summarized below:

Sub-Category	Target Allocation	Range
Buyouts	60%	+/- 20%
Venture Capital	20%	0 – 30%
Debt/Special Situations	20%	+/- 10%

The responsibility for private equity sourcing is delegated to SamCERA’s investment consultant.

The private equity portfolio shall adhere to the following investment guidelines covering diversification and quality:

(a) **Diversification:** Subject to availability of sufficient attractive opportunities, the portfolio is to be diversified over multiple years by the following:

Vintage Year: It is expected that roughly equal amounts of new funding will be committed in each calendar year, with deviations permitted to accommodate market opportunities and to facilitate initial entry into the asset class.

Investment Manager: No more than twenty (20) percent of the private equity portfolio’s target allocation may be committed to any one investment manager (excluding fund of funds).

Geography: Through commitments to funds located and/or investing both in and outside of the United States.

Industry: It is expected that the private equity portfolio will be generally diversified by sector/industry.

(b) Quality: All commitments to private equity by SamCERA must be of institutional quality as evidenced by other tax-exempt institutional investors' commitments to the investment manager's prior or current funds.

Fund managers are expected to comply with SamCERA's private placement disclosure rules.

Hedge Funds (Absolute Return): The hedge fund category will focus on funds that have an absolute return orientation and are not expected to contain significant levels of public market beta over the long term. This category is expected to provide a diversifying return stream to the total plan that is not correlated to the public markets. Suitable investment strategies include multi-strategy funds, GTAA or global macro funds, and CTA/Managed Futures trend following funds. It is expected that this category will be implemented via commingled funds and not in separate accounts so that SamCERA's investment in any single fund would be 'ring-fenced' (i.e. any potential losses would be limited to the investment in the single fund, and not extend to the total plan assets). **Commodities:** Commodities are meant to provide some protection from higher levels of unanticipated inflation while providing a diversifying return stream from that of public markets.

Private Real Assets: Private Real Assets are expected to provide attractive total and risk-adjusted returns that exhibit low correlations with traditional asset classes but positive correlation with inflation. Private Real Assets will be composed of three sub-categories: 1) Infrastructure (Core, Secondary, Midstream Energy, and Power), 2) Mining, and 3) Farmland/Timber/Water. These allocations will be implemented via allocation to primary and secondary fund investments and co-investment opportunities. The sub-allocation target allocation and ranges around target are summarized below:

Sub-Category	Target Allocation	Range
Infrastructure	50%	+/- 50%
Mining	0%	0 – 50%
Farmland/Timber/Water	0%	0 – 50%

ALTERNATIVES PERFORMANCE OBJECTIVE:

The performance objective of the Alternatives Composite is to outperform, on a net-of-fee basis, a customized index incorporating the weighted average components for four sub-asset classes highlighted above (which results in the following weights: 44% Russell 3000+3%, 25% LIBOR+4%, 19% Dow Jones-UBS Commodity, and 12% CPI+5%).

ASSET CLASS	BENCHMARK INDEX
Alternatives	Customized Benchmark Portfolio
Private Equity	Russell 3000 + 3%
Commodities	Dow Jones-UBS Commodity
Hedge Funds	LIBOR + 4%
Real Assets	CPI + 5%

ALTERNATIVES RISK EXPOSURES AND RISK MITIGATION

Alternatives, while expected to provide attractive returns that are less correlated to the returns provided by public asset classes, also have a number of risks. Chief among these are illiquidity risk and leverage. By their nature both Private Equity and Private Real Assets are generally illiquid in that the life of these fund investments can be as long as ten to twelve years. SamCERA recognizes that this illiquidity is a necessary characteristic (and source of return premium) for these asset classes and as such will endeavor to take this illiquidity into account at the total plan level when addressing total plan liquidity needs during strategic planning asset liability studies. Leverage can be employed by alternative managers to enhance the overall risk-adjusted returns. SamCERA will control leverage exposure through partnership selection and portfolio construction and diversification.

13. RISK PARITY INVESTMENT POLICIES

RISK PARITY OVERVIEW: Risk Parity is a risk-diversified balanced portfolio that is expected to provide a more diversified return and risk profile than that of a traditional 60% equity / 40% fixed income portfolio. It is generally designed to be more balanced between equity risk, interest rate risk, and inflation risk than a traditional balanced portfolio.

RISK PARITY PERFORMANCE OBJECTIVE:

The performance objective of the Risk Parity Composite is to outperform, on a net-of-fee basis, the 60% Russell 3000 / 40% BC Aggregate over a 5 year rolling period.

RISK PARITY RISK EXPOSURES AND RISK MITIGATION:

Risk parity managers utilize leverage in order to enhance returns. Moderate leverage may be utilized and the portfolio managers should avoid strategies that might place the portfolio

outside the expected ranges outlined. Gross exposures are expected to range from 250% to 350%. In addition, the risk parity portfolio shall consist of a portfolio of generally liquid trading instruments.

Counter-parties for Over the Counter (OTC) derivatives must either: (1) have a long-term rating from Standard & Poor's of at least A-, or from Moody's of at least A3; or (2) be approved by the manager's counter-party committee. In the event that the OTC derivative counterparty is an unrated affiliate whose performance is unconditionally guaranteed by the parent company, the parent's credit rating shall apply.

ASSET CLASS	BENCHMARK INDEX
Risk Parity	60% Russell 3000 / 40% BC Aggregate

14.0 QUARTERLY INVESTMENT PERFORMANCE REPORTING

The quarterly investment performance reports will be designed as a risk management tool and will afford the Board the opportunity to timely identify potential risk issues within the portfolio and to assess the relative performance of the investment managers.

The report will provide sufficient information to assess the following:

- A. Total and active risk assessment at total fund, composite and individual manager level.
- B. Performance attribution at total fund, composite and individual manager level.
- C. Adherence to the investment style for which the manager is retained, as measured by the quarterly risk adjusted active return (deviation of the manager's performance from the specified performance benchmark) over the last quarter, six months, one-, three-, and five-year periods, including updates from previous quarterly reports regarding adherence to the style for which the firm was retained;
- D. Ability of the active manager to demonstrate consistently positive information ratios, including updates from previous quarterly reports regarding the firm's information ratios;
- E. Quarterly, annual, three- and five-year total time-weighted returns relative to the specified performance benchmark and manager style peer group.

15.0 ANNUAL INVESTMENT STRATEGY

Annually, the Board/Staff shall convene an investment strategy session (typically as part of the annual retreat) with the objective of addressing strategic investment policy issues and to deliberate any policies that could benefit the performance of the retirement Fund. The agenda for these sessions should include (but is not limited to) the following information:

- (a) Compare the Fund's actual investment performance for the prior fiscal year against the investment objectives set forth in Section 3.0 and evaluate the relative success or failure of the prior year's performance; specific commentary to this objective shall be an integral part of the performance measurement process.
- (b) Compare each investment manager's investment performance for the prior fiscal year against the relevant benchmarks and peer groups and evaluate the relative success or failure of their prior year's performance.
- (c) Evaluate and review the total Fund performance attribution and contribution to return at the composite level to isolate performance drivers.
- (d) Evaluate and review the various risk exposures of the plan versus appropriate policy limits and on-going trends through time.
- (e) Evaluate and review the portfolio rebalancing activity for the year.
- (f) Evaluate the Fund's liquidity requirements for the current and next fiscal years.
- (g) Compare each investment manager's fees to their respective peer universe.

16.0 PROXY VOTING

The Investment Managers are delegated authority for the voting of proxies, subject to the following guidelines:

- A. All proxies shall be voted in the best interest of the shareholders, but in no instance shall the economic interests of the retirement Fund be subordinated to any other interest.
- B. Investment managers shall provide staff with quarterly reports on all proxies cast, in a mutually acceptable format.

17.0 SECURITIES LENDING

- A. Pursuant to Section 2.0 (E), the Custodian shall manage a securities lending program to enhance income in accordance with the terms and conditions set forth in a mutually acceptable securities lending agreement and guaranty.
- B. The Board reserves exclusive authority to approve the securities lending agreement prior to the commencement of securities lending activity.
- C. Unless otherwise specified in the agreement(s):
 - (i) All loans shall be marked-to-market daily.
 - (ii) Collateral on each loan shall be maintained daily at 102% of loan value for domestic securities and 105% of loan value for international securities.
 - (iii) Acceptable collateral shall be in the form of cash or marketable fixed income securities with maturities not greater than one year, including (1) Commercial Paper

with quality ratings of P-1 and/or A-1 by Moody's Investors Services or Standard & Poor's Corporation, or their equivalents; (2) Banker's acceptances, certificates of deposits and time deposits; (3) United States Treasury and Government Agency short-term obligations; and (4) Repurchase Agreements with United States Treasury Securities and Agencies of the United States Government as collateral.

(iv) Borrower must have a long-term credit rating of either "A" from S&P or "A2" from Moody's. For split rated borrowers, the higher rating shall prevail if not the same rating, with the lower rating having a minimum long-term credit rating of either "A-" from S&P or "A3" from Moody's..

D. The Chief Investment Officer shall be responsible for monitoring the securities lending program and recommending changes as appropriate.

APPENDIX A

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Investment Committee Charter as Amended
RESOLUTION 99-00-09

This Resolution, adopted by the Board of Retirement (Board) of the San Mateo County Employees' Retirement Association (SamCERA), sets forth the Charter for the Board's Investment Committee.

WHEREAS, Article XVI, §17 of the Constitution of the State of California as amended in 1992 to read, in pertinent part, as follows:

Notwithstanding any other provisions of law or this Constitution to the contrary, the retirement board of a public pension or retirement system shall have plenary authority and fiduciary responsibility for investment of moneys and administration of the system, subject to all of the following:

(a) The retirement board ... shall have the sole and exclusive fiduciary responsibility over the assets of the ... system. The retirement board shall also have sole and exclusive responsibility to administer the system in a manner that will assure prompt delivery of benefits and related services to the participants and their beneficiaries. The assets ... are trust funds and shall be held for the exclusive purposes of providing benefits to participants ... and their beneficiaries and defraying reasonable expenses of administering the system.

(b) The members of the retirement board ... shall discharge their duties with respect to the system solely in the interest of, and for the exclusive purposes of providing benefits to, participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system. A retirement board's duty to its participants and their beneficiaries shall take precedence over any other duty.

(c) The members of the retirement board ... shall discharge their duties with respect to the system with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims.

(d) The members of the retirement board...shall diversify the investments of the system so as to minimize the risk of loss and to maximize the rate of return, unless under the circumstances it is clearly not prudent to do so.

(e) The retirement board..., consistent with the exclusive fiduciary responsibilities vested in it, shall have the sole and exclusive power to provide for actuarial services in order to assure the competency of the assets of the... system. &

WHEREAS, California Government Code §31595 states, as follows:

The Board has exclusive control of the investment of the employees retirement fund. The assets of a public pension or retirement system are trust funds and shall be held for the exclusive purposes of providing benefits to participants in the pension or retirement system and their beneficiaries and defraying reasonable expenses of administering the system. Except as otherwise expressly

restricted by the California Constitution and by law, the Board may, in its discretion, invest, or delegate the authority to invest, the assets of the fund through the purchase, holding, or sale of any form or type of investment, financial instrument, or financial transaction when prudent in the informed opinion of the Board...; &

WHEREAS, *The Board of Retirement*, wishes to exercise these powers as follows:

EXERCISE OF POWERS: *The Board shall exercise its investment, management and administrative authority and responsibility through the approval of motions recorded in public meeting &*

WHEREAS, the Board has adopted SamCERA's Investment Policy and amendments thereto to direct the investments of the Retirement Fund and now wishes to establish an Investment Committee to guide the future evolution of SamCERA's Investment Policy. Therefore, be it

RESOLVED that the Board hereby establishes a standing Investment Committee to direct the Board in its ongoing evaluation of SamCERA's Investment Policy, including but not limited to

1.0 CONDUCT ASSET ALLOCATION STUDIES

1.1 Determine the characteristics of the Policy's liabilities in regards to the nature of Fund's cash flows

2.0 DEVELOP ASSET MIX ALTERNATIVES TO MEET LIABILITY REQUIREMENTS

2.1 Establish allowable asset classes

2.2 Determine asset class benchmarks

2.3 Develop risk, return & correlation projections

3.0 EVALUATE EFFICIENT FRONTIER ALTERNATIVES

3.1 Define risk, return and correlation

3.2 Evaluate mean variance optimization

3.3 Determine low risk alternatives and high risk alternatives

3.4 Scale portfolios between two extremes

3.5 Evaluate optimized efficient frontier

3.6 Integrate optimized efficient frontier with asset-liability relationships

4.0 ANALYZE BOARD RISK TOLERANCE

4.1 Assess risk/reward trade-offs

4.2 Assess contribution rate sensitivity & variability

4.3 Assess ability to exceed actuarial interest rate

4.4 Assess comfort level with characteristics of specific asset mixes

5.0 RECOMMEND PREFERRED ASSET MIX

5.1 Evaluate differences from current target

5.2 Evaluate Board's willingness to implement new target asset mix

5.3 Evaluate appropriateness of variance from peer public fund norms

6.0 RECOMMEND AMENDMENTS TO SAMCERA'S INVESTMENT POLICY

6.1 Adjust target asset mix

6.2 Introduce new benchmarks

6.3 Include required asset class/portfolio modifications

- 7.0 RECOMMEND REVISIONS TO MANAGER STRUCTURE
 - 7.1 Adjust manager/style line-up as necessary
 - 7.2 Introduce new managers/asset classes
 - 7.3 Terminate managers/asset classes as necessary
 - 7.4 Establish active & passive allocation targets as appropriate
- 8.0 IMPLEMENT CHANGES TO MANAGER STRUCTURE
 - 8.1 Recommend time-line & approach to revise structure
 - 8.2 Conduct manager evaluations
 - 8.3 Establish portfolio and asset allocation rebalancing procedures
- 9.0 EVALUATE MANAGER PERFORMANCE
 - 9.1 Monitor results of managers both gross and net of investment management fees
 - 9.2 Assess consistency of portfolio decision making
 - 9.3 Evaluate organizational, ownership, personnel & other firm developments
- 10.0 RECOMMEND AND EVALUATE INVESTMENT CONSULTANT STRUCTURE & PERFORMANCE
 - 10.1 Recommend for Board determination the retention and termination of Investment Consultant(s) as necessary
 - 10.2 Define and assign special projects as warranted
 - 10.3 Monitor performance of Investment Consultant(s)
 - 10.4 Conduct evaluations of Investment Consultant(s)
 - 10.5 Evaluate organizational, ownership, personnel and other firm developments
- 12.0 INITIATE & EVALUATE SPECIAL INVESTMENT STUDIES
- 13.0 UNDERTAKE OTHER WORK ASSIGNED TO IT BY THE BOARD Be it further

RESOLVED that the Chair may appoint the members of the Investment Committee per Regulation 2.5.1. Be it further

RESOLVED that the Chief Executive Officer is hereby instructed to provide the Committee with access to all appropriate and available resources and records, so long as such access is consistent with sound fiduciary practices. Be it further

RESOLVED that the Chief Executive Officer is hereby authorized to provide compensation of \$100 per meeting for not more than two meetings per month to the members of the Committee eligible for such compensation, per GC§31521. Be it further

RESOLVED that the Board hereby reserves to itself sole authority to accept, modify, or reject the recommendations, which the Investment Committee may present from time to time pursuant to the provisions of this Resolution, per Regulation 2.3.

ADOPTED by unanimous vote, January 25, 2000

AMMENDED by unanimous vote, May 22, 2001

AMMENDED by unanimous vote, October 25, 2004

APPENDIX B

Derivatives Investment Policy

1) Introduction

There is a genuine need to allow SamCERA's separate account managers to evaluate new securities and introduce them into their portfolios, given that the investment process followed by the investment managers complies with the subsequent provisions of this policy statement. This policy statement allows SamCERA's separate account Managers to exercise reasonable investment freedom, while minimizing the possibility of adverse implications for the Board.

2) Derivative Definition

A 'derivative' commonly is defined as a financial instrument whose performance is derived, at least in part, from the performance of an underlying asset (such as a security or an index of securities).

3) Types of Securities Included or Excluded

Since the derivative sector of the market is likely to experience considerable change, provisions must be made for the general characteristics of a derivative security, its evaluation and monitoring. Therefore, it is most appropriate to not attempt to definitively list all of the derivative securities that are covered by this policy. Instead, what will be explicitly stated is the investment process that governs derivative investments and the evaluation and monitoring requirements of this policy.

4) Approach to Policy

An approach has been developed which states allowable derivative investments, limited allocation derivative investments and restricted derivative investments.

Derivative securities not specified in the above three groups of securities must be evaluated in accordance with the following section entitled Derivative Investment Process. If the security meets these provisions and the spirit of these policies, the manager may establish a prudent position in the instrument. However, the manager must be able to demonstrate the appropriateness of such an investment in light of SamCERA's guidelines.

5) Counter-Party Evaluation

When entering into a non-exchange traded derivative investment, the investment manager must fully evaluate the other side of the derivative transaction—the counter-parties to the trade. Due to the possibility of counter-party default, SamCERA's investment managers must evaluate the risks associated with the counter-party as if an investment were being made in the traditional securities issued by the counter-party.

At a minimum, the investment manager must evaluate the counter-party's following criteria:

- a) Corporate earnings stream
- b) Corporate asset quality
- c) Capitalization
- d) Corporate liquidity
- e) Moody's and Standard & Poor's debt ratings

f) Other fundamental investment and risk characteristics

For those counter-parties that are broker/dealers, they must:

- a) Have investment grade (Moody's and S&P rated) debt
- b) Be registered with the SEC
- c) Have significant net capital to protect against potential adverse market circumstances

For those counter-parties that are financial institutions (banks), they must have:

- a) Investment grade (Moody's and S&P rated) debt
- b) Total assets in excess of \$1 billion
- c) Significant net capital to protect against potential adverse market circumstances

The investment manager must monitor individual investment and total portfolio exposure to counter-parties. Individual counter-party exposure must be well diversified and not concentrated in a small number of organizations.

6) Purposes for Derivatives

The acceptable investment purposes for the use of derivatives are as follows:

- a. Appropriate to use futures, options and forward currency contracts to assist investment managers in mitigating portfolio risk.
- b. Useful substitute for an existing, traditional investment. In certain circumstances it may be cheaper, quicker or easier to invest in a derivative instrument or security rather than transacting in the cash or traditional security market.
- c. Provides investment value to the portfolio, while being consistent with SamCERA's overall and specific investment policies.
- d. Obtains investment exposure that is appropriate with the manager's investment strategy and SamCERA's investment guidelines, but could not be made through traditional investment securities.

Given that one or more of these investment purposes are clearly met, it is the responsibility of the investment manager to explain and demonstrate how derivative investments impact portfolio risk and the context of the investment within the overall portfolio.

Any other derivative investment purpose is not allowed. Derivatives may not be introduced into the portfolio to create economic leverage or to create investment exposures that are otherwise excluded by SamCERA's Investment Policy. However, if a manager develops an investment purpose other than those listed above which he/she feels is legitimate and consistent with the spirit of SamCERA's guidelines, this purpose should be proposed in writing to the Board.

7) Investment Restrictions and Derivatives Policy

For the purpose of these guidelines, convertible debt, traditional zero coupon bonds, mortgage pass-through securities and asset-backed securities are not viewed as derivatives. Based upon the factors enumerated in the above Section 4 entitled Approach to Policy, the following guidelines have been established:

Allowable derivative investments

- a. Stable and well-structured mortgage CMO's (Collateralized Mortgage Obligations)
- b. Financial futures (if Exchange Traded)
- c. Currency forward contracts and currency options (Exchange and OTC traded)
- d. Interest rate swaps

Derivative investments with allocation limits

- a. Interest only mortgage CMO's
- b. Principal only mortgage CMO's
- c. Options (if Exchange Traded)
- d. Caps and floors as they apply to the above stated allowable derivative investments
- e. Credit Default Swaps (CDS)

Derivative investments with allocation limits, as listed above, may not represent more than 5% of the individual portfolio manager's assets (based on market value) managed for SamCERA. At the same time, derivative investments with allocation limits in aggregate may not expose the individual manager's portfolio to losses in excess of 5% of the manager's total assets. In addition, the use of options, caps and floors, and CDS may be used only for defensive investment purposes.

Managers investing in the above-defined limited allocation derivative instruments should ensure that portfolio exposure is maintained within the stated constraints, and communicate the assumptions and model used to estimate VAR (Value at Risk) and/or other reasonable risk measurement procedures annually to the Boards.

Restricted derivative investments

- a. Inverse floating rate notes and bonds
- b. Structured notes

Restricted derivatives cannot be held in SamCERA's separate account portfolios at any time.

8) Risk Analysis and Monitoring of Derivatives

For those securities that are classified as derivative investments with allocation limits, the investment managers are required to test and measure derivative investment sensitivities to changes in key risk factors. These risk factors include extreme changes in interest rates, volatility, liquidity, credit quality, and cash market prices.

These risk factors will be assessed prior to initial investment and on a quarterly basis. Results of such risk testing on derivative investments with allocation limits will be supplied to SamCERA on an annual basis (December 31). If the investment manager identifies additional risks that should be evaluated, these other risk factors should be added to the list and handled in a manner consistent with the previously stated approach.

9) Derivative Investment Process

Investment managers are expected to cover the following issues before purchasing a derivative instrument or security, whether specifically stated as an allowable derivative investment, a derivative investment with allocation limits, or a derivative not specifically discussed in the Investment Restrictions and Derivatives Policy section above:

- a. Determine if the purpose for investing in a derivative security is consistent with one or more of the purposes in the previous section entitled Purposes for Derivatives.

- b. Determine where the security fits into the classification system, if at all, stated in the Investment Restrictions and Derivatives Policy.
- c. Evaluate, at a minimum, the counter-party risk and the risks stated in the Risk Analysis and Monitoring section of the derivatives policy.
- d. Evaluate the derivative in a comparably thorough manner as the firm would any other traditional investment opportunity.

10) Reporting Requirements

It is the responsibility of SamCERA's investment managers to certify and demonstrate that their portfolios are in compliance with SamCERA's overall guidelines as well as those that apply to derivative investments. On an annual basis (December 31), SamCERA's investment managers will provide the following minimum monitoring information on all derivative securities:

- a. A general statement from the investment manager that its portfolio is in compliance with this Derivatives Policy.
- b. When stating the market value of the derivative exposure, the manager will specify the security pricing sources. The pricing source must be exchange-listed.
- c. A statement of the risks (credit risk—an evaluation of potential counter-party default on obligations, market risk—percent of portfolio invested in derivatives, and any other relevant risks) associated with the derivative investments.
- d. Potential adverse impact on market values if extreme adverse market movements occur.
- e. A statement regarding the liquidity of the derivative investments.
- f. Summary comments and the firm's list of approved counter-parties, ratings, and a statement regarding any changes to this list.
- g. An overall statement discussing the legal and regulatory risks associated with the portfolio manager's investments in derivatives.

APPENDIX C

DUE DILIGENCE POLICY

MANUAL

POLICY

SamCERA's due diligence process requires: 1) Staff to perform on-going due diligence monitoring, 2) Consultant and Managers to make regularly scheduled due diligence presentations to Staff in SamCERA's offices, and 3) Staff and available Board members to make on-site visitations to the Consultant and Managers' offices on an as-needed basis.

PURPOSE

To discharge the fiduciary responsibilities of the Board and staff, regular due diligence with the San Mateo County Employees' Retirement Association investment managers is essential to the Board's ability to effectively monitor the performance of its investment professionals, and to the prudent discharge of the board's fiduciary duty to the beneficiaries of this multi-billion dollar retirement system.

F.01 – Due Diligence Monitoring

Individual investment managers will be monitored monthly, quarterly and annually. The managers' organizations and operations will be qualitatively monitored on a continual basis.

The Chief Investment Officer, with assistance from the Consultant, will present an investment performance report to the Board on a quarterly basis, as specified in Section 14.0 (Quarterly Investment Performance Reporting) in the Investment Policy. Performance will be measured for the total portfolio as well as individual components such as equities, fixed income and real estate portfolios. In addition, the performance of each component will be broken down into individual portfolios.

Comparisons will be made against market indices defined in this document. A variance from the stated performance objective will be calculated each quarter. Additionally, the portfolios' actual investment approach will be monitored against the required investment style to determine whether the manager is adhering to its acknowledged investment style.

The quarterly investment performance report will compare the total fund, each asset class and individual portfolio return to appropriate market indices and a representative peer group of similar funds or similar style investment managers. The report will note significant changes in the attribution of investment manager performance.

Annually, staff will request and review the Investment Manager's ADV Part II form and inform the board of significant changes in the firm or apparent conflicts of interest. In addition staff will request an annual insurance certification from each professional service provider. Where appropriate a Statement of Standards for Attestation Engagements (SSAE) No. 16 will be obtained and reviewed.

F.02 – Due Diligence Presentations

Consultants and Managers that are under contract with the Board to provide services will make a presentation to Staff at least once a year. The presentation shall include, but not be limited to, an update on the Manager's organization and business plan, changes to the investment process and investment performance. Staff may request presentations more frequently as circumstances demand. The Managers will provide on a semi-annual basis a completed Compliance Certification Statement and in-depth responses to a list of questions submitted by staff.

F.03 – Asset Categories

On-site meetings will be grouped by asset categories. This approach enables staff to readily compare and contrast investment approaches, systems, and controls utilized by the investment managers. It will also allow for a better evaluation of the existing asset diversification.

F.04 – Manager Selection Due Diligence

The Board, with the assistance of Staff and Consultant, selects Managers to manage the assets of the Fund. The Board authorizes Staff and Consultant to initiate a public markets search for a manager either to replace a manager or to fill a new mandate approved by the Board. The Consultant and Staff will conduct the search in accordance with criteria established for the search. The search criteria will include the scope of the mandate, the investment style, benchmark, and the minimum qualifications for candidates. When appropriate to better understand an investment strategy, Staff, and Consultant may perform on-site due diligence on the final candidate prior to signing the investment agreement.

The Board may require a public markets Manager being considered as provider of professional services for SamCERA to make a formal presentation to it at a public Board meeting. The presentation may include, but not be limited to: 1) manager's organization and its staff, 2) investment philosophy and process, 3) the resources available to provide the service, 4) proposed fees and 4) performance characteristics.

Appendix D

DISCLOSURE OF PLACEMENT AGENT FEES, GIFTS, AND CAMPAIGN CONTRIBUTIONS

***Adopted by the Board of Retirement
December 14, 2010. Amended January 25, 2011.***

This policy is effective immediately upon adoption. This policy is intended to supplement any applicable provisions of state or federal law.

I. PURPOSE

This Policy sets forth the circumstances under which the San Mateo County Employees' Retirement Association (SAMCERA) shall require the disclosure of payments to *Placement Agents*, as that term is defined by Government Code section 7513.8, in connection with SAMCERA investments in or through *External Managers*, as that term is defined by Government Code section 7513.8. This Policy is intended to apply broadly to all of the types of investment partners with whom SAMCERA does business, including the general partners, managers, investment managers and sponsors of hedge funds, private equity funds, real estate funds and infrastructure funds, as well as investment managers retained pursuant to a contract. SAMCERA adopts this Policy to require broad, timely, and updated disclosure of all Placement Agent relationships, compensation and fees. The goal of this Policy is to help ensure that SAMCERA investment decisions are made solely on the merits of the investment opportunity by individuals who owe a fiduciary duty to SAMCERA.

II. APPLICATION

This Policy applies to all agreements with External Managers that are entered into after the date this Policy is adopted. This Policy also applies to existing agreements with External Managers if, after the date this Policy is adopted, the agreement is amended in any way to continue, terminate, or extend the term of the agreement or the investment period, increase the commitment of funds by SAMCERA or increase or accelerate the fees or compensation payable to the External Manager (Referred to hereafter as "Amendment".) In the case of an Amendment, the disclosure provisions of this Policy shall apply to the Amendment and not to the original agreement.

IV. RESPONSIBILITIES

A. The Board is responsible for:

1. not entering into any agreement with an External Manager that does not

agree in writing to comply with this policy.

2. not entering into any agreement with an External Manager who has violated this policy within the previous five years. However, this prohibition may be reduced by a majority vote of the board at a public session upon a showing of good cause.

B. Each External Manager is responsible for:

1. Providing a statement in writing that the External Manager will comply with this policy.
2. Providing the following information to the SAMCERA Investment Staff within 45 days of the time investment discussions are initiated by the External Manager, but in any event, prior to the completion of due diligence. In the case of Amendments, the Placement Agent Information Disclosure is required prior to execution of the Amendment.
 - a. Disclosure of payments or compensation by the External Manager or any of its principals, employees, agents or affiliates, directly or indirectly, to any person or entity to act as a Placement Agent in connection with SAMCERA investments.
 - b. A resume for each officer, partner, principal of the Placement Agent detailing the person's education, professional designations, regulatory licenses and investment and work experience. If any such person is a current or former SAMCERA Board Member, employee or Consultant or a member of the immediate family of any such person, this fact shall be specifically noted.
 - c. A description of any and all compensation of any kind provided or agreed to be provided to a Placement Agent, including the nature, timing and value thereof. Compensation to Placement Agents shall include, but not be limited to, compensation to third parties as well as employees of the External Manager who solicit or market investments to SAMCERA or who are paid based upon investment commitments secured by such employees.
 - d. A description of the services to be performed by the Placement Agent and a statement as to whether the Placement Agent is utilized by the External Manager with all prospective clients or only with a subset of the External Manager's prospective clients.
 - e. A written copy of any and all agreements between the External

Manager and the Placement Agent.

- f. A statement whether the placement agent, or any of its affiliates, are registered with the Securities and Exchange Commission or the Financial Industry Regulatory Association, or any similar regulatory agent in a country other than the United States, and the details of that registration or explanation as to why no registration is required.
 - g. A statement whether the placement agent, or any of its affiliates, is registered as a lobbyist with any state or national government.
 - h. The names of any current or former SAMCERA Board Members, employees, or Consultants who suggested the retention of the Placement Agent.
3. Providing an update of any changes to any of the information provided pursuant to section B.2 above within 14 calendar days of the date that the External Manager knew or should have known of the change in information.
4. Representing and warranting the accuracy of the information described in section B.2 above.
5. Causing its engaged Placement Agent to disclose, prior to acting as a Placement Agent to SAMCERA,
 - a. all campaign contributions made by the Placement Agent to any publicly elected SAMCERA Board Member during the prior 24-month period. Additionally, any subsequent campaign contribution made by the Placement Agent to any publicly elected SAMCERA Board Member during the time the Placement Agent is receiving compensation in connection with a SAMCERA investment shall also be disclosed.
 - b. all gifts, as defined in Government Code Section 82028, given by the Placement Agent to any SAMCERA Board Member during the prior 24-month period. Additionally, any subsequent gift made by the Placement Agent to any SAMCERA Board Member during the time the Placement Agent is receiving compensation in connection with a SAMCERA investment shall also be disclosed.
6. SAMCERA reserves the right to deem the failure to disclose the information required by 5(a) and 5(b) as a material breach of the agreement with the External Manager.

- D. SAMCERA Investment Staff (“Staff”) are responsible for:
1. Providing External Managers with a copy of this Policy at the time that discussions are initiated with respect to a prospective investment or engagement.
 2. Confirming that the information in section B above has been received within 45 days of the time investment discussions are initiated, but in any event, prior to the completion of due diligence and any recommendation to proceed with the contract or Amendment.
 3. For new contracts and amendments to contracts existing as of the date of the initial adoption of this Policy, securing the agreement of the External Manager in the final written agreement between SAMCERA and the External Manager to provide in the event that there was or is an intentional material omission or inaccuracy in the Placement Agent Information Disclosure or any other violation of this Policy, SAMCERA is entitled to the greater of the reimbursement of any management or advisory fees paid by SAMCERA for the prior two years or an amount equal to the amounts paid or promised to be paid to the Placement Agent as a result of the SAMCERA investment; and
 4. Prohibiting any External Manager or Placement Agent from soliciting new investments from SAMCERA for five years after they have committed a material violation of this Policy; *provided, however*, that SAMCERA’s Board, by majority vote at a noticed, public meeting, may reduce this prohibition upon a showing of good cause.
 5. Providing a quarterly report to the Board containing (a) the names and amount of compensation agreed to be provided to each Placement Agent by each External Manager as reported in the Placement Agent Information Disclosures, and (b) any material violations of this Policy; and maintaining the report as a public record.

DEFINITIONS:

The following definitions are current as of January 7, 2011. Should the legislature subsequently amend the definitions below, the definition of these terms as amended shall supersede the definitions contained in this policy.

As defined in California Government Code section 7513.8, “**External Manager**” means either of the following: (1) a person who is seeking to be, or is, retained by a board to manage a portfolio of securities or other assets for compensation; (2) a person who is engaged, or proposes to be engaged, in the business of investing, reinvesting, owning, holding, or trading securities or

other assets and who offers or sells, or has offered or sold, securities to a board. (All code section references are to the Government Code, unless otherwise noted.)

As defined in section 7513.8, “**Person**” means an individual, corporation, partnership, limited partnership, limited liability company, or association, either domestic or foreign.

As defined in section 7513.8, “**Placement Agent**” means any person hired, engaged, or retained by, or serving for the benefit of or on behalf of, an External Manager, or on behalf of another placement agent, who acts or has acted for compensation as a finder, solicitor, marketer, consultant, broker or other intermediary in connection with the offer or sale of the securities, assets, or services of an External Manager to a board or an Investment Vehicle, either directly or indirectly. Notwithstanding the preceding sentence, an individual who is an employee, officer, director, equity holder, partner, member, or trustee of an External Manager and who spends one-third or more of his or her time, during a calendar year, managing the securities or assets owned, controlled, invested, or held by the External Manager is not a Placement Agent.

As defined in section 7513.8, “**Investment Vehicle**” means a corporation, partnership, limited partnership, limited liability company, association, or other entity, either domestic or foreign, constituting or managed by an External Manager in which a board is the majority investor and that is organized in order to invest with, or retain the investment management services of, other External Managers.

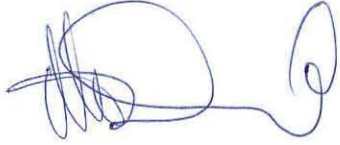
“**Compensation**” means, for the purposes of this policy, remuneration and other benefits (including without limitation, favors) of any kind.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Item 5.2

TO: Board of Retirement

FROM: Albert David, Assistant Executive Officer 

SUBJECT: Presentation of the June 30, 2015, Actuarial Valuation Report by Milliman, Inc.

Staff Recommendation

This is an information-only item.

Background

Four actuarial agenda items are scheduled for the September 29th Board meeting. Under this first item, Nick Collier, Consulting Actuary of Milliman, Inc. will present the results and recommendations of Milliman's Actuarial Valuation Report. Under item 5.3, the Board will be asked to adopt the recommendations of Milliman's Actuarial Valuation Report, including contribution rates for Fiscal Year 2016-17. Agenda item 5.4 is Milliman's annual performance review.

Last year's valuation calculated the employers' Statutory Contribution Rate at 35.56%. A subsequent addendum to the valuation amended that rate to 34.74% to account for the County and certain bargaining groups agreeing after the valuation date to have certain employees pick up 50% of the COLA cost. In January of 2014, the County of San Mateo had entered into a Memorandum of Understanding with SamCERA to pay additional lump sum contributions and to maintain a contribution minimum flat rate of 38%, even if the statutory rate is below that amount. The valuation addendum also adjusted the minimum flat rate to 37.14%.

This year's valuation calculated the average employer Statutory Contribution Rate at 32.53%. This is a decrease from the adjusted rate of 34.74%.

This year's valuation also resulted in an improvement in the funded ratio of the system from 78.8% to 82.6%.

San Mateo County Employees' Retirement Association
Actuarial Valuation
June 30, 2015

By

Nick J. Collier

Associate, Society of Actuaries
Enrolled Actuary
Member, American Academy of Actuaries

and

Craig J. Glyde

Associate, Society of Actuaries
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milliman.com

September 22, 2015

Board of Retirement
San Mateo County Employees' Retirement Association
100 Marine Parkway, Suite 125
Redwood City, CA 94065-5208

Dear Members of the Board:

As requested, we have completed an actuarial valuation for the San Mateo County Employees' Retirement Association (SamCERA). The purpose of the valuation is to recommend the employer and member contribution rates for the fiscal year beginning July 1, 2016.

Actuarial Certification – Per SamCERA Consulting Contract

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices, including Actuarial Standards of Practice (ASOPs) Nos. 4, 27, and 35. In particular, it reflects the actuary's responsibility under Section 5.8 ("Actuary's Responsibility) of ASOP No. 4 (1993 Reformatted Edition) for assessing the implications of overall results, in terms of short- and long-range benefit security and expected cost progression. Note that this section no longer exists in the current ASOP No. 4; however, Milliman will continue to assess the results pursuant to the prior section.

To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our best professional judgment, the assumptions and methodologies as adopted by the Board of Retirement, individually and in combination, are reasonably related to the experience of and the expectations for SamCERA, and will not, in and of themselves, expose the retirement system to "unsound financial risk." In this regard, we consider "unsound financial risk" to mean the following:

- A substantial likelihood that future required contribution rates as a percentage of payroll will be dramatically higher than the rates shown in this report, given the uncertainties of actuarial projections and assuming the full payment of all recommended contributions; or
- A substantial likelihood that SamCERA's assets will be insufficient to pay benefit payments when due, given the uncertainties of actuarial projections and assuming the full payment of all recommended contributions.

In preparing this report, we have complied with all quality assurance procedures detailed on page 14 of our November 28, 2005 proposal titled "Response for Request for Actuarial Services."

Actuarial Certification – Milliman

The major findings of the valuation are contained in this report. This report reflects the benefit provisions as of June 30, 2015 and member contribution rates effective July 1, 2016 (including adjustments for specific bargaining units as communicated to us by SamCERA staff). In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by SamCERA's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information.

This work product was prepared solely for SamCERA for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any data of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for SamCERA have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of SamCERA and reasonable expectations) and which, in combination, offer a reasonable estimate of anticipated experience affecting SamCERA. We will next be reviewing the assumptions in 2017 as part of our triennial investigation.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The Board of Retirement has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix A.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for SamCERA. The calculations in this report have been made on a basis consistent with our understanding of SamCERA's current funding requirements. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of SamCERA. The System may place the final version of this report on its website. Milliman's "work" to create this report, to the extent that Milliman's work is not subject to disclosure under applicable public records laws, may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions:

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This work product was prepared solely for SamCERA for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsors. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

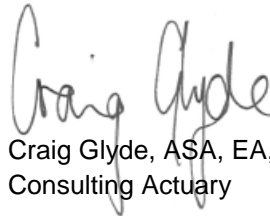
We would like to express our appreciation to Mr. Scott Hood, Chief Executive Officer of SamCERA, and to members of his staff, who gave substantial assistance in supplying the data on which this report is based.

We respectfully submit the following report, and we look forward to discussing it with you.

Sincerely,



Nick Collier, ASA, EA, MAAA
Consulting Actuary
NJC/CJG/nlo



Craig Glyde, ASA, EA, MAAA
Consulting Actuary

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Section 1: Summary of the Findings



Overview

2015 Valuation Results

	June 30, 2015	June 30, 2014
Employer Statutory Contribution Rate*	32.35%	34.74%
Funded Ratio	82.6%	78.8%

* Weighted average contribution rate for only the County is 32.40% of pay.

This report presents the results of the June 30, 2015 actuarial valuation. Several key points are summarized as follows:

- Funding:** The Funded Ratio increased from 78.8% to 82.6%. This increase was primarily due to employer contributions to amortize the Unfunded Actuarial Accrued Liability (UAAL) and recognition of deferred investment gains from prior years under the asset smoothing method. The assets used in the calculation of the Funded Ratio include the value of the County Supplementary Contribution Account (CSCA).

The County contributed \$10.9 million to the CSCA over the year ended June 30, 2015. These contributions resulted in an increase in the funded ratio of 0.3%. In total, the CSCA has an actuarial value of \$65.5 million as of June 30, 2015. Without the CSCA, the funded ratio would be 81.0% as of June 30, 2015.

- Contribution Rates:** The Employer Normal Cost rate decreased from 10.80% to 10.42% of pay. The decrease is primarily because of a larger portion of the active population being members in the PEPRA plans and negotiated increases in some member's contribution rates due to additional COLA sharing. Rates will vary slightly from year to year as the average entry age of the membership changes and as a greater proportion of members enter the less expensive plans.

The employer's Statutory Contribution Rate to finance the UAAL over 15 years decreased from 23.94% to 21.93% of pay. This decrease is largely driven by the recognition of investment gains from prior years under the asset smoothing method. Additionally, a decrease of 0.25% occurred due to the amortization of contributions made by the County over the fiscal year that are allocated to the CSCA. These contributions totaled approximately \$10.9 million. Salary increases greater than assumed also contributed to lowering the UAAL contribution rate since the UAAL is amortized over a larger expected future salary base. The overall result is a decrease in the Statutory Contribution Rate from the prior valuation of 2.39% (from 34.74% to 32.35% of payroll).

**Overview
(continued)**

The County's Statutory Contribution Rate to finance the UAAL over 15 years decreased from 24.07% to 22.04% of pay. The County's UAAL contribution rate before consideration of the CSCA is 23.41% of pay. The CSCA provides an offset of 1.37% of pay (compared to 1.11% of pay in the prior year).

- **Investment Returns:** SamCERA's investment return on the market value of assets for the prior year of 3.5% (as provided by SamCERA) was less than the actuarial assumed rate of 7.25%. Combined with the recognition of net investment gains from prior years, the net result was a return on the actuarial value of valuation assets of 9.7%, which is higher than the assumed return. This actuarial gain on valuation assets caused a decrease in the Statutory Contribution Rate.

Note that currently a net asset gain of \$77.2 million is being deferred. This is because the asset-smoothing method has not yet recognized a portion of the net asset gains from December 31, 2010 to June 30, 2015. These deferred gains will be reflected in future valuations.

- **Member Rates:** Basic member rates and member COLA rates for all plans, except Plan 7, are unchanged since the prior year. However, since last year the County has bargained with various employee groups to pay a higher portion of the COLA cost. As a result, some member rates will change due to the inclusion of a COLA cost. A complete list of all member basic rates and COLA rates is shown in Appendix D.

Plan 7 members pay one-half of the total Normal Cost rate calculated for the plan. There are some changes to these rates since the prior year. See Exhibit 1b for details.

**Comparison with
Prior Year**

Note that for comparison purposes, the prior year employer Statutory Contribution Rates shown in this report are those calculated in the June 30, 2014 actuarial valuation and reflect the subsequent revisions to that report to reflect changes in member COLA contribution rates bargained by the County.

**Summary of
Contribution Rates**

The following exhibits summarize our recommendations to the Board.

Exhibit 1a Summary of Recommended Minimum Statutory Contribution Rates

Recommendation #1: Adopt new Statutory Contribution Rates for fiscal year beginning July 1, 2016

	Fiscal Year Beginning		Increase / (Decrease)
	July 1, 2016	July 1, 2015	
Gross Normal Cost	21.94%	22.22%	(0.28)%
Member Contributions	(11.52)%	(11.42)%	(0.10)%
Employer Normal Cost	10.42%	10.80%	(0.38)%
UAAL Amortization	21.93%	23.94%	(2.01)%
Total Employer Rate	32.35%	34.74%	(2.39)%

Notes:

- 1) Detailed contribution rates by plan are shown in Section 6.
- 2) The Total Employer Rate of 32.35% is the aggregate rate for all employers. For the fiscal year beginning July 1, 2016, employer rates by employer are as follows:
 - a. The County contribution rate is 32.40% of pay.
 - b. The Courts Contribution rate is 29.82% of pay.
 - c. The SMCM&VCD contribution rate is 31.29% of pay.

Exhibit 1b Summary of Recommended Member Contribution Rates (Changes Only)

Recommendation #2: Adopt new Plan 7 member contribution rates for fiscal year beginning July 1, 2016

	Entry Age	Recommended Rates			Total as a % of Pay	Current	Ratio (New/Curr)
		Basic	50% COLA Sharing	Cost Sharing		Total as a % of Pay	
General Members	All	6.67%	1.24%	0.00%	7.91%	7.92%	99.9%
SMCM&VCD Members	All	6.20%	1.15%	0.00%	7.35%	6.51%	112.9%
Probation Members	All	10.53%	2.38%	0.00%	12.91%	13.42%	96.2%
Safety Members	All	11.22%	2.37%	0.00%	13.59%	14.64%	92.8%

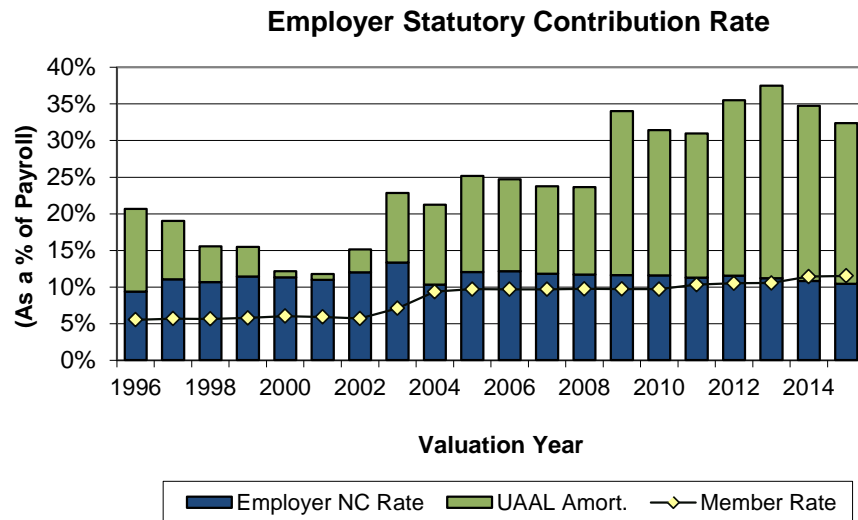
Employer Contribution Rate

The Statutory Contribution Rate is equal to the payment of the Employer Normal Cost rate plus a 15-year layered amortization of the UAAL (excluding the CSCA) for each year beginning with the UAAL as of June 30, 2008. The UAAL rate for the County is reduced to reflect the CSCA. The Statutory Contribution Rate (blended average for all employers) for the fiscal year beginning July 1, 2016 is 32.35%. The Statutory Contribution Rate for the County is 32.40%; for Courts it is 29.82%, and for SMCM&VCD is 31.29%.

It should be noted that these rates are a weighted average for all SamCERA plans. The actual percent of payroll to be contributed by each employer varies by plan. See Exhibit 10 for the Statutory Contribution Rates by classification and Exhibits 10a through 10d for the Statutory Contribution Rates by plan.

In our opinion, the contribution rates calculated are adequate to maintain the funding of the retirement system benefits based on the actuarial methods and assumptions shown in Appendix A of this report.

A historical perspective of the total Statutory Contribution Rate is shown in the following graph.



Comparison with Last Year

A detailed analysis of the sources of the changes in both the employer contribution rates and the Funded Ratio was performed. There were several factors that influenced the Funded Ratio and the employer contribution rate, with the overall impact of these additional factors being an increase in the Funded Ratio and a decrease in the employer rates from the last valuation.

The following chart shows how the various factors affected the overall funding of SamCERA, as compared to the last valuation.

Sources of Change	Statutory Contribution Rate	Funded Ratio
June 30, 2014 Actuarial Valuation	34.74%	78.8%
Assumption Changes	0.00%	0.0%
Expected Year-to-Year Change	0.00%	2.5%
Recognized Asset Gain/Loss		
From Current Year	0.54%	-0.7%
From Prior Years	-2.05%	2.5%
Retiree COLAs Greater than Expected	0.07%	0.0%
Salary Increase > Assumed	-0.07%	-0.8%
Contributions > Assumed	-0.17%	0.2%
CSCA Contribution Funding	-0.25%	0.3%
Increased Member Rates	-0.28%	0.0%
Increase in Plan 7 Membership	-0.23%	0.0%
Other Experience Changes	0.05%	-0.2%
Total Change	-2.39%	3.8%
June 30, 2015 Actuarial Valuation	32.35%	82.6%

Funding Progress

Based on the 2014 valuation, the expected UAAL as of June 30, 2015 was \$748 million. The actual UAAL for the fiscal year ending June 30, 2015 is \$702 million. This difference was primarily caused by the recognition of asset gains (\$74 million) and contributions greater than expected (\$20 million). Other factors, such as salary increases and CPI increases greater than assumed contributed to an increase in the UAAL of \$48 million. These factors are shown in detail at the end of Section 4.

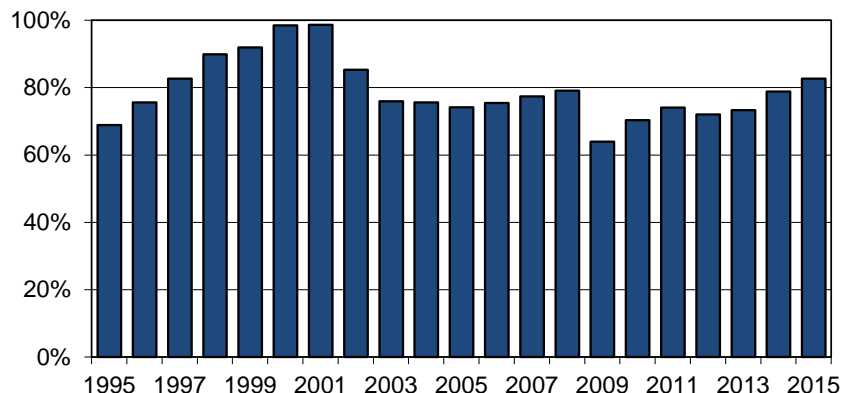
**Funding Progress
 (continued)**

One measure of the funding adequacy of the system is the Funded Ratio, which compares the value of the Actuarial Value of Assets (net of certain non-valuation reserves) to the Actuarial Accrued Liability (AAL) for all SamCERA plans combined. SamCERA's funded ratio increased rapidly in the last half of the 1990s, reaching almost 100% in 2001. However, due primarily to asset losses from that time through 2009, the funded ratio decreased significantly over those years. In recent years, the funded ratio has improved, due primarily to strong investment performance, and also to strong funding. Currently, the Funded Ratio is 82.6%; that is, the valuation assets of \$3,344 million are about 17% less than the actuarial accrued liabilities of \$4,046 million. Note that if the market value of assets was used, the Funded Ratio would be 85.4%.

(All dollar amounts in millions)

	Market Value of Total Assets	Actuarial Value		Actuarial Accrued Liability	Funded Ratio
		Valuation	Non-Valuation		
2006	\$1,790	\$1,769	\$ 0	\$2,345	75.4
2007	2,132	1,977	0	2,555	77.4
2008	2,011	2,219	0	2,806	79.1
2009	1,591	1,910	0	2,988	63.9
2010	1,816	2,179	0	3,098	70.3
2011	2,318	2,405	0	3,247	74.1
2012	2,360	2,480	0	3,443	72.0
2013	2,728	2,619	0	3,573	73.3
2014	3,292	2,993	30	3,797	78.8
2015	3,454	3,344	34	4,046	82.6

Historical Funded Ratios



Assets

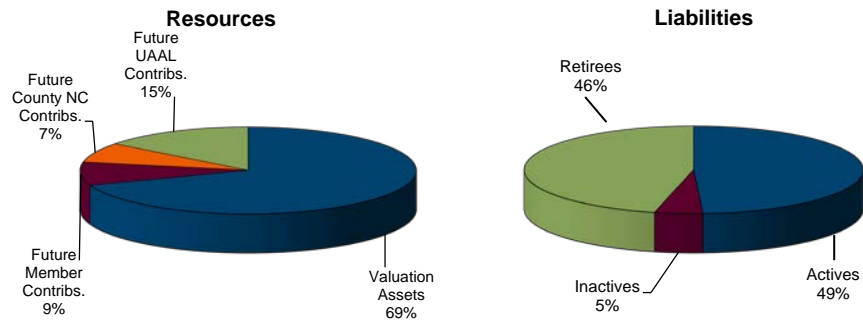
For the fiscal year ending June 30, 2015, SamCERA earned 3.5% net of investment expenses, on its market assets. This figure was provided by SamCERA and will be shown in the 2015 CAFR.

SamCERA uses an asset-smoothing method in the calculation of the UAAL contribution. Under this method, the market value returns are smoothed over a five-year period (10 six-month periods). Due to the recognition of deferred prior year asset gains, the return on actuarial valuation assets, at 9.7% net of expenses, was higher than the assumed return of 7.25% for the prior year.

Actuarial Balance Sheet

The first step in the valuation process is to compare the total valuation assets of SamCERA with its total liabilities for all plans. In this analysis, SamCERA's resources equal the actuarial assets plus the expected future contributions by both the employers and members. Liabilities reflect benefits already earned in the past and those expected to be earned in the future by current members. This relationship is shown in the following chart. The AAL is the total of these liabilities less expected future Normal Cost contributions.

Comparing the current and future resources to the current and future liabilities, we then determine the annual contribution amount for the coming fiscal year.

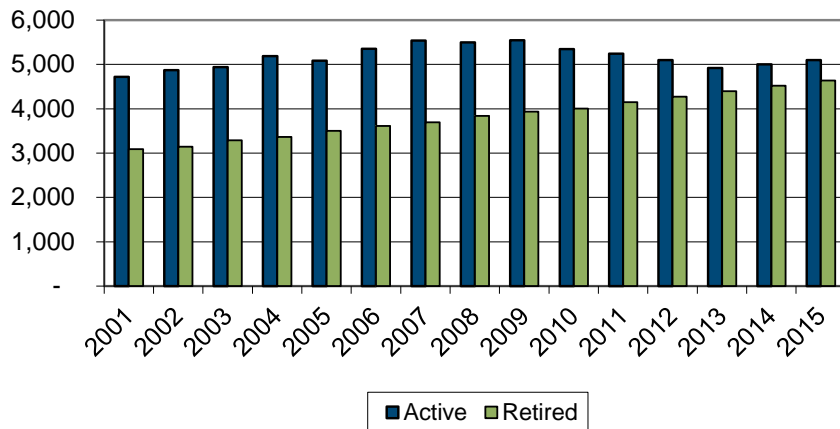


Member Information

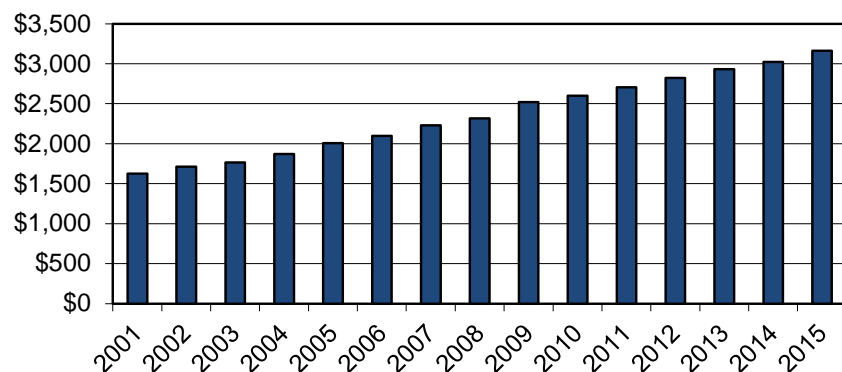
The number of active members included in the valuation increased by 1.8% from 5,004 in 2014 to 5,095 in 2015.

Retired member counts and average retirement benefit amounts continue to increase steadily. For 2015, there were 4,638 retired members and beneficiaries with an average benefit of \$3,160 per month. This represents a 2.7% increase in count (up from 4,518 in 2014) and a 4.6% increase in the average monthly benefit (up from \$3,021 over the period).

Membership Count



Average Monthly Retirement Benefit



Analysis of Change in Member Population

The following table summarizes the year-to-year change in member population.

	Active Members	Inactive Members	Service Retired Members	Disabled Retired Members	Beneficiaries in Pay	Total
As of June 30, 2014	5,004	1,304	3,525	428	565	10,826
New Members	497	61	0	0	41	599
Status change to active	91	(91)	0	0	0	0
Status change to inactive	(218)	218	0	0	0	0
Refunds	(116)	(34)	0	0	0	(150)
Service Retirements	(150)	(60)	210	0	0	0
Disabled Retirements	(10)	(10)	(5)	25	0	0
Deaths	(3)	(4)	(95)	(11)	(37)	(150)
Data adjustments	0	0	(7)	0	(1)	(8)
As of June 30, 2015	5,095	1,384	3,628	442	568	11,117

Summary Valuation Results

The following Exhibit 2 presents a comparison of the key results from the June 30, 2015 and June 30, 2014 valuations. More detail on each of these elements can be found in the following sections and exhibits of this report.

Exhibit 2: Summary of Significant Valuation Results

	June 30, 2015	June 30, 2014	Relative Change
1. Total Membership			
A. Active Members	5,095	5,004	1.8 %
B. Retired Members & Beneficiaries	4,638	4,518	2.7%
C. Inactive Members	1,384	1,304	6.1%
D. Total	11,117	10,826	2.7 %
2. Pay Rate			
A. Annual Total (\$thousands)	\$ 462,640	\$ 429,407	7.7%
B. Monthly Average	\$ 7,567	\$ 7,151	5.8%
3. Average Monthly Benefit to Current Retirees and Beneficiaries			
A. Service Retirement	\$ 3,294	\$ 3,158	4.3%
B. Disability Retirement	\$ 3,301	\$ 3,175	4.0%
C. Surviving Spouse and Dependents	\$ 2,197	\$ 2,047	7.3%
D. Total	\$ 3,160	\$ 3,021	4.6%
4. Actuarial Accrued Liability (\$thousands)			
A. Active Members	\$ 1,594,242	\$ 1,511,714	5.5%
B. Retired Members	\$ 2,231,057	\$ 2,088,527	6.8%
C. Inactive Members	\$ 220,487	\$ 196,801	12.0%
D. Total	\$ 4,045,786	\$ 3,797,042	6.6%
5. Assets			
A. Market Value of Fund (\$thousands)	\$ 3,454,476	\$ 3,291,694	4.9%
B. Return on Market Value	3.5%	17.3%	
C. Actuarial Value (\$thousands)	\$ 3,343,550	\$ 2,993,187	11.7%
D. Return on Actuarial Value	9.7%	3.7%	
6. Unfunded Actuarial Accrued Liability or Surplus Funding (\$thousands)	\$ 702,236	\$ 803,855	(12.6)%
7. Statutory Employer Contribution Rate for all plans combined as a percent of total payroll			
A. Gross Normal Cost	21.94%	22.22%	(1.3)%
B. Member Contributions	(11.52)%	(11.42)%	0.9%
C. Employer Normal Cost	10.42%	10.80%	(3.5)%
D. UAAL Amortization	21.93%	23.94%	(8.4)%
E. Total Employer Rate	32.35%	34.74%	(6.9)%
8. Funded Ratio (5C / 4D)	82.6%	78.8%	4.8%
9. Results Based on Market Value (No Asset Smoothing) -- For Informational Purposes Only			
A. Total Employer Rate	30.04%	28.18%	6.6%
B. Funded Ratio (5A / 4D)	85.4%	86.7%	(1.5)%

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Section 2: Scope of the Report



This report presents the actuarial valuation of the San Mateo County Employees' Retirement Association as of June 30, 2015. This valuation was requested by the Board. Section 31453 of the County Employees Retirement Law of 1937 (the '37 Act) requires an actuarial valuation to be performed at least every three years for the purposes of setting contribution rates.

In reading our cover letter, please pay particular attention to the guidelines employed in the preparation of this report. We also comment on the sources and reliability of both the data and the actuarial assumptions upon which our findings depend. Those comments are the basis for our certification that this report is complete and accurate to the best of our knowledge and belief.

A summary of the findings resulting from this valuation is presented in the previous section. Section 3 describes the assets and investment experience of SamCERA. The assets and investment income are presented in Exhibits 3-5. Exhibits 6-8 develop the Actuarial Value of Assets as of June 30, 2015.

Section 4 describes the benefit obligations of SamCERA. Exhibit 9 is the Actuarial Balance Sheet. Additional analysis on the change in UAAL is also provided in this section.

Section 5 discusses the Member contribution rates.

Section 6 discusses the employer contributions needed to fund the benefits under the actuarial cost method in use.

Section 7 discloses information to be included in SamCERA's CAFR.

This report includes several appendices:

- Appendix A A summary of the actuarial procedures and assumptions used to estimate liabilities and contributions.
- Appendix B A summary of the current benefit structure, as determined by the provisions of governing law on June 30, 2015.
- Appendix C Schedules of valuation data classified by various categories of members by plan.
- Appendix D Member contribution rates by plan.
- Appendix E A glossary of actuarial terms used in this report.

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Section 3: Assets



In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date which, for this valuation, is June 30, 2015. On that date, the assets available for the payment of retirement benefits are appraised. These assets are compared with the accrued and future actuarial liabilities, which are generally well in excess of the actuarial assets. The purpose of the valuation is to determine what future contributions by the members and employers are needed to pay all expected future benefits not funded by the current assets.

This section of the report deals with the determination of assets used for funding purposes. In the next section, the actuarial liabilities will be discussed. Sections 5 and 6 deal with the process for determining required contributions based on the relationship between the actuarial assets and the actuarial liabilities.

A historical summary of SamCERA's assets is presented below:

All dollar amounts in millions

	Market Value of Total <u>Assets</u>	Actuarial Value	
		Non- Valuation <u>Assets</u>	Valuation <u>Assets</u>
2000	\$ 1,381	\$ 49	\$ 1,271
2001	1,308	51	1,385
2002	1,207	32	1,417
2003	1,233	34	1,354
2004	1,435	31	1,453
2005	1,599	0	1,616
2006	1,790	0	1,769
2007	2,132	0	1,977
2008	2,011	0	2,219
2009	1,591	0	1,910
2010	1,816	0	2,179
2011	2,318	0	2,405
2012	2,360	0	2,480
2013	2,728	0	2,619
2014	3,292	30	2,993
2015	3,454	34	3,344

On June 30, 2015, the total market value of the fund was about \$3.45 billion. The actuarial value of the fund was determined to be \$3.38 billion, including the non-valuation reserves.

Financial Exhibits

Exhibit 3 presents a Statement of Plan Net Assets and Exhibit 4 presents a Statement of Changes in Plan Net Assets. Exhibit 5 describes the allocation of SamCERA's assets by the various reserve values determined for accounting purposes.

Exhibits 3-5 are taken from data furnished to us by SamCERA for its annual financial report. We have accepted these tables for use in this report without audit, but we have reviewed them for reasonableness and consistency with previous reports.

Actuarial Asset Method

The actuarial asset method computes the expected market value of assets based on the prior year's market value of assets, the actual cash flow of contributions and benefit payments, and the assumed investment rate of return. For the current valuation, the assumed rate of return on the prior year's assets is 7.25%, net of all expenses. The difference between the actual market value and the computed expected market value is smoothed or recognized over a five-year period.

Beginning with the June 30, 2014 valuation, assets used to calculate the preliminary UAAL contribution rates exclude the value of the CSCA. The CSCA is used to adjust the County's Statutory Contribution Rate, for this purpose we track CSCA and all other assets separately.

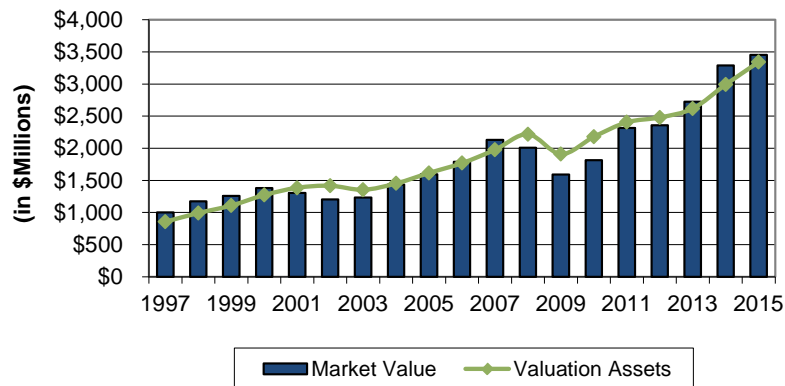
Actuarial Value of Assets

The development of the June 30, 2015 actuarial value of assets is shown in Exhibits 6 and 7. Exhibits 6a and 7a show the development of the total actuarial value of assets. Exhibits 6b and 7b show the development excluding the CSCA. Exhibits 6c and 7c show the development of the actuarial value of assets for the CSCA.

Actuarial Value of Assets (continued)

Note that the smoothing process has recognized all of the investment gains and losses from 2010 and earlier over the last few years. However, there are still portions of investment gains and losses that have not yet been recognized by the asset smoothing method, including the current year loss. The result is a market value of assets that is higher than the actuarial value. The following graph shows a historical comparison of the total actuarial and market assets used for valuation purposes on a system-wide basis.

Applicable Valuation Assets



Valuation Assets

Valuation Assets are the actuarial value of the fund, less the value of any reserves which have been set aside for current liabilities and special benefits (if any) that are to be funded outside of the actuarially determined contribution rates.

Allocation of Assets

Valuation assets are allocated by classification (general, safety, and probation) as shown in Exhibit 8. This allocation is necessary because the UAAL contribution rates are determined separately by class and plan.

In the calculation of the Statutory Contribution Rate, the Normal Cost is determined separately for each plan. The UAAL portion of the rate is allocated proportionately to each classification. To determine the UAAL amount by classification, the actual UAAL is allocated in proportion to the expected UAAL after reflecting expected contributions from the prior year to pay down the UAAL. The allocation is done without consideration of the CSCA. Valuation assets are equal to the AAL minus the UAAL for each classification. These calculations are shown in Exhibit 8.

CSCA assets are allocated to each classification in proportion to the actual UAAL (without consideration of the CSCA). These assets directly reduce the UAAL of each classification.

**Exhibit 3: Statement of Plan Net Assets
 for the Years Ended June 30, 2014 and 2015**

	2015	2014
Assets		
Cash and Cash Equivalents	51,162,210	78,671,477
Cash Management Overlay	26,273,301	21,446,466
Securities Lending Cash Collateral	99,386,577	-
Total Cash	<u>\$ 176,822,088</u>	<u>\$ 100,117,943</u>
Receivables		
Contributions	6,151,530	4,648,233
Due from broker for investments sold	14,438,182	12,596,153
Investment Income	6,433,608	3,483,030
Other receivables	112,810	113,410
Securities Lending Income	37,582	39,953
Total Receivables	<u>27,173,712</u>	<u>20,880,779</u>
Prepaid Expense	7,669	7,669
Investments at Fair Value		
Domestic fixed income securities	567,116,706	493,024,480
International fixed income securities	98,285,376	100,023,249
Domestic equities	1,122,264,718	1,229,039,423
International equities	675,589,939	653,569,353
Real estate	218,473,360	183,566,990
Private Equities	193,265,850	138,490,534
Real Assets	4,176,914	-
Risk Parity	265,103,721	197,597,402
Hedge Funds	139,680,676	117,896,816
Commodities	89,291,005	90,480,043
Total Investments	<u>3,373,248,265</u>	<u>3,203,688,289</u>
Capital Assets Net of Depreciation	3,206,047	-
Total Assets	<u>3,580,457,781</u>	<u>3,324,694,680</u>
Liabilities		
Payables		
Investment management fees	2,042,596	2,787,598
Due to broker for investments purchased	21,246,436	27,187,225
Collateral Payable for Securities Lending	99,386,577	-
Mortgage Note Payable		
Due within one year	-	-
Due in more than one year	-	-
Other	3,305,844	3,025,903
Total Liabilities	<u>125,981,453</u>	<u>33,000,727</u>
Net Assets Held in Trust for Pension Benefits	<u>\$ 3,454,476,328</u>	<u>\$ 3,291,693,954</u>

**Exhibit 4: Statement of Changes in Plan Net Assets
 for the Years Ended June 30, 2014 and 2015**

	2015	2014
Additions		
Contributions		
Employer	\$ 180,704,280	\$ 202,877,362
Employee	48,011,698	46,593,698
Total Contributions	<u>228,715,978</u>	<u>249,471,060</u>
Investment Income/(Loss)		
Interest and dividends	44,433,648	54,492,076
Net appreciation/(depreciation) in Fair Value	<u>99,877,101</u>	<u>454,082,350</u>
	144,310,749	508,574,426
Less investment expense	<u>32,990,697</u>	<u>26,524,556</u>
Net Investment Income/(Loss)	111,320,052	482,049,870
Securities Lending Income		
Earnings	184,442	253,687
Less securities lending expense	<u>(125,203)</u>	<u>(181,772)</u>
Net Securities Lending Income	309,645	435,459
Other Additions	339	178,637
Total Additions/(Declines)	<u>340,346,014</u>	<u>732,135,025</u>
Deductions		
Association Benefits		
Service retirement allowances	147,266,945	139,036,410
Disability retirement allowances	20,038,671	19,266,623
Medical Benefits	-	-
Death and other death benefits	<u>803,591</u>	<u>1,038,945</u>
Total Association Benefits	168,109,207	159,341,978
Refunds of members' contributions	3,357,011	3,214,129
Administrative Expense	5,978,706	5,645,004
Other Expense	<u>118,716</u>	<u>65,292</u>
Total Deductions	<u>177,563,640</u>	<u>168,266,403</u>
Net Increase/(Decrease)	162,782,374	563,868,622
Net Assets Held in Trust for Pension Benefits:		
Beginning of Year	3,291,693,954	2,727,825,332
End of Year	<u>3,454,476,328</u>	<u>3,291,693,954</u>
Estimated Return, Net of Investment Expenses	3.5%	17.3%

**Exhibit 5: Allocation of Assets by Accounting Reserve Amounts
 for the Years Ended June 30, 2014 and 2015**

	2015	2014
A. Valuation Reserves		
1. Member Reserve	\$ 628,286,936	\$ 584,079,609
2. County Advance Reserve	650,940,470	570,829,244
3. Retiree Reserves	925,996,889	877,161,874
4. Cost of Living Adjustment Reserve	1,119,746,850	1,019,232,798
5. County Supplemental Contributions Account Reserve	65,480,696	50,842,556
Total Valuation Reserves	\$ 3,390,451,841	\$ 3,102,146,081
B. Non-Valuation Reserves		
1. Contingency Reserve	\$ 33,773,232	\$ 30,234,213
2. Undistributed Losses / Earnings Reserve	(46,905,378)	(108,622,522)
3. Other Specified Reserves	-	-
Total Non-Valuation Reserves	\$ (13,132,146)	\$ (78,388,309)
C. Financial Statement Reserve	\$ -	\$ -
D. Market Stabilization Account	\$ 77,156,633	\$ 267,936,182
Total Reserves (Market Value of Assets)	\$ 3,454,476,328	\$ 3,291,693,954

Note: These amounts were determined by SamCERA for accounting purposes. We have made minor rounding adjustments to these numbers.

Exhibit 6a: Five-Year Smoothing of Gains and Losses on Market Value (Total Assets) – History

History of Unexpected Asset Gains and Losses								
Six-Month Period Ended	Market Value at Beginning of Period	Contributions	Benefit Payments	Market Value at End of Period	Assumed Rate of Return	Expected Return	Actual Return	Unexpected Gain / (Loss)
6/30/2015	\$ 3,298,179,343	\$ 128,620,389	\$ 87,874,799	\$ 3,454,476,328	3.625%	\$ 121,532,366	115,551,395	\$ (5,980,971)
12/31/2014	3,291,693,954	100,095,589	83,591,419	3,298,179,343	3.625%	120,689,532	(10,018,781)	(130,708,313)
6/30/2014	3,049,944,702	153,384,050	82,787,545	3,291,693,954	3.750%	116,347,099	171,152,747	54,805,648
12/31/2013	2,727,825,332	96,087,010	79,768,567	3,049,944,702	3.750%	103,671,361	305,800,927	202,129,566
6/30/2013	2,558,508,635	99,631,258	78,520,689	2,727,825,332	3.750%	97,496,612	148,206,128	50,709,516
12/31/2012	2,360,303,654	100,084,854	76,494,734	2,558,508,635	3.750%	89,983,040	174,614,861	84,631,821
6/30/2012	2,280,940,966	28,676,113	73,157,072	2,360,303,654	3.875%	87,461,531	123,843,647	36,382,116
12/31/2011	2,317,775,829	171,960,784	69,678,010	2,280,940,966	3.875%	91,600,467	(139,117,637)	(230,718,104)
6/30/2011 ⁽¹⁾	2,167,939,516	96,998,690	67,484,144	2,317,775,829	3.875%	85,497,449	120,321,766	34,824,317
12/31/2010	1,815,896,455	102,489,209	64,824,842	2,167,939,516	3.875%	72,262,382	314,378,695	242,116,313

(1) "Market Value at End of Period" reflects revisions to assets by SamCERA following publication of the June 30, 2011 actuarial valuation.



Exhibit 6b: Five-Year Smoothing of Gains and Losses on Market Value (excluding CSCA) – History

History of Unexpected Asset Gains and Losses								
Six-Month Period Ended	Market Value at Beginning of Period	Contributions	Benefit Payments	Market Value at End of Period	Assumed Rate of Return	Expected Return	Actual Return	Unexpected Gain / (Loss)
6/30/2015	\$ 3,245,056,141	\$ 118,152,574	\$ 87,874,799	\$ 3,388,995,632	3.625%	\$ 119,348,025	\$ 113,661,716	\$ (5,686,309)
12/31/2014	3,240,851,398	99,673,294	83,591,419	3,245,056,141	3.625%	118,831,181	(11,877,132)	(130,708,313)
6/30/2014	3,049,944,702	103,384,050	82,787,545	3,240,851,398	3.750%	115,878,349	170,310,191	54,431,842
12/31/2013	2,727,825,332	96,087,010	79,768,567	3,049,944,702	3.750%	103,671,361	305,800,927	202,129,566
6/30/2013	2,558,508,635	99,631,258	78,520,689	2,727,825,332	3.750%	97,496,612	148,206,128	50,709,516
12/31/2012	2,360,303,654	100,084,854	76,494,734	2,558,508,635	3.750%	89,983,040	174,614,861	84,631,821
6/30/2012	2,280,940,966	28,676,113	73,157,072	2,360,303,654	3.875%	87,461,531	123,843,647	36,382,116
12/31/2011	2,317,775,829	171,960,784	69,678,010	2,280,940,966	3.875%	91,600,467	(139,117,637)	(230,718,104)
6/30/2011 ⁽¹⁾	2,167,939,516	96,998,690	67,484,144	2,317,775,829	3.875%	85,497,449	120,321,766	34,824,317
12/31/2010	1,815,896,455	102,489,209	64,824,842	2,167,939,516	3.875%	72,262,382	314,378,695	242,116,313

(1) "Market Value at End of Period" reflects revisions to assets by SamCERA following publication of the June 30, 2011 actuarial valuation.



This work product was prepared solely for SamCERA for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

Exhibit 6c: Five-Year Smoothing of Gains and Losses on Market Value of CSCA – History

History of Unexpected Asset Gains and Losses								
Six-Month Period Ended	Market Value at Beginning of Period	Contributions	Benefit Payments	Market Value at End of Period	Assumed Rate of Return	Expected Return	Actual Return	Unexpected Gain / (Loss)
6/30/2015	\$ 53,123,202	\$ 10,467,815	0	\$ 65,480,696	3.625%	\$ 2,184,341	\$ 1,889,679	\$ (294,662)
12/31/2014	50,842,556	422,295	0	53,123,202	3.625%	1,858,351	1,858,351	0
6/30/2014	0	50,000,000	0	50,842,556	3.750%	468,750	842,556	373,806
12/31/2013	0	0	0	0	3.750%	0	0	0
6/30/2013	0	0	0	0	3.750%	0	0	0
12/31/2012	0	0	0	0	3.750%	0	0	0
6/30/2012	0	0	0	0	3.875%	0	0	0
12/31/2011	0	0	0	0	3.875%	0	0	0
6/30/2011	0	0	0	0	3.875%	0	0	0
12/31/2010	0	0	0	0	3.875%	0	0	0



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Exhibit 7a: Five-Year Smoothing – Development of Valuation Assets (Total Assets)

Development of Market Stabilization Reserve

Six-Month Period Ended	Percent Excluded	Phase-Out of Gain / (Loss)	
		Unexpected Gain / (Loss)	Gain / (Loss) Excluded
6/30/2015	90%	x \$ (5,980,971)	= \$ (5,382,874)
12/31/2014	80%	x (130,708,313)	= (104,566,650)
6/30/2014	70%	x 54,805,648	= 38,363,954
12/31/2013	60%	x 202,129,566	= 121,277,740
6/30/2013	50%	x 50,709,516	= 25,354,758
12/31/2012	40%	x 84,631,821	= 33,852,728
6/30/2012	30%	x 36,382,116	= 10,914,635
12/31/2011	20%	x (230,718,104)	= (46,143,621)
6/30/2011	10%	x 34,824,317	= 3,482,432
12/31/2010	0%	x 242,116,313	= 0
Total Gain / (Loss) Excluded = Market Stabilization Reserve			= \$ 77,153,101

Development of Valuation Assets

1. Market Value of Assets as of June 30, 2015	\$ 3,454,476,328
2. Preliminary Market Stabilization Reserve	77,153,101
3. Preliminary Actuarial Value of Assets (1) - (2)	3,377,323,227
4. Corridor Around Market Value	
a) Minimum = 80% of Market	2,763,581,062
b) Maximum = 120% of Market	4,145,371,594
c) Corridor Adjustment	0
5. Market Stabilization Reserve	77,153,101
6. Gross Actuarial Valuation of Assets (3) - (4c)	\$ 3,377,323,227
7. Non-Valuation Reserves	
a) Contingency Reserve	33,773,232
b) Undistributed Earnings / Losses Reserve	0
c) Other Specified Reserves	0
d) Total	33,773,232
8. Valuation Assets (6) - (7d)	\$ 3,343,549,995

Exhibit 7b: Five-Year Smoothing – Development of Valuation Assets (excluding CSCA)

Development of Market Stabilization Reserve

Six-Month Period Ended	Phase-Out of Gain / (Loss)		
	Percent Excluded	Unexpected Gain / (Loss)	Gain / (Loss) Excluded
6/30/2015	90%	x \$ (5,686,309) =	\$ (5,117,678)
12/31/2014	80%	x (130,708,313) =	(104,566,650)
6/30/2014	70%	x 54,431,842 =	38,102,289
12/31/2013	60%	x 202,129,566 =	121,277,740
6/30/2013	50%	x 50,709,516 =	25,354,758
12/31/2012	40%	x 84,631,821 =	33,852,728
6/30/2012	30%	x 36,382,116 =	10,914,635
12/31/2011	20%	x (230,718,104) =	(46,143,621)
6/30/2011	10%	x 34,824,317 =	3,482,432
12/31/2010	0%	x 242,116,313 =	0
Total Gain / (Loss) Excluded = Market Stabilization Reserve =			\$ 77,156,633

Development of Valuation Assets

1. Market Value of Assets as of June 30, 2015	\$ 3,388,995,632
2. Preliminary Market Stabilization Reserve	77,156,633
3. Preliminary Actuarial Value of Assets (1) - (2)	3,311,838,999
4. Corridor Around Market Value	
a) Minimum = 80% of Market	2,711,196,506
b) Maximum = 120% of Market	4,066,794,758
c) Corridor Adjustment	0
5. Market Stabilization Reserve	77,156,633
6. Gross Actuarial Valuation of Assets (3) - (4c)	\$ 3,311,838,999
7. Non-Valuation Reserves	
a) Contingency Reserve	33,773,232
b) Undistributed Earnings / Losses Reserve	0
c) Other Specified Reserves	0
d) Total	33,773,232
8. Valuation Assets (6) - (7d)	\$ 3,278,065,767

Exhibit 7c: Five-Year Smoothing – Development of CSCA Assets

Development of Market Stabilization Reserve

Six-Month Period Ended	Phase-Out of Gain / (Loss)		
	Percent Excluded	Unexpected Gain / (Loss) ⁽¹⁾	Gain / (Loss) Excluded
6/30/2015	90%	x \$ (294,662) =	\$ (265,196)
12/31/2014	80%	x 0 =	0
6/30/2014	70%	x 373,806 =	261,664
12/31/2013	60%	x 0 =	0
6/30/2013	50%	x 0 =	0
12/31/2012	40%	x 0 =	0
6/30/2012	30%	x 0 =	0
12/31/2011	20%	x 0 =	0
6/30/2011	10%	x 0 =	0
12/31/2010	0%	x 0 =	0
Total Gain / (Loss) Excluded = Market Stabilization Reserve =			\$ (3,532)

Development of Valuation Assets

1. Market Value of Assets as of June 30, 2015	\$ 65,480,696
2. Preliminary Market Stabilization Reserve	(3,532)
3. Preliminary Actuarial Value of Assets (1) - (2)	65,484,228
4. Corridor Around Market Value	
a) Minimum = 80% of Market	52,384,557
b) Maximum = 120% of Market	78,576,835
c) Corridor Adjustment	0
5. Market Stabilization Reserve	(3,532)
6. Gross Actuarial Valuation of Assets (3) - (4c)	\$ 65,484,228
7. Non-Valuation Reserves	
a) Contingency Reserve	0
b) Undistributed Earnings / Losses Reserve	0
c) Other Specified Reserves	0
d) Total	0
8. Valuation Assets (6) - (7d)	\$ 65,484,228

(1) Based on the MOU, prepayments earn the assumed rate of return so there is no gain or loss on prepayments. Lump sum payments may cause a gain or loss.

Exhibit 8: Allocation of Valuation Assets
 (Dollars in Thousands)

	General	Safety	Probation	Total
1. Prior Year UAAL	\$ 597,013	\$ 202,319	\$ 55,029	\$ 854,361
2. Expected UAAL Contribution for Preceding Year	(79,944)	(27,125)	(7,003)	(114,072)
3. Expected Interest at 7.25%	40,436	13,702	3,740	57,878
4. Expected UAAL Based on Prior Year Assumptions	557,505	188,896	51,766	798,167
5. Percentage of Total Expected UAAL	69.84%	23.67%	6.49%	100.00%
6. Actual UAAL Based on Prior Year Assumptions				767,720
7. Actual AAL Based on Prior Year Assumptions	\$ 2,982,799	\$ 800,595	\$ 262,392	\$ 4,045,786
8. Allocated UAAL Based on Prior Year Assumptions	536,176	181,719	49,825	767,720
9. Valuation Assets (excluding CSCA)	\$ 2,446,623	\$ 618,876	\$ 212,567	\$ 3,278,066
10. Actual UAAL excluding CSCA Valuation Assets	\$ 536,176	\$ 181,719	\$ 49,825	\$ 767,720
11. Allocation of UAAL	69.84%	23.67%	6.49%	100.00%
12. Valuation Assets (CSCA)	\$ 45,734	\$ 15,500	\$ 4,250	\$ 65,484
13. Valuation Assets (Total)	\$ 2,492,357	\$ 634,376	\$ 216,817	\$ 3,343,550

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Section 4: Actuarial Liabilities



In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of SamCERA's assets as of the valuation date, June 30, 2015. In this section, the discussion will focus on the commitments of SamCERA for retirement benefits, which are referred to as its actuarial liabilities.

In an active system, the combined current and future actuarial liabilities will almost always exceed the actuarial assets. This is usually expected in all but a fully closed down fund, where no further contributions of any sort are anticipated. This deficiency has to be provided by future contributions. An actuarial valuation method sets out a schedule of future contributions that will deal with this deficiency in an orderly fashion. The determination of the level of future contributions needed is discussed in the next section.

Actuarial Balance Sheet – Liabilities

First, we need to determine the amount of the deficiency. We compare the Actuarial Value of the Valuation Assets to the Actuarial Liabilities. The difference is the amount that needs to be funded by the member and employer contributions in the future. Both the current and future assets (contributions) are compared to the actuarial liabilities in the Actuarial Balance Sheet.

Exhibit 9a contains an analysis of the actuarial present value of all future benefits for retired, inactive and active members and compares these with the total valuation assets. Exhibit 9b contains an analysis using the valuation assets excluding the CSCA. These analyses are displayed by class of membership and by type of benefit.

The actuarial liabilities include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes measures of both benefits already earned and future benefits to be earned. For all members, active and inactive, the value extends over the rest of their lives and for the lives of any surviving beneficiaries. All liabilities reflect the benefits effective through June 30, 2015.

The actuarial assumptions used to determine the liabilities are based on the results of our Investigation of Experience study for the period ending April 30, 2014. These assumptions were adopted by the Board at their July 2014 meeting and are shown in Appendix A. The assumptions will next be reviewed in detail in 2017 as part of the triennial investigation.

Exhibit 9a: Actuarial Balance Sheet (Total Assets)
June 30, 2015
 (Dollars in Thousands)

Resources				
	General	Safety	Probation	Total
Valuation Assets (Actuarial)	\$ 2,492,357	\$ 634,376	\$ 216,817	\$ 3,343,550
Present Value of Future Member Contributions	\$ 328,805	\$ 61,558	\$ 25,613	\$ 415,976
Present Value of Future Employer Contributions to Fund:				
a) Normal Cost	\$ 245,524	\$ 74,107	\$ 36,865	\$ 356,496
b) Unfunded Actuarial Accrued Liability	\$ 490,442	\$ 166,219	\$ 45,575	\$ 702,236
Total Resources	\$ 3,557,128	\$ 936,260	\$ 324,870	\$ 4,818,258

Liabilities				
	General	Safety	Probation	Total
Present Value of Future Benefits				
1. Present Retired Members	\$ 1,594,102	\$ 514,607	\$ 122,348	\$ 2,231,057
2. Current Inactive Members	180,024	24,750	15,713	220,487
3. Current Active Members				
- Service Retirement	1,586,435	357,950	168,473	2,112,858
- Disability Retirement	93,617	21,903	10,446	125,966
- Death Benefits	25,581	7,517	3,313	36,411
- Deferred Retirement Benefit	53,874	7,879	4,133	65,886
- Refund of Member Contributions	23,495	1,654	444	25,593
- Total Active	1,783,002	396,903	186,809	2,366,714
Total Actuarial Liabilities	\$ 3,557,128	\$ 936,260	\$ 324,870	\$ 4,818,258

Exhibit 9b: Actuarial Balance Sheet (excluding CSCA)
June 30, 2015
 (Dollars in Thousands)

Resources				
	General	Safety	Probation	Total
Valuation Assets (Actuarial)	\$ 2,446,623	\$ 618,876	\$ 212,567	\$ 3,278,066
Present Value of Future Member Contributions	\$ 328,805	\$ 61,558	\$ 25,613	\$ 415,976
Present Value of Future Employer Contributions to Fund:				
a) Normal Cost	\$ 245,524	\$ 74,107	\$ 36,865	\$ 356,496
b) Unfunded Actuarial Accrued Liability	\$ 536,176	\$ 181,719	\$ 49,825	\$ 767,720
Total Resources	\$ 3,557,128	\$ 936,260	\$ 324,870	\$ 4,818,258

Liabilities				
	General	Safety	Probation	Total
Present Value of Future Benefits				
1. Present Retired Members	\$ 1,594,102	\$ 514,607	\$ 122,348	\$ 2,231,057
2. Current Inactive Members	180,024	24,750	15,713	220,487
3. Current Active Members				
- Service Retirement	1,586,435	357,950	168,473	2,112,858
- Disability Retirement	93,617	21,903	10,446	125,966
- Death Benefits	25,581	7,517	3,313	36,411
- Deferred Retirement Benefit	53,874	7,879	4,133	65,886
- Refund of Member Contributions	23,495	1,654	444	25,593
- Total Active	1,783,002	396,903	186,809	2,366,714
Total Actuarial Liabilities	\$ 3,557,128	\$ 936,260	\$ 324,870	\$ 4,818,258

Actuarial Balance Sheet – Resources

For the purpose of the Actuarial Balance Sheet, SamCERA's resources are equal to the sum of:

- (a) Assets currently available to pay benefits and considered for funding purposes, the Valuation Assets,
- (b) The present value of future contributions expected to be made by current active members, and
- (c) The present value of future contributions expected to be made by the employer.

Actuarial Cost Method

The Actuarial Balance sheet determines the amount of future contributions that are needed, but the method used to determine the incidence of when those future contributions are yet to be made in future years is called the "actuarial cost method." For this valuation, the entry age actuarial cost method has been used. Under this method – or essentially any actuarial cost method – the contributions required to meet the difference between current assets and current actuarial liabilities are allocated each year between two elements:

- A Normal Cost amount; and
- Whatever amount is left over, which is used to amortize what is called the UAAL.

Normal Cost

The two items described above, the Normal Cost and UAAL, are the keys to understanding the actuarial cost method.

The Normal Cost is the theoretical contribution rate that is projected to meet the ongoing costs of a group of average new employees. Suppose that a group of new employees was covered under a separate fund from which all benefits and to which all contributions and associated investment returns were paid. Under the entry age actuarial cost method, the Normal Cost contribution rate maintains the funding of benefits as a level percentage of pay. If experience follows the actuarial assumptions precisely, the fund would be completely liquidated when the last payment to the last survivor of the group was made.

**Normal Cost
(continued)**

By applying the Normal Cost contribution rate to the present value of salaries expected to be paid in the future, we determine the present value of future Normal Cost contributions. Future contributions are expected to be made by both the members and the employer. The basic member contribution rates are determined based upon requirements established in the '37 Act and the actuarial assumptions. Members may also make additional contributions as part of a cost sharing or COLA cost sharing arrangements. Based on these member contribution rates, we determine the present value of future member contributions. We subtract that value from the total future Normal Cost contributions expected, based on the entry age cost method. The remaining difference is the employer's portion of the future Normal Cost contributions.

Actuarial Accrued Liability

The difference between the present value of all future obligations and the present value of the future Normal Cost contributions is referred to as the "Actuarial Accrued Liability." The AAL is then compared to the value of assets available to fund benefits, and the difference is referred to as the UAAL. The results for SamCERA for all plans (and including all valuation assets) are summarized below:

(Dollars in millions)	2015	2014	Percent Change
A. Actuarial present value of all future benefits for contributing members, former contributing members, and their survivors	\$ 4,818	\$ 4,527	6.4%
B. Actuarial present value of total future Normal Costs for current members	<u>772</u>	<u>730</u>	5.8%
C. Actuarial accrued liability [A-B]	\$ 4,046	\$ 3,797	6.6%
D. Valuation Assets	<u>3,344</u>	<u>2,993</u>	11.7%
E. UAAL or Surplus Funding [C-D]	\$ 702	\$ 804	(12.6)%
F. Funded Ratio [D/C]	82.6%	78.8%	4.8 %

**Unfunded Actuarial Accrued Liability/
Surplus Funding**

The portion allocated to service already rendered or accrued is called the Actuarial Accrued Liability. The difference between the Actuarial Accrued Liability and the Valuation Assets is called the Unfunded Actuarial Accrued Liability (UAAL). If a UAAL amount exists, it usually results from prior years' benefit or assumption changes and the net effect of accumulated gains and losses. If the employer had always contributed the current Normal Cost, if there were no prior benefit or assumption changes and if actual experience exactly matched the actuarial assumptions, the present value of all future Normal Cost contributions would be sufficient to fund all benefits and there would be no UAAL.

**Unfunded Actuarial
 Accrued Liability/
 Surplus Funding
 (continued)**

Exhibits 9a and 9b show how the UAAL was derived for each classification. Exhibit 9a includes all valuation assets, and exhibit 9b excludes the CSCA. In the Actuarial Balance sheet, the total actuarial accrued liability for all future benefits must be equal to the current and future assets.

Funding Adequacy

A key consideration in determining the adequacy of the funding of SamCERA is how the UAAL is being funded. Under the current funding method, the June 30, 2008 UAAL is amortized over a fixed period ending June 30, 2023. Changes in the UAAL in years following June 30, 2008 are being amortized separately over new 15-year periods from the valuation date at which the difference is calculated, including the change in UAAL as of June 30, 2015.

**Analysis of Change
 in UAAL**

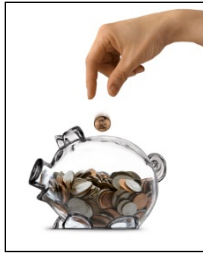
The UAAL, at any date after establishment of a system, is affected by any actuarial gains or losses arising when the actual experience of the system varies from the experience anticipated by the actuarial assumptions used in the valuations. To the extent actual experience, as it develops, differs from that expected according to the assumptions used, so also will the emerging costs differ from the estimated costs.

The 2015 actuarial valuation reflects a decrease in the system-wide UAAL of \$101.7 million for the fiscal year just ended.

Unfunded Actuarial Accrued Liability - June 30, 2014	\$ 803.9
Expected Increase / (Decrease) *	(76.1)
Expected UAAL - June 30, 2015	\$ 727.8
Asset (Gains) and Losses	(74.1)
Retiree COLA Greater than Expected	3.6
Salary Increases Greater than Expected	39.1
Assumption Changes	-
Other Liability (Gain)/Loss	5.8
Total Changes	(25.6)
Actual UAAL - June 30, 2015	\$ 702.2

* Based on actual contributions.

Section 5: Member Contributions



For SamCERA members in Plans 1-6, contributions are of three types: Basic contributions, Cost Sharing contributions, and COLA Cost Sharing contributions. SamCERA members in Plan 7 pay contributions equal to one-half of the total Normal Cost rate for all members.

Basic contributions for Plans 1-6 are defined in the following sections of the County Employees' Retirement Law:

Basic Contributions (Plans 1-6)

Plan	Code Section	Contribution Provides Average Annuity of
General Plans 1, 2 & 4	31621.9	1/120 th of FAC at age 55
General Plan 5	31621	1/120 th of FAC at age 60
Probation & Safety	31639.25	1/100 th of FAC at age 50

FAC = Final Average Compensation

There are no member contributions under General Plan 3.

Basic member contributions are determined using the Entry Age Normal Cost Method and the following actuarial assumptions:

1. Expected rate of return on assets
2. Individual salary increase rate (wage growth + merit)
3. Mortality for members based on service retirement
4. No COLAs are assumed

The basic member contribution rates for Plans 1-6 were recalculated as of the June 30, 2014 valuation to reflect the investment return and wage growth assumptions adopted with the 2014 Investigation of Experience study. The rates are shown in Appendix D.

Cost-Sharing Contributions (Plans 1-5)

In addition to the basic rate, Plan 1, 2, and 4 General employees (excluding SMCM&VCD), as well as Plan 5 Safety and Probation employees, make additional cost-sharing contributions as shown in Appendix B. Plan 6 employees do not participate in cost-sharing. For valuation purposes, cost-sharing contributions are assumed to be permanent. The cost-sharing contributions are fixed and not impacted by changes in assumptions.

**Cost-of-Living
 Contributions
 (Plans 1-6)**

Depending on which plan and bargaining unit they belong to, members may share in the cost of the COLA by making additional contributions (COLA contributions). The COLA level is described in detail in the Member Contributions section of Appendix B.

COLA member rates are determined by calculating and applying a load factor to the basic member rates. COLA load factors are determined for each class and plan of member separately, as shown in the following table:

Plan	COLA Share	COLA Load
General 1	50%	39.19%
General 2	50%	33.64%
General 4	50%	23.02%
General 5	50%	22.14%
Safety 1 ⁽¹⁾	50%	57.96%
Safety 2 ⁽¹⁾	50%	57.96%
Safety 4 ⁽¹⁾	50%	33.97%
Safety 5 ⁽¹⁾	50%	30.74%
Safety 6 ⁽¹⁾	50%	28.12%
Probation 1 (PDA)	25%	33.75%
Probation 2 (PDA)	25%	33.75%
Probation 4 (PDA)	25%	20.78%
Probation 5 (PDA)	50%	38.66%
Probation 6 (PDA)	50%	33.34%

⁽¹⁾ Probation Manager COLA loads are based on corresponding Safety loads.

Example:

A member who enters General Plan 5 at age 35 has a basic member contribution rate of 6.29% (Exhibit D-1). The General Plan 5 COLA load is 22.14% for a member COLA contribution of 1.39% (6.29% x 22.14%) of pay. The basic plus COLA member contribution rate is 7.68% (6.29% + 1.39%).

**Cost-of-Living
Contributions
(Plans 1-6)
(continued)**

The COLA factor is determined as the present value of future normal cost contributions for the applicable plan COLA divided by the present value of future basic member contributions. This ratio is then multiplied by the applicable COLA share percentage (0%, 25%, or 50%)

**Member Contribution
Rates – Pickup
(Plans 1-6)**

Note that a portion of some of the member contribution rates is paid for (“picked up”) by the employer and may or may not be considered part of the member’s contribution account for refund purposes. Consistent with past practice, we have reflected the pickup for Probation members (excluding managers), but not other classes, due to the differing treatment of contributions for refund purposes.

Full disclosure of the member rates can be found in Appendix D.

**Member Contribution
Rates
(Plan 7)**

Contributions for Plan 7 are defined in Section 7522.30 of the Government Code.

All employees of the same class who are members of Plan 7 shall contribute the same percentage of payroll. Such percentage will be 50% of the total Normal Cost rate for that class. The rates are recalculated annually. Note that for small groups, the Normal Cost rate, and hence the member rate may change significantly from year-to-year. As the group becomes larger, this volatility should be reduced.

Effective July 1, 2015, Plan 7 member rates are as follows:

- General members: 7.91% (decreased from 7.92%)
- SMCM&VCD members: 7.35% (increased from 6.51%)
- Safety members: 13.59% (decreased from 14.64%)
- Probation members: 12.91% (decreased from 13.42%)

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Section 6: Employer Contributions



Contributions to SamCERA are determined using the Entry Age Normal Cost Method. The portion of the actuarial present value of retirement benefits allocated to a valuation year by the Actuarial Cost Method is called the Normal Cost. These amounts are usually expressed as a percentage of payroll and called the Normal Cost Contribution Rate. Exhibit 11 shows the Normal Cost Rates by type of benefit and for each plan based on this valuation.

It should be noted that when we use the term “Gross Normal Cost rate,” we are referring to the value of benefits earned by active members allocated to the valuation year. The Employer Normal Cost rate is the portion of the annual benefit that the employer is responsible for. This is simply the Gross Normal Cost rate less the contributions expected to be made by the members.

Note that in the following exhibits “SMCM&VCD” refers to the San Mateo County Mosquito and Vector Control District.

Statutory Contribution Rate

A summary of the total Statutory Contribution Rate for each classification, along with a comparison to the prior year's rates, can be found in Exhibit 10, with additional detail for each plan in Exhibits 10a through 10d. These results are expressed as a percentage of payroll. Note that SamCERA's UAAL is determined separately for each class. Thus, the employers fund the UAAL evenly as a percentage of pay over salaries for all members within a class.

The UAAL rate reflects a layered 15-year amortization beginning with the June 30, 2008 valuation. Gains and losses after that date are reflected over new 15-year periods starting with the valuation date. A one-year deferral in the implementation of the new rate is reflected. Therefore, the new employer contribution rate calculated in the 2015 valuation is paid over the remaining 14 years and is effective July 1, 2016.

The CSCA offset amounts are calculated in a similar manner to the UAAL rate described above.

Exhibits 12a through 12c show detailed information on how the UAAL contribution rate and CSCA offset are calculated using the layered method. The UAAL contribution rates are calculated excluding the CSCA.

Statutory Contribution Rate
(continued)

The total Statutory Contribution Rate was 34.74% for the fiscal year beginning July 1, 2015. For the fiscal year beginning in 2016, the Statutory Contribution Rate based on this report decreased to 32.35%. This is equal to the aggregate Employer Normal Cost contribution rate of 10.42% based on Milliman's 2015 valuation, plus appropriate amounts to amortize the UAAL according to the funding policy, over layered 15-year closed periods.

Statutory Contribution Rate
(all values as a % of Payroll)

Employer Normal Cost	10.42%
Total Amortization of UAAL	<u>21.93%</u>
Total Employer Contribution	32.35%

Changes in the Normal Cost Rate

The change in the calculated gross Normal Cost rates from year-to-year is generally due to two factors. The two factors are:

- 1. Experience:** Normal experience from year-to-year, reflecting differences in both the weighting between membership groups and in their characteristics, as well as on what was assumed to occur during the past fiscal year and what actually occurred, particularly with respect to salary increases and turnover experience. Based on current system benefit provisions, the aggregate Normal Cost rate is expected to decrease as a greater number of members are covered by Plans 5, 6 and 7, instead of the more expensive previous plans. However, the change will be fairly gradual.
- 2. Contribution Shut-Off:** For general members hired prior to March 7, 1973 and all Safety and Probation members, basic member contributions are not collected after the member has 30 years of service. Thereafter, the member contributions towards the total annual Normal Cost are equal to the cost sharing, resulting in a sizable increase in the employer's share of the Normal Cost contributions for the years when the member has more than 30 years of service.

**Exhibit 10: Employer Statutory Contribution Rates – All Plans
 June 30, 2015**

All Plans								
	Gross Normal Cost	Member Contributions	Employer Rates					Prior Year Total Contribution Rate ⁽²⁾
			Basic Normal Cost	COLA Normal Cost	Total Normal Cost	UAAL Contribution Rate ⁽¹⁾	Total Contribution Rate	
<u>General Members</u>								
County (Plan 3)	7.41%	0.00%	7.41%	0.00%	7.41%	18.37%	25.78%	28.31%
County (0%) ⁽³⁾	21.08%	(10.13)%	5.95%	5.00%	10.95%	18.37%	29.32%	30.63%
County (50%) ⁽³⁾	20.05%	(11.36)%	6.57%	2.12%	8.69%	18.37%	27.06%	28.70%
Courts	20.63%	(10.35)%	6.68%	3.60%	10.28%	19.54%	29.82%	30.73%
Total	19.85%	(11.07)%	6.59%	2.19%	8.78%	18.43%	27.21%	29.27%
<u>SMCM&VCD Members</u>								
Total	19.14%	(7.39)%	8.59%	3.16%	11.75%	19.54%	31.29%	32.88%
<u>Safety Members</u>								
County (0%) ⁽³⁾	32.76%	(13.47)%	12.27%	7.02%	19.29%	43.58%	62.87%	65.47%
County (50%) ⁽³⁾	31.16%	(16.02)%	11.65%	3.49%	15.14%	43.58%	58.72%	65.47%
Total	32.28%	(14.25)%	12.17%	5.86%	18.03%	43.58%	61.61%	65.47%
<u>Probation Members</u>								
PDA	30.76%	(12.42)%	13.46%	4.88%	18.34%	26.77%	45.11%	47.01%
Managers	31.39%	(14.16)%	14.17%	3.06%	17.23%	26.77%	44.00%	46.88%
Total	30.87%	(12.70)%	13.57%	4.60%	18.17%	26.77%	44.94%	46.99%
<u>All Plans</u>								
Total	21.94%	(11.52)%	7.65%	2.77%	10.42%	21.93%	32.35%	34.74%
<u>County Only</u>								
Total	21.94%	(11.58)%	7.61%	2.75%	10.36%	22.04%	32.40%	34.92%

- (1) County UAAL Contribution Rate includes an aggregate offset of 1.37% of payroll to reflect the County Supplementary Contribution Account. Offsets vary by class of member as follows:
 - General member UAAL offset is 1.17% of payroll
 - Safety member UAAL offset is 2.54% of payroll
 - Probation member UAAL offset is 1.60% of payroll
- (2) The Prior Year Total Contribution Rate reflects the valuation addendums that were issued subsequent to the valuation report.
- (3) Bargaining units that have negotiated for members (other than Plan 3 members) to pay a specific share of the cost of COLA are grouped together for purposes of this exhibit. The percentage of total COLA cost paid by member is shown in parenthesis.

**Exhibit 10a: Employer Statutory Contribution Rates – General Members
 June 30, 2015**

General Members								
		Employer Rates						
	Gross Normal Cost	Member Contributions	Basic Normal Cost	COLA Normal Cost	Total Normal Cost	UAAL Contribution Rate ⁽¹⁾	Total Contribution Rate	Prior Year Total Contribution Rate ⁽²⁾
Plan 1								
County (0%) ⁽³⁾	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
County (50%) ⁽³⁾	22.38%	(12.92)%	6.13%	3.33%	9.46%	18.37%	27.83%	29.02%
Courts	22.38%	(9.97)%	5.21%	7.20%	12.41%	19.54%	31.95%	32.73%
Total	22.38%	(12.76)%	6.08%	3.54%	9.62%	18.44%	28.06%	29.55%
Plan 2								
County (0%) ⁽³⁾	21.42%	(10.19)%	5.56%	5.67%	11.23%	18.37%	29.60%	31.14%
County (50%) ⁽³⁾	21.42%	(12.73)%	5.84%	2.85%	8.69%	18.37%	27.06%	28.61%
Courts	21.42%	(10.16)%	5.59%	5.67%	11.26%	19.54%	30.80%	32.29%
Total	21.42%	(12.60)%	5.82%	3.00%	8.82%	18.43%	27.25%	29.35%
Plan 3								
County	7.41%	0.00%	7.41%	0.00%	7.41%	18.37%	25.78%	28.29%
Courts	7.41%	0.00%	7.41%	0.00%	7.41%	19.54%	26.95%	29.24%
Total	7.41%	0.00%	7.41%	0.00%	7.41%	18.38%	25.79%	28.31%
Plan 4								
County (0%) ⁽³⁾	21.00%	(10.11)%	6.05%	4.84%	10.89%	18.37%	29.26%	30.51%
County (50%) ⁽³⁾	21.00%	(12.25)%	6.72%	2.03%	8.75%	18.37%	27.12%	28.74%
Courts	21.00%	(10.69)%	6.99%	3.32%	10.31%	19.54%	29.85%	31.32%
Total	21.00%	(12.14)%	6.73%	2.13%	8.86%	18.45%	27.31%	29.37%
Plan 5								
County	18.20%	(8.30)%	8.11%	1.76%	9.90%	18.37%	28.27%	30.01%
Courts	18.20%	(9.74)%	8.11%	1.76%	8.46%	19.54%	28.00%	29.92%
Total	18.20%	(8.33)%	8.11%	1.76%	9.87%	18.40%	28.27%	29.97%
Plan 7								
County	15.82%	(7.91)%	6.32%	1.59%	7.91%	18.37%	26.28%	28.12%
Courts	15.82%	(7.91)%	6.32%	1.59%	7.91%	19.54%	27.45%	29.07%
Total	15.82%	(7.91)%	6.32%	1.59%	7.91%	18.39%	26.30%	28.12%
All Plans								
County (Plan 3)	7.41%	0.00%	7.41%	0.00%	7.41%	18.37%	25.78%	28.31%
County (0%) ⁽³⁾	21.08%	(10.13)%	5.95%	5.00%	10.95%	18.37%	29.32%	30.63%
County (50%) ⁽³⁾	20.05%	(11.36)%	6.57%	2.12%	8.69%	18.37%	27.06%	28.70%
Courts	20.63%	(10.35)%	6.68%	3.60%	10.28%	19.54%	29.82%	30.73%
Total	19.85%	(11.07)%	6.59%	2.19%	8.78%	18.43%	27.21%	29.27%

- (1) UAAL Contribution Rate includes an offset of 1.17% of payroll to reflect the County Supplementary Contribution Account, except for Courts.
- (2) The Prior Year Total Contribution Rate reflects the valuation addendums that were issued subsequent to the valuation report.
- (3) Bargaining units that have negotiated for members (other than Plan 3 members) to pay a specific share of the cost of COLA are grouped together for purposes of this exhibit. The percentage of total COLA cost paid by member is shown in parenthesis.

**Exhibit 10b: Employer Statutory Contribution Rates – SMCM & VCD Members
 June 30, 2015**

SMCM&VCD Members								
Employer Rates								
	Gross Normal Cost	Member Contributions	Basic Normal Cost	COLA Normal Cost	Total Normal Cost	UAAL Contribution Rate	Total Contribution Rate	Prior Year Total Contribution Rate
<u>Plan 1</u>								
Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<u>Plan 2</u>								
Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<u>Plan 4</u>								
Total	19.80%	(7.39)%	9.01%	3.40%	12.41%	19.54%	31.95%	32.92%
<u>Plan 7</u>								
Total	14.70%	(7.35)%	5.83%	1.52%	7.35%	19.54%	26.89%	27.66%
<u>All Plans</u>								
Total	19.14%	(7.39)%	8.59%	3.16%	11.75%	19.54%	31.29%	32.88%

**Exhibit 10c: Employer Statutory Contribution Rates – Safety Members
 June 30, 2015**

Safety Members								
		Employer Rates						
	Gross Normal Cost	Member Contributions	Basic Normal Cost	COLA Normal Cost	Total Normal Cost	UAAL Contribution Rate ⁽¹⁾	Total Contribution Rate	Prior Year Total Contribution Rate ⁽²⁾
<u>Plan 1</u>								
County (0%) ⁽³⁾	42.35%	(4.75)%	21.29%	16.31%	37.60%	43.58%	81.18%	72.82%
County (50%) ⁽³⁾	42.35%	(23.12)%	12.84%	6.39%	19.23%	43.58%	62.81%	72.82%
Total	42.35%	(10.87)%	18.53%	12.95%	31.48%	43.58%	75.06%	72.82%
<u>Plan 2</u>								
County (0%) ⁽³⁾	34.03%	(13.33)%	11.72%	8.98%	20.70%	43.58%	64.28%	67.09%
County (50%) ⁽³⁾	34.03%	(18.09)%	10.64%	5.30%	15.94%	43.58%	59.52%	67.09%
Total	34.03%	(14.61)%	11.43%	7.99%	19.42%	43.58%	63.00%	67.09%
<u>Plan 4</u>								
County (0%) ⁽³⁾	32.42%	(13.51)%	12.42%	6.49%	18.91%	43.58%	62.49%	65.52%
County (50%) ⁽³⁾	32.42%	(18.90)%	10.74%	2.78%	13.52%	43.58%	57.10%	65.52%
Total	32.42%	(13.83)%	12.47%	6.12%	18.59%	43.58%	62.17%	65.52%
<u>Plan 5</u>								
Total	32.92%	(16.38)%	13.22%	3.32%	16.54%	43.58%	60.12%	62.94%
<u>Plan 6</u>								
Total	33.52%	(14.50)%	15.63%	3.39%	19.02%	43.58%	62.60%	65.42%
<u>Plan 7</u>								
Total	27.18%	(13.59)%	10.63%	2.96%	13.59%	43.58%	57.17%	61.12%
<u>All Plans</u>								
County (0%) ⁽³⁾	32.76%	(13.47)%	12.27%	7.02%	19.29%	43.58%	62.87%	65.47%
County (50%) ⁽³⁾	31.16%	(16.02)%	11.65%	3.49%	15.14%	43.58%	58.72%	65.47%
Total	32.28%	(14.25)%	12.17%	5.86%	18.03%	43.58%	61.61%	65.47%

- (1) UAAL Contribution Rate includes an offset of 2.54% of payroll to reflect the County Supplementary Contribution Account.
- (2) The Prior Year Total Contribution Rate reflects the valuation addendums that were issued subsequent to the valuation report.
- (3) Bargaining units that have negotiated for members to pay a specific share of the cost of COLA are grouped together for purposes of this exhibit. The percentage of total COLA cost paid by member is shown in parenthesis.

**Exhibit 10d: Employer Statutory Contribution Rates – Probation Members
 June 30, 2015**

Probation Members								
	Gross Normal Cost	Member Contributions	Employer Rates					Prior Year Total Contribution Rate ⁽²⁾
			Basic Normal Cost	COLA Normal Cost	Total Normal Cost	UAAL Contribution Rate ⁽¹⁾	Total Contribution Rate	
<u>Plan 1</u>								
PDA Members	34.55%	(3.50)%	15.00%	16.05%	31.05%	26.77%	57.82%	59.14%
Managers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	34.55%	(3.50)%	15.00%	16.05%	31.05%	26.77%	57.82%	59.14%
<u>Plan 2</u>								
PDA Members	33.41%	(13.09)%	13.80%	6.52%	20.32%	26.77%	47.09%	48.57%
Managers	33.41%	(14.28)%	13.58%	5.55%	19.13%	26.77%	45.90%	50.03%
Total	33.41%	(13.40)%	13.74%	6.27%	20.01%	26.77%	46.78%	48.98%
<u>Plan 4</u>								
PDA Members	30.75%	(12.19)%	13.77%	4.79%	18.56%	26.77%	45.33%	46.84%
Managers	30.75%	(14.18)%	14.42%	2.15%	16.57%	26.77%	43.34%	45.90%
Total	30.75%	(12.47)%	13.87%	4.41%	18.28%	26.77%	45.05%	46.73%
<u>Plan 5</u>								
PDA Members	29.51%	(13.86)%	12.72%	2.93%	15.65%	26.77%	42.42%	43.75%
Managers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	29.51%	(13.86)%	12.72%	2.93%	15.65%	26.77%	42.42%	43.75%
<u>Plan 6</u>								
PDA Members	25.24%	(9.77)%	12.89%	2.58%	15.47%	26.77%	42.24%	43.57%
Managers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	25.24%	(9.77)%	12.89%	2.58%	15.47%	26.77%	42.24%	43.57%
<u>Plan 7</u>								
PDA Members	25.82%	(12.91)%	10.20%	2.71%	12.91%	26.77%	39.68%	41.51%
Managers	25.82%	(12.91)%	10.20%	2.71%	12.91%	26.77%	39.68%	41.51%
Total	25.82%	(12.91)%	10.20%	2.71%	12.91%	26.77%	39.68%	41.51%
<u>All Plans</u>								
PDA Members	30.76%	(12.42)%	13.46%	4.88%	18.34%	26.77%	45.11%	47.01%
Managers	31.39%	(14.16)%	14.17%	3.06%	17.23%	26.77%	44.00%	46.88%
Total	30.87%	(12.70)%	13.57%	4.60%	18.17%	26.77%	44.94%	46.99%

- (1) UAAL Contribution Rate includes an offset of 1.60% of payroll to reflect the County Supplementary Contribution Account.
- (2) The Prior Year Total Contribution Rate reflects the valuation addendums that were issued subsequent to the valuation report.

Exhibit 11: Calculated Gross Normal Cost Rates

All Plans						
Plan	Normal Cost					Total Gross Normal Cost
	Service Retirement	Disability Retirement	Death while Active	Termination (No Refund)	Termination (Refund)	
General Plan 1	15.99%	1.80%	0.45%	2.14%	2.00%	22.38%
General Plan 2	15.39%	1.80%	0.42%	1.89%	1.92%	21.42%
General Plan 3	6.86%	0.00%	0.00%	0.55%	0.00%	7.41%
General Plan 4	15.28%	1.88%	0.39%	1.61%	1.84%	21.00%
General Plan 5	13.39%	1.93%	0.35%	1.24%	1.29%	18.20%
General Plan 7	11.59%	1.82%	0.31%	0.88%	1.22%	15.82%
General Total	14.45%	1.82%	0.38%	1.51%	1.69%	19.85%
SMCM&VCD Plan 1	N/A	N/A	N/A	N/A	N/A	N/A
SMCM&VCD Plan 2	N/A	N/A	N/A	N/A	N/A	N/A
SMCM&VCD Plan 4	14.88%	1.85%	0.37%	1.57%	1.13%	19.80%
SMCM&VCD Plan 7	10.64%	1.31%	0.42%	1.13%	1.20%	14.70%
SMCM&VCD Total	14.33%	1.78%	0.38%	1.51%	1.14%	19.14%
Safety Plan 1	33.40%	4.22%	1.51%	2.20%	1.02%	42.35%
Safety Plan 2	26.56%	3.38%	1.40%	1.93%	0.76%	34.03%
Safety Plan 4	25.34%	3.46%	1.18%	1.69%	0.75%	32.42%
Safety Plan 5	25.46%	4.05%	1.19%	1.25%	0.97%	32.92%
Safety Plan 6	26.35%	4.43%	1.12%	0.80%	0.82%	33.52%
Safety Plan 7	20.67%	3.72%	1.11%	0.94%	0.74%	27.18%
Safety Total	25.13%	3.54%	1.22%	1.61%	0.78%	32.28%
Probation Plan 1	29.30%	2.18%	1.06%	1.51%	0.50%	34.55%
Probation Plan 2	26.20%	3.31%	1.26%	1.95%	0.69%	33.41%
Probation Plan 4	24.22%	3.01%	1.07%	1.78%	0.67%	30.75%
Probation Plan 5	23.22%	3.22%	1.04%	1.30%	0.73%	29.51%
Probation Plan 6	19.27%	3.06%	1.06%	1.34%	0.51%	25.24%
Probation Plan 7	19.81%	3.24%	1.03%	1.07%	0.67%	25.82%
Probation Total	24.25%	3.09%	1.10%	1.76%	0.67%	30.87%
All Plans	16.27%	2.10%	0.52%	1.54%	1.52%	21.94%

Exhibit 12a: Amortization Detail - General Members: UAAL and County CSCA Offsets
 (Dollars in Thousands)

Unfunded Actuarial Liability Amortization Detail							
Date Established	Description ⁴	Balance as of June 30, 2015	Interest on Balance	Amort. Payment on June 30, 2016 ¹	Balance as of June 30, 2016 ²	Remaining Period as of June 30, 2016	July 1, 2016 Amortization Payment
June 30, 2008	Initial UAAL	\$ 314,270	\$ 22,785	\$ 47,563	\$ 289,493	7 Years	\$ 46,791
June 30, 2009	(Gain) / Loss	\$ 309,799	\$ 22,460	\$ 42,387	\$ 289,872	8 Years	\$ 41,699
June 30, 2010	(Gain) / Loss	\$ (117,037)	\$ (8,485)	\$ (14,656)	\$ (110,867)	9 Years	\$ (14,418)
June 30, 2011	(Gain) / Loss	\$ (35,600)	\$ (2,581)	\$ (4,121)	\$ (34,060)	10 Years	\$ (4,054)
June 30, 2012	(Gain) / Loss	\$ 111,228	\$ 8,064	\$ 12,000	\$ 107,292	11 Years	\$ 11,805
June 30, 2013	(Gain) / Loss	\$ 21,099	\$ 1,530	\$ 2,136	\$ 20,493	12 Years	\$ 2,101
June 30, 2014	(Gain) / Loss	\$ (44,836)	\$ (3,251)	\$ (4,285)	\$ (43,803)	13 Years	\$ (4,215)
June 30, 2015	(Gain) / Loss	\$ (22,746)	\$ (1,649)	\$ 8,455 ³	\$ (32,851)	14 Years	\$ (2,984)
Total Amortization Payment July 1, 2016:							\$ 76,725
Projected Payroll July 1, 2016:							\$ 392,648
UAAL as of June 30, 2015:		<u>\$ 536,176</u>		UAAL Contribution Rate (as a % of Payroll) FYB July 1, 2016:			<u>19.54%</u>

County Supplementary Contribution Account Amortization Detail							
Date Established	Description	Balance as of June 30, 2015	Interest on Balance	Offset to SCR on June 30, 2016 ¹	Balance as of June 30, 2016 ²	Remaining Period as of June 30, 2016	July 1, 2016 Amortization Payment
June 30, 2014	Initial CSCA	\$ 37,852	\$ 2,744	\$ 3,431	\$ 37,165	13 Years	\$ 3,576
June 30, 2015	CSCA Addition	\$ 7,882	\$ 571	\$ -	\$ 8,453	14 Years	\$ 768
Total CSCA County Offset Payment July 1, 2016:							\$ 4,344
Projected County Payroll July 1, 2016:							\$ 372,492
CSCA Value as of June 30, 2015:		<u>\$ 45,734</u>		CSCA County Offset (as a % of Payroll) FYB July 1, 2016:			<u>1.17%</u>

1. Amortization Payments and CSCA Offsets are based on a fixed schedule that increases by the payroll assumption each year.
2. The calculation of assets and liabilities used in the calculation of UAAL and CSCA are as of June 30, 2015; whereas, the contribution rates are not effective until July 1, 2016. Therefore, the UAAL and CSCA are adjusted to June 30, 2016 in the calculation of contribution rates.
3. The 15-year amortization of UAAL does not begin until July 1, 2016; however, the UAAL amount is adjusted based on the July 1, 2015 contribution rate.
4. (Gain)/Loss includes the following:
 - new assumptions adopted effective June 30, 2011 based on the Investigation of Experience report
 - new economic assumptions effective June 30, 2012
 - new assumptions adopted effective June 30, 2014 based on the Investigation of Experience report

Exhibit 12b: Amortization Detail - Safety Members: UAAL and County CSCA Offsets
 (Dollars in Thousands)

Unfunded Actuarial Liability Amortization Detail							
Date Established	Description ⁴	Balance as of June 30, 2015	Interest on Balance	Amort. Payment on June 30, 2016 ¹	Balance as of June 30, 2016 ²	Remaining Period as of June 30, 2016	July 1, 2016 Amortization Payment
June 30, 2008	Initial UAAL	\$ 114,684	\$ 8,315	\$ 17,357	\$ 105,642	7 Years	\$ 17,075
June 30, 2009	(Gain) / Loss	\$ 113,615	\$ 8,237	\$ 15,545	\$ 106,307	8 Years	\$ 15,292
June 30, 2010	(Gain) / Loss	\$ (43,781)	\$ (3,174)	\$ (5,482)	\$ (41,472)	9 Years	\$ (5,393)
June 30, 2011	(Gain) / Loss	\$ (16,511)	\$ (1,197)	\$ (1,911)	\$ (15,797)	10 Years	\$ (1,880)
June 30, 2012	(Gain) / Loss	\$ 33,070	\$ 2,398	\$ 3,568	\$ 31,901	11 Years	\$ 3,510
June 30, 2013	(Gain) / Loss	\$ 6,170	\$ 447	\$ 625	\$ 5,992	12 Years	\$ 614
June 30, 2014	(Gain) / Loss	\$ (18,041)	\$ (1,308)	\$ (1,724)	\$ (17,625)	13 Years	\$ (1,696)
June 30, 2015	(Gain) / Loss	\$ (7,486)	\$ (543)	\$ 1,120 ³	\$ (9,149)	14 Years	\$ (831)
Total Amortization Payment July 1, 2016:							\$ 26,691
Projected Payroll July 1, 2016:							\$ 57,875
UAAL as of June 30, 2015:		<u>\$ 181,719</u>		UAAL Contribution Rate (as a % of Payroll) FYB July 1, 2016:			<u>46.12%</u>

County Supplementary Contribution Account Amortization Detail							
Date Established	Description	Balance as of June 30, 2015	Interest on Balance	Offset to SCR on June 30, 2016 ¹	Balance as of June 30, 2016 ²	Remaining Period as of June 30, 2016	July 1, 2016 Amortization Payment
June 30, 2014	Initial CSCA	\$ 12,827	\$ 930	\$ 1,163	\$ 12,594	13 Years	\$ 1,212
June 30, 2015	CSCA Addition	\$ 2,673	\$ 194	\$ -	\$ 2,867	14 Years	\$ 260
Total CSCA County Offset Payment July 1, 2016:							\$ 1,472
Projected County Payroll July 1, 2016:							\$ 57,875
CSCA Value as of June 30, 2015:		<u>\$ 15,500</u>		CSCA County Offset (as a % of Payroll) FYB July 1, 2016:			<u>2.54%</u>

1. Amortization Payments and CSCA Offsets are based on a fixed schedule that increases by the payroll assumption each year.
2. The calculation of assets and liabilities used in the calculation of UAAL and CSCA are as of June 30, 2015; whereas, the contribution rates are not effective until July 1, 2016. Therefore, the UAAL and CSCA are adjusted to June 30, 2016 in the calculation of contribution rates.
3. The 15-year amortization of UAAL does not begin until July 1, 2016; however, the UAAL amount is adjusted based on the July 1, 2015 contribution rate.
4. (Gain)/Loss includes the following:
 - new assumptions adopted effective June 30, 2011 based on the Investigation of Experience report
 - new economic assumptions effective June 30, 2012
 - new assumptions adopted effective June 30, 2014 based on the Investigation of Experience report

Exhibit 12c: Amortization Detail - Probation Members: UAAL and County CSCA Offsets
 (Dollars in Thousands)

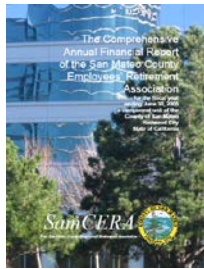
Unfunded Actuarial Liability Amortization Detail							
Date Established	Description ⁽⁴⁾	Balance as of June 30, 2015	Interest on Balance	Amort. Payment on June 30, 2016 ¹	Balance as of June 30, 2016 ²	Remaining Period as of June 30, 2016	July 1, 2016 Amortization Payment
June 30, 2008	Initial UAAL	\$ 28,734	\$ 2,083	\$ 4,349	\$ 26,468	7 Years	\$ 4,278
June 30, 2009	(Gain) / Loss	\$ 28,595	\$ 2,073	\$ 3,912	\$ 26,756	8 Years	\$ 3,849
June 30, 2010	(Gain) / Loss	\$ (10,686)	\$ (775)	\$ (1,338)	\$ (10,123)	9 Years	\$ (1,316)
June 30, 2011	(Gain) / Loss	\$ (3,788)	\$ (275)	\$ (438)	\$ (3,624)	10 Years	\$ (431)
June 30, 2012	(Gain) / Loss	\$ 11,151	\$ 808	\$ 1,203	\$ 10,756	11 Years	\$ 1,184
June 30, 2013	(Gain) / Loss	\$ 1,575	\$ 114	\$ 159	\$ 1,529	12 Years	\$ 157
June 30, 2014	(Gain) / Loss	\$ (3,647)	\$ (264)	\$ (348)	\$ (3,562)	13 Years	\$ (343)
June 30, 2015	(Gain) / Loss	\$ (2,110)	\$ (153)	\$ 205 ³	\$ (2,468)	14 Years	\$ (224)
Total Amortization Payment July 1, 2016:							\$ 7,153
Projected Payroll July 1, 2016:							\$ 25,212
UAAL as of June 30, 2015:		<u>\$ 49,825</u>		UAAL Contribution Rate (as a % of Payroll) FYB July 1, 2016:		<u>28.37%</u>	

County Supplementary Contribution Account Amortization Detail							
Date Established	Description	Balance as of June 30, 2015	Interest on Balance	Offset to SCR on June 30, 2016 ¹	Balance as of June 30, 2016 ²	Remaining Period as of June 30, 2016	July 1, 2016 Amortization Payment
June 30, 2014	Initial CSCA	\$ 3,488	\$ 253	\$ 316	\$ 3,425	13 Years	\$ 330
June 30, 2015	CSCA Addition	\$ 762	\$ 55	\$ -	\$ 817	14 Years	\$ 74
Total CSCA County Offset Payment July 1, 2016:							\$ 404
Projected County Payroll July 1, 2016:							\$ 25,212
CSCA Value as of June 30, 2015:		<u>\$ 4,250</u>		CSCA County Offset (as a % of Payroll) FYB July 1, 2016:		<u>1.60%</u>	

1. Amortization Payments and CSCA Offsets are based on a fixed schedule that increases by the payroll assumption each year.
2. The calculation of assets and liabilities used in the calculation of UAAL and CSCA are as of June 30, 2015; whereas, the contribution rates are not effective until July 1, 2016. Therefore, the UAAL and CSCA are adjusted to June 30, 2016 in the calculation of contribution rates.
3. The 15-year amortization of UAAL does not begin until July 1, 2016; however, the UAAL amount is adjusted based on the July 1, 2015 contribution rate.
4. (Gain)/Loss includes the following:
 - new assumptions adopted effective June 30, 2011 based on the Investigation of Experience report
 - new economic assumptions effective June 30, 2012
 - new assumptions adopted effective June 30, 2014 based on the Investigation of Experience report

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Section 7: Information for Comprehensive Annual Financial Report (CAFR)



The Governmental Accounting Standards Board (GASB) Statement No. 67 sets standards for defined benefit pension plan reporting and disclosures. The reporting requirements for GASB 67 include certain supplementary information that must be added to the financial statements. GASB Statement No. 68 specifies financial reporting for pension accounting by state and local governmental employers. We will provide information required for GASB No. 67 and GASB No. 68 in a separate report.

We are providing several exhibits in this report for consistency with prior reports and as supporting information for inclusion in SamCERA's CAFR.

- Exhibit 13 – Schedule of Funding Progress
- Exhibit 14 – Solvency Test
- Exhibit 15 – History of Employer Contribution Rates
- Exhibit 16 – Actuarial Analysis of Financial Experience
- Exhibit 17 – Summary of Significant Actuarial Statistics and Measurements
- Exhibit 18 – Summary of SamCERA Membership
For more detailed information on the valuation data, see Appendix C.
- Exhibit 19 – Summary of Active Member Valuation Data
- Exhibit 20 – Summary of Demographic Activity of Retirees and Beneficiaries
- Exhibit 21 – Average Salary and Active Counts by Employer
- Exhibit 22 – Summary of Retired and Inactive Benefits

Additional CAAP Disclosure

The California Actuarial Advisory Panel (CAAP) has adopted a set of model disclosure elements for actuarial valuation reports of public retirement systems in California. Most of these elements are included in other areas of this report. The remaining CAAP-recommended disclosures are as follows:

Disclosure Element	Description	Value
Gross Normal Cost \$	Normal Cost allocated to valuation year, paid at mid-year.	\$ 102,596,038
Statutory Contribution \$	Expected Statutory Contribution paid at mid-year.	\$ 151,275,380
Asset Smoothing Ratio	Actuarial Value of Assets divided by Market Value of Assets	96.8%
Asset Volatility Ratio	Market Value of Assets divided by Payroll	7.4
Liability Volatility Ratio	Actuarial Accrued Liability divided by Payroll	8.7

Exhibit 13: Schedule of Funding Progress

(Dollars in Thousands)

<u>Actuarial Valuation Date</u>	<u>(a) Actuarial Value of Valuation Assets</u>	<u>(b) Actuarial Accrued Liabilities</u>	<u>(b-a) Unfunded Actuarial Accrued Liabilities (UAAL)</u>	<u>(a/b) Funded Ratio</u>	<u>(c) Covered Payroll</u>	<u>[(b-a)/c] UAAL as a Percentage of Covered Payroll</u>
June 30, 2006	1,769,021	2,345,149	576,128	75.4%	368,972	156.14%
June 30, 2007	1,976,731	2,555,504	578,773	77.4%	407,912	141.92%
June 30, 2008	2,218,937	2,806,222	587,285	79.1%	416,243	141.09%
June 30, 2009	1,909,679	2,987,712	1,078,033	63.9%	436,424	247.02%
June 30, 2010	2,179,076	3,098,453	919,377	70.3%	428,559	214.53%
June 30, 2011	2,405,140	3,246,727	841,587	74.1%	424,061	198.46%
June 30, 2012	2,480,271	3,442,553	926,282	72.0%	419,779	229.24%
June 30, 2013	2,618,639	3,572,750	954,111	73.3%	406,921	234.47%
June 30, 2014	2,993,187	3,797,042	803,855	78.8%	422,022	190.48%
June 30, 2015	3,343,550	4,045,786	702,236	82.6%	454,683	154.45%



This work product was prepared solely for SamCERA for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

Exhibit 14: Solvency Test
 (Dollars in Thousands)

Actuarial Valuation Date	Valuation Assets	Actuarial Accrued Liabilities for			Portion of Actuarial Accrued Liabilities Covered by Assets		
		Active Member Contributions (A)	Retirees and Beneficiaries ⁽¹⁾ (B)	Active Members (Employer Financed Portion) (C)	(A)	(B)	(C)
June 30, 2006	1,769,021	317,521	1,234,005	793,623	100%	100%	27%
June 30, 2007	1,976,731	359,484	1,348,013	848,007	100%	100%	32%
June 30, 2008	2,218,937	385,300	1,550,875	870,047	100%	100%	32%
June 30, 2009	1,909,679	412,147	1,670,547	905,018	100%	90%	0%
June 30, 2010	2,179,076	449,355	1,745,146	903,952	100%	99%	0%
June 30, 2011	2,405,140	485,126	1,866,219	895,382	100%	100%	6%
June 30, 2012	2,480,271	498,569	2,022,791	921,193	100%	98%	0%
June 30, 2013	2,618,639	534,276	2,157,590	880,884	100%	97%	0%
June 30, 2014	2,993,187	584,080	2,285,328	927,634	100%	100%	13%
June 30, 2015	3,343,550	628,287	2,451,544	965,955	100%	100%	27%

(1) Includes inactive members.



Exhibit 15: History of Employer Statutory Contribution Rates

Statutory Contribution Rates ⁽¹⁾									
Valuation Year	General Members (County & Courts)			General Members (Nurses & UAPD) ⁽³⁾			General Members (SMCM&VCD) ⁽²⁾		
	Normal	UAAL	Total	Normal	UAAL	Total	Normal	UAAL	Total
2006	10.49%	9.97%	20.46%	Same as County General			Same as County General		
2007	10.19%	9.46%	19.65%	Same as County General			8.50%	7.76%	16.26%
2008	10.16%	9.81%	19.97%	Same as County General			8.55%	8.04%	16.59%
2009	10.11%	18.40%	28.51%	Same as County General			8.25%	15.09%	23.34%
2010	10.05%	16.35%	26.40%	Same as County General			11.70%	16.35%	28.05%
2011	9.71%	16.41%	26.12%	8.70%	16.41%	25.11%	11.97%	16.41%	28.38%
2012	9.98%	20.17%	30.15%	8.96%	20.17%	29.13%	11.68%	20.17%	31.85%
2013	9.74%	22.35%	32.09%	8.92%	22.35%	31.27%	11.70%	22.35%	34.05%
2014	10.12%	20.27%	30.39%	9.14%	20.21%	29.35%	11.72%	21.16%	32.88%

Statutory Contribution Rates ⁽¹⁾									
Valuation Year	General Members (County) ⁽⁵⁾			General Members (Courts) ⁽⁵⁾			General Members (SMCM&VCD) ⁽²⁾		
	Normal	UAAL	Total	Normal	UAAL	Total	Normal	UAAL	Total
2015	8.67%	18.37%	27.04%	10.28%	19.54%	29.82%	11.75%	19.54%	31.29%

Statutory Contribution Rates ⁽¹⁾									
Valuation Year	Safety Member			Probation Members (excluding Managers) ⁽⁴⁾			Probation Members (Managers) ⁽⁶⁾		
	Normal	UAAL	Total	Normal	UAAL	Total	Normal	UAAL	Total
2006	20.18%	30.52%	50.70%	21.59%	14.85%	36.44%	Same as Probation (ex Managers)		
2007	19.94%	29.32%	49.26%	20.83%	14.06%	34.89%	Same as Probation (ex Managers)		
2008	19.32%	27.31%	46.63%	20.05%	12.81%	32.86%	Same as Probation (ex Managers)		
2009	19.21%	51.83%	71.04%	19.92%	23.84%	43.76%	Same as Probation (ex Managers)		
2010	19.01%	44.50%	63.51%	19.85%	21.62%	41.47%	Same as Probation (ex Managers)		
2011	18.87%	41.75%	60.62%	19.50%	22.30%	41.80%	Same as Probation (ex Managers)		
2012	19.05%	48.51%	67.56%	19.99%	26.71%	46.70%	Same as Probation (ex Managers)		
2013	18.51%	50.33%	68.84%	18.33%	29.32%	47.65%	17.85%	29.32%	47.17%
2014	18.99%	46.48%	65.47%	18.92%	28.09%	47.01%	18.79%	28.09%	46.88%
2015	18.03%	43.58%	61.61%	18.34%	26.77%	45.11%	17.23%	26.77%	44.00%

- (1) Contribution rates shown are those calculated in the corresponding actuarial valuation. In some cases, actual contributions were higher.
- (2) Beginning with the 2010 actuarial valuation, the Mosquito and Vector Control District adopted the same benefit formula and member contribution rates as Plan 1, 2 and 4 General County members (excluding cost sharing and COLA sharing on member rates).
- (3) Beginning with the 2011 actuarial valuation, Plan 1, 2, and 4 members of the California Nurses Association contribute 25% of the cost of COLA, in addition to current member rates and cost sharing.
Beginning with the 2013 actuarial valuation, Plan 1, 2, and 4 members of the Union of American Physicians and Dentists contribute 25% of the cost of COLA, in addition to current member rates and cost sharing. In 2011 and 2012 these members contributed the same as County General members.
- (4) Beginning with the 2012 actuarial valuation, Plan 1, 2, and 4 Probation members (excluding Managers) contribute 25% of the cost of COLA, in addition to current member rates and cost sharing.
- (5) Beginning with the 2015 actuarial valuation, Plan 1, 2, and 4 members of the Union of American Physicians and Dentists or the California Nurses Association contribute 50% of the cost of COLA, in addition to current member rates and cost sharing. As a result of having similar COLA share to other County groups, those members have been aggregated with all County groups.
- (6) Beginning with the 2015 actuarial valuation, Probation members (Managers) contribute 50% of the cost of COLA, in addition to current member rates and cost sharing.

Exhibit 16: Actuarial Analysis of Financial Experience

Summary of (Gains) / Losses	Change In Liability				
	2015	2014	2013	2012	2011
Unfunded Liability as of July 1	\$ 803,855,000	\$ 954,111,000	\$ 962,282,000	\$ 841,587,000	\$ 919,377,000
Expected Change in UAAL	(76,018,000)	(88,525,000)	(34,535,000)	(39,621,000)	(31,508,000)
Salary (Gain) / Loss	39,129,000	(15,884,000)	(59,411,000)	(45,526,000)	(51,831,000)
Fewer Withdrawals than expected	0	0	0	0	0
Retiree COLA more / (less) than expected	3,648,000	(15,603,000)	(8,606,000)	(11,756,000)	(27,561,000)
Asset (Gain) / Loss	(74,068,000)	(88,035,000)	93,999,000	171,268,000	12,548,000
Change due to Assumption Changes	0	59,345,000	0	36,443,000	19,402,000
Miscellaneous Experience	5,690,000	(1,554,000)	382,000	9,887,000	1,160,000
Change Due to New Formula					
Unfunded Liability as of June 30	\$ 702,236,000	\$ 803,855,000	\$ 954,111,000	\$ 962,282,000	\$ 841,587,000



This work product was prepared solely for SamCERA for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

Exhibit 17: Summary of Significant Actuarial Statistics and Measures

	June 30th of		Relative
	2015	2014	Change
1. Active Members			
Number of Members	5,095	5,004	1.8 %
Average Age	45.5	45.8	(0.7)%
Average Credited Service	11.0	11.2	(1.8)%
Total Active Payroll (\$thousands)	\$ 462,640	\$ 429,407	7.7 %
Average Monthly Salary	\$ 7,567	\$ 7,151	5.8 %
2. Retired Members			
Number of Members			
Service Retirement	3,628	3,525	2.9 %
Disability Retirement	442	428	3.3 %
Beneficiaries	568	565	0.5 %
Average Age	71.3	71.3	-
Actual Retiree Benefits Paid (\$thousands)	\$ 168,109	\$ 159,342	5.5 %
Average Monthly Pension	\$ 3,160	\$ 3,021	4.6 %
3. Number of Inactive Members	1,384	1,304	6.1 %
4. Assets			
Market Value of Fund (\$thousands)	\$ 3,454,476	\$ 3,291,694	4.9 %
Return on Market Value	3.5%	17.3%	
Valuation Assets (\$thousands)	\$ 3,343,550	\$ 2,993,187	11.7 %
Return on Valuation Assets	9.7%	3.7%	
5. Liability Values (\$thousands)			
Actuarial Accrued Liability	\$ 4,045,786	\$ 3,797,042	6.6 %
Unfunded Actuarial Accrued Liability	\$ 702,236	\$ 803,855	(12.6)%
Deferred Asset (Gains) / Losses	\$ (77,153)	\$ (268,273)	
6. Funded Ratio (based on valuation assets)	82.6%	78.8%	4.8 %

Exhibit 18: Summary of SamCERA Membership

Plan	One	Two	Three	Four	Five	Six	Seven	Total
Retirees and beneficiaries currently receiving benefits:								
General	1,711	1,715	128	460	1	-	-	4,015
Safety	271	157	-	39	-	-	-	467
Probation	71	69	-	16	-	-	-	156
Subotal	<u>2,053</u>	<u>1,941</u>	<u>128</u>	<u>515</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>4,638</u>
Inactive employees entitled to but not currently receiving benefits (Deferred):								
General	17	380	121	702	22	-	25	1,267
Safety	1	26	-	43	2	-	1	73
Probation	-	12	-	32	-	-	-	44
Subotal	<u>18</u>	<u>418</u>	<u>121</u>	<u>777</u>	<u>24</u>	<u>-</u>	<u>26</u>	<u>1,384</u>
Current employees:								
Vested:								
General	24	780	73	2,191	3	-	5	3,076
Safety	3	87	-	228	-	-	1	319
Probation	1	48	-	198	-	-	-	247
Non-Vested:								
General	-	1	24	167	271	-	795	1,258
Safety	-	-	-	41	53	1	65	160
Probation	-	-	-	1	9	2	23	35
Subotal	<u>28</u>	<u>916</u>	<u>97</u>	<u>2,826</u>	<u>336</u>	<u>3</u>	<u>889</u>	<u>5,095</u>
Total SamCERA Membership	2,099	3,275	346	4,118	361	3	915	11,117

Exhibit 19: Summary of Active Member Valuation Data

Valuation Date	Members	Annual Salary	Average Annual Salary	% Change Average Salary	
2006	General	4,614	\$312,934,324	\$67,823	-1.7%
	Safety	428	\$41,407,772	\$96,747	-1.1%
	Probation	313	\$22,009,210	\$70,317	-1.6%
	Total	5,355	\$376,351,306	\$70,280	-1.7%
2007	General	4,767	\$346,319,017	\$72,649	7.1%
	Safety	443	\$45,386,411	\$102,452	5.9%
	Probation	329	\$24,364,268	\$74,056	5.3%
	Total	5,539	\$416,069,696	\$75,116	6.9%
2008	General	4,743	\$353,518,525	\$74,535	2.6%
	Safety	432	\$46,326,906	\$107,238	4.7%
	Probation	325	\$24,741,003	\$76,126	2.8%
	Total	5,500	\$424,586,434	\$77,198	2.8%
2009	General	4,777	\$370,760,830	\$77,614	4.1%
	Safety	436	\$48,120,081	\$110,367	2.9%
	Probation	330	\$26,270,802	\$79,608	4.6%
	Total	5,543	\$445,151,713	\$80,309	4.0%
2010	General	4,609	\$363,305,740	\$78,825	1.6%
	Safety	425	\$48,576,912	\$114,299	3.6%
	Probation	313	\$25,247,595	\$80,663	1.3%
	Total	5,347	\$437,130,248	\$81,752	1.8%
2011	General	4,494	\$355,876,715	\$79,189	0.5%
	Safety	446	\$52,073,940	\$116,758	2.2%
	Probation	305	\$24,591,392	\$80,628	0.0%
	Total	5,245	\$432,542,046	\$82,468	0.9%
2012	General	4,361	\$351,965,689	\$80,708	1.9%
	Safety	435	\$51,129,267	\$117,539	0.7%
	Probation	299	\$24,554,583	\$82,122	1.9%
	Total	5,095	\$427,649,539	\$83,935	1.8%
2013	General	4,173	\$338,595,633	\$81,140	2.5%
	Safety	452	\$52,233,510	\$115,561	-1.0%
	Probation	292	\$23,722,165	\$81,240	0.8%
	Total	4,917	\$414,551,308	\$84,310	2.2%
2014	General	4,272	\$352,918,558	\$82,612	1.8%
	Safety	452	\$52,974,475	\$117,200	1.4%
	Probation	280	\$23,514,343	\$83,980	3.4%
	Total	5,004	\$429,407,375	\$85,813	1.8%
2015	General	4,334	\$382,303,295	\$88,210	6.8%
	Safety	479	\$55,917,864	\$116,739	-0.4%
	Probation	282	\$24,418,977	\$86,592	3.1%
	Total	5,095	\$462,640,136	\$90,803	5.8%

Exhibit 20: Summary of Demographic Activity of Retirees and Beneficiaries

Year Ended	Added to Rolls ⁽¹⁾		Removed from Rolls		Rolls end of year		% Increase in Payroll	Average Monthly Allowances
	No.	Annual Allowances in Thousands	No.	Annual Allowances in Thousands	No. ⁽²⁾	Total Retiree Payroll in Thousands		
June 30, 2006	206	N/A	112	N/A	3,613	91,006	8.1	2,099
June 30, 2007	155	N/A	74	N/A	3,694	98,790	8.6	2,229
June 30, 2008	218	N/A	70	N/A	3,842	109,616	11.0	2,378
June 30, 2009	159	12,717	66	3,281	3,935	119,052	8.6	2,521
June 30, 2010	163	9,076	96	3,240	4,002	124,888	4.9	2,601
June 30, 2011 ⁽³⁾	209	12,703	64	2,916	4,147	134,675	7.8	2,706
June 30, 2012	218	14,379	90	4,209	4,275	144,845	7.6	2,823
June 30, 2013	186	13,024	63	3,095	4,398	154,774	6.9	2,933
June 30, 2014	203	12,474	83	3,479	4,518	163,769	5.8	3,021
June 30, 2015	213	16,290	93	4,179	4,638	175,880	7.4	3,160

(1) Amount added to rolls includes COLAs granted in year to continuing retirees and beneficiaries.

(2) For 6/30/2005, retirees/beneficiaries who are entitled to multiple benefits are counted more than once. Starting 6/30/2006, the counts reflect only one benefit per retiree.

(3) Revised from June 30, 2011 valuation for corrections.

Exhibit 21: Average Salary and Active Counts by Employer

**Schedule of Average Monthly Salary of Active Members
 (By Plan and Membership Type)**

	2015	2014	2013	2012	2011
General Plan 1	\$9,235	\$8,617	\$8,104	\$7,843	\$7,630
General Plan 2	\$8,186	\$7,584	\$7,355	\$7,340	\$7,208
General Plan 3	\$6,747	\$6,300	\$6,254	\$6,138	\$5,968
General Plan 4	\$7,386	\$6,873	\$6,662	\$6,580	\$6,398
General Plan 5	\$7,735	\$6,912	\$6,418	\$5,799	N/A
General Plan 7	\$6,315	\$5,721	\$5,433	N/A	N/A
General Plan Total	\$7,351	\$6,884	\$6,762	\$6,726	\$6,599
Safety Plan 1	\$14,712	\$14,091	\$13,185	\$12,624	\$12,073
Safety Plan 2	\$11,545	\$11,191	\$10,935	\$10,892	\$10,789
Safety Plan 4	\$9,919	\$9,581	\$9,402	\$9,351	\$9,230
Safety Plan 5	\$9,145	\$8,958	\$8,699	\$9,667	N/A
Safety Plan 6	\$16,010	\$14,381	\$12,374	N/A	N/A
Safety Plan 7	\$6,701	\$7,011	\$6,695	N/A	N/A
Safety Plan Total	\$9,728	\$9,767	\$9,630	\$9,795	\$9,730
Probation Plan 1	\$7,038	\$6,874	\$6,618	\$6,618	\$7,533
Probation Plan 2	\$8,012	\$7,699	\$7,445	\$7,454	\$7,349
Probation Plan 4	\$7,267	\$6,922	\$6,622	\$6,686	\$6,505
Probation Plan 5	\$6,106	\$5,916	\$5,242	\$4,949	N/A
Probation Plan 6	\$5,739	\$5,216	\$4,808	\$5,239	N/A
Probation Plan 7	\$5,684	\$5,807	\$7,742	\$5,239	N/A
Probation Plan Total	\$7,216	\$6,998	\$6,770	\$6,844	\$6,719
Grand Total	\$7,567	\$7,151	\$7,026	\$6,995	\$6,872

Participating Employers and Active Members

	2015	2014	2013	2012	2011
<i>County of San Mateo⁽¹⁾</i>					
General Members	4,092	4,014	3,906	4,078	4,476
Safety Members	479	452	452	435	446
Probation Members	282	280	292	299	305
Total	4,853	4,746	4,650	4,812	5,227
<i>San Mateo County Mosquito and Vector Control District</i>					
General Members Total	20	19	18	15	18
<i>Courts⁽¹⁾</i>					
General Members Total	222	239	249	268	N/A
Total Active Membership	5,095	5,004	4,917	5,095	5,245

(1) Courts not split out for years prior to 2012. County of San Mateo counts exclude Courts in 2012 and later years.

Exhibit 22: Summary of Retired and Inactive Benefits

Retired Members	2015	2014	2013	2012	2011
Service Retirement					
Number	3,628	3,525	3,446	3,355	3,242
Annual Allowance					
Basic Only	\$ 112,557,000	\$ 105,556,000	\$ 100,411,000	\$ 94,234,000	\$ 87,254,000
COLA	\$ 30,835,000	\$ 28,027,000	\$ 26,594,000	\$ 24,748,000	\$ 23,212,000
Total	\$ 143,392,000	\$ 133,583,000	\$ 127,005,000	\$ 118,982,000	\$ 110,466,000
Average Monthly Payment	\$ 3,294	\$ 3,158	\$ 3,071	\$ 2,955	\$ 2,839
Disability Retirement					
Number	442	428	393	374	370
Annual Allowance					
Basic Only	\$ 13,303,000	\$ 12,508,000	\$ 10,733,000	\$ 9,909,000	\$ 9,414,000
COLA	\$ 4,208,000	\$ 3,800,000	\$ 3,564,000	\$ 3,225,000	\$ 3,005,000
Total	\$ 17,511,000	\$ 16,308,000	\$ 14,297,000	\$ 13,134,000	\$ 12,419,000
Average Monthly Payment	\$ 3,301	\$ 3,175	\$ 3,032	\$ 2,927	\$ 2,797
Beneficiaries					
Number	568	565	559	546	535
Annual Allowance					
Basic Only	\$ 8,610,000	\$ 7,986,000	\$ 7,668,000	\$ 7,235,000	\$ 6,672,000
COLA	\$ 6,367,000	\$ 5,892,000	\$ 5,804,000	\$ 5,494,000	\$ 5,118,000
Total	\$ 14,977,000	\$ 13,878,000	\$ 13,472,000	\$ 12,729,000	\$ 11,790,000
Average Monthly Payment	\$ 2,197	\$ 2,047	\$ 2,008	\$ 1,943	\$ 1,836
Total Retired Members					
Number	4,638	4,518	4,398	4,275	4,147
Annual Allowance					
Basic Only	\$ 134,470,000	\$ 126,050,000	\$ 118,812,000	\$ 111,378,000	\$ 103,340,000
COLA	\$ 41,410,000	\$ 37,719,000	\$ 35,962,000	\$ 33,467,000	\$ 31,335,000
Total	\$ 175,880,000	\$ 163,769,000	\$ 154,774,000	\$ 144,845,000	\$ 134,675,000
Average Monthly Payment	\$ 3,160	\$ 3,021	\$ 2,933	\$ 2,823	\$ 2,706
Inactive Members	1,384	1,304	1,306	1,212	1,190

Note: The data in the table above originates from PensionGold, SamCERA's retirement benefit administration system.

Appendix A: Actuarial Procedures and Assumptions



The actuarial procedures and assumptions to be used in the valuation are described in this section. The assumptions were reviewed and changed as a result of the 2014 Investigation of Experience Study. At its meeting on June 9, 2015, the Board reaffirmed these assumptions for use in the 2015 valuation.

The actuarial assumptions used in the valuations are intended to estimate the future experience of the members of SamCERA and of SamCERA itself in areas that affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in the estimated costs of SamCERA's benefits.

Table A-1 summarizes the assumptions. The mortality rates are taken from the sources listed.

Tables A-2 and A-3 show how members are expected to leave retired status due to death.

Table A-4 presents the probability of refund of contributions upon termination of employment while vested.

Table A-5 presents the expected annual percentage increase in salaries.

Tables A-6 to A-11 present the probabilities a member will leave the system for various reasons.

NOTE: Assumptions for Probation members are assumed to be the same as Safety members unless otherwise noted.

Actuarial Cost Method

The actuarial valuation is prepared using the entry age actuarial cost method (CERL 31453.5). Under the principles of this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of the individual's projected compensation between entry age and assumed exit (until maximum retirement age).

For members who transferred from Plan 3 to another General plan, entry age is based on the transfer date.

The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the sum of: (a) the actuarial value of the assets and (b) the actuarial present value of future normal costs is called the Unfunded Actuarial Accrued Liability (UAAL). The UAAL as of June 30, 2008 is amortized as a level percentage of the projected salaries of present and future members of SamCERA over the remaining period from the valuation date to June 30, 2023. This is commonly referred to as a "closed amortization method". Actuarial gains and losses after the June 30, 2008 valuation are amortized over new closed 15-year periods from their respective valuation dates.

Beginning with the June 30, 2010 actuarial valuation, the San Mateo County Mosquito and Vector Control District adopted the same "enhanced" benefit formula that applies to Plan 1, 2, and 4 County General members and the same member rates currently being paid by County General members from those plans. However, because the Mosquito and Vector Control District does not participate in cost sharing on the member rates, it will have a separate normal cost rate and expected member contribution rate from the County General group.

The normal cost rate is calculated separately for County General and for the Mosquito and Vector Control District. These normal cost rates will differ from each other for two reasons:

- 1) The demographics within the two groups will vary (specifically, the groups will have different average entry ages), and
- 2) The expected refund of contributions, which is a component of the normal cost, will differ between the County and the Mosquito and Vector Control District, since the District does not participate in cost sharing on the member rates.

Records and Data

The data used in this valuation consist of financial information and the age, service, and income records for active and inactive members and their survivors. All of the data were supplied by SamCERA and are accepted for valuation purposes without audit.

Replacement of Terminated Members	The ages and relative salaries at entry of future members are assumed to follow a new entrant distribution based on the pattern of current members. Under this assumption, the normal cost rates for active members will remain fairly stable in future years unless there are changes in the governing law, the actuarial assumptions, or the pattern of the new entrants.
Growth in Membership	For benefit determination purposes, no growth in the membership of SamCERA is assumed. For funding purposes, if amortization is required, the total payroll of covered members is assumed to grow due to the combined effects of future wage increases of current active members and the replacement of the current active members by new employees. No growth in the total number of active members is assumed.
Internal Revenue Code Section 415 Limit	The Internal Revenue Code Section 415 maximum benefit limitations are not reflected in the valuation for funding purposes. Any limitation is reflected in a member's benefit after retirement.
Internal Revenue Code Section 401(a)(17)	The Internal Revenue Code Section 401(a)(17) maximum compensation limitation is not reflected in the valuation for funding purposes. Any limitation is reflected in a member's benefit after retirement.
Employer Contributions	The employer contribution rate is set by the Retirement Board based on actuarial valuations.
Member Contributions	<p>The member contribution rates vary by entry age (except for Plan 7) and are described in the law. Code references are shown in Appendix B of the valuation report. The methods and assumptions used are detailed later in this section.</p> <p>The individual member rates by entry age, plan, and class are illustrated in Appendix D of the valuation report.</p>
Valuation of Assets	The assets are valued using a five-year smoothed method based on the difference between the expected market value and the actual market value of the assets as of the valuation date. The expected market value is the prior year's market value increased with the net increase in the cash flow of funds, all increased with interest during the past fiscal year at the expected investment return rate assumption.
Investment Earnings and Expenses	The future investment earnings of the assets of SamCERA are assumed to accrue at an annual rate of 7.25% compounded annually, net of both investment and administrative expenses. This rate was adopted effective June 30, 2014.

Postretirement Benefit Increases

Postretirement increases are described in Appendix B. Assumed increases for valuation purposes are:

	General	Safety	Probation
Plan 1	3.00%	3.00%	2.90%
Plan 2	2.65%	2.65%	2.65%
Plan 3	0.00%	N/A	N/A
Plans 4, 5, and 7	1.90%	1.90%	1.90%
Plan 6	N/A	1.90%	1.90%

Assumed Plan 1 General and Safety COLAs are set at the inflation (CPI) assumption of 3.00% per year. Since Plan 2 does not have a COLA bank, it is expected that increases will be limited in some years. This reduces the overall expected rate and is reflected in a lower assumed increase.

Interest on Member Contributions

The annual credited interest rate on member contributions is assumed to be 7.25% compounded semi-annually for an annualized rate of 7.38%. This rate was adopted effective June 30, 2014 for valuation purposes, although the change in the member crediting rate was not effective until July 1, 2015.

Future Salaries

The rates of annual salary increase assumed for the purpose of the valuation are illustrated in Table A-5. In addition to increases in salary due to promotions and longevity, this scale includes an assumed 3.50% per annum rate of increase in the general wage level of the membership.

Increases are assumed to occur mid-year. The mid-year timing reflects that salary increases occur throughout the year, or on average mid-year.

SamCERA supplied two types of compensation data: 1) pensionable pay from the most recent bi-weekly pay period; and 2) pensionable pay from the prior year. We annualized bi-weekly pay (by multiplying by 26) and then used the greater of the two amounts.

Social Security Wage Base

Plan 3 members have their benefits offset by an assumed Social Security Benefit. For valuation funding purposes, we need to project the Social Security Benefit. We assume the current Social Security provisions will continue and the annual Wage Base will increase at the rate of 3.00% per year. Note, statutory provisions describe how to compute a member's offset amount at time of termination or retirement.

Retirement

The retirement rates vary by age and are shown by plan in Tables A-6 through A-11.

All General members who attain or who have attained age 70 and all Safety members who have attained age 60 are assumed to retire immediately. Additionally, if a member's benefit is equal to or greater than the 100% of compensation limit, the member is assumed to retire immediately. For purposes of the valuation, immediate retirement is assumed at:

- Age 62 with 38 years of service (General, except Plan 3, Plan 5, and Plan 7)
- Age 65 with 41 years of service (General Plan 5)
- Age 67 with 40 years of service (General Plan 7)
- Any age with 33 years of service (Safety & Probation, except Plans 5, 6, and 7)
- Age 55 with 33 years of service (Safety & Probation Plan 5)
- Age 55 with 38 years of service (Safety & Probation Plan 6)
- Age 57 with 38 years of service (Safety & Probation Plan 7)

Inactive members are assumed to retire at the later of current age and:

- Age 55 (General Members, except Plan 3 and Plan 7)
- Age 65 (General Plan 3 Members)
- Age 62 (General Plan 7 Members)
- Age 50 (Probation and Safety members)

The retirement rates were adopted June 30, 2014.

Disability

The rates of disability used in the valuation are also illustrated in Tables A-6 through A-11.

The disability rates were adopted June 30, 2014.

Mortality – Other Than Disabled Members

The same postretirement mortality rates are used in the valuation for active members, members retired for service, and beneficiaries. These rates are illustrated in Table A-2. Beneficiary mortality is assumed to be the same as for healthy members. Beneficiaries are assumed to be of the opposite sex and have the same mortality as General members.

General Males RP-2000 Healthy Combined Mortality Table for Males with adjustment for White Collar workers. Ages are set back three years.

Safety Males Same as General.

General Females RP-2000 Healthy Combined Mortality Table for Females with adjustment for White Collar workers. Ages are set back three years.

Safety Females Same as General.

The rates of retired mortality were adopted June 30, 2011 and re-adopted June 30, 2014.

Mortality – Disabled Members

For disabled members, the mortality rates used in the valuation are illustrated in Table A-3.

<i>General Males</i>	Average of RP-2000 Healthy Combined Mortality Table for Males with adjustment for White Collar workers and the RP-2000 Disabled Annuitant Mortality Table for Males, both set back three years.
<i>Safety Males</i>	RP-2000 Healthy Combined Mortality Table for Males with adjustment for White Collar workers (minimum is 1.0%).
<i>General Females</i>	Average of RP-2000 Healthy Combined Mortality Table for Females with adjustment for White Collar workers and the RP-2000 Disabled Annuitant Mortality Table for Females, both set back three years.
<i>Safety Females</i>	RP-2000 Healthy Combined Mortality Table for Females with adjustment for White Collar workers (minimum is 0.4%).

The rates of mortality were adopted June 30, 2011 and re-adopted June 30, 2014.

Other Employment Terminations

Tables A-6 to A-11 show, for all ages, the rates assumed in this valuation for future termination from active service other than for death, disability or retirement. These rates do not apply to members eligible for service retirement.

Terminating employees may withdraw their contributions immediately upon termination of employment and forfeit the right to further benefits, or they may leave their contributions with SamCERA. Former contributing members whose contributions are on deposit may later elect to receive a refund, may return to work or may remain inactive until becoming eligible to receive a retirement benefit under either SamCERA or a reciprocal retirement system. All terminating members who are not eligible for vested benefits are assumed to withdraw their contributions immediately.

The rates of termination were adopted June 30, 2011 and re-adopted June 30, 2014.

Probability of Refund

Table A-4 gives the assumed probabilities that vested members will withdraw their contributions and elect a refund immediately upon termination and the probability the remaining members will elect a deferred retirement benefit. For Plan 3, 100% of members are assumed to elect a vested benefit. All non-vested members are assumed to elect a refund and withdraw their contributions.

The probability of refund assumptions were adopted June 30, 2011 and re-adopted June 30, 2014.

Probability of Eligible Survivor

For members not currently in pay status, 75% of all males and 55% of all females are assumed to have eligible survivors (spouses or qualified domestic partners). Survivors are assumed to be three years younger than male members and two years older than female members. Survivors are assumed to be of the opposite sex as the member. There is no explicit assumption for children's benefits. We believe the survivor benefits based on this assumption are sufficient to cover children's benefits as they occur.

Valuation of Current Inactive Members

Current non-vested members who have terminated active employment are assumed to take a refund of their contributions.

Current vested members who have terminated active employment are assumed to keep their accounts with SamCERA and retire as specified in this section. An adjustment is made to the salary data provided for these individuals, as it is our understanding that the salary data may not be complete in many cases. The adjustment is based on the average pay for all members of the active group divided by average pay for the deferred group. The average pay for the active group is based on the average pay over the last five-year period using the information supplied in the CAFR.

Reciprocal Benefits

35% of future inactive General members and 45% of future inactive Safety members are assumed to immediately join a reciprocal agency. For future reciprocal members, salaries are assumed to increase at the same rate as if they had remained in active employment with SamCERA. For current inactive members, eligibility is based on the data supplied by SamCERA and future salaries are assumed to increase at 4.02% annually.

Part-Time Employees

For valuation purposes, part-time employees are assumed to continue working the same number of hours in the future.

Adjustment to Plan 3 Normal Cost Rate

Plan 3 members are eligible to transfer to Plan 2 or Plan 4 (depending on entry date) after five years of service. We have adjusted the Plan 3 Normal Cost to account for this. The adjusted Plan 3 Normal Cost rate is 50% of the unadjusted Plan 3 Normal Cost rate and 50% of the Plan 4 Normal Cost rate.

**Member Contribution
Rate Assumptions**

The following assumptions summarize the procedures used to compute member contribution rates based on entry age:

In general, the member rate is determined by the present value of the future benefit (PVFB) payable at retirement age, divided by the present value of all future salaries payable between age at entry and retirement age. For these purposes, per the CERL:

- A. The annuity factor used for General members is based on a 33% / 67% blend of the male and female annuity factors using current valuation assumptions and no COLA. For Safety members it is based on an 83% / 17% blend of the male and female annuity factors using current valuation assumptions.
- B. The annuity factor used in determining the present value of future benefits (PVFB) at entry age is equal to the life only annuity factor at 7.25%.
- C. The Final Compensation is based on the salary paid in the year prior to attaining the retirement age.

Example: For a Plan 4 Member who enters at age 54 or earlier, the Final Compensation at retirement (age 55) will be the monthly average of the annual salary for age 54.
- D. For purposes of calculating the value of the member's future contribution, interest is assumed to be credited at 7.25% semiannually (7.38% annual rate).
- E. Member Rates are assumed to increase with entry age, except in Plan 7. There are a few exceptions at the higher entry ages where the calculated rate is less than the previous entry age. In these cases the member contribution rate is adjusted so that it is no less than the value for the previous entry age.
- F. Member rates for members of the Probation and Detention Association in Plans 1, 2, and 4 are loaded to account for a 25% COLA share. The COLA loads are applied to the otherwise applicable basic member rates, prior to the addition of cost-sharing. The loads were determined based on 2014 information and were applied as follows:

Plan 1 Probation members: 33.75% load
Plan 2 Probation members: 33.75% load
Plan 4 Probation members: 20.78% load

**Member Contribution
Rate Assumptions
(continued)**

G. Member rates for members of the AFSCME, Attorneys, Building & Trades, California Nurses Association, Confidential, Management, LEU, SEIU, and Union of American Physicians and Dentists in Plans 1, 2, and 4 are loaded to account for a 50% COLA share. General members rehired on or after August 7, 2011, Safety members rehired on or after January 8, 2012 and Probation members rehired on or after July 10, 2011 in Plans 1, 2, and 4 are also loaded to account for a 50% COLA share. The COLA loads are applied to the otherwise applicable basic member rates, prior to the addition of cost-sharing. The loads were determined based on 2014 information and were applied as follows:

Plan 1 General members: 39.19% load

Plan 2 General members: 33.64% load

Plan 4 General members: 23.02% load

Plan 1 Safety members: 57.96% load

Plan 2 Safety members: 57.96% load

Plan 4 Safety members: 33.97% load

Plan 1 Probation members: 67.50% load

Plan 2 Probation members: 67.50% load

Plan 4 Probation members: 41.56% load

H. Member rates for members in Plans 5 and 6 are loaded to account for 50% COLA share. The COLA loads are applied to the otherwise applicable basic member rates, prior to the addition of cost-sharing where applicable. The loads were determined based on 2014 information and were applied as follows:

Plan 5 General members: 22.14% load

Plan 5 Safety members: 30.74% load

Plan 6 Safety members: 28.12% load

Plan 5 Probation members: 38.66% load

Plan 6 Probation members: 33.34% load

Table A-1: Summary of Valuation Assumptions as of June 30, 2015

I.	Economic assumptions	
A.	General wage increases	3.50%
B.	Investment earnings	7.25%
C.	Growth in active membership	0.00%
D.	CPI inflation assumption	3.00%
II.	Demographic assumptions	
A.	Salary increases due to service	Table A-5
B.	Retirement	Tables A-6 to A-11
C.	Disablement	Tables A-6 to A-11
D.	Mortality for active members prior to termination*	Tables A-6 to A-11

Basis-- RP-2000 Employees Table with age adjustments:

	Age
<u>Class of Members</u>	<u>Adjustment</u>
General – Males	-3 years
General – Females	-3 years
Safety – Males	-3 years
Safety – Females	-3 years

E.	Mortality for active members after termination and service retired members*	Table A-2
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Basis – RP-2000 Healthy Combined Mortality Table with adjustment for White Collar workers:

	Age
<u>Class of Members</u>	<u>Adjustment</u>
General – Males	-3 years
General – Females	-3 years
Safety – Males	-3 years
Safety – Females	-3 years

* The current mortality assumptions contain a margin to account for expected future mortality improvement. Refer to the 2014 Investigation of Experience report for details.

**Table A-1: Summary of Valuation Assumptions as of June 30, 2015
 (continued)**

F. Mortality among disabled members* Table A-3

Basis – Average of RP-2000 Healthy Combined Mortality Table with adjustment for White Collar workers and RP-2000 Disabled Annuitant Mortality Table:

<u>Class of Members</u>	<u>Age Adjustment</u>	<u>Minimum Rate</u>
General – Males	-3 years	None
General – Females	-3 years	None

Basis – RP-2000 Healthy Combined Mortality Table with adjustment for White Collar workers:

<u>Class of Members</u>	<u>Age Adjustment</u>	<u>Minimum Rate</u>
Safety – Males	none	1.00%
Safety – Females	none	0.40%

G. Mortality for beneficiaries* Table A-2

Basis – Beneficiaries are assumed to be of the opposite sex and have the same mortality as General members.

H. Other terminations of employment Tables A-6 to A-11

I. Refund of contributions on vested termination Table A-4

* *The current mortality assumptions contain a margin to account for expected future mortality improvement. Refer to the 2014 Investigation of Experience report for details.*

Table A-2: Mortality for Members Retired for Service

Age	General Male	General Female	Safety Male	Safety Female
20	0.030%	0.018%	0.030%	0.018%
25	0.037%	0.019%	0.037%	0.019%
30	0.038%	0.022%	0.038%	0.022%
35	0.043%	0.036%	0.043%	0.036%
40	0.071%	0.053%	0.071%	0.053%
45	0.103%	0.076%	0.103%	0.076%
50	0.158%	0.123%	0.158%	0.123%
55	0.250%	0.192%	0.250%	0.192%
60	0.409%	0.332%	0.409%	0.332%
65	0.731%	0.599%	0.731%	0.599%
70	1.404%	1.094%	1.404%	1.094%
75	2.387%	1.878%	2.387%	1.878%
80	4.236%	3.155%	4.236%	3.155%
85	7.493%	5.337%	7.493%	5.337%
90	13.019%	9.248%	13.019%	9.248%

Table A-3: Mortality for Members Retired for Disability

Age	General Male	General Female	Safety Male	Safety Female
20	1.144%	0.382%	1.000%	0.400%
25	1.147%	0.382%	1.000%	0.400%
30	1.148%	0.384%	1.000%	0.400%
35	1.150%	0.391%	1.000%	0.400%
40	1.164%	0.399%	1.000%	0.400%
45	1.180%	0.411%	1.000%	0.400%
50	1.335%	0.509%	1.000%	0.400%
55	1.703%	0.769%	1.000%	0.400%
60	2.106%	1.099%	1.000%	0.468%
65	2.615%	1.503%	1.106%	0.865%
70	3.424%	2.114%	1.928%	1.519%
75	4.664%	3.082%	3.363%	2.572%
80	6.725%	4.555%	5.941%	4.308%
85	9.840%	6.783%	10.467%	7.419%
90	14.271%	10.350%	17.827%	12.615%

**Table A-4: Immediate Refund of Contributions Upon Termination of Employment
 (Excludes Plan 3)**

Years of Service	General	Safety
0	100%	100%
1	100%	100%
2	100%	100%
3	100%	100%
4	100%	100%
5	45%	35%
6	45%	35%
7	45%	35%
8	44%	34%
9	43%	33%
10	42%	32%
11	41%	31%
12	40%	30%
13	38%	25%
14	36%	20%
15	34%	15%
16	32%	10%
17	30%	5%
18	27%	4%
19	24%	3%
20	21%	0%
21	18%	0%
22	15%	0%
23	12%	0%
24	9%	0%
25	6%	0%
26	3%	0%
27	0%	0%
28	0%	0%
29	0%	0%
30 & Up	0%	0%

Table A-5: Annual Increase in Salary

<u>Years of Service</u>	<u>Due to Promotion and Longevity</u>	<u>Total Annual Increase*</u>
<1	6.00%	9.71%
1	4.00%	7.64%
2	3.00%	6.61%
3	2.50%	6.09%
4	2.00%	5.57%
5	1.75%	5.31%
6	1.50%	5.05%
7	1.25%	4.79%
8	1.05%	4.59%
9	0.90%	4.43%
10	0.80%	4.33%
11	0.70%	4.22%
12	0.60%	4.12%
13	0.50%	4.02%
14	0.50%	4.02%
15	0.50%	4.02%
16	0.50%	4.02%
17	0.50%	4.02%
18	0.50%	4.02%
19	0.50%	4.02%
20 or More	0.50%	4.02%

** The total expected increase in salary is the increase due to promotions and longevity, adjusted for an assumed 3.50% per annum increase in the general wage level of the membership. The total result is compounded rather than additive.*

**Appendix A: Rates of Separation From Active Service
Tables A-6 to A-11**

A schedule of the probabilities of termination of employment due to the following causes can be found on the following pages:

Service Retirement:	Member retires after meeting age and service requirements for reasons other than disability.
Withdrawal:	Member terminates and elects a refund of member contributions, or a deferred retirement benefit.
Service Disability:	Member receives disability retirement; disability is service related.
Ordinary Disability:	Member receives disability retirement; disability is not service related.
Service Death:	Member dies before retirement; death is service related.
Ordinary Death:	Member dies before retirement; death is not service related.

Each rate represents the probability that a member will separate from service at each age due to the particular cause. For example, a rate of 0.0300 for a member's service retirement at age 50 means we assume that 30 out of 1,000 members who are age 50 will retire at that age.

Each table represents the detailed rates needed for each SamCERA plan by sex:

Table A-6: General Plan 1, 2, 4, 5 and 7 Males	A-10: Safety and Probation Plans 1, 2, 4, 5, 6 and 7 Males
A-7: General Plan 1, 2, 4, 5 and 7 Females	A-11: Safety and Probation Plans 1, 2, 4, 5, 6 and 7 Females
A-8: General Plan 3 Males	
A-9: General Plan 3 Females	

**Table A-6: Rate of Separation From Active Service
 General Plans 1, 2, 4, 5 and 7 – Male**

Age	Service Retirement*	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.0000	0.0004	0.0003	N/A	0.0003	0	0.1300
19	0.0000	0.0004	0.0003	N/A	0.0003	1	0.1100
20	0.0000	0.0004	0.0003	N/A	0.0003	2	0.0900
21	0.0000	0.0004	0.0003	N/A	0.0003	3	0.0800
22	0.0000	0.0004	0.0003	N/A	0.0003	4	0.0700
23	0.0000	0.0004	0.0003	N/A	0.0003	5	0.0633
24	0.0000	0.0004	0.0003	N/A	0.0004	6	0.0567
25	0.0000	0.0004	0.0003	N/A	0.0004	7	0.0500
26	0.0000	0.0004	0.0003	N/A	0.0004	8	0.0470
27	0.0000	0.0004	0.0003	N/A	0.0004	9	0.0440
28	0.0000	0.0004	0.0003	N/A	0.0004	10	0.0410
29	0.0000	0.0005	0.0003	N/A	0.0004	11	0.0380
30	0.0000	0.0005	0.0004	N/A	0.0004	12	0.0350
31	0.0000	0.0005	0.0004	N/A	0.0004	13	0.0330
32	0.0000	0.0006	0.0004	N/A	0.0004	14	0.0310
33	0.0000	0.0007	0.0004	N/A	0.0004	15	0.0290
34	0.0000	0.0007	0.0005	N/A	0.0005	16	0.0270
35	0.0000	0.0007	0.0005	N/A	0.0006	17	0.0250
36	0.0000	0.0008	0.0005	N/A	0.0006	18	0.0230
37	0.0000	0.0009	0.0006	N/A	0.0007	19	0.0210
38	0.0000	0.0010	0.0006	N/A	0.0008	20	0.0190
39	0.0000	0.0010	0.0007	N/A	0.0008	21	0.0170
40	0.0000	0.0011	0.0008	N/A	0.0009	22	0.0150
41	0.0000	0.0012	0.0008	N/A	0.0010	23	0.0140
42	0.0000	0.0013	0.0009	N/A	0.0010	24	0.0130
43	0.0000	0.0014	0.0009	N/A	0.0011	25	0.0120
44	0.0000	0.0014	0.0010	N/A	0.0011	26	0.0110
45	0.0000	0.0016	0.0010	N/A	0.0012	27	0.0100
46	0.0000	0.0016	0.0011	N/A	0.0013	28	0.0100
47	0.0000	0.0017	0.0012	N/A	0.0014	29	0.0100
48	0.0000	0.0018	0.0012	N/A	0.0015	30 & Above	0.0000
49	0.0000	0.0019	0.0012	N/A	0.0016		
50	0.0500	0.0019	0.0013	N/A	0.0017		
51	0.0450	0.0020	0.0013	N/A	0.0019		
52	0.0450	0.0020	0.0013	N/A	0.0020		
53	0.0500	0.0021	0.0014	N/A	0.0021		
54	0.0500	0.0022	0.0014	N/A	0.0023		
55	0.0600	0.0022	0.0014	N/A	0.0024		
56	0.0600	0.0022	0.0015	N/A	0.0026		
57	0.0800	0.0023	0.0015	N/A	0.0028		
58	0.1200	0.0025	0.0016	N/A	0.0030		
59	0.1200	0.0026	0.0017	N/A	0.0033		
60	0.1500	0.0027	0.0018	N/A	0.0036		
61	0.2250	0.0029	0.0019	N/A	0.0040		
62	0.2750	0.0030	0.0020	N/A	0.0044		
63	0.2500	0.0030	0.0020	N/A	0.0049		
64	0.2500	0.0030	0.0020	N/A	0.0054		
65	0.2500	0.0030	0.0020	N/A	0.0059		
66	0.3750	0.0030	0.0020	N/A	0.0065		
67	0.3500	0.0030	0.0020	N/A	0.0070		
68	0.2750	0.0030	0.0020	N/A	0.0076		
69	0.3250	0.0030	0.0020	N/A	0.0081		
70	1.0000	0.0000	0.0000	N/A	0.0000		

* 100% probability of retirement is assumed at ages 62 and above with 38 or more years of service (65/41 for Plan 5; 67/40 for Plan 7).

**Table A-7: Rate of Separation From Active Service
 General Plans 1, 2, 4, 5 and 7 – Female**

Age	Service Retirement*	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.0000	0.0004	0.0003	N/A	0.0002	0	0.1200
19	0.0000	0.0004	0.0003	N/A	0.0002	1	0.1000
20	0.0000	0.0004	0.0003	N/A	0.0002	2	0.0850
21	0.0000	0.0004	0.0003	N/A	0.0002	3	0.0750
22	0.0000	0.0004	0.0003	N/A	0.0002	4	0.0700
23	0.0000	0.0004	0.0003	N/A	0.0002	5	0.0633
24	0.0000	0.0004	0.0003	N/A	0.0002	6	0.0567
25	0.0000	0.0004	0.0003	N/A	0.0002	7	0.0500
26	0.0000	0.0004	0.0003	N/A	0.0002	8	0.0455
27	0.0000	0.0004	0.0003	N/A	0.0002	9	0.0410
28	0.0000	0.0004	0.0003	N/A	0.0002	10	0.0365
29	0.0000	0.0004	0.0003	N/A	0.0002	11	0.0320
30	0.0000	0.0004	0.0003	N/A	0.0002	12	0.0275
31	0.0000	0.0004	0.0003	N/A	0.0002	13	0.0270
32	0.0000	0.0005	0.0003	N/A	0.0002	14	0.0265
33	0.0000	0.0005	0.0003	N/A	0.0003	15	0.0260
34	0.0000	0.0005	0.0004	N/A	0.0003	16	0.0255
35	0.0000	0.0006	0.0004	N/A	0.0003	17	0.0250
36	0.0000	0.0007	0.0004	N/A	0.0004	18	0.0230
37	0.0000	0.0007	0.0005	N/A	0.0004	19	0.0210
38	0.0000	0.0007	0.0005	N/A	0.0005	20	0.0190
39	0.0000	0.0008	0.0005	N/A	0.0005	21	0.0170
40	0.0000	0.0008	0.0006	N/A	0.0006	22	0.0150
41	0.0000	0.0009	0.0006	N/A	0.0006	23	0.0140
42	0.0000	0.0009	0.0006	N/A	0.0006	24	0.0130
43	0.0000	0.0011	0.0007	N/A	0.0007	25	0.0120
44	0.0000	0.0011	0.0008	N/A	0.0008	26	0.0110
45	0.0000	0.0013	0.0008	N/A	0.0009	27	0.0100
46	0.0000	0.0014	0.0009	N/A	0.0009	28	0.0100
47	0.0000	0.0015	0.0010	N/A	0.0010	29	0.0100
48	0.0000	0.0020	0.0013	N/A	0.0011	30 & Above	0.0000
49	0.0000	0.0025	0.0016	N/A	0.0012		
50	0.0400	0.0029	0.0020	N/A	0.0013		
51	0.0400	0.0034	0.0023	N/A	0.0014		
52	0.0400	0.0039	0.0026	N/A	0.0016		
53	0.0400	0.0041	0.0027	N/A	0.0017		
54	0.0500	0.0043	0.0028	N/A	0.0018		
55	0.0600	0.0044	0.0030	N/A	0.0020		
56	0.0600	0.0046	0.0031	N/A	0.0021		
57	0.0800	0.0048	0.0032	N/A	0.0023		
58	0.1200	0.0048	0.0032	N/A	0.0025		
59	0.1200	0.0048	0.0032	N/A	0.0028		
60	0.1500	0.0048	0.0032	N/A	0.0030		
61	0.2000	0.0048	0.0032	N/A	0.0033		
62	0.2750	0.0048	0.0032	N/A	0.0036		
63	0.2250	0.0048	0.0032	N/A	0.0039		
64	0.3000	0.0048	0.0032	N/A	0.0043		
65	0.3000	0.0048	0.0032	N/A	0.0047		
66	0.4000	0.0048	0.0032	N/A	0.0050		
67	0.4000	0.0048	0.0032	N/A	0.0054		
68	0.3000	0.0048	0.0032	N/A	0.0058		
69	0.3500	0.0048	0.0032	N/A	0.0062		
70	1.0000	0.0000	0.0000	N/A	0.0000		

* 100% probability of retirement is assumed at ages 62 and above with 38 or more years of service (65/41 for Plan 5; 67/40 for Plan 7).

**Table A-8: Rate of Separation From Active Service
 General Plan 3 – Male**

Age	Service Retirement	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.0000	N/A	N/A	N/A	0.0003	0	0.1300
19	0.0000	N/A	N/A	N/A	0.0003	1	0.1100
20	0.0000	N/A	N/A	N/A	0.0003	2	0.0900
21	0.0000	N/A	N/A	N/A	0.0003	3	0.0800
22	0.0000	N/A	N/A	N/A	0.0003	4	0.0700
23	0.0000	N/A	N/A	N/A	0.0003	5	0.0633
24	0.0000	N/A	N/A	N/A	0.0004	6	0.0567
25	0.0000	N/A	N/A	N/A	0.0004	7	0.0500
26	0.0000	N/A	N/A	N/A	0.0004	8	0.0470
27	0.0000	N/A	N/A	N/A	0.0004	9	0.0440
28	0.0000	N/A	N/A	N/A	0.0004	10	0.0410
29	0.0000	N/A	N/A	N/A	0.0004	11	0.0380
30	0.0000	N/A	N/A	N/A	0.0004	12	0.0350
31	0.0000	N/A	N/A	N/A	0.0004	13	0.0330
32	0.0000	N/A	N/A	N/A	0.0004	14	0.0310
33	0.0000	N/A	N/A	N/A	0.0004	15	0.0290
34	0.0000	N/A	N/A	N/A	0.0005	16	0.0270
35	0.0000	N/A	N/A	N/A	0.0006	17	0.0250
36	0.0000	N/A	N/A	N/A	0.0006	18	0.0230
37	0.0000	N/A	N/A	N/A	0.0007	19	0.0210
38	0.0000	N/A	N/A	N/A	0.0008	20	0.0190
39	0.0000	N/A	N/A	N/A	0.0008	21	0.0170
40	0.0000	N/A	N/A	N/A	0.0009	22	0.0150
41	0.0000	N/A	N/A	N/A	0.0010	23	0.0140
42	0.0000	N/A	N/A	N/A	0.0010	24	0.0130
43	0.0000	N/A	N/A	N/A	0.0011	25	0.0120
44	0.0000	N/A	N/A	N/A	0.0011	26	0.0110
45	0.0000	N/A	N/A	N/A	0.0012	27	0.0100
46	0.0000	N/A	N/A	N/A	0.0013	28	0.0100
47	0.0000	N/A	N/A	N/A	0.0014	29	0.0100
48	0.0000	N/A	N/A	N/A	0.0015	30 & Above	0.0100
49	0.0000	N/A	N/A	N/A	0.0016		
50	0.0000	N/A	N/A	N/A	0.0017		
51	0.0000	N/A	N/A	N/A	0.0019		
52	0.0000	N/A	N/A	N/A	0.0020		
53	0.0000	N/A	N/A	N/A	0.0021		
54	0.0000	N/A	N/A	N/A	0.0023		
55	0.0300	N/A	N/A	N/A	0.0024		
56	0.0300	N/A	N/A	N/A	0.0026		
57	0.0300	N/A	N/A	N/A	0.0028		
58	0.0300	N/A	N/A	N/A	0.0030		
59	0.0300	N/A	N/A	N/A	0.0033		
60	0.0300	N/A	N/A	N/A	0.0036		
61	0.0600	N/A	N/A	N/A	0.0040		
62	0.1500	N/A	N/A	N/A	0.0044		
63	0.1000	N/A	N/A	N/A	0.0049		
64	0.1500	N/A	N/A	N/A	0.0054		
65	0.3000	N/A	N/A	N/A	0.0059		
66	0.3000	N/A	N/A	N/A	0.0065		
67	0.3000	N/A	N/A	N/A	0.0070		
68	0.3000	N/A	N/A	N/A	0.0076		
69	0.3000	N/A	N/A	N/A	0.0081		
70	1.0000	N/A	N/A	N/A	0.0000		

**Table A-9: Rate of Separation From Active Service
 General Plan 3 – Female**

Age	Service Retirement	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.0000	N/A	N/A	N/A	0.0002	0	0.1200
19	0.0000	N/A	N/A	N/A	0.0002	1	0.1000
20	0.0000	N/A	N/A	N/A	0.0002	2	0.0850
21	0.0000	N/A	N/A	N/A	0.0002	3	0.0750
22	0.0000	N/A	N/A	N/A	0.0002	4	0.0700
23	0.0000	N/A	N/A	N/A	0.0002	5	0.0633
24	0.0000	N/A	N/A	N/A	0.0002	6	0.0567
25	0.0000	N/A	N/A	N/A	0.0002	7	0.0500
26	0.0000	N/A	N/A	N/A	0.0002	8	0.0455
27	0.0000	N/A	N/A	N/A	0.0002	9	0.0410
28	0.0000	N/A	N/A	N/A	0.0002	10	0.0365
29	0.0000	N/A	N/A	N/A	0.0002	11	0.0320
30	0.0000	N/A	N/A	N/A	0.0002	12	0.0275
31	0.0000	N/A	N/A	N/A	0.0002	13	0.0270
32	0.0000	N/A	N/A	N/A	0.0002	14	0.0265
33	0.0000	N/A	N/A	N/A	0.0003	15	0.0260
34	0.0000	N/A	N/A	N/A	0.0003	16	0.0255
35	0.0000	N/A	N/A	N/A	0.0003	17	0.0250
36	0.0000	N/A	N/A	N/A	0.0004	18	0.0230
37	0.0000	N/A	N/A	N/A	0.0004	19	0.0210
38	0.0000	N/A	N/A	N/A	0.0005	20	0.0190
39	0.0000	N/A	N/A	N/A	0.0005	21	0.0170
40	0.0000	N/A	N/A	N/A	0.0006	22	0.0150
41	0.0000	N/A	N/A	N/A	0.0006	23	0.0140
42	0.0000	N/A	N/A	N/A	0.0006	24	0.0130
43	0.0000	N/A	N/A	N/A	0.0007	25	0.0120
44	0.0000	N/A	N/A	N/A	0.0008	26	0.0110
45	0.0000	N/A	N/A	N/A	0.0009	27	0.0100
46	0.0000	N/A	N/A	N/A	0.0009	28	0.0100
47	0.0000	N/A	N/A	N/A	0.0010	29	0.0100
48	0.0000	N/A	N/A	N/A	0.0011	30 & Above	0.0100
49	0.0000	N/A	N/A	N/A	0.0012		
50	0.0000	N/A	N/A	N/A	0.0013		
51	0.0000	N/A	N/A	N/A	0.0014		
52	0.0000	N/A	N/A	N/A	0.0016		
53	0.0000	N/A	N/A	N/A	0.0017		
54	0.0000	N/A	N/A	N/A	0.0018		
55	0.0400	N/A	N/A	N/A	0.0020		
56	0.0400	N/A	N/A	N/A	0.0021		
57	0.0400	N/A	N/A	N/A	0.0023		
58	0.0400	N/A	N/A	N/A	0.0025		
59	0.0400	N/A	N/A	N/A	0.0028		
60	0.0400	N/A	N/A	N/A	0.0030		
61	0.0600	N/A	N/A	N/A	0.0033		
62	0.1500	N/A	N/A	N/A	0.0036		
63	0.1000	N/A	N/A	N/A	0.0039		
64	0.1500	N/A	N/A	N/A	0.0043		
65	0.3000	N/A	N/A	N/A	0.0047		
66	0.3000	N/A	N/A	N/A	0.0050		
67	0.3000	N/A	N/A	N/A	0.0054		
68	0.3000	N/A	N/A	N/A	0.0058		
69	0.3000	N/A	N/A	N/A	0.0062		
70	1.0000	N/A	N/A	N/A	0.0000		



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**Table A-10: Rate of Separation From Active Service
 Safety & Probation Plans – Male**

Age	Plans 1, 2, 4 Service Retirement*	Plans 5, 6, 7 Service Retirement**	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.0000	0.0000	0.0017	0.0000	0.0010	0.0003	0	0.0700
19	0.0000	0.0000	0.0017	0.0000	0.0010	0.0003	1	0.0650
20	0.0000	0.0000	0.0017	0.0000	0.0010	0.0003	2	0.0450
21	0.0000	0.0000	0.0017	0.0000	0.0010	0.0003	3	0.0300
22	0.0000	0.0000	0.0017	0.0000	0.0010	0.0003	4	0.0250
23	0.0000	0.0000	0.0017	0.0000	0.0010	0.0003	5	0.0233
24	0.0000	0.0000	0.0017	0.0000	0.0010	0.0004	6	0.0217
25	0.0000	0.0000	0.0017	0.0000	0.0010	0.0004	7	0.0200
26	0.0000	0.0000	0.0017	0.0000	0.0010	0.0004	8	0.0185
27	0.0000	0.0000	0.0017	0.0000	0.0010	0.0004	9	0.0170
28	0.0000	0.0000	0.0018	0.0000	0.0010	0.0004	10	0.0155
29	0.0000	0.0000	0.0019	0.0000	0.0010	0.0004	11	0.0140
30	0.0000	0.0000	0.0020	0.0000	0.0010	0.0004	12	0.0125
31	0.0000	0.0000	0.0021	0.0000	0.0010	0.0004	13	0.0120
32	0.0000	0.0000	0.0022	0.0000	0.0010	0.0004	14	0.0115
33	0.0000	0.0000	0.0023	0.0000	0.0010	0.0004	15	0.0110
34	0.0000	0.0000	0.0024	0.0000	0.0010	0.0005	16	0.0105
35	0.0000	0.0000	0.0025	0.0000	0.0010	0.0006	17	0.0100
36	0.0000	0.0000	0.0026	0.0000	0.0010	0.0006	18	0.0080
37	0.0000	0.0000	0.0028	0.0000	0.0010	0.0007	19	0.0060
38	0.0000	0.0000	0.0029	0.0000	0.0010	0.0008	20 & Above	0.0000
39	0.0000	0.0000	0.0030	0.0000	0.0010	0.0008		
40	0.0000	0.0000	0.0031	0.0000	0.0010	0.0009		
41	0.0000	0.0000	0.0032	0.0000	0.0010	0.0010		
42	0.0000	0.0000	0.0033	0.0000	0.0010	0.0010		
43	0.0000	0.0000	0.0034	0.0000	0.0010	0.0011		
44	0.0000	0.0000	0.0036	0.0000	0.0010	0.0011		
45	0.0000	0.0000	0.0037	0.0000	0.0010	0.0012		
46	0.0000	0.0000	0.0039	0.0000	0.0010	0.0013		
47	0.0000	0.0000	0.0040	0.0000	0.0010	0.0014		
48	0.0000	0.0000	0.0046	0.0000	0.0010	0.0015		
49	0.0000	0.0000	0.0052	0.0000	0.0010	0.0016		
50	0.1500	0.0500	0.0058	0.0000	0.0010	0.0017		
51	0.1250	0.0500	0.0064	0.0000	0.0010	0.0019		
52	0.1500	0.0500	0.0070	0.0000	0.0010	0.0020		
53	0.2000	0.0500	0.0082	0.0000	0.0010	0.0021		
54	0.1300	0.1000	0.0095	0.0000	0.0010	0.0023		
55	0.2750	0.2750	0.0107	0.0000	0.0010	0.0024		
56	0.2500	0.2750	0.0120	0.0000	0.0010	0.0026		
57	0.1700	0.2750	0.0132	0.0000	0.0010	0.0028		
58	0.2000	0.2750	0.0119	0.0000	0.0010	0.0030		
59	0.2500	0.2750	0.0106	0.0000	0.0010	0.0033		
60	1.0000	1.0000	0.0000	0.0000	0.0000	0.0000		

* 100% probability of retirement is assumed at ages 50 and above with 33 or more years of service for Safety and Probation Plans 1, 2, and 4.

** 100% probability of retirement is assumed at ages 55 and above with 33 or more years of service for Safety and Probation Plan 5, ages 55 and above with 38 or more years of service for Safety and Probation Plan 6, and ages 57 and above with 38 or more years of service for Safety and Probation Plan 7.

**Table A-11: Rate of Separation From Active Service
 Safety & Probation Plans – Female**

Age	Plans 1, 2, 4 Service Retirement*	Plans 5, 6, 7 Service Retirement**	Service Disability	Ordinary Disability	Service Death	Ordinary Death	Years of Service	Other Terminations
18	0.0000	0.0000	0.0017	0.0000	0.0010	0.0002	0	0.0700
19	0.0000	0.0000	0.0017	0.0000	0.0010	0.0002	1	0.0650
20	0.0000	0.0000	0.0017	0.0000	0.0010	0.0002	2	0.0450
21	0.0000	0.0000	0.0017	0.0000	0.0010	0.0002	3	0.0300
22	0.0000	0.0000	0.0017	0.0000	0.0010	0.0002	4	0.0250
23	0.0000	0.0000	0.0017	0.0000	0.0010	0.0002	5	0.0233
24	0.0000	0.0000	0.0017	0.0000	0.0010	0.0002	6	0.0217
25	0.0000	0.0000	0.0017	0.0000	0.0010	0.0002	7	0.0200
26	0.0000	0.0000	0.0017	0.0000	0.0010	0.0002	8	0.0185
27	0.0000	0.0000	0.0017	0.0000	0.0010	0.0002	9	0.0170
28	0.0000	0.0000	0.0018	0.0000	0.0010	0.0002	10	0.0155
29	0.0000	0.0000	0.0019	0.0000	0.0010	0.0002	11	0.0140
30	0.0000	0.0000	0.0020	0.0000	0.0010	0.0002	12	0.0125
31	0.0000	0.0000	0.0021	0.0000	0.0010	0.0002	13	0.0120
32	0.0000	0.0000	0.0022	0.0000	0.0010	0.0002	14	0.0115
33	0.0000	0.0000	0.0023	0.0000	0.0010	0.0003	15	0.0110
34	0.0000	0.0000	0.0024	0.0000	0.0010	0.0003	16	0.0105
35	0.0000	0.0000	0.0025	0.0000	0.0010	0.0003	17	0.0100
36	0.0000	0.0000	0.0026	0.0000	0.0010	0.0004	18	0.0080
37	0.0000	0.0000	0.0028	0.0000	0.0010	0.0004	19	0.0060
38	0.0000	0.0000	0.0029	0.0000	0.0010	0.0005	20 & Above	0.0000
39	0.0000	0.0000	0.0030	0.0000	0.0010	0.0005		
40	0.0000	0.0000	0.0031	0.0000	0.0010	0.0006		
41	0.0000	0.0000	0.0032	0.0000	0.0010	0.0006		
42	0.0000	0.0000	0.0033	0.0000	0.0010	0.0006		
43	0.0000	0.0000	0.0034	0.0000	0.0010	0.0007		
44	0.0000	0.0000	0.0036	0.0000	0.0010	0.0008		
45	0.0000	0.0000	0.0037	0.0000	0.0010	0.0009		
46	0.0000	0.0000	0.0039	0.0000	0.0010	0.0009		
47	0.0000	0.0000	0.0040	0.0000	0.0010	0.0010		
48	0.0000	0.0000	0.0046	0.0000	0.0010	0.0011		
49	0.0000	0.0000	0.0052	0.0000	0.0010	0.0012		
50	0.1500	0.0500	0.0058	0.0000	0.0010	0.0013		
51	0.1250	0.0500	0.0064	0.0000	0.0010	0.0014		
52	0.1500	0.0500	0.0070	0.0000	0.0010	0.0016		
53	0.2000	0.0500	0.0082	0.0000	0.0010	0.0017		
54	0.1300	0.1000	0.0095	0.0000	0.0010	0.0018		
55	0.2750	0.2750	0.0107	0.0000	0.0010	0.0020		
56	0.2500	0.2750	0.0120	0.0000	0.0010	0.0021		
57	0.1700	0.2750	0.0132	0.0000	0.0010	0.0023		
58	0.2000	0.2750	0.0119	0.0000	0.0010	0.0025		
59	0.2500	0.2750	0.0106	0.0000	0.0010	0.0028		
60	1.0000	1.0000	0.0000	0.0000	0.0000	0.0000		

* 100% probability of retirement is assumed at ages 50 and above with 33 or more years of service.

** 100% probability of retirement is assumed at ages 55 and above with 33 or more years of service for Safety and Probation Plan 5, ages 55 and above with 38 or more years of service for Safety and Probation Plan 6, and ages 57 and above with 38 or more years of service for Safety and Probation Plan 7.

Appendix B: Summary of Benefit Provisions



All actuarial calculations are based on our understanding of the statutes governing the SamCERA as contained in the County Employees Retirement Law (CERL) of 1937, with provisions adopted by the SamCERA Board, effective through June 30, 2015. The benefit and contribution provisions of this law are summarized briefly below, along with corresponding references to the Code Section. This summary does not attempt to cover all the detailed provisions of the law.

MEMBERSHIP IN RETIREMENT PLANS

The County has established 12 defined benefit plans based on a member's date of entry into SamCERA. Plans 1, 2, 4, 5, 6, and 7 are open to all members depending on their date of entry. Only General members are eligible for Plan 3.

**Government
Code Section**

Employees of the Mosquito and Vector Control District are eligible for participation in all General retirement plans, except for Plan 3.

- Plan 1:** Employees hired on or before July 6, 1980.
- Plan 2:** Employees hired after July 6, 1980 but on or before July 12, 1997.
- Plan 3:** General members hired on or before December 22, 2012 may elect to participate in Plan 3. After five years of service, Plan 3 members can elect membership under the open contributory plan. Members currently working in a contributory plan with Plan 3 service may purchase an upgrade of their Plan 3 service. (31496)
- Plan 4:** Employees hired after July 12, 1997 and before August 7, 2011 (General members, except Plan 5 transfers; see below); before July 10, 2011 (Probation members); and before January 8, 2012 (Safety members).
- Plan 5:** General members hired on or after August 7, 2011, and Deputy Sheriffs hired on or after January 8, 2012. Probation members hired on or after July 10, 2011 and Safety members (except Deputy Sheriffs) hired on or after January 8, 2012 may elect this Plan. Members must be first hired before January 1, 2013 to be eligible to elect this Plan.

After 10 years of service, General Plan 5 members can elect to transfer to Plan 4 and must pay the total actuarial equivalent cost of the increase in past service benefits at the date of transfer.
- Plan 6:** Probation members hired on or after July 10, 2011 and Safety members (except Deputy Sheriffs) hired on or after January 8, 2012 may elect this Plan. Members must be first hired before January 1, 2013 to be eligible to elect this Plan.
- Plan 7:** Employees first hired on or after January 1, 2013.

MEMBER CONTRIBUTIONS

Basic:

Plans 1, 2, 4, 5, and 6:

Contributions are based on the entry age and class of each member and are required of all members. See section 5 for details on this calculation. Current member rates are shown in Appendix D.

Contributions cease when general members are credited with 30 years of service in a contributory plan provided they were members of SamCERA or a reciprocal system on March 7, 1973, and continuously thereafter. All safety members are eligible for the 30-year cessation of contributions. This provision does not apply to cost-sharing contributions. (31625.2, 31664.1)

Plan 7:

Members contribute 50% of the aggregate Normal Cost rate for their Plan.

Plan 3:

No member contributions are required under Plan 3.

Cost-of-Living:

Plans 1, 2, and 4:

Members of the Probation and Detention Association contribute 25% of the cost of COLA.

Effective July 1, 2015 employees with retirement benefits negotiated under AFSCME, Building & Trades, California Nurses Association, Attorneys, Management, and LEU will pay 50% of the retirement COLA cost. Effective July 2016, employees with retirement benefits negotiated under SEIU, Confidential and Union of American Physicians and Dentists will also pay 50% of the retirement COLA cost. We have reflected these COLA share rates in this valuation.

In addition, General members who rehire on or after August 7, 2011, Probation members who rehire on or after July 10, 2011, and Safety members who rehire on or after January 8, 2012 into Plans 1, 2, and 4 contribute 50% of the cost of COLA regardless of bargaining unit.

No other Plan 1, 2, and 4 members contribute towards the COLA benefit.

Plans 5 and 6:

All members of Plans 5 and 6 contribute 50% of the cost of the COLA, in addition to other current member rates and cost sharing.

Plan 7:

Members contribute 50% of the aggregate Normal Cost rate for their Plan.

MEMBER CONTRIBUTIONS (Continued)

Cost Sharing:

General Members: All members of Plans 1, 2, and 4 (except SMCM&VCD) (31678.2)
contribute an additional 3.0% for cost sharing.

All other General members do not participate in cost sharing.

Safety Members:

Deputy Sheriffs in Plans 1, 2, 4, and 5 contribute the following additional cost sharing rates based on age and service:

- If age 45 or older 4.5%
- If age is less than 45
 - Service is less than 5 years: 3.0%
 - Service between 5 and 15 years: 3.5%
 - Service is more than 15 years 4.5%

Safety members (except Deputy Sheriffs) in Plans 1, 2, and 4 contribute an additional 5.0% cost sharing.

Safety members (except Deputy Sheriffs) in Plan 5 contribute an additional 4.0% cost sharing.

Safety members in Plan 6 and 7 do not participate in cost sharing.

Probation Members: Members of Plans 1, 2, 4, and 5 contribute an additional 3.5% for cost sharing.

Members of Plans 6 and 7 do not participate in cost sharing.

Interest Crediting: Interest is credited to contributions semiannually on June 30 (31591, 31700)
and December 31 at an interest rate set by the Board of Retirement on amounts that have been on deposit for at least six months.

MEMBER CONTRIBUTIONS (Continued)

Employer Pick-Up:

General members: The County provides a variety of refundable service-based employer pick-up of contribution programs for members in several of its unions. (31581.2)

Employer rates have not been adjusted to reflect the payment of the refundable employer pick-up of member contributions programs because the county payroll system captures these costs on a pay-as-you-go basis while processing each individual's biweekly pay.

Safety members: The County provides a variety of refundable service-based employer pick-up of contribution programs for members in several of its unions. (31678.2)

Employer rates have not been adjusted to reflect the payment of the refundable employer pick-up of member contributions programs because the county payroll system captures these costs on a pay-as-you-go basis while processing each individual's biweekly pay.

Probation members: The County provides a variety of refundable service-based employer pick-up of contribution programs for members in several of its unions. (31639.85)

Employer rates have been adjusted to reflect the 20% non-refundable County pick-up, effective April 2006.

EMPLOYER CONTRIBUTIONS

The employer (County or district) contributes to the retirement fund a percent of the total compensation provided for all members based on an actuarial investigation, valuation and recommendation of the actuary. (31453, 31453.5, 31453.6, 31454 31581)

SERVICE RETIREMENT ALLOWANCE

Eligibility:

General Members:	All members of Plans 1, 2, 4, and 5 are eligible to retire after meeting one of the following age and service requirements: <ul style="list-style-type: none">• Age 50 with 10 years of service*;• Any age with 30 years of service; or• Age 70 regardless of service.	(31672)
	Plan 3 members are eligible to retire at age 65 with 10 years of service. A reduced benefit is also payable at age 55 with 10 years of service.	(31496)
	Plan 7 members are eligible to retire at age 52 with 5 years of service.	
Safety and Probation Members:	Members of all plans except Plan 7 are eligible to retire after meeting one of the following age and service requirements: <ul style="list-style-type: none">• Age 50 with 10 years of service;• Any age with 20 years of service.	(31663.25)
	Plan 7 members are eligible to retire at age 50 with 5 years of service.	
	<i>* For part-time employees, age 50 is replaced with age 55.</i>	(31672.1)
<u>Final Compensation:</u>		
Plans 1 and 2:	Monthly average of a member's highest 12 consecutive months of compensation.	(31462.1)
All other Plans:	Monthly average of a member's highest compensation during any three years. Years do not have to be consecutive, except for Plan 7.	[31462, 31496.3(d)]
<u>Compensation Limit:</u>		
All Plans, except Plan 7:	The amount of compensation that is taken into account in computing benefits payable to any person who first becomes a member on or after July 1, 1996, shall not exceed the dollar limitations in Section 401(a)(17) of Title 26 of the US Code.	(31671)

SERVICE RETIREMENT ALLOWANCE (Continued)

Plan 7: The amount of compensation taken into account shall not exceed the following applicable percentage of the Social Security Taxable Wage Base:

- 100% for a member covered by Social Security (County and Courts General members);
- 120% for a member not covered by Social Security (all other members).

The amount of compensation taken into account shall be adjusted based on changes in the Consumer Price Index for All Urban Consumers. Adjustments shall be effective annually on January 1.

Monthly Allowance:
Plans 1, 2, 4, and 5:

General members:	(31676.14)
1/60 x Final Compensation x General age factor x years of service.	(31676.1)
Safety & Probation members:	(31664.1)
3% x Final Compensation x Safety age factor x years of service.	(31664.2)

Plan 6: **Safety & Probation members:** (31664)
 2% x Final Compensation x Safety age factor x years of service.

Plan 7: **General members:**
 2% x Final Compensation x General age factor x years of service.

Safety and Probation members:
 2% x Final Compensation x Safety age factor x years of service.

SERVICE RETIREMENT ALLOWANCE (Continued)

Plan 3: **General members: (a)+(b)-(c) where:** (31496)

- (a) 2% x Final Compensation x (Years of Service, (up to 35 years), plus
- (b) 1% x Final Compensation x Years of Service in excess of 35 (up to 10)
- (c) Estimated Primary Insurance Amount (PIA) x Years of Covered Service (up to 35) divided by 35.

The PIA is calculated based on certain assumptions specified by statute, and an assumed Social Security retirement age of 65.

If retirement occurs prior to age 65, benefit amount is adjusted by an actuarial equivalent factor (see Sample Plan Age Factors).

Percentage of Final Average Compensation at Sample Ages:

Plan	Age 50	Age 55	Age 60	Age 65	
County General 1,2&4	1.475%	1.948%	2.440%	2.611%	(31676.14)
SMCM&VCD*	1.475%	1.948%	2.440%	2.611%	(31676.14)
General Plan 3**	N/A	0.780%	1.220%	2.000%	(31496)
General Plan 5	1.182%	1.492%	1.917%	2.432%	(31676.1)
General Plan 7	N/A	1.300%	1.800%	2.300%	
Safety/Probation 1,2,&4	3.000%	3.000%	3.000%	3.000%	(31664.1)
Safety/Probation Plan 5	2.290%	3.000%	3.000%	3.000%	(31664.2)
Safety/Probation Plan 6	2.000%	2.620%	2.620%	2.620%	(31664)
Safety/Probation Plan 7	2.000%	2.500%	2.700%	2.700%	

* As of the June 30, 2010 actuarial valuation, SMCM&VCD has adopted the same benefit structure as County General.

** Prior to reduction for PIA benefit. Actual percentage will be less.

SERVICE RETIREMENT ALLOWANCE (Continued)

Maximum Allowance:

All Plans Except 3:

Allowance may not exceed 100% of final compensation.

Plan 3: The sum of the normal retirement allowance and the estimated PIA cannot exceed 70% of Final Compensation for a member with 35 or less years of service, and cannot exceed 80% of Final Compensation if service exceeds 35 years. (31496)

Unmodified Retirement Allowance (Normal Form):

All Plans Except 3: Life Annuity payable to retired member with 60% continuance to an eligible survivor (or eligible children). (31760.1)

Plan 3: Life Annuity payable to retired member with 50% continuance to an eligible survivor (or eligible children). (31497.71)

Eligible survivor includes certain domestic partners. (31780.2)

Optional Retirement Allowance:

A member may elect to have the actuarial equivalent of the service or disability retirement allowance applied to a lesser retirement allowance during the retired member's life in order to provide an optional survivor allowance.

Option 1: Member's allowance is reduced to pay a cash refund of any unpaid annuity payments (up to the amount of the member's contributions at retirement) to the member's estate or to a beneficiary having an insurable interest in the life of the member. (31761)

Option 2: 100% of member's reduced allowance is payable to an eligible survivor or beneficiary having an insurable interest in the life of the member. (31762)

Option 3: 50% of member's reduced allowance is payable to an eligible survivor or beneficiary having an insurable interest in the life of the member. (31763)

Option 4: Other % of member's reduced allowance is payable to an eligible survivor or beneficiary(ies) having an insurable interest in the life of the member. (31764)

For Options 2, 3 or 4, the continuance will not be paid if the member revokes their election and names another beneficiary after retirement. (31782)

All Allowances: All allowances are made on a pro rata basis (based on the number of days in that month) if not in effect for the entire month of retirement. For deaths that occur mid-month, the full month's payment is made. (31600)

SERVICE-CONNECTED DISABILITY RETIREMENT ALLOWANCE

Eligibility:

All Plans Except 3:	Any age or years of service; disability must result from occupational injury or disease, and member must be permanently incapacitated for the performance of duty.	(31720, 31720.5, 31720.6, 31720.7, 31720.9)
Plan 3:	Not available under Plan 3.	(31487)
<u>Monthly Allowance:</u>	Greater of (1) 50% of final compensation, and (2) the service retirement allowance, if eligible to retire.	(31727.4)
<u>Normal Form Of Payment:</u>	Life Annuity with 100% continuance to a surviving spouse (or eligible children).	(31760, 31786)

RECIPROCAL SERVICE-CONNECTED DISABILITY ALLOWANCE

Eligibility:

All Plans Except 3:	Any member regardless of age or years of service who leaves their accumulated contributions on deposit and receives a disability retirement allowance from CalPERS or another '37 Act system. The member must be eligible for a reciprocal benefit and the disability must be service-connected.	(31837)
Plan 3:	Not available under Plan 3.	
<u>Monthly Allowance:</u>	Same as nonservice-connected disability, but in no case shall the allowance be greater than if all service was with one entity.	(31837, 31838.5)
<u>Normal Form of Payment:</u>	Life Annuity with 100% continuance to a surviving spouse (or eligible children).	(31760, 31786)

NONSERVICE-CONNECTED DISABILITY RETIREMENT ALLOWANCE

Eligibility:

All Plans Except 3: Any age with five years of service and permanently incapacitated for the performance of duty. (31720, 31836)

Plan 3: Not available under Plan 3. (31487)

Monthly Allowance: The monthly allowance is equal to a service retirement allowance if the member is eligible to retire, otherwise allowance equals (a) or (b) where: (31726, 31726.5)

General Members: (a) 90% of 1/60th of Final Compensation x years of service, if member must rely on service in another retirement system in order to be eligible to retire, or allowance exceeds 1/3 of final compensation. (31727(a))

(b) 90% of 1/60th of Final Compensation x years of service projected to age 65, not to exceed 1/3 of Final Compensation. (31727(b))

Safety Members: 1/60 is replaced by 1/50 and age 65 is replaced by age 55 in (a) and (b) above. (31727.2)

Normal Form Of Payment: Life Annuity with 60% continuance to a surviving spouse (or eligible children). (31760.1)

SERVICE-CONNECTED DEATH BENEFITS

Eligibility

All Plans Except 3: Active members who die in service as a result of injury or disease arising out of and in the course of employment. (31787)

Plan 3: Not available under Plan 3. (31487)

Monthly Allowance: An annual death allowance is payable monthly to an eligible survivor (or eligible children) equal to 50% of the member's Final Compensation. (31787)

SERVICE-CONNECTED DEATH BENEFITS (Continued)

Optional Combined Benefit: (31781.3)

In lieu of the monthly allowance above, an eligible survivor may elect:

- (a) A lump sum equal to 1/12 of the compensation earned in the preceding 12 months x years of service (benefit not to exceed 50% of the 12 months' compensation), plus
- (b) A monthly payment equal to 50% of the member's Final Compensation, reduced by a monthly amount, which is the actuarial equivalent of (a) above based on the age of eligible survivor.

Death Benefit (Lump Sum): (31781)

The member's normal contributions and interest, plus 1/12 of the compensation earned in the preceding 12 months x years of service (benefit not to exceed 50% of the 12 months' compensation).

Additional Allowance for Children: (31787.5)

25% of death allowance (whether or not the monthly allowance or combined benefit is chosen) for one child, 40% for two children, and 50% for three or more children.

Additional Amount for Spouse of Safety Member: (31787.6)

An eligible survivor of a safety member is also entitled to receive a lump-sum death benefit equal to 12 x monthly rate of compensation at the time of member's death in addition to all other benefits.

Note: For valuation purposes, an unmarried member is assumed to take the lump sum benefit. A married member is assumed to take the monthly allowance or the lump sum, whichever is more valuable.

NONSERVICE-CONNECTED DEATH BENEFITS

Eligibility:

All Plans Except 3: Active members who die while in service or while physically or mentally incapacitated for the performance of duty. (31780)

Plan 3: Not available under Plan 3.

Death Benefit (Lump Sum): (31781)

The member's normal contributions and interest, plus 1/12 of the Compensation earned in preceding 12 months x the number of completed years of service (benefit not to exceed 50% of the 12 months' compensation).

Optional Death Benefit:

In lieu of the lump-sum death benefit, several optional death benefits are available to provide flexibility to survivors, as follows.

First Optional Death Benefit: (31781.1)

If a member who would have been entitled to a nonservice-connected disability retirement allowance dies prior to retirement as a result of such disability, the eligible survivor (or eligible children) may elect to receive an optional death allowance equal to 60% of the monthly retirement allowance to which the member would have been entitled as of the date of death.

Second Optional Death Benefit: (31781.2, 31765.2)

If a member dies prior to reaching the minimum retirement age but has 10 or more years of service, an eligible survivor (or eligible children) may elect to leave the amount of the death benefit on deposit until the earliest date the member could have retired and at that time receive the allowance provided for in 31765.2 (a 60% continuance).

Third Optional Death Benefit:

An eligible survivor of a member who dies after five years of service may elect a combined benefit equal to:

(a) A lump sum equal to 1/12 of the compensation earnable in the preceding 12 months x the number of completed years of service (benefit not to exceed 50% of the 12 months' compensation), plus (31781.3)

(b) A monthly payment equal to 60% of the monthly retirement allowance to which the member would have been entitled if the member retired or had been retired for a nonservice-connected disability as of the date of death, reduced by a monthly amount which is the actuarial equivalent of (a) above based on the age of the eligible survivor. (31781.1)

NONSERVICE-CONNECTED DEATH BENEFITS (Continued)

Fourth Optional Death Benefit:

If a member dies while eligible for a service retirement and the eligible survivor is designated as beneficiary, the spouse (or eligible children) may elect to receive 60% of the monthly retirement allowance to which the member would have been entitled as of the date of death. (31765.1)

Note for Third and Fourth Optional Death Benefits: In order to leave the eligible survivor the greatest benefit, the member is assumed to have retired for nonservice-connected disability, elected the Option 2 retirement allowance, and then died the next day.

Fifth Optional Death Benefit:

If a member dies while eligible for a service retirement and the eligible survivor is designated as beneficiary and survives the member by not less than 30 days the spouse (or eligible children) may elect to receive the same retirement allowance as the spouse would have received had the member retired on the date of death and selected Option 3. (31765)

Note: For valuation purposes, an unmarried member is assumed to take the lump sum benefit. A married member is assumed to receive an annuity or a lump-sum, whichever is more valuable. The annuity is equal to the Option 2-100% Continuance calculation for the larger of either (1) a non-service connected disability benefit or (2) the member's earned service retirement benefit (if eligible).

DEFERRED RETIREMENT BENEFITS

Eligibility:

All Plans, except Plans 3 and 7: Age 50 with 10 years of membership. (31700)

Member contributions must be left on deposit and the member must have terminated with five years of service or entered a reciprocal agency. Members are eligible for service retirement when they would have reached eligibility if they would have remained in an active position.

Plan 3: Age 55 with 10 years of service. (31496)

Plan 7: **General members:**
 Age 52 with 5 years of service.

Safety and Probation members:
 Age 50 with 5 years of service.

All Plans: Member contributions must be left on deposit and the member must have terminated with five years of service or entered a reciprocal agency. Members (except for Plan 7) are eligible for service retirement when they would have reached eligibility if they would have remained in an active position.

Monthly Allowance:

All Plans Except 3: Same as service retirement allowance; payable any time after the member would have been eligible for service retirement. (31703, 31704, 31705)

If a terminated member dies before the effective date of the deferred retirement allowance, the member's accumulated contributions are paid to the estate or to the named beneficiary. (31702)

Plan 3: Same as service retirement allowance at normal retirement age 65 or in an actuarially equivalent reduced amount at early retirement, after age 55. (31496)

No benefit is paid for death while inactive.

COST-OF-LIVING INCREASES

Cost-of-living increases (or decreases) are applied to all retirement allowances (service and disability), optional death allowances, and annual death allowances effective April 1, based on changes in the Consumer Price Index (CPI) from the previous January 1 to the current January 1, to the nearest ½ of 1%. (31870, 31870.1, 31870.2, 31874.4)

Plan 1: General & Safety (31870.2)
 Members (and their beneficiaries) are limited to a maximum 5% cost-of-living increase.

Probation (31870.1)
 Members (and their beneficiaries) are limited to a maximum 3% cost-of-living increase.

Plan 2: All members (31870.1)
 Members (and their beneficiaries) are limited to a maximum 3% cost-of-living increase.

Plan 3: Plan 3 does not have a COLA. (31487)

Other Plans: All members (31870)
 Members (and their beneficiaries) are limited to a maximum 2% cost-of-living increase.

COLA Bank

Plan 1: When the CPI exceeds the applicable percentage (3% or 5%), the difference between the actual CPI and the maximum cost-of-living increase given in any year is credited to the COLA Accumulation (COLA Bank). It may be used in future years to provide cost-of-living increases when the CPI falls below the applicable percentage. (31870.1, 31870.2)

Other Plans: All other Plans do not have a COLA bank. (31874.4)

Appendix C: Valuation Data and Schedules



Data on SamCERA membership as of June 30, 2015 was supplied to us by the system staff. On the following table, Exhibit C-1, we present a summary of SamCERA membership at June 30, 2015 for active members. Similar information is shown in Exhibit C-2 for inactive members and Exhibits C-3a and C-3b for retired members.

Note that salary amounts shown are annualized amounts based on the biweekly pay for the period prior to the valuation date. If the annualized amount was less than the total prior earnings, total prior year earnings were used.

Additional statistical data on both active and retired members is shown in the following tables.

Exhibit C-4: Age, Service, Compensation Distribution of Active Members

Exhibit C-5: Age, Retirement Year, Benefit Amount and Plan Distribution of Retired Members

Exhibits C-4 and C-5 are shown for all plans combined as well as for classification separately.

Exhibit C-1: SamCERA Membership – Active Members as of June 30, 2015

	Total Number	Annual Salary	Average Age	Average Monthly Salary	Average Credited Service
General Members					
Plan 1	24	\$ 2,659,665	62.8	\$ 9,235	33.8
Plan 2	781	76,722,074	54.7	8,186	23.8
Plan 3	97	7,853,808	47.3	6,747	12.6
Plan 4	2,358	209,007,431	46.7	7,386	10.7
Plan 5	274	25,433,148	40.3	7,735	2.5
Plan 7	800	60,627,170	36.6	6,315	1.1
Total	4,334	\$ 382,303,295	46.0	\$ 7,351	10.9
Safety Members					
Plan 1	3	\$ 529,625	62.0	\$ 14,712	33.7
Plan 2	87	12,053,150	51.7	11,545	23.4
Plan 4	269	32,019,611	44.1	9,919	10.7
Plan 5	53	5,816,188	38.0	9,145	2.3
Plan 6	1	192,115	45.0	16,010	2.6
Plan 7	66	5,307,176	32.4	6,701	1.1
Total	479	\$ 55,917,864	43.3	\$ 9,728	10.9
Probation Members					
Plan 1	1	\$ 84,458	64.0	\$ 7,038	32.8
Plan 2	48	4,614,703	48.4	8,012	21.5
Plan 4	199	17,353,695	42.4	7,267	12.5
Plan 5	9	659,476	33.4	6,106	2.4
Plan 6	2	137,737	33.0	5,739	2.6
Plan 7	23	1,568,908	30.9	5,684	1.0
Total	282	\$ 24,418,977	42.2	\$ 7,216	12.8
Grand Total	5,095	\$ 462,640,136	45.5	\$ 7,567	11.0

Exhibit C-2: SamCERA Membership – Inactive Members as of June 30, 2015

	Number	Average Age
General Members		
Plan 1	17	62.8
Plan 2	380	52.9
Plan 3	121	53.0
Plan 4	702	45.8
Plan 5	22	40.6
Plan 7	25	35.6
Total	1,267	48.6
Safety Members		
Plan 1	1	64.0
Plan 2	26	49.4
Plan 4	43	45.9
Plan 5	2	35.0
Plan 7	1	34.0
Total	73	46.9
Probation Members		
Plan 1	-	-
Plan 2	12	46.2
Plan 4	32	41.3
Plan 5	-	-
Plan 6	-	-
Total	44	42.6
Grand Total	1,384	48.3

Exhibit C-3a: SamCERA Membership – Retired Members as of June 30, 2015

	Number	Average Age	Monthly Allowance	Average Monthly Benefit
General Members				
Plan 1	1,711	78.6	\$ 5,372,089	\$ 3,140
Plan 2	1,715	67.9	4,548,349	2,652
Plan 3	128	70.4	126,106	985
Plan 4	460	63.7	859,658	1,869
Plan 5	1	60.0	125	125
Total	4,015	72.1	\$ 10,906,328	\$ 2,716
Safety Members				
Plan 1	271	72.3	\$ 1,776,033	\$ 6,554
Plan 2	157	60.2	1,092,758	6,960
Plan 4	39	56.6	151,613	3,888
Total	467	66.9	\$ 3,020,404	\$ 6,468
Probation Members				
Plan 1	71	71.6	\$ 373,337	\$ 5,258
Plan 2	69	60.7	318,154	4,611
Plan 4	16	63.8	38,478	2,405
Total	156	66.0	\$ 729,969	\$ 4,679
Grand Total	4,638	71.4	\$ 14,656,701	\$ 3,160

**Exhibit C-3b: SamCERA Membership – Retired Members as of June 30, 2015
 Subtotalled by Class and Retirement Type**

<u>Plan</u>	<u>Retirement Type</u>	<u>Number</u>	<u>Monthly Benefit</u>	<u>Average Monthly Benefit</u>
General Plans:				
	Healthy	3,191	\$ 9,123,394	\$ 2,859
	Disabled	335	870,982	2,600
	Beneficiaries	489	911,952	1,865
	Total	4,015	\$ 10,906,328	\$ 2,716
Safety Plans:				
	Healthy	295	\$ 2,157,892	\$ 7,315
	Disabled	100	562,303	5,623
	Beneficiaries	72	300,208	4,170
	Total	467	\$ 3,020,404	\$ 6,468
Probation Plans:				
	Healthy	142	\$ 668,057	\$ 4,705
	Disabled	7	25,960	3,709
	Beneficiaries	7	35,952	5,136
	Total	156	\$ 729,969	\$ 4,679
Grand Totals				
	Healthy	3,628	\$ 11,949,344	\$ 3,294
	Disabled	442	1,459,245	3,301
	Beneficiaries	568	1,248,112	2,197
	Total	4,638	\$ 14,656,701	\$ 3,160

Exhibit C-4: Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015
All Members

Age	Years of Service									Total Count
	0-1	1-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	
Under 25	28	11	0	0	0	0	0	0	0	39
25-29	119	176	26	2	0	0	0	0	0	323
30-34	137	232	188	43	2	0	0	0	0	602
35-39	76	162	264	163	31	0	0	0	0	696
40-44	42	112	199	232	141	19	0	0	0	745
45-49	36	82	163	191	185	92	14	0	0	763
50-54	29	76	119	138	132	94	102	19	0	709
55-59	24	66	114	113	106	78	89	46	9	645
60-64	10	25	90	87	61	35	55	28	9	400
65 & Over	1	9	43	38	32	17	14	11	8	173
Total Count	502	951	1,206	1,007	690	335	274	104	26	5,095

Age	Years of Service									Average Comp.
	0-1	1-2	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	
Under 25	56,875	65,285	-	-	-	-	-	-	-	59,247
25-29	64,860	73,510	74,409	64,422	-	-	-	-	-	70,339
30-34	74,702	78,998	82,094	74,779	94,513	-	-	-	-	78,738
35-39	76,607	88,107	90,450	89,776	82,563	-	-	-	-	87,884
40-44	74,701	100,783	92,635	94,278	93,024	87,502	-	-	-	93,303
45-49	86,121	109,317	96,570	93,007	100,558	98,910	112,344	-	-	98,093
50-54	80,445	92,984	94,604	94,365	96,833	98,026	107,274	89,183	-	96,351
55-59	94,672	99,260	96,042	89,494	94,581	102,338	103,585	103,133	87,214	97,118
60-64	93,966	88,363	85,338	89,313	100,071	98,580	101,253	106,626	117,212	94,408
65 & Over	37,710	137,911	92,317	84,921	91,807	80,058	93,036	95,712	104,953	92,308
Avg. Annual Compensation	74,078	87,883	90,613	91,109	96,113	97,822	104,399	100,740	103,056	90,803



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Exhibit C-4a: Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015
General Members

Count	Years of Service									Total Count
	Age	0-1	1-5	5-9	10-14	15-19	20-24	25-29	30-34	
Under 25	23	8	0	0	0	0	0	0	0	31
25-29	91	149	20	2	0	0	0	0	0	262
30-34	124	206	144	37	1	0	0	0	0	512
35-39	72	145	230	127	26	0	0	0	0	600
40-44	37	90	168	171	91	14	0	0	0	571
45-49	35	66	153	154	126	65	11	0	0	610
50-54	28	61	114	123	108	78	79	19	0	610
55-59	24	56	102	106	100	74	84	39	9	594
60-64	10	23	84	81	61	32	50	26	9	376
65 & Over	1	9	42	35	32	17	14	11	7	168
Total Count	445	813	1,057	836	545	280	238	95	25	4,334

Compensation	Years of Service									Average Comp.
	Age	0-1	1-2	5-9	10-14	15-19	20-24	25-29	30-34	
Under 25	53,706	59,797	-	-	-	-	-	-	-	55,278
25-29	62,948	71,821	67,417	64,422	-	-	-	-	-	68,346
30-34	74,780	77,609	78,165	70,609	73,178	-	-	-	-	76,566
35-39	76,315	86,295	90,107	85,259	76,774	-	-	-	-	85,927
40-44	74,870	96,877	91,193	91,410	86,460	81,221	-	-	-	90,097
45-49	86,453	103,551	95,313	90,834	95,065	87,101	97,753	-	-	93,683
50-54	80,657	87,383	94,678	93,754	93,813	93,815	97,890	89,183	-	93,100
55-59	94,672	94,861	93,080	88,117	93,992	99,728	101,475	97,340	87,214	94,786
60-64	93,966	84,702	82,277	88,510	100,071	97,252	96,215	106,749	117,212	92,622
65 & Over	37,710	137,911	91,896	83,690	91,807	80,058	93,036	95,712	98,766	91,745
Avg. Annual Compensation	74,236	84,951	89,206	88,708	92,639	92,747	98,512	98,095	101,247	88,210



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**Exhibit C-4b: Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015
 Safety Members**

Age	Years of Service									Total Count
	0-1	1-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	
Under 25	5	3	0	0	0	0	0	0	0	8
25-29	22	19	5	0	0	0	0	0	0	46
30-34	9	17	25	5	1	0	0	0	0	57
35-39	3	14	13	16	3	0	0	0	0	49
40-44	4	21	18	27	23	2	0	0	0	95
45-49	1	15	8	16	29	17	3	0	0	89
50-54	1	14	3	6	16	11	17	0	0	68
55-59	0	10	12	4	4	4	5	6	0	45
60-64	0	2	5	4	0	2	4	1	0	18
65 & Over	0	0	1	2	0	0	0	0	1	4
Total Count	45	115	90	80	76	36	29	7	1	479

Age	Years of Service									Average Comp.
	0-1	1-2	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	
Under 25	71,449	79,921	-	-	-	-	-	-	-	74,626
25-29	75,047	89,824	100,357	-	-	-	-	-	-	83,901
30-34	79,236	101,570	109,583	101,719	115,848	-	-	-	-	101,822
35-39	87,652	110,833	113,197	129,163	123,812	-	-	-	-	116,821
40-44	75,395	118,063	112,853	123,960	118,585	125,646	-	-	-	117,241
45-49	74,496	128,462	124,155	122,593	131,144	142,997	165,845	-	-	131,324
50-54	74,496	119,057	100,995	107,102	117,069	127,839	148,728	-	-	124,921
55-59	-	123,897	121,218	116,849	108,628	150,624	139,034	139,278	-	127,307
60-64	-	130,453	132,172	113,898	-	114,761	170,656	125,593	-	134,172
65 & Over	-	-	109,990	105,407	-	-	-	-	148,265	117,267
Avg. Annual Compensation	76,332	111,284	114,066	120,750	122,704	136,680	151,852	137,323	148,265	116,739



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Exhibit C-4c: Age & Service Distribution of Active Members by Count and Average Compensation as of June 30, 2015
Probation Members

Age	Years of Service									Total Count
	0-1	1-5	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	
Under 25	0	0	0	0	0	0	0	0	0	0
25-29	6	8	1	0	0	0	0	0	0	15
30-34	4	9	19	1	0	0	0	0	0	33
35-39	1	3	21	20	2	0	0	0	0	47
40-44	1	1	13	34	27	3	0	0	0	79
45-49	0	1	2	21	30	10	0	0	0	64
50-54	0	1	2	9	8	5	6	0	0	31
55-59	0	0	0	3	2	0	0	1	0	6
60-64	0	0	1	2	0	1	1	1	0	6
65 & Over	0	0	0	1	0	0	0	0	0	1
Total Count	12	23	59	91	69	19	7	2	0	282

Age	Years of Service									Average Comp.
	0-1	1-2	5-9	10-14	15-19	20-24	25-29	30-34	35&Over	
Under 25	-	-	-	-	-	-	-	-	-	-
25-29	56,512	66,219	84,507	-	-	-	-	-	-	63,555
30-34	62,089	68,167	75,705	94,372	-	-	-	-	-	72,564
35-39	64,531	69,620	80,119	86,947	95,945	-	-	-	-	82,696
40-44	65,686	89,463	83,281	85,129	93,373	91,383	-	-	-	87,689
45-49	-	202,717	82,390	86,395	94,064	100,725	-	-	-	93,922
50-54	-	69,623	80,808	94,230	97,128	98,142	113,381	-	-	97,656
55-59	-	-	-	101,698	95,944	-	-	112,195	-	101,530
60-64	-	-	108,301	72,686	-	108,694	75,529	84,458	-	87,059
65 & Over	-	-	-	87,031	-	-	-	-	-	87,031
Avg. Annual Compensation	59,804	74,518	80,047	87,116	94,258	98,990	107,973	98,327	-	86,592



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**Exhibit C-5: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
 All Plans Combined**

Age	Retirement Year								Total Count	Average Monthly Benefit
	Pre-1984	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	1	-	-	4	2	2	2	-	11	\$ 1,848
35-39	-	-	-	-	1	-	6	-	7	2,969
40-44	-	-	1	-	1	7	7	-	16	3,441
45-49	-	2	1	1	6	7	13	3	33	3,071
50-54	1	-	1	9	9	16	82	22	140	3,314
55-59	-	-	3	11	20	75	198	26	333	3,287
60-64	-	2	9	13	77	205	330	30	666	3,685
65-69	5	10	29	85	172	318	323	30	972	3,693
70-74	8	18	65	157	219	280	116	4	867	3,463
75-79	12	48	124	134	158	72	19	1	568	2,834
80-84	48	58	109	124	40	17	4	-	400	2,322
85-89	88	76	100	36	9	3	1	-	313	2,129
90-94	110	89	24	3	1	1	-	-	228	2,211
95-99	60	15	3	1	-	-	-	-	79	1,738
100 & Over	5	-	-	-	-	-	-	-	5	1,649
Total Count	338	318	469	578	715	1,003	1,101	116	4,638	
Avg Monthly Benefit	\$ 1,710	\$ 2,241	\$ 2,268	\$ 2,478	\$ 3,215	\$ 4,086	\$ 3,593	\$ 4,451		\$ 3,160



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**Exhibit C-5a: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
 General Plans Combined**

Age	Retirement Year								Total Count	Average Monthly Benefit
	Pre-1984	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	1	-	-	4	2	2	2	-	11	\$ 1,848
35-39	-	-	-	-	1	-	4	-	5	2,013
40-44	-	-	1	-	1	4	6	-	12	2,741
45-49	-	2	1	-	4	5	10	1	23	2,186
50-54	1	-	-	7	5	10	55	7	85	1,897
55-59	-	-	2	9	11	55	156	23	256	2,257
60-64	-	1	7	12	74	162	296	26	578	3,066
65-69	4	6	17	72	121	286	306	28	840	3,278
70-74	4	9	48	99	168	268	111	4	711	3,060
75-79	8	38	108	118	145	71	17	1	506	2,523
80-84	42	53	105	122	38	17	4	-	381	2,191
85-89	83	73	100	36	9	3	1	-	305	2,070
90-94	102	89	24	3	1	1	-	-	220	2,118
95-99	59	14	3	1	-	-	-	-	77	1,757
100 & Over	5	-	-	-	-	-	-	-	5	1,649
Total Count	309	285	416	483	580	884	968	90	4,015	
Avg Monthly Benefit	\$ 1,538	\$ 2,058	\$ 1,953	\$ 1,942	\$ 2,596	\$ 3,625	\$ 3,141	\$ 3,811		\$ 2,716



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**Exhibit C-5b: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
 Safety Plans Combined**

Age	Retirement Year								Total Count	Average Monthly Benefit
	Pre-1984	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	-	-	-	-	-	-	-	-	-	\$ -
35-39	-	-	-	-	-	-	1	-	1	8,068
40-44	-	-	-	-	-	3	1	-	4	5,539
45-49	-	-	-	1	2	2	3	1	9	5,070
50-54	-	-	1	2	3	6	17	9	38	5,769
55-59	-	-	1	2	6	15	27	2	53	7,766
60-64	-	1	2	1	3	34	22	4	67	8,507
65-69	1	4	12	11	46	20	9	2	105	6,635
70-74	4	9	17	41	33	4	3	-	111	5,673
75-79	4	10	14	13	3	1	1	-	46	5,755
80-84	6	5	4	-	-	-	-	-	15	5,166
85-89	5	3	-	-	-	-	-	-	8	4,363
90-94	8	-	-	-	-	-	-	-	8	4,777
95-99	1	1	-	-	-	-	-	-	2	1,020
100 & Over	-	-	-	-	-	-	-	-	-	-
Total Count	29	33	51	71	96	85	84	18	467	
Avg Monthly Benefit	\$ 3,539	\$ 3,819	\$ 4,601	\$ 5,333	\$ 6,786	\$ 8,613	\$ 7,901	\$ 7,291		\$ 6,468



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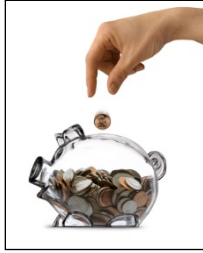
**Exhibit C-5c: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
 Probation Plans Combined**

Age	Retirement Year								Total Count	Average Monthly Benefit
	Pre-1984	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	2015-19		
Under 35	-	-	-	-	-	-	-	-	-	\$ -
35-39	-	-	-	-	-	-	1	-	1	2,647
40-44	-	-	-	-	-	-	-	-	-	-
45-49	-	-	-	-	-	-	-	1	1	5,435
50-54	-	-	-	-	1	-	10	6	17	4,916
55-59	-	-	-	-	3	5	15	1	24	4,384
60-64	-	-	-	-	-	9	12	-	21	5,338
65-69	-	-	-	2	5	12	8	-	27	5,171
70-74	-	-	-	17	18	8	2	-	45	4,373
75-79	-	-	2	3	10	-	1	-	16	4,268
80-84	-	-	-	2	2	-	-	-	4	4,079
85-89	-	-	-	-	-	-	-	-	-	-
90-94	-	-	-	-	-	-	-	-	-	-
95-99	-	-	-	-	-	-	-	-	-	-
100 & Over	-	-	-	-	-	-	-	-	-	-
Total Count	-	-	2	24	39	34	49	8	156	
Avg Monthly Benefit	\$ -	\$ -	\$ 8,432	\$ 4,837	\$ 3,632	\$ 4,744	\$ 5,142	\$ 5,268		\$ 4,679



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Appendix D: Member Contribution Rates



This section illustrates the member basic contribution rates and COLA sharing contribution rates by entry age for Plans 1 through 6. For different COLA sharing percentages, the COLA contribution rates may be adjusted ratably, and should be rounded to two decimal places.

Member contribution rates for Plan 7 are not defined by entry age. Plan 7 members contribute 50% of the total Normal Cost rate. For the 2016-2017 fiscal year, Plan 7 member contribution rates are:

- General Plan 7 members: 7.91%
- SMCM & VCD Plan 7 members: 7.35%
- Safety Plan 7 members: 13.59%
- Probation Plan 7 members: 12.91%

Please refer to Appendix B for a detailed description of member contribution rates.

Exhibit D-1: General Member Contribution Rates (including SMCM&VCD)

Entry Age ⁽¹⁾	Basic Member Rates - General				Basic Member Rates - SMCM&VCD			
	Plans 1&2	Plan 4	Plan 5	Plan 7	Plans 1&2	Plan 4	Plan 5	Plan 7
16	5.37%	5.17%	4.43%	7.91%	5.37%	5.17%	4.43%	7.35%
17	5.47%	5.27%	4.52%	7.91%	5.47%	5.27%	4.52%	7.35%
18	5.58%	5.36%	4.60%	7.91%	5.58%	5.36%	4.60%	7.35%
19	5.68%	5.46%	4.69%	7.91%	5.68%	5.46%	4.69%	7.35%
20	5.79%	5.56%	4.78%	7.91%	5.79%	5.56%	4.78%	7.35%
21	5.89%	5.67%	4.87%	7.91%	5.89%	5.67%	4.87%	7.35%
22	6.00%	5.77%	4.96%	7.91%	6.00%	5.77%	4.96%	7.35%
23	6.11%	5.88%	5.05%	7.91%	6.11%	5.88%	5.05%	7.35%
24	6.22%	5.99%	5.15%	7.91%	6.22%	5.99%	5.15%	7.35%
25	6.34%	6.10%	5.24%	7.91%	6.34%	6.10%	5.24%	7.35%
26	6.46%	6.21%	5.34%	7.91%	6.46%	6.21%	5.34%	7.35%
27	6.57%	6.32%	5.44%	7.91%	6.57%	6.32%	5.44%	7.35%
28	6.69%	6.44%	5.54%	7.91%	6.69%	6.44%	5.54%	7.35%
29	6.82%	6.56%	5.64%	7.91%	6.82%	6.56%	5.64%	7.35%
30	6.94%	6.68%	5.75%	7.91%	6.94%	6.68%	5.75%	7.35%
31	7.07%	6.80%	5.85%	7.91%	7.07%	6.80%	5.85%	7.35%
32	7.20%	6.92%	5.96%	7.91%	7.20%	6.92%	5.96%	7.35%
33	7.33%	7.05%	6.07%	7.91%	7.33%	7.05%	6.07%	7.35%
34	7.46%	7.18%	6.18%	7.91%	7.46%	7.18%	6.18%	7.35%
35	7.60%	7.31%	6.29%	7.91%	7.60%	7.31%	6.29%	7.35%
36	7.74%	7.44%	6.41%	7.91%	7.74%	7.44%	6.41%	7.35%
37	7.88%	7.58%	6.52%	7.91%	7.88%	7.58%	6.52%	7.35%
38	8.03%	7.72%	6.64%	7.91%	8.03%	7.72%	6.64%	7.35%
39	8.18%	7.87%	6.76%	7.91%	8.18%	7.87%	6.76%	7.35%
40	8.33%	8.01%	6.89%	7.91%	8.33%	8.01%	6.89%	7.35%
41	8.49%	8.16%	7.01%	7.91%	8.49%	8.16%	7.01%	7.35%
42	8.66%	8.31%	7.14%	7.91%	8.66%	8.31%	7.14%	7.35%
43	8.82%	8.46%	7.28%	7.91%	8.82%	8.46%	7.28%	7.35%
44	8.97%	8.60%	7.41%	7.91%	8.97%	8.60%	7.41%	7.35%
45	9.13%	8.74%	7.55%	7.91%	9.13%	8.74%	7.55%	7.35%
46	9.29%	8.87%	7.69%	7.91%	9.29%	8.87%	7.69%	7.35%
47	9.43%	8.99%	7.83%	7.91%	9.43%	8.99%	7.83%	7.35%
48	9.57%	9.10%	7.97%	7.91%	9.57%	9.10%	7.97%	7.35%
49	9.70%	9.20%	8.10%	7.91%	9.70%	9.20%	8.10%	7.35%
50	9.82%	9.27%	8.23%	7.91%	9.82%	9.27%	8.23%	7.35%
51	9.92%	9.32%	8.36%	7.91%	9.92%	9.32%	8.36%	7.35%
52	9.99%	9.32%	8.47%	7.91%	9.99%	9.32%	8.47%	7.35%
53	10.02%	9.62%	8.58%	7.91%	10.02%	9.62%	8.58%	7.35%
54	10.02%	9.96%	8.67%	7.91%	10.02%	9.96%	8.67%	7.35%
55	10.02%	9.96%	8.74%	7.91%	10.02%	9.96%	8.74%	7.35%
56	10.02%	9.96%	8.78%	7.91%	10.02%	9.96%	8.78%	7.35%
57	10.02%	9.96%	8.78%	7.91%	10.02%	9.96%	8.78%	7.35%
58	10.02%	9.96%	9.07%	7.91%	10.02%	9.96%	9.07%	7.35%
59	10.02%	9.96%	9.38%	7.91%	10.02%	9.96%	9.38%	7.35%
60	10.02%	9.96%	9.38%	7.91%	10.02%	9.96%	9.38%	7.35%

⁽¹⁾ For General and SMCM&VCD members (except plan 5 members) entering after age 55, the rate equals the rate at age 55. For General and SMCM&VCD plan 5 members entering after age 60, the rate equals the rate at age 60.

Exhibit D-2: Safety Member Contribution Rates

Entry Age ⁽¹⁾	Basic Member Rates		
	Plans 1&2	Plans 4&5&6	Plan 7
16	7.32%	7.04%	13.59%
17	7.45%	7.17%	13.59%
18	7.59%	7.30%	13.59%
19	7.73%	7.44%	13.59%
20	7.87%	7.57%	13.59%
21	8.02%	7.71%	13.59%
22	8.16%	7.85%	13.59%
23	8.31%	8.00%	13.59%
24	8.47%	8.14%	13.59%
25	8.62%	8.29%	13.59%
26	8.78%	8.44%	13.59%
27	8.94%	8.60%	13.59%
28	9.10%	8.75%	13.59%
29	9.27%	8.91%	13.59%
30	9.44%	9.08%	13.59%
31	9.61%	9.24%	13.59%
32	9.79%	9.42%	13.59%
33	9.97%	9.59%	13.59%
34	10.16%	9.77%	13.59%
35	10.35%	9.95%	13.59%
36	10.55%	10.14%	13.59%
37	10.75%	10.32%	13.59%
38	10.95%	10.50%	13.59%
39	11.15%	10.68%	13.59%
40	11.34%	10.85%	13.59%
41	11.53%	11.02%	13.59%
42	11.72%	11.17%	13.59%
43	11.89%	11.31%	13.59%
44	12.05%	11.42%	13.59%
45	12.19%	11.52%	13.59%
46	12.32%	11.57%	13.59%
47	12.41%	11.57%	13.59%
48	12.44%	11.95%	13.59%
49	12.44%	12.37%	13.59%
50	12.44%	12.37%	13.59%

⁽¹⁾ For Safety members entering after age 50, the rate equals the rate at age 50.

Exhibit D-3: Probation Member Contribution Rates

Entry Age ⁽¹⁾	Basic Member Rates - PDA ⁽²⁾			Basic Member Rates - Probation Managers ⁽³⁾		
	Plans 1&2	Plans 4&5&6	Plan 7	Plans 1&2	Plans 4&5&6	Plan 7
16	5.86%	5.63%	12.91%	7.32%	7.04%	12.91%
17	5.96%	5.74%	12.91%	7.45%	7.17%	12.91%
18	6.07%	5.84%	12.91%	7.59%	7.30%	12.91%
19	6.19%	5.95%	12.91%	7.73%	7.44%	12.91%
20	6.30%	6.06%	12.91%	7.87%	7.57%	12.91%
21	6.41%	6.17%	12.91%	8.02%	7.71%	12.91%
22	6.53%	6.28%	12.91%	8.16%	7.85%	12.91%
23	6.65%	6.40%	12.91%	8.31%	8.00%	12.91%
24	6.77%	6.51%	12.91%	8.47%	8.14%	12.91%
25	6.90%	6.63%	12.91%	8.62%	8.29%	12.91%
26	7.02%	6.75%	12.91%	8.78%	8.44%	12.91%
27	7.15%	6.88%	12.91%	8.94%	8.60%	12.91%
28	7.28%	7.00%	12.91%	9.10%	8.75%	12.91%
29	7.41%	7.13%	12.91%	9.27%	8.91%	12.91%
30	7.55%	7.26%	12.91%	9.44%	9.08%	12.91%
31	7.69%	7.40%	12.91%	9.61%	9.24%	12.91%
32	7.83%	7.53%	12.91%	9.79%	9.42%	12.91%
33	7.98%	7.67%	12.91%	9.97%	9.59%	12.91%
34	8.13%	7.82%	12.91%	10.16%	9.77%	12.91%
35	8.28%	7.96%	12.91%	10.35%	9.95%	12.91%
36	8.44%	8.11%	12.91%	10.55%	10.14%	12.91%
37	8.60%	8.26%	12.91%	10.75%	10.32%	12.91%
38	8.76%	8.40%	12.91%	10.95%	10.50%	12.91%
39	8.92%	8.54%	12.91%	11.15%	10.68%	12.91%
40	9.07%	8.68%	12.91%	11.34%	10.85%	12.91%
41	9.23%	8.81%	12.91%	11.53%	11.02%	12.91%
42	9.37%	8.93%	12.91%	11.72%	11.17%	12.91%
43	9.51%	9.04%	12.91%	11.89%	11.31%	12.91%
44	9.64%	9.14%	12.91%	12.05%	11.42%	12.91%
45	9.75%	9.21%	12.91%	12.19%	11.52%	12.91%
46	9.85%	9.26%	12.91%	12.32%	11.57%	12.91%
47	9.92%	9.26%	12.91%	12.41%	11.57%	12.91%
48	9.95%	9.56%	12.91%	12.44%	11.95%	12.91%
49	9.95%	9.89%	12.91%	12.44%	12.37%	12.91%
50	9.95%	9.89%	12.91%	12.44%	12.37%	12.91%

⁽¹⁾ For Probation members entering after age 50, the rate equals the rate at age 50.

⁽²⁾ PDA basic member rates reflect 20% pickup.

⁽³⁾ Probation manager basic member contribution rates except Plan 7 are based on rates in corresponding Safety Plan.

Exhibit D-4: General Member Contribution Rates (including SMCM&VCD)

Entry Age ⁽¹⁾	25% Member COLA Rates				50% Member COLA Rates			
	Plan 1	Plan 2	Plan 4	Plan 5	Plan 1	Plan 2	Plan 4	Plan 5
16	1.05%	0.90%	0.60%	0.49%	2.10%	1.81%	1.19%	0.98%
17	1.07%	0.92%	0.61%	0.50%	2.14%	1.84%	1.21%	1.00%
18	1.09%	0.94%	0.62%	0.51%	2.19%	1.88%	1.23%	1.02%
19	1.11%	0.96%	0.63%	0.52%	2.23%	1.91%	1.26%	1.04%
20	1.13%	0.97%	0.64%	0.53%	2.27%	1.95%	1.28%	1.06%
21	1.15%	0.99%	0.65%	0.54%	2.31%	1.98%	1.31%	1.08%
22	1.18%	1.01%	0.66%	0.55%	2.35%	2.02%	1.33%	1.10%
23	1.20%	1.03%	0.68%	0.56%	2.39%	2.06%	1.35%	1.12%
24	1.22%	1.05%	0.69%	0.57%	2.44%	2.09%	1.38%	1.14%
25	1.24%	1.07%	0.70%	0.58%	2.48%	2.13%	1.40%	1.16%
26	1.27%	1.09%	0.71%	0.59%	2.53%	2.17%	1.43%	1.18%
27	1.29%	1.11%	0.73%	0.60%	2.57%	2.21%	1.45%	1.20%
28	1.31%	1.13%	0.74%	0.61%	2.62%	2.25%	1.48%	1.23%
29	1.34%	1.15%	0.76%	0.62%	2.67%	2.29%	1.51%	1.25%
30	1.36%	1.17%	0.77%	0.64%	2.72%	2.33%	1.54%	1.27%
31	1.39%	1.19%	0.78%	0.65%	2.77%	2.38%	1.57%	1.30%
32	1.41%	1.21%	0.80%	0.66%	2.82%	2.42%	1.59%	1.32%
33	1.44%	1.23%	0.81%	0.67%	2.87%	2.47%	1.62%	1.34%
34	1.46%	1.25%	0.83%	0.68%	2.92%	2.51%	1.65%	1.37%
35	1.49%	1.28%	0.84%	0.70%	2.98%	2.56%	1.68%	1.39%
36	1.52%	1.30%	0.86%	0.71%	3.03%	2.60%	1.71%	1.42%
37	1.54%	1.33%	0.87%	0.72%	3.09%	2.65%	1.74%	1.44%
38	1.57%	1.35%	0.89%	0.74%	3.15%	2.70%	1.78%	1.47%
39	1.60%	1.38%	0.91%	0.75%	3.21%	2.75%	1.81%	1.50%
40	1.63%	1.40%	0.92%	0.76%	3.26%	2.80%	1.84%	1.53%
41	1.66%	1.43%	0.94%	0.78%	3.33%	2.86%	1.88%	1.55%
42	1.70%	1.46%	0.96%	0.79%	3.39%	2.91%	1.91%	1.58%
43	1.73%	1.48%	0.97%	0.81%	3.46%	2.97%	1.95%	1.61%
44	1.76%	1.51%	0.99%	0.82%	3.52%	3.02%	1.98%	1.64%
45	1.79%	1.54%	1.01%	0.84%	3.58%	3.07%	2.01%	1.67%
46	1.82%	1.56%	1.02%	0.85%	3.64%	3.13%	2.04%	1.70%
47	1.85%	1.59%	1.03%	0.87%	3.70%	3.17%	2.07%	1.73%
48	1.88%	1.61%	1.05%	0.88%	3.75%	3.22%	2.09%	1.76%
49	1.90%	1.63%	1.06%	0.90%	3.80%	3.26%	2.12%	1.79%
50	1.92%	1.65%	1.07%	0.91%	3.85%	3.30%	2.13%	1.82%
51	1.94%	1.67%	1.07%	0.93%	3.89%	3.34%	2.15%	1.85%
52	1.96%	1.68%	1.07%	0.94%	3.92%	3.36%	2.15%	1.88%
53	1.96%	1.69%	1.11%	0.95%	3.93%	3.37%	2.21%	1.90%
54	1.96%	1.69%	1.15%	0.96%	3.93%	3.37%	2.29%	1.92%
55	1.96%	1.69%	1.15%	0.97%	3.93%	3.37%	2.29%	1.94%
56	1.96%	1.69%	1.15%	0.97%	3.93%	3.37%	2.29%	1.94%
57	1.96%	1.69%	1.15%	0.97%	3.93%	3.37%	2.29%	1.94%
58	1.96%	1.69%	1.15%	1.00%	3.93%	3.37%	2.29%	2.01%
59	1.96%	1.69%	1.15%	1.04%	3.93%	3.37%	2.29%	2.08%
60	1.96%	1.69%	1.15%	1.04%	3.93%	3.37%	2.29%	2.08%

⁽¹⁾ For County General members (except plan 5 members) entering after age 55, the rate equals the rate at age 55. For County General plan 5 members entering after age 60, the rate equals the rate at age 60.

Exhibit D-5: Safety Member Contribution Rates

Entry Age ⁽¹⁾	25% Member COLA Rates				50% Member COLA Rates			
	Plans 1&2	Plan 4	Plan 5	Plan 6	Plans 1&2	Plan 4	Plan 5	Plan 6
16	2.12%	1.20%	1.08%	0.99%	4.24%	2.39%	2.16%	1.98%
17	2.16%	1.22%	1.10%	1.01%	4.32%	2.44%	2.20%	2.02%
18	2.20%	1.24%	1.12%	1.03%	4.40%	2.48%	2.24%	2.05%
19	2.24%	1.26%	1.14%	1.05%	4.48%	2.53%	2.29%	2.09%
20	2.28%	1.29%	1.16%	1.06%	4.56%	2.57%	2.33%	2.13%
21	2.32%	1.31%	1.19%	1.08%	4.65%	2.62%	2.37%	2.17%
22	2.36%	1.33%	1.21%	1.10%	4.73%	2.67%	2.41%	2.21%
23	2.41%	1.36%	1.23%	1.12%	4.82%	2.72%	2.46%	2.25%
24	2.45%	1.38%	1.25%	1.14%	4.91%	2.77%	2.50%	2.29%
25	2.50%	1.41%	1.27%	1.17%	5.00%	2.82%	2.55%	2.33%
26	2.54%	1.43%	1.30%	1.19%	5.09%	2.87%	2.59%	2.37%
27	2.59%	1.46%	1.32%	1.21%	5.18%	2.92%	2.64%	2.42%
28	2.64%	1.49%	1.34%	1.23%	5.27%	2.97%	2.69%	2.46%
29	2.69%	1.51%	1.37%	1.25%	5.37%	3.03%	2.74%	2.51%
30	2.74%	1.54%	1.40%	1.28%	5.47%	3.08%	2.79%	2.55%
31	2.78%	1.57%	1.42%	1.30%	5.57%	3.14%	2.84%	2.60%
32	2.84%	1.60%	1.45%	1.32%	5.67%	3.20%	2.90%	2.65%
33	2.89%	1.63%	1.47%	1.35%	5.78%	3.26%	2.95%	2.70%
34	2.94%	1.66%	1.50%	1.37%	5.89%	3.32%	3.00%	2.75%
35	3.00%	1.69%	1.53%	1.40%	6.00%	3.38%	3.06%	2.80%
36	3.06%	1.72%	1.56%	1.43%	6.11%	3.44%	3.12%	2.85%
37	3.12%	1.75%	1.59%	1.45%	6.23%	3.51%	3.17%	2.90%
38	3.17%	1.78%	1.61%	1.48%	6.35%	3.57%	3.23%	2.95%
39	3.23%	1.81%	1.64%	1.50%	6.46%	3.63%	3.28%	3.00%
40	3.29%	1.84%	1.67%	1.53%	6.57%	3.69%	3.34%	3.05%
41	3.34%	1.87%	1.69%	1.55%	6.68%	3.74%	3.39%	3.10%
42	3.40%	1.90%	1.72%	1.57%	6.79%	3.79%	3.43%	3.14%
43	3.45%	1.92%	1.74%	1.59%	6.89%	3.84%	3.48%	3.18%
44	3.49%	1.94%	1.76%	1.61%	6.98%	3.88%	3.51%	3.21%
45	3.53%	1.96%	1.77%	1.62%	7.07%	3.91%	3.54%	3.24%
46	3.57%	1.97%	1.78%	1.63%	7.14%	3.93%	3.56%	3.25%
47	3.60%	1.97%	1.78%	1.63%	7.19%	3.93%	3.56%	3.25%
48	3.61%	2.03%	1.84%	1.68%	7.21%	4.06%	3.67%	3.36%
49	3.61%	2.10%	1.90%	1.74%	7.21%	4.20%	3.80%	3.48%
50	3.61%	2.10%	1.90%	1.74%	7.21%	4.20%	3.80%	3.48%

⁽¹⁾ For Safety members entering after age 50, the rate equals the rate at age 50.

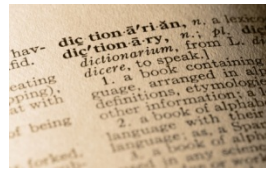
Exhibit D-6: Probation Member Contribution Rates

Entry Age ⁽¹⁾	25% Member COLA Rates - PDA ⁽²⁾				50% Member COLA Rates - PDA ⁽²⁾				50% Member COLA Rates Probation Managers ⁽²⁾	
	Plans 1&2	Plan 4	Plan 5	Plan 6	Plans 1&2	Plan 4	Plan 5	Plan 6	Plan 5	Plan 6
16	1.98%	1.17%	1.09%	0.94%	3.96%	2.34%	2.18%	1.88%	2.16%	1.98%
17	2.01%	1.19%	1.11%	0.96%	4.02%	2.39%	2.22%	1.91%	2.20%	2.02%
18	2.05%	1.21%	1.13%	0.97%	4.10%	2.43%	2.26%	1.95%	2.24%	2.05%
19	2.09%	1.24%	1.15%	0.99%	4.18%	2.47%	2.30%	1.98%	2.29%	2.09%
20	2.13%	1.26%	1.17%	1.01%	4.25%	2.52%	2.34%	2.02%	2.33%	2.13%
21	2.16%	1.28%	1.19%	1.03%	4.33%	2.56%	2.39%	2.06%	2.37%	2.17%
22	2.20%	1.30%	1.21%	1.05%	4.41%	2.61%	2.43%	2.09%	2.41%	2.21%
23	2.24%	1.33%	1.24%	1.07%	4.49%	2.66%	2.47%	2.13%	2.46%	2.25%
24	2.28%	1.35%	1.26%	1.09%	4.57%	2.71%	2.52%	2.17%	2.50%	2.29%
25	2.33%	1.38%	1.28%	1.11%	4.66%	2.76%	2.56%	2.21%	2.55%	2.33%
26	2.37%	1.40%	1.30%	1.13%	4.74%	2.81%	2.61%	2.25%	2.59%	2.37%
27	2.41%	1.43%	1.33%	1.15%	4.83%	2.86%	2.66%	2.29%	2.64%	2.42%
28	2.46%	1.45%	1.35%	1.17%	4.91%	2.91%	2.71%	2.33%	2.69%	2.46%
29	2.50%	1.48%	1.38%	1.19%	5.00%	2.96%	2.76%	2.38%	2.74%	2.51%
30	2.55%	1.51%	1.40%	1.21%	5.10%	3.02%	2.81%	2.42%	2.79%	2.55%
31	2.60%	1.54%	1.43%	1.23%	5.19%	3.08%	2.86%	2.47%	2.84%	2.60%
32	2.64%	1.56%	1.46%	1.26%	5.29%	3.13%	2.91%	2.51%	2.90%	2.65%
33	2.69%	1.59%	1.48%	1.28%	5.39%	3.19%	2.97%	2.56%	2.95%	2.70%
34	2.74%	1.62%	1.51%	1.30%	5.49%	3.25%	3.02%	2.61%	3.00%	2.75%
35	2.79%	1.65%	1.54%	1.33%	5.59%	3.31%	3.08%	2.65%	3.06%	2.80%
36	2.85%	1.69%	1.57%	1.35%	5.70%	3.37%	3.14%	2.70%	3.12%	2.85%
37	2.90%	1.72%	1.60%	1.38%	5.81%	3.43%	3.19%	2.75%	3.17%	2.90%
38	2.96%	1.75%	1.62%	1.40%	5.91%	3.49%	3.25%	2.80%	3.23%	2.95%
39	3.01%	1.77%	1.65%	1.42%	6.02%	3.55%	3.30%	2.85%	3.28%	3.00%
40	3.06%	1.80%	1.68%	1.45%	6.12%	3.61%	3.36%	2.89%	3.34%	3.05%
41	3.12%	1.83%	1.70%	1.47%	6.23%	3.66%	3.41%	2.94%	3.39%	3.10%
42	3.16%	1.86%	1.73%	1.49%	6.32%	3.71%	3.45%	2.98%	3.43%	3.14%
43	3.21%	1.88%	1.75%	1.51%	6.42%	3.76%	3.49%	3.01%	3.48%	3.18%
44	3.25%	1.90%	1.77%	1.52%	6.51%	3.80%	3.53%	3.05%	3.51%	3.21%
45	3.29%	1.91%	1.78%	1.54%	6.58%	3.83%	3.56%	3.07%	3.54%	3.24%
46	3.32%	1.92%	1.79%	1.54%	6.65%	3.85%	3.58%	3.09%	3.56%	3.25%
47	3.35%	1.92%	1.79%	1.54%	6.70%	3.85%	3.58%	3.09%	3.56%	3.25%
48	3.36%	1.99%	1.85%	1.59%	6.72%	3.97%	3.70%	3.19%	3.67%	3.36%
49	3.36%	2.06%	1.91%	1.65%	6.72%	4.11%	3.82%	3.30%	3.80%	3.48%
50	3.36%	2.06%	1.91%	1.65%	6.72%	4.11%	3.82%	3.30%	3.80%	3.48%

⁽¹⁾ For Probation members entering after age 50, the rate equals the rate at age 50.

⁽²⁾ Probation Manager member COLA rates are based on rates in corresponding Safety Plan (shown in Appendix D-5)

Appendix E: Glossary



The following definitions include excerpts from a list adopted by the major actuarial organizations in the United States. In some cases, the definitions have been modified for specific applicability to SamCERA and include terms used exclusively by SamCERA. Defined terms are capitalized throughout this Appendix.

Accrued Benefit	The amount of an individual's benefit (whether or not vested) as of a specific date, determined in accordance with the terms of a pension plan and based on compensation and service to that date.
Actuarial Accrued Liability	That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.
Actuarial Assumptions	Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement, and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; and other relevant items.
Actuarial Gain (Loss)	A measure of the difference between actual experience and that expected based on a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.
Actuarial Present Value	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions.
Actuarial Valuation	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.
Actuarial Value of Assets	The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an Actuarial Valuation.
Actuarially Equivalent	Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.
Amortization Payment	That portion of the pension plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
COLA	Cost of living adjustments to benefit payments are made each April 1. See full description in Appendix B.

Employer Reserve	The accumulation of employer contributions for future retirement benefit payments. Additions include contributions from employers and related earnings. Deductions include annuity payments to retired members and survivors, lump sum death benefit payments to member survivors, and supplemental disability payments.
Entry Age Actuarial Cost Method	A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit ages. The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion of this Actuarial Present Value not provided for at a valuation date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.
Funded Ratio	A measurement of the funded status of the system. The Funded Ratio is calculated by dividing the Valuation Assets by the Actuarial Accrued Liability. For example, a Funded Ratio of 90% indicates assets are 10% less than liabilities.
Member Reserve	The accumulation of member contributions. Additions include member contributions and related earnings. Deductions include annuity payments to retirees and refunds to members.
Non-Valuation Reserves	Reserves excluded from the calculation of contribution rates.
Normal Cost	That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.
Plan Year	A 12-month period beginning July 1 and ending June 30.
Projected Benefits	Those pension plan benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits.
Unfunded Actuarial Accrued Liability	The excess, if any, of the Actuarial Accrued Liability over the Actuarial Value of Assets.
Valuation Date	The date upon which the Normal Cost, Actuarial Accrued Liability, and Actuarial Value of Assets are determined. Generally, the Valuation Date will coincide with the ending of a Plan Year.
Valuation Reserves	All reserves excluding the Non-Valuation Reserves.



Actuarial Valuation June 30, 2015

presented by

Nick Collier, ASA, EA, MAAA

Craig Glyde, ASA, EA, MAAA

September 29, 2015



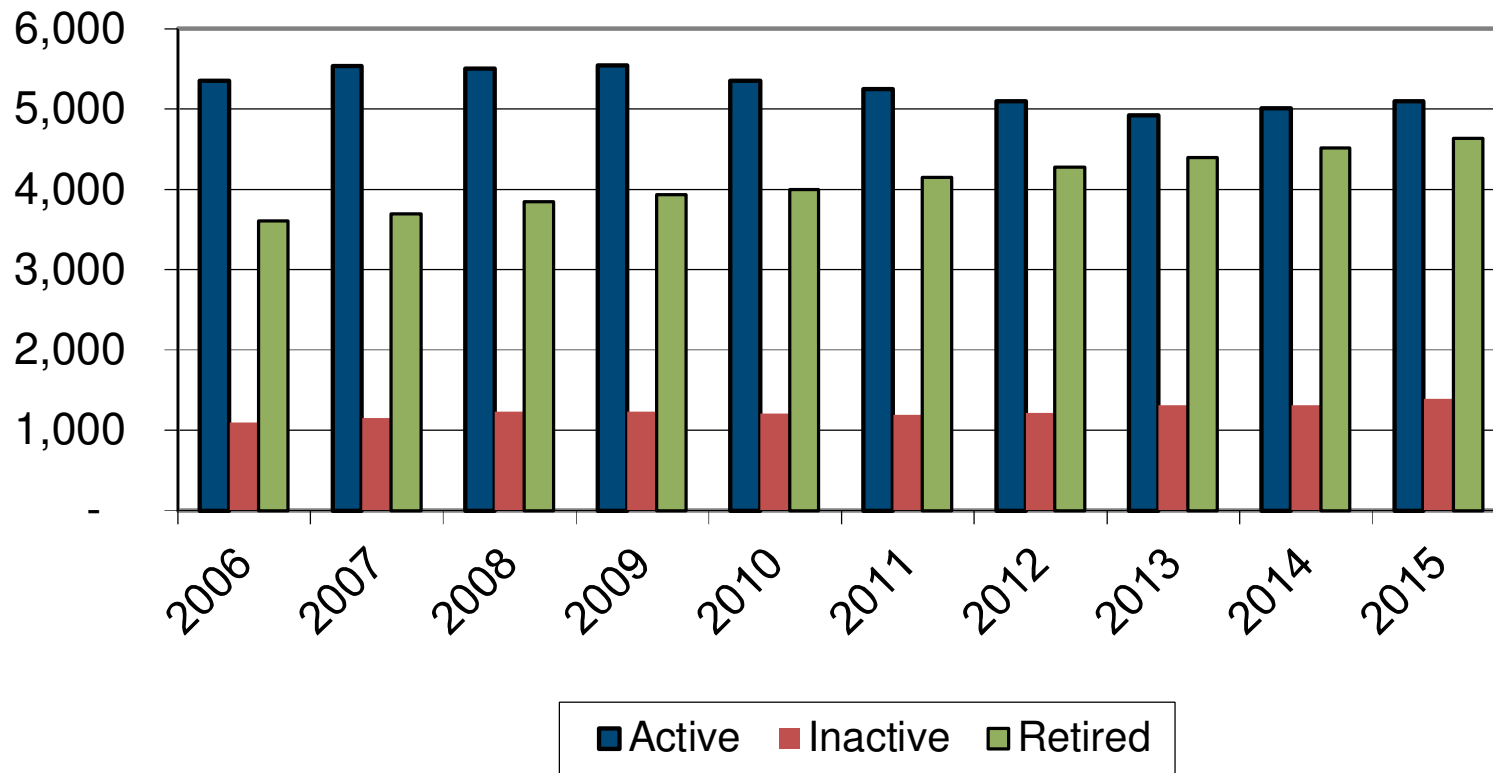
Overview

- Key 2015 funding valuation results
 - Membership Statistics
 - Assets and liabilities
 - Statutory Contribution Rates
 - Member rate changes
- Changes since last year (and historical trends)
- Looking ahead



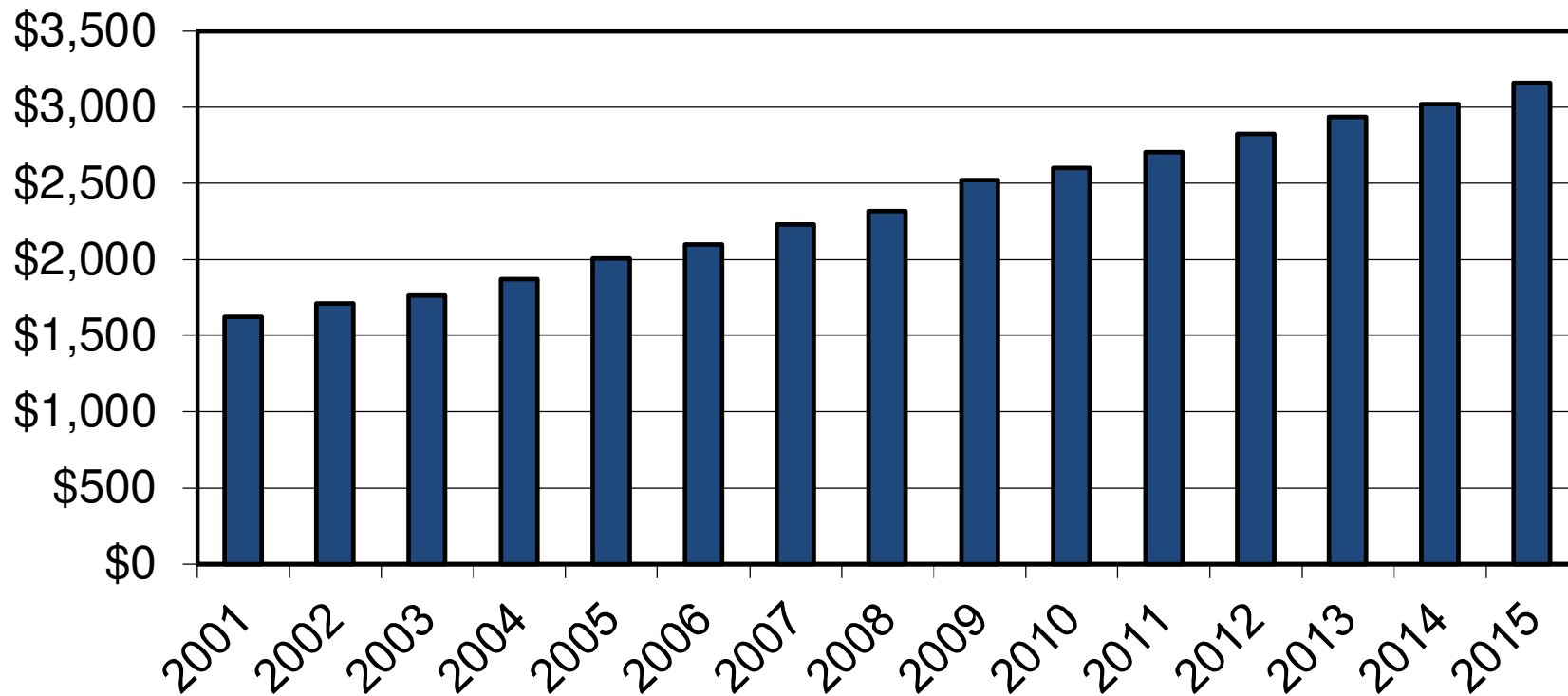
Membership Information

Membership Count



Membership Information (continued)

Average Monthly Retirement Benefit



Assets & Liabilities

	June 30, 2015	June 30, 2014
<i>(\$Millions)</i>		
<u>Actuarial Accrued Liability</u>		
Active Members	\$ 1,594	\$ 1,512
Retired Members	2,231	2,089
Inactive Members	220	197
Actuarial Accrued Liability	<u>\$ 4,046</u>	<u>\$ 3,797</u>
Valuation Assets	<u>\$ 3,344</u>	<u>\$ 2,993</u>
Unfunded Actuarial Accrued Liability	\$ 702	\$ 804
Funded Ratio (with CSCA)	82.6%	78.8%
Funded Ratio (without CSCA)	81.0%	77.5%

Statutory Contribution Rates

- Recommend adopting new Statutory Contribution Rates
 - Detail in Exhibit 10 of report

	June 30, 2015	June 30, 2014
Gross Normal Cost Rate	21.94%	22.22%
Member Contributions	<u>(11.52)%</u>	<u>(11.42)%</u>
Employer Normal Cost Rate	10.42%	10.80%
UAAL Amortization Rate	<u>23.24%</u>	<u>25.00%</u>
Preliminary Employer Rate	33.66%	35.80%
CSCA Credit	<u>(1.31)%</u>	<u>(1.06)%</u>
Statutory Employer Contribution Rate	32.35%	34.74%
County Contribution Rate	32.40%	34.92%
Courts Contribution Rate	29.82%	30.73%
SMCM&VCD Contribution Rate	31.29%	32.88%

Statutory Contribution Rates (continued)

- CSCA equals \$65.5M as of June 30, 2015
 - Statutory contribution rate calculated excluding CSCA, then credit based on 15-year amortization of CSCA used to reduce County rate

	<u>June 30, 2015</u>	
	All Employers	County Only
Employer Normal Cost Rate	10.42%	10.36%
UAAL Amortization Rate	<u>23.24%</u>	<u>23.41%</u>
Preliminary Employer Rate	33.66%	33.77%
CSCA Credit	<u>(1.31)%</u>	<u>(1.37)%</u>
Statutory Employer Contribution Rate	32.35%	32.40%

Plan 7 Member Contribution Rates

- Recommend changes to Plan 7 member rates
 - Plan 7 members pay one-half of Gross Normal Cost rate
 - See Exhibits 10a-10d and Appendix D of report for details

Recommended Plan 7 Member contribution rates for FYB July 1, 2016			
	<u>June 30, 2015</u>	<u>June 30, 2014</u>	
	Total as a % of Pay	Total as a % of Pay	Ratio (New/Curr)
General Members	7.91%	7.92%	99.9%
SMCM&VCD Members	7.35%	6.51%	112.9%
Probation Members	12.91%	13.42%	96.2%
Safety Members	13.59%	14.64%	92.8%

Changes since last year

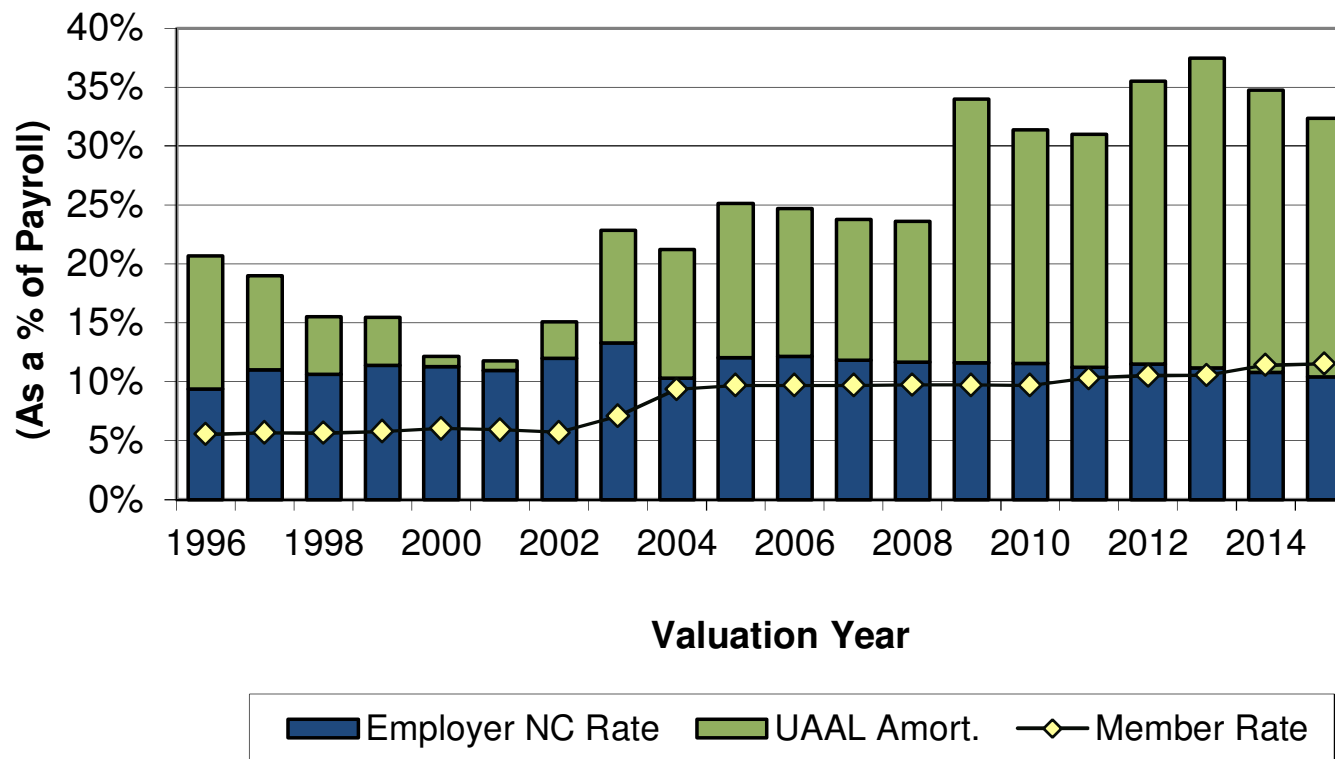
- Decrease in SCR; Increase in Funded Ratio

Sources of Change	Statutory Contribution Rate	Funded Ratio	
June 30, 2014 Actuarial Valuation	34.74%	78.8%	
Assumption Changes	0.00%	0.0%	
Expected Year-to-Year Change	0.00%	2.5%	
Recognized Asset Gain/Loss			
From Current Year	0.54%	-0.7%	
From Prior Years	-2.05%	2.5%	Recognition of deferred asset gains
Retiree COLAs Greater than Expected	0.07%	0.0%	
Salary Increase > Assumed	-0.07%	-0.8%	
Contributions > Assumed	-0.17%	0.2%	Negotiated Increases in Member Rates
CSCA Contribution Funding	-0.25%	0.3%	
Increased Member Rates	-0.28%	0.0%	Changing Plan membership
Increase in Plan 7 Membership	-0.23%	0.0%	
Other Experience Changes	0.05%	-0.2%	
Total Change	-2.39%	3.8%	
June 30, 2015 Actuarial Valuation	32.35%	82.6%	

Contribution Rate Trends

- Recent decreases in SCR; Increases in member rates
 - Details in Exhibits 10, 10a-10d

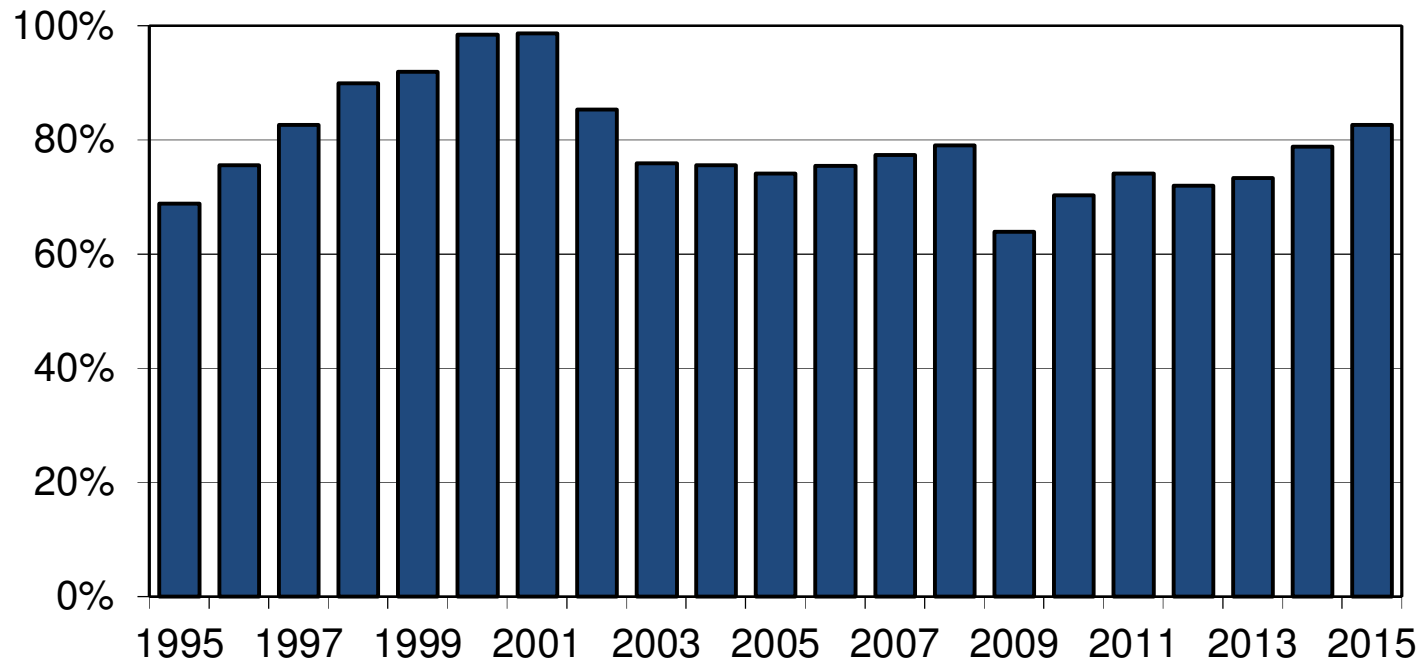
Employer Statutory Contribution Rate



Funded Ratio Trend

- Increases over recent years
 - 78.8% (last year) → 82.6% (this year)

Historical Funded Ratios

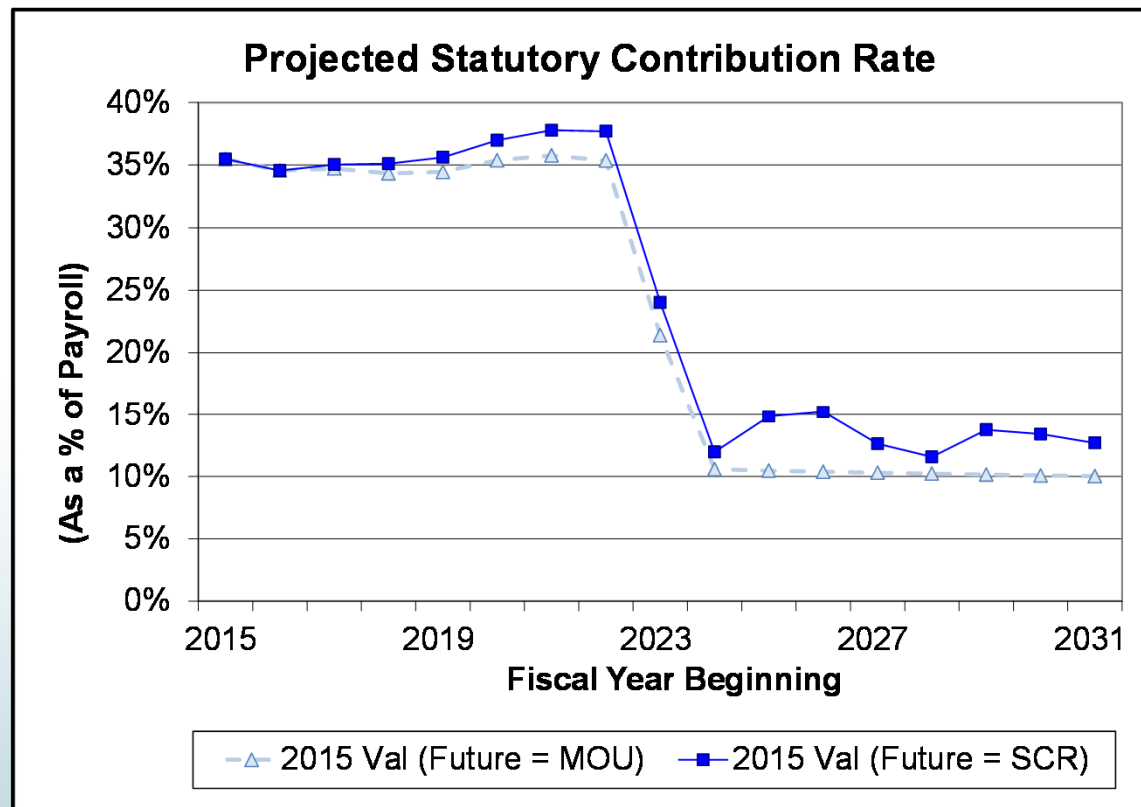


GASB 67 (System) & 68 (Employers)

- Separate GASB 67 & 68 report to follow
 - Results will show in SamCERA CAFR
 - Divorce of Funding and Accounting
 - Liabilities – Only difference is discount rate. TPL is based on expected return gross of administrative expenses (7.25% vs 7.45%)
 - Assets – Smoothed vs. Market

Looking Forward (Impact of CSCA)

- Projection of Statutory Employer Contribution Rate
 - Assumes 0% return in FYE2016 and 7.25% return in all future years
 - Shows impact of future supplemental County contributions

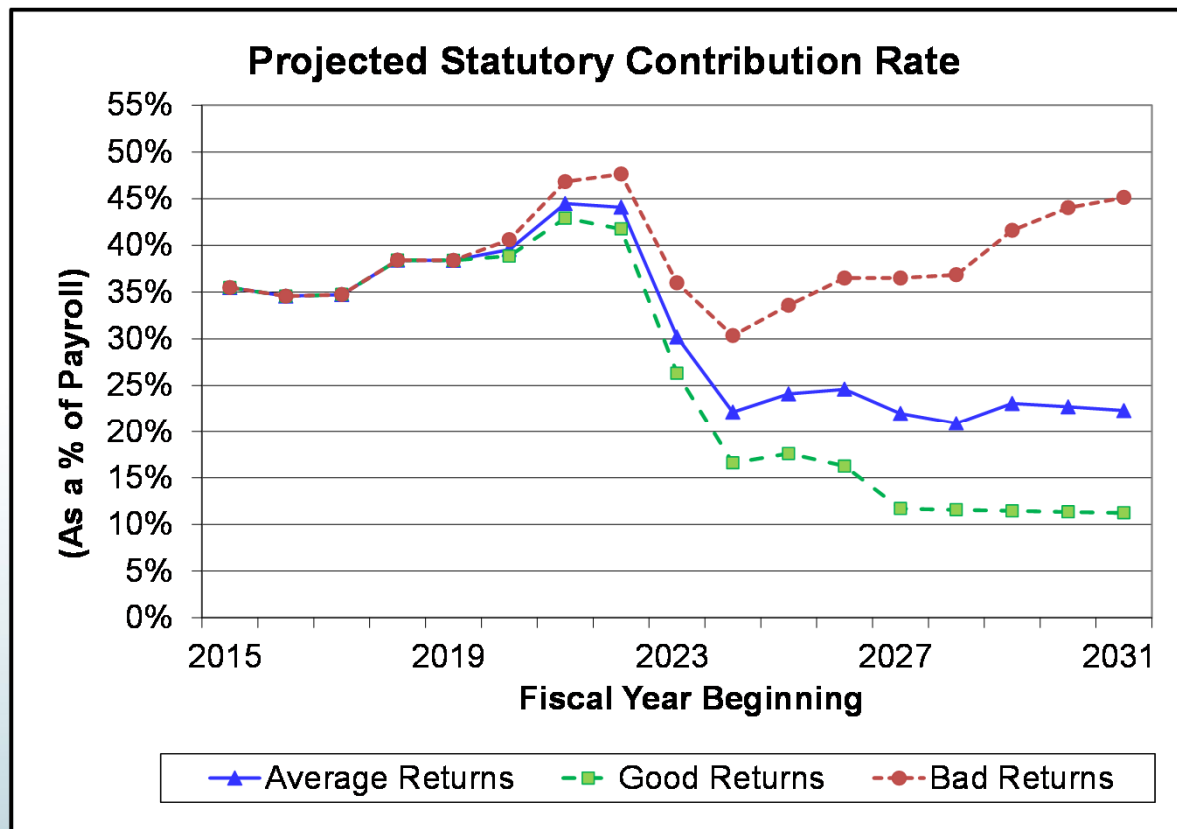


CalPERS Glide Path Discussion

- CalPERS has directed their staff to develop a risk mitigation policy. Note this is preliminary.
 - In years where investment returns are high, asset mix would be changed to lower volatility
 - Corresponding reduction in return assumption
 - Gradually reduce investment return volatility over 20 to 30 years
 - Potential targets are 8% or 10% standard deviation, equivalent to expected return of 6.5% or 7.0% respectively
- Simplified projection showing this approach for SamCERA.
 - 1/4% reduction in discount rate every 3 years
 - Good returns = 12% return every 3 years
 - Bad returns = 0% return every 3 years
 - Does not capture impact of reduced volatility

Looking Forward: Risk Reduction Glide Path

- Projection of Statutory Employer Contribution Rate
 - Assumes 0% return in FYE2016
 - Assumes County makes additional contributions per MOU



Recommendations



On Pages 3 - 4 of Report

- Adopt new employer contribution rates effective July 1, 2016
 - Statutory: See Exhibits 10, 10a – 10d of report for details
 - County General (including Courts) = 27.21% (29.27% last year)
 - County Safety = 61.61% (65.47% last year)
 - County Probation = 44.94% (46.99% last year)
 - Mosquito & Vector Control District = 31.29% (32.88% last year)
- Adopt new Plan 7 member contribution rates effective July 1, 2016
 - General Plan 7 = 7.91% (7.92% last year)
 - Probation Plan 7 = 12.91% (13.42% last year)
 - Safety Plan 7 = 13.59% (14.64% last year)
 - Mosquito & Vector Control District = 7.35% (6.51% last year)

Questions



Caveats and Disclaimers

This presentation is based on the data, methods, assumptions and plan provisions described in our actuarial valuation report dated June 30, 2015. The statements of reliance and limitations on the use of this material is reflected in the actuarial report and still apply to this presentation.

These statements include reliance on data provided, on actuarial certification, and the purpose of the report.

Milliman's work product was prepared exclusively for SamCERA for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning SamCERA's operations, and uses SamCERA's data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Item 5.3

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer 

SUBJECT: Acceptance of the Fiscal-Year 2016-2017 Employer and Member Contribution Rates

Staff Recommendation

Approve the "Resolution accepting contribution rates to recommend to the Board of Supervisors for the 2016-2017 Fiscal Year."

Background

At its July 28, 2015 meeting, the Board adopted Milliman's recommended demographic and economic assumptions to be used in the June 30, 2015 actuarial valuation. There were no changes to the assumptions used in the 2014 valuation.

Discussion

The highlights of the June 2015 actuarial valuation report include the following elements:

Funding: SamCERA's funded ratio increased by 3.8 percentage points from 78.8% to 82.6%. This increase was mainly due to employer contributions in excess of benefits earned and by the recognition of deferred investment gains due to smoothing.

Contribution Rates: The Employer Normal Cost decreased to 10.42% from 10.80% from the prior year. This decrease was mainly attributed to an increasing number of the active population being members of PEPPA plans.

The employer's Statutory Contribution Rate (SCR) that is used to finance the Unfunded Actuarial Accrued Liability (UAAL) decreased by 2.01% from 23.94% to 21.93%. This decrease was mainly due to the recognition of deferred investment gains. A further .25% decrease was attributed to the amortization of the County's supplemental contributions above the SCR. Greater than assumed salary increases contributed to the lowering of the UAAL contribution rate because the UAAL is amortized over a larger than expected future salary base. The net result of these factors is a decrease in the Statutory Contribution Rate of 2.39% (from 34.74% to 32.35% of payroll).

Investment Returns: SamCERA's net market investment return for FY 2014-15 was 3.5%. However, when this return was combined with deferred net asset gains from prior years, the actuarial value of valuation assets gained 9.7%. This actuarial gain caused a decrease in the SCR.

Member Rates: Basic member rates and member COLA rates for all plans except plan 7 are unchanged since the prior year. Since last year, the County has bargained with a

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

number of labor groups to pay a higher portion of the COLA cost. As a result, some member rates will change due to the inclusion of a COLA cost.

Summary of Recommendations

The following tables summarize Milliman's 2016-17 recommended Statutory Contribution Rates and Employer and Member Contribution rates for the Board.

Recommendation #1: Adopt the following new Statutory Contribution Rates for fiscal year beginning July 1, 2016

	Fiscal Year Beginning		Increase / (Decrease)
	July 1, 2016	July 1, 2015	
Gross Normal Cost	21.94%	22.22%	-0.28%
Member Contribution	-11.52%	-11.42%	-0.10%
Employer Normal Cost	10.42%	10.80%	-0.38%
UAAL Amortization	21.93%	23.94%	-2.01%
Total Employee Rate	32.35%	34.74%	-2.39%

Notes: Detailed contribution rates by plan are shown in Milliman's full report

Recommendation #2: Adopt the following new Plan 7 member contribution rates for fiscal year beginning July 1, 2016

Member Type	Entry Age	Recommended Rates				Current		Ratio (New/Curr)
		Basic	50% COLA sharing	Cost Sharing	Total as % of Pay	Total as % of Pay		
General Members	All	6.67%	1.24%	0.0%	7.91%	7.92%	99.9%	
SMCM&VCD Members	All	6.20%	1.15%	0.0%	7.35%	6.51%	112.9%	
Probation Members	All	10.53%	2.38%	0.0%	12.91%	13.42%	96.2%	
Safety Members	All	11.22%	2.37%	0.0%	13.59%	14.64%	92.8%	

SamCERA staff read the valuation report and its recommendations and discussed them with Milliman in order to confirm our understanding. Staff supports the results and recommendations of the valuation.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Board of Retirement

RESOLUTION 15-16

RESOLUTION ACCEPTING CONTRIBUTION RATES TO RECOMMEND TO THE BOARD OF SUPERVISORS FOR THE 2016-2017 FISCAL YEAR.

WHEREAS, Government Code §31453 mandates the periodic actuarial valuation of the Retirement Fund and requires that the Board...*"shall, at least 45 days prior to the beginning of the succeeding fiscal year, recommend to the Board of Supervisors such changes in the rates of interest, in the rates of contributions of members, and in the county and district appropriations as are necessary..."* and

WHEREAS, the Board has received and accepted the June 30, 2015, valuation report from its actuarial firm, Milliman, Inc., and

WHEREAS, the Chief Executive Officer has recommended, in agreement with Milliman, Inc., the contribution rates necessary to assure the actuarial soundness of the Retirement Fund,
Therefore, be it

RESOLVED that the Board hereby accepts the employer and member contribution rates as recommended by Milliman, Inc. in its June 30, 2015, Actuarial Valuation of the San Mateo County Employees' Retirement Association effective for the fiscal year 2016-2017.

Be it further

RESOLVED that the Board recommends that the Board of Supervisors adopt the recommended **employer contribution rates** for the County of San Mateo, the San Mateo Superior Court and the San Mateo County Mosquito & Vector Control District in accordance with the schedules provided by Milliman, Inc. in its June 30, 2015, Actuarial Valuation, effective July 1, 2016.

Be it further

RESOLVED that the Board of Retirement hereby recommends that the Board of Supervisors adopt the recommended **member contribution rates** for SamCERA active members of the County of San Mateo, the San Mateo County Superior Court and the San Mateo County Mosquito & Vector Control District in accordance with the schedules provided by Milliman, Inc. in its June 30, 2015, Actuarial Valuation, effective July 1, 2016.

Be it further

RESOLVED that the Chief Executive Officer is hereby authorized to transmit these rates and recommendations to the Board of Supervisors and to take all actions necessary to provide for their implementation effective July 1, 2016.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement


September 29, 2015

Agenda Item 5.4

TO: Board of Retirement

FROM: Albert David, Assistant Executive Officer

SUBJECT: Annual Review of SamCERA's Actuarial Services Firm, Milliman, Inc.



Staff Recommendation

Accept the annual performance report of Milliman, Inc.'s actuarial services.

Summary

Overall, Milliman received high marks from the Board and staff for the actuarial services provided to SamCERA. Ratings were similar to those of the last few years and all comments were constructive and positive.

Background

The annual evaluation of Milliman has three parts:

1. A survey completed by trustees, staff and the actuary
2. Responses to questions submitted to the actuary
3. A discussion at the Board meeting with Milliman regarding its performance as reflected in the survey and responses to the questions.


Discussion

Overall, Milliman received high marks from the Board and staff for the actuarial services they provide to SamCERA. Ratings were in line with those of the last few years and all comments were constructive and positive. No concerns or issues were raised by the Board or staff.

Attachment

Milliman Questionnaire

September 16, 2015

To: Al David
From: Nick Collier 
Subject: Actuarial Review – Milliman Inc.

As requested, we have completed the questionnaire form. Please note that Milliman is a large, multi-office firm with services covering a variety of types of actuarial and other consulting issues. For purposes of this review we have responded with answers that apply to the Seattle Employee Benefits practice and have provided client information regarding only the public sector clients. If additional information on other offices or other clients is needed, please let us know.

Organizational Update

- 1) **What is the ownership structure of your firm? Identify all owners with 5% ownership or more.**

Milliman is a corporate organization owned by its approximate 400 Principals. No Principal owns 5% or more of the firm. The firm is comprised of profit centers overseen by Principals who have a considerable amount of flexibility with respect to the management of their profit centers.

- 2) **Provide an update on your firm's organization, with particular emphasis on (a) changes to your management structure over the past eighteen months, and (b) clients gained or lost in the past eighteen months. All significant changes should be accompanied by an explanation. An organizational chart should accompany this response.**

Milliman is a firm of actuaries and consultants serving the full spectrum of business, government, and financial organizations in over 30 offices around the United States.

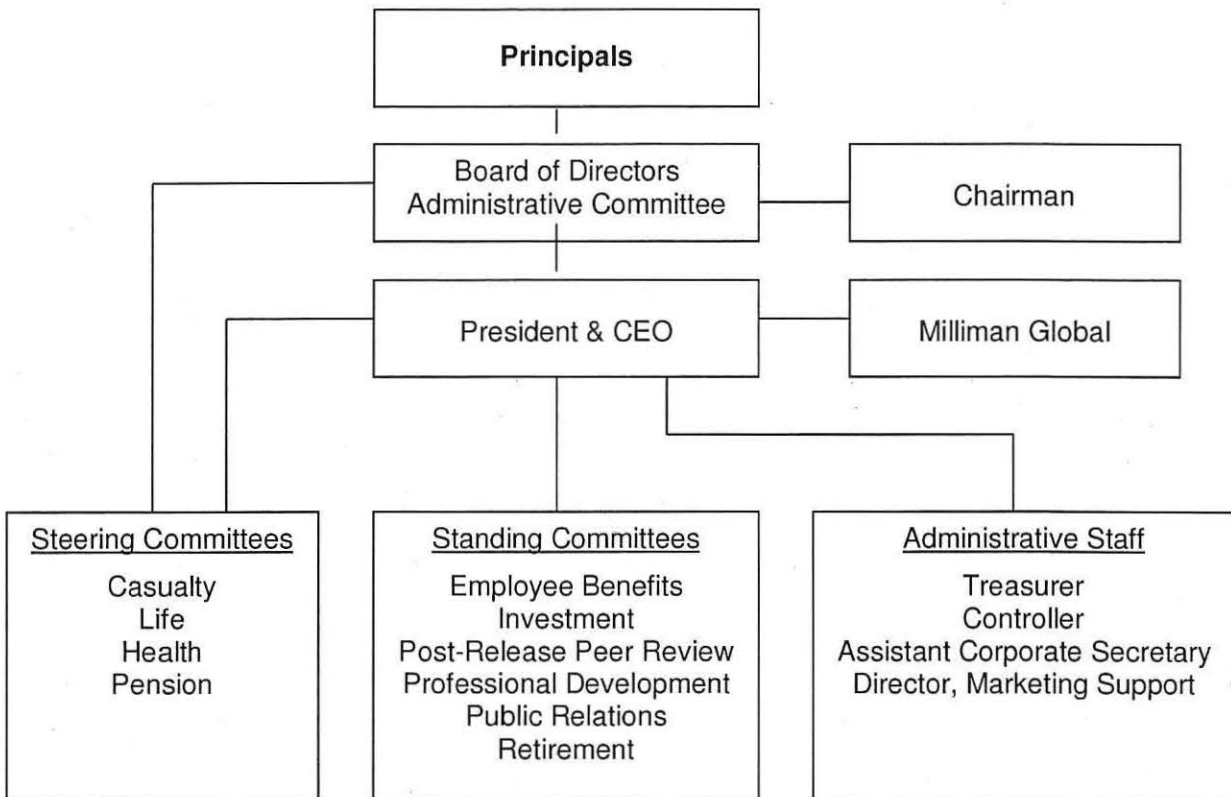
(a) Other than the normal growth of the firm, there have been no changes in the management structure of Milliman in the last 18 months. Normal growth includes new Principals being nominated and a few Principals leaving the firm, primarily due to retirement.

(b) The Seattle Employee Benefits practice has had the following changes in its public sector pension clients in the last 18 months.

Added: Actuarial audits for: KCCERA and Washington State Retirement Systems.

Lost: None

(c) On the following page is an organizational chart of the Milliman firm. The Principals of the firm as a whole are responsible for establishing the governing principles of Milliman. Principals are active senior professionals within Milliman who have been elected in recognition of their technical, professional and business achievements. The Board of Directors of Milliman and the officers of Milliman are delegated the authority by the Principals to assume day-to-day responsibilities for carrying out the management directives established by the Principals. The Board of Directors of Milliman consists of 11 Principals including the President, the Chairman, four National Directors of our major practice areas, and five rotating positions.



3) Provide a list of services available through your firm, including the number of staff supporting those services.

See the attached one-page summary of the Milliman Seattle Employee Benefits Services. Further information on all other services that Milliman provides can be viewed by going to our website: <http://www.milliman.com>

4) What are your firm's philosophy and current policy regarding new business?

The Seattle Employee Benefits practice believes we can add new business only when we have the capacity to maintain the high level of service we promise to all clients. Within the public sector, the opportunity to attain new business is driven by the RFP process. In order to respond to any RFP situations, we are continuing hiring new actuarial analysts – at the rate of one or two per year, and growing from within. In addition, Milliman has access to additional staff from other offices if special projects create a need for a temporary increase in staffing support. We have on occasion, when needed, hired additional experienced staff from other firms, but our preferred method of growth is from within our own staff.

- 5) **Specify separately the individuals (up to five) who you feel are key to the success of your firm. If the list has changed in the last eighteen months, identify and explain the change(s).**

With respect to the Seattle Employee Benefit practice and public sector work, the key individuals are:

Mark Olleman
Nick Collier
Daniel Wade
Craig Glyde
Robert Schmidt

The above individuals comprise the core senior staff working on public sector work (both retirement and OPEB) in the Seattle practice. Each of these consultants is supported by a variety of actuarial and support staff members, all of whom are important to the efficiency of our work, but are not necessarily key to our public sector clients. In the last 18 months, there was one departure from our public sector group. Jennifer Senta left the firm due to a job transfer by her husband that forced her to relocate.

- 6) **Update all significant personnel changes to the "SamCERA Team".**

There have been no significant changes to the SamCERA team over the last year.

- 7) **Has your firm or any of its employees been involved in regulatory or litigation actions related to your business in the past eighteen months?**

The Seattle office and members of the SamCERA actuarial team have not been involved in any litigation of any kind against Milliman. Milliman does not normally provide disclosures with respect to other litigation which may be pending for other offices or practices not involved in the services for a specific client.

- 8) **Has an actuarial audit been performed on any of your firm's actuarial products within the past eighteen months? If yes, discuss the audit and the findings. Any material findings or recommendations must be accompanied by an explanation.**

The following clients from our practice have had actuarial audits performed within the past 18 months: SamCERA,. There were no material issues found in any of the audits.

- 9) **Describe the levels of insurance coverage maintained by your firm. E-mail a current certification of insurance to tchow@samcera.org.**

We will email a copy of our certificate of insurance to Tat Ling Chow.

10) Do you have a written policy on ethics? If so, please e-mail the policy to tchow@samera.org.

Yes. We have an internal confidential policy but it is not available for public distribution. We would be glad to give you a brief review of it if needed. In addition, as members of the various professional organizations, we are expected to comply with the Actuarial Standards of Practice and as members of the American Academy of Actuaries there are a number of policies including a professional ethics policy. Their information is available from their websites or we can provide them for you.

11) Describe the relative strength and longevity of your staff. Are any of your operations outsourced? If the answer is yes, provide details regarding the firm(s) with which your firm has contracted.

Name and Title	Years of Experience
Nick J. Collier, Principal and Consulting Actuary	28 (28 with Milliman)
Daniel Wade, Consulting Actuary	19 (12 with Milliman)
Craig Glyde, Associate Actuary	19 (12 with Milliman)
John Botsford, Consulting Actuary	24 (20 with Milliman)
Robert Schmidt, Principal and Consulting Actuary	28 (28 with Milliman)
Mark Olleman, Principal and Consulting Actuary	25 (25 with Milliman)

Note the career stability of each team member. Based on our culture and professional freedoms, we experience low professional employee turnover. Additional public plan consultants in the Seattle office and throughout the firm give us the capacity to meet our clients' needs.

We do not outsource our actuarial or IT services.

12) What are your mission critical systems? Has your firm experienced any problems with these systems in the past eighteen months? When were these systems implemented and when were they last upgraded? Do you anticipate any changes to these systems in the next eighteen months?

The only critical system we use to perform services for SamCERA at the current time is our proprietary valuation system called PVS (Pension Valuation System). This system is continuously being updated and improved to reflect changes in the employee benefit arena. It has a scheduled update every six months and more as needed.

13) Provide an overview of your firm's business continuity plan.

The Seattle office has an extensive disaster recovery plan. Smoke detectors, fire alarms, fire extinguishers, sprinklers, physical firewalls, and fire barriers are in place throughout the building. The servers are mounted in racks, which are secured to other racks, which prevent earthquake damage. Filing cabinets and shelves are secured to the walls where necessary. Policies are in place which disallows space heaters and other potential fire-starting devices. The server room has two air conditioning units. The servers are on uninterruptible power supplies. We have a business continuity plan. It is tested by Milliman staff annually and audited annually by the independent accounting firm, Moss Adams. The building management company inspects tenant's space annually. The fire marshal does unannounced inspections approximately twice per year.

In addition, we have had a SAS 70 review, part of which states:

"Milliman has placed into operation a risk assessment process to identify and manage risks that could affect their ability to provide reliable transaction processing for user organizations. This process requires managers to identify significant risks in their areas of responsibility and to implement appropriate measures to address those risks. This process has identified risks resulting from the nature of the services Milliman provides, and management has implemented various measures to manage those risks".

Actuarial Process

14) Provide a description, in detail, of your actuarial process.

The following summarizes our standard valuation procedures (as stated in our proposal):

1. Data Checking and Preliminary Processing
SamCERA will supply us with information for each active, vested, and retired member, along with certain financial items. The data will then be checked for reasonableness. Any data issues will be submitted to SamCERA staff for verification.
2. Choosing Assumptions
Actuarial valuations are necessarily based on assumptions as to future rates of retirement, disablement and death among active members, rates of mortality after retirement, rates of investment income, rates of salary increases, and rates of increase in the Consumer Price Index, where applicable. In valuing SamCERA's benefits, we will use the assumptions adopted by the Board, based on the most recent experience investigation.
3. Valuation Calculations
Each valuation determines the actuarial present value of all future benefits payable from SamCERA. These benefits are those provided to members under current law. We will determine the actuarial present value of future benefit payments by using a standard Milliman computer program customized for SamCERA. The program can automatically compute costs under the entry age normal cost method, which is specified in the '37 Act. Liability calculations will be checked for accuracy and reasonableness on both an individual and aggregate basis.

We then calculate each valuation group's unfunded actuarial accrued liability (UAAL) as the value of the benefits in excess of the sum of the future normal cost contributions and the current value of assets. Finally, we determine the contribution rate needed for each group to satisfy the amortization period requirements.

4. GASB Disclosures

As a by-product of our normal actuarial valuation procedures and included in our valuation fees, we develop the information required to be disclosed by Statement Nos. 67 and 68 of the Governmental Accounting Standards Board (GASB). Similar information is required to be disclosed to meet the Guidelines of the Government Finance Officers Association (GFOA) regarding a Comprehensive Annual Financial Report (CAFR). We will provide all necessary information required for these disclosures.

5. Report

Our report will include our conclusions regarding the financial condition and the unfunded actuarial accrued liability, recommendations as to future contribution rates, discussion of the calculations, GASB disclosures, descriptions of the benefit provisions of the applicable laws and summaries of assumptions and data. Our report typically shows a breakdown of liabilities by source of decrement for active members, as well as subtotals for inactive members. We are open to discuss with SamCERA staff and the Board regarding possible changes in the reporting format for their particular needs. We reflect each system's own characteristics in our report.

Our goal is to provide enough information for the Board to make reasonable financial decisions without becoming too complex to undermine the basic intent of disclosing the valuation results. However, we are always open to suggestions for improving the communications of our valuation work, if a modified approach is preferred.

15) Describe your peer review procedures in detail.

Peer review is not actually a separate step in our valuation process. Rather it is an ongoing process. We review and check our work at every step of the project.

Our internal peer review processes provide assurances that the highest quality standards are being maintained at all times. Each valuation, study, or projections will be reviewed by at least two consultants. The first level of review will occur within the SamCERA team. Two of the three consultants on the project team will review each step of the project. The final internal review will be performed by Nick Collier and Craig Glyde. Additionally, another Milliman public sector consultant who did not work on the project will review the work. This provides the project with an independent set of eyes. This review will not only verify the calculations, but will evaluate whether or not the assumptions, methods, and results are reasonable.

16) Does your firm engage in peer review with other actuarial firms?

We do actuarial audits for clients where we review the work of another actuarial firm, but we do not have another actuarial firm with whom we do mutual peer reviews.

Outlook

17) What issues are other clients concerned with in regards to products, education and governance?

There are a number of issues concerning our public sector clients right now. Probably the most significant are:

- Investment Allocation and Return Assumption – Always a hot topic in the public sector, the focus has increased partly due to recent changes by CalPERS who adopted a policy to gradually reduce the risk of their portfolio with a corresponding reduction in the investment return assumption.
- GASB 74 & 75 – New GASB statements for Other Post-Employment Benefits that are parallel to GASB 67 & 68.
- Funding Benchmark – GASB has provided a de facto standard for pension funding with its 30-year amortization requirement. Under the new standards, this benchmark no longer exists. Actuarial and industry groups are currently discussing, or have recently published, model funding policies for the public sector to fill this void.

18) Describe your assessment of the relationship between your firm and SamCERA. How can SamCERA better assist you in accomplishing the goals it has established for your firm? How can we better utilize your firm's capabilities?

As with all relationships, communication is the key factor. We have attempted to reply promptly and effectively to all inquiries. We have attempted to alert SamCERA of any relevant issues as they become apparent to us or are reported to us. Similarly, SamCERA staff has kept us up-to-date on issues that affect our work. This is particularly critical with the continually evolving changes in the member contribution rates. We have felt very positive about being supported by SamCERA and we hope the relationship will continue to grow.

Probably the most significant way we can assist SamCERA is in the understanding of the volatility of future investment returns and the impact on future contribution rates. We have provided SamCERA some fairly simple projections in the past, but have the capability to do more sophisticated analysis as the need arises. However, given the projected decline in the required employer contribution rates and the County's commitment to fund at a higher fixed level, this may be less of an issue.

19) What is your firm's outlook and readiness regarding implementation of the enacted changes in GASB 67 and 68 accounting standards relative to the pension industry? Please list and discuss each proposal separately

We have completed implementation of GASB 67 and 68 for all our clients.

Conclusion

- 20) **Is there any information that would be timely pursuant to SamCERA's contract and this annual review?**

No.

- 21) **Are your clients making significant changes in their asset mixes or economic and non-economic assumptions or other structural changes to the actuarial overview of their plans? Describe these changes.**

We've seen very modest changes in asset mixes recently.

The trend we have seen in regard to economic assumptions is a lower investment return assumption and lower wage and price assumptions. This has continued over the last several years, although we think most of the changes have been made and the assumptions will stabilize for most systems. One outside factor that could influence this is a revision to the Actuarial Standards of Practice relating to economic assumptions that recently became effective. The revised standard requires that the actuary report the valuation results using alternative assumptions if they do not believe the assumptions adopted by the retirement are "reasonable." It should be noted that we believe that economic assumptions recently adopted by the SamCERA Board are reasonable, although we will continue to monitor this as the economic environment changes in the future.

On the non-economic area, about the only real changes are a strengthening in the mortality assumptions. We now have several clients who have decided to adopt generational mortality assumptions, which build in future expected mortality improvements based on an individual member's year of birth. This type of assumption may be difficult under the '37 Act, as our understanding is that at least some attorneys feel the system must use valuation assumptions for your benefit option conversion factors.

- 22) **What actuarial related changes should SamCERA consider?**

We do not believe there are any actuarially related changes that need to be made at this moment.

- 23) **Relative to your expertise, what trends are occurring in the retirement industry that SamCERA should be tracking?**

We believe the key trends are as follows:

- Reductions in Benefit Levels – Across the country, states and municipalities have adopted lower benefit levels. In particular, some governing bodies have reduced COLAs based on benefits already earned. However, there does not appear to be any movement toward this type of change in California.
- Lower Investment Return Assumption – Retirement systems have been adopting lower investment return assumptions over the last 10 years. Of particular note is a proposed change in the actuarial standard of practice pertaining to economic assumptions that would give the actuary less latitude in their recommendations. We believe this could result in

further decreases. Recently CalPERS adopted a policy that is expected to reduce their investment return assumption and investment risk in the future.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Item 6.1

TO: Board of Retirement 
FROM: Michael Coultrip, Chief Investment Officer
SUBJECT: Preliminary Monthly Portfolio Performance Report for the Period Ending August 31, 2015

Staff Recommendation

Review the preliminary performance report dated August 31, 2015.

Background

This preliminary report is intended to provide a high-level view of the portfolio and its trends. It is not intended to provide short-term performance upon which the Board would act. As discussed previously, preliminary performance estimates are now included for AQR Risk Parity, AQR Delta, Panagora Risk Parity, and Beach Point Select. The quarterly performance metrics are not yet available for our private equity, private real asset, and real estate portfolios. The performance for these portfolios will be reflected in the quarterly performance report generated by SIS.

The attached performance report shows both net and gross of fee returns for the total plan on page one, with net composite returns (pages 2-3) and net manager returns (pages 4-9) also shown.

Discussion

The fund's net preliminary return for August was -3.9%, while the preliminary trailing twelve-month return was -0.70% net. The twelve-month net return is higher than SamCERA's Total Plan Policy Benchmark return of -1.9%, but below the Actuarial Assumed Earnings Rate of 7.25%. As a reminder, SamCERA should expect performance to vary substantially from that of the Total Plan Policy Benchmark in the initial stages of its private equity implementation.

The global equity markets were down substantially during the month. In the U.S., large-capitalization stocks returned -6.0%, while smaller capitalization stocks returned -6.3%. International equity indices were also down significantly on the month, with developed markets (as measured by MSCI EAFE) down 7.4%, while emerging markets were down 9.0%.

Market volatility continued to escalate during the month with concerns over the severe equity market sell-off in China, and the slowing Chinese economy and its impact on global growth dominating headlines during the month.

The general U.S. fixed income market return was lower by 0.14%. Interest rates (as measured by 10-year Treasuries) decreased by 1 basis point. Higher risk sectors of the fixed income market were

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

lower on the month. For example, U.S. investment-grade corporate bonds returned -0.7%, high yield bonds returned -1.8%, while emerging market bonds returned -1.1%.

Attachments

SIS Market Update

Northern Trust Performance Report

STOCK MARKET

Investors are tense and markets are fragile. There is much going on in the world and none of it good. Global growth prospects have deteriorated over the course of the year and inflation in the advanced economies is running well below central banks targets. China's policy makers are struggling to prevent a hard-landing. And the world's leading central bank may be poised to hike interest rates. Hence the equity market sell-off hardly seems surprising. However, it should be put in perspective. Investors in the S&P 500 have still done well over the last six years.

In the U.S., the Russell 3000 ended the month down -6.0%. The Russell 1000 Growth Index was down -6.1% and the Russell 1000 Value Index was down -6.0%. The Russell 2000 Growth Index was down -7.6% and the Russell 2000 Value Index was down -4.9%. The S&P 500 Index ended the month down -6.0%.

The S&P 500 Index has a trailing P/E ratio of 20.35, a forward 12-month estimate P/E ratio of 16.55 and a dividend yield of 2.18%.

Corporate merger highlights for the month included: UPS will buy Coyote Logistics for \$1.8 billion as it maneuvers for a slice of the burgeoning freight brokerage business; investment group Exor, which controls carmaker Fiat Chrysler, will acquire PartnerRe for \$6.9 billion; Archer Daniels Midland completed the sale of its chocolate business to Cargill for \$440 million; BMW, Audi and Mercedes Holding will pay around \$2.75 billion to buy Nokia's HERE maps business; TeamHealth will buy IPC Healthcare for \$1.6 billion to expand its business that supplies doctors to U.S. hospitals; Yahoo will pay about \$200 million to acquire social shopping site Polyvore; F.N.B. Corp. will acquire Harrisburg-based Metro Bancorp in a \$474 million deal that will give the Hermitage bank 32 branches in central Pennsylvania; Adidas acquired fitness tracking app maker Runtastic; IBM will pay \$1 billion for medical imaging/software company Merge Healthcare, in an effort to boost supercomputer Watson's capabilities; Illinois-based CF Industries will buy portions of OCI N.V. in a \$6 billion deal to create one of the world's largest nitrogen fertilizer companies; Berkshire Hathaway will acquire aerospace supplier

Precision Castparts in a deal valued at \$37 billion; Mallinckrodt will buy immunotherapy company Therakos for \$1.33 billion; Symantec will sell Veritas, its data storage business, for \$8 billion to a group including Carlyle Group and Singapore's sovereign wealth fund GIC; Sumitomo Life Insurance will buy U.S. life insurance company Symetra Financial for \$3.73 billion; financial industry software maker Fidelity National Information Services will buy rival SunGard Data Systems for \$9.1 billion; Roche is buying U.S. diagnostics firm GeneWEAVE BioSciences for up to \$425 million; Liberty Interactive, owner of shopping channel QVC, will acquire online retailer Zulily for \$2.4 billion; Pentair will acquire Ohio-based EricoGlobal, a maker of engineered electrical and fastening products, for \$1.8 billion; Agricultural conglomerate Cargill acquired Norwegian fish feed producer EWOS for \$1.49 billion; BB&T will buy National PennBancshares for about \$1.8 billion; metal bearing components maker NN will buy Precision Engineered Products for \$615 million; Canada's Brookfield Asset Management will buy Australian port and rail freight firm Asciano for \$6.6 billion; Valeant Pharmaceuticals will buy Sprout Pharmaceuticals, maker of the first prescription women's libido drug, for about \$1 billion in cash; power producer Southern Co. will buy AGL Resources for about \$8 billion creating the second-largest utility company in the country by customers; Encana will sell its Haynesville natural gas assets in northern Louisiana for \$850 million to GEP Haynesville; Medtronic will acquire Twelve, a company that develops valve replacement devices, for \$458 million; Mitsubishi Electric will acquire Italian air conditioning company DeLClima for \$768 million; Schlumberger will buy Cameron International for about \$12.7 billion; Paddy Power and Betfair Group will merge in a near \$8 billion deal to create an international sports-betting and online-gambling group; Qualcomm sold its U.K. spectrum rights to Vodafone Group and CK Hutchison Holdings for \$313 million.

FIXED INCOME

Minutes from the July Federal Reserve meeting showed broad support among Fed officials for an increase in interest rates sooner, rather than later. However, recent market turmoil has compelled officials to temper such language and consider delaying further tightening. A mini flight to quality has given G7 bonds a bid, but it is limited by Fed and possible Chinese sales of Treasuries.

The yield on the bellwether 10-year U.S. Treasury was 2.20% at a close of August, compared to 2.21% at the end of July. At month end, the 30-year bond yield was 2.93% with the 3-month T-bill at 0.00%. The Barclays Capital U.S. Aggregate Index was down -0.1% in August.

On the economic front, the following key data was released in July:

THE GOOD

*Markit's final U.S. Manufacturing Purchasing Managers' Index rose to 53.8 in July, up slightly from 53.6 in June.

*The Commerce Dept. reported that consumer spending rose 0.2% in June after a downwardly revised 0.7% increase in May.

*The Commerce Dept. reported that U.S. factory orders advanced 1.8% in June on robust demand for transportation equipment and other goods.

*The Institute for Supply Management reported that its services index surged to 60.3% in July, the highest level since August 2005.

*Initial unemployment claims have been below 300,000 for 22 straight weeks, the longest such stretch since 1973.

*U.S. employers added a solid 215,000 jobs in July, signaling a steadily rising job market and likely nudging the Federal Reserve closer to raising interest rates in September.

*July was the 7th strongest month for global deal activity since 1980. M&A activity totaled more than \$913 billion in July, up 23% from a year ago.

*The National Federation of Independent Business reported that its Small Business Optimism Index increased 1.3 points to 95.4 in July.

*The National Assn. of Realtors reported that the median existing single-family home price rose in 93% of 176 metropolitan areas during the 2nd Qtr.

*The Labor Dept. reported that productivity increased at a 1.3% annual rate in the April-June period.

*Retail sales climbed 0.6% last month after a flat reading in June according to the Commerce Dept.

*U.S. factory production climbed a seasonally adjusted 0.8% last month after a revised estimate showed that output had dipped 0.3% in June.

*The Labor Dept. said its Producer Price Index, which measures inflation pressures before they reach the consumer, increased a modest 0.2% in July.

*The Commerce Department reported that housing starts increased 0.2% in July to a seasonally adjusted annual pace of 1.21 million units, the highest level since October 2007.

*The Conference Board reported that its consumer confidence index climbed to 101.5 in Aug., the highest since Jan.

*The Commerce Department reported that non-defense capital goods orders, excluding aircraft, increased 2.2% last month, the biggest rise since June 2014.

*Consumer confidence climbed more than forecast in August, reaching the 2nd-highest level in eight years on more favorable views of the labor market.

*U.S. GDP expanded at a robust annual rate of 3.7% in the April-June quarter according to the Commerce Dept. This is more than a percentage point greater than the initial 2.3% estimate.

*The Commerce Dept. reported that consumer spending increased a moderate 0.3% in July. The report suggests that consumer spending, which accounts for 70% of economic activity, got off to a good start in the 3rd quarter as momentum from the 2nd quarter rolled into July.

THE NOT SO GOOD

*U.S. wages and benefits grew in the spring at the slowest pace in 33 years, stark evidence that stronger hiring isn't lifting paychecks much.

*The Commerce Dept. reported that construction spending increased 0.1% in June, the smallest rise since January.

*U.S. private employers hired 185,000 workers in July, the smallest increase since April.

*The U.S. Treasury Dept. reported that the budget deficit widened to \$149.2 billion in July, up 58% from the same period last year.

*The U.S. consumer sentiment eased more than expected in August with the U of M index slipping to 92.9.

*The New York Fed's Empire State general business conditions index tumbled from 3.86 in July to a negative 14.92 in August, its lowest since April 2009.

*The Conference Board's index of leading indicators dropped 0.2% in July, after healthy gains of 0.6% in both June and May.

*Growth in the U.S. manufacturing sector slowed to its weakest pace in almost two years in August.

*Financial firm Markit said its preliminary reading of its Purchasing Managers Index for the services sector slipped to 55.2 in August from 55.7 in July.

*The consumer sentiment index fell to 91.9 this month from 93.1 in July.

NON-U.S. MARKETS

As expected, the ECB left policy unchanged, thereby keeping the refinancing rate unchanged at 5 basis points, the deposit rate (which forms the floor for the overnight rate) at -20 basis points and the lending rate (which forms the ceiling) at 30 basis points. ECB President Draghi adopted a more dovish tone, opining that growth and inflation dynamics had weakened over the near term.

In the U.K., bank lending to individuals is reaccelerating. Total net lending rose 0.3% in July, on a 0.2% increase in mortgages and a 0.7% increase on loans to finance other consumption. The number of new mortgage loans approved rose to the highest level since February 2014. The cumulative value of those loans rose to the highest since May 2008.

Industrial production in Japan is trending erratically sideways or perhaps even slightly lower. Likewise, wage inflation is drifting erratically sideways at a modest pace. Labor cash earnings rose 0.6% y/o/y in July. Admittedly that is up from -2.5% y/o/y in the previous month, but June was an outlier caused by the timing of bonus payments.

The manufacturing PMI for China slipped below 50.0 in August, sending shivers through financial markets.

The Reserve Bank of Australia (RBA) left policy unchanged, thereby keeping the cash rate at 2.00%. However, the accompanying statement left open the possibility of further cuts. Indeed, it seemed to increase the odds of more easing by acknowledging that conditions in China and East Asia had actually softened,

rather than merely observing that the risks were skewed to the downside as in the previous statement. The ultimate decision may depend on whether the Fed tightens and how the Australian dollar responds, and whether equity prices fall and how domestic consumption responds.

Non-U.S. equities were negative in August. The MSCI ACWI Ex-U.S. was down -7.6%. Developed stocks (EAFE) were down -7.4% while Emerging Markets (MSCI EM) were down -9.0% for the month.

CONCLUSION

A meltdown in commodities, dislocations in foreign exchange markets, and economic and financial stress in emerging markets have proven to be strong enough levers to derail even the major developed economies. Japan, in particular, will continue to struggle. The weakness in China's growth and the recent devaluation by China is likely to make Japan's task of achieving modest recovery even harder. Major commodity economies such as Australia and Canada are also swept up in the strains. The impact of the renminbi devaluation, worries about China's awkward slowdown and anticipation of a U.S. rate rise are weighing on the economies and currencies in many emerging markets, already feeling the pain of falling commodity prices. Brazil is a prime casualty that has gotten major headlines. In Indonesia, coal bound for China is piled up in port; in South Africa, mines that fed China's voracious demand for metals have been laying off workers. Add in local political weakness, and we have the confluence of several dangerous elements in the outlook that cannot be quickly repaired or easily remedied.

Monthly Market Update

US Equity Indices Trailing Performance

Annualized Performance to Date: Ending Aug-15	1 Month	3 Months	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Russell 3000 Index	-6.04	-6.06	-2.61	0.36	11.88	14.63	16.03	8.83	7.33
Russell TOP 200 Index	-6.33	-5.76	-2.68	0.56	12.28	14.08	15.86	8.50	6.94
Russell TOP 200 Growth Index	-6.18	-4.07	1.50	5.04	15.74	14.99	17.60	10.29	8.39
Russell TOP 200 Value Index	-6.50	-7.49	-6.85	-3.90	8.85	13.10	14.09	6.64	5.47
S&P 500 Index	-6.03	-5.92	-2.88	0.48	12.18	14.31	15.87	8.69	7.15
Russell 1000 Index	-6.02	-6.00	-2.57	0.40	12.18	14.68	16.07	8.89	7.35
Russell 1000 Growth Index	-6.07	-4.60	0.96	4.26	14.74	15.30	17.40	10.17	8.41
Russell 1000 Value Index	-5.96	-7.43	-6.12	-3.48	9.59	13.92	14.68	7.51	6.18
Russell Mid-Cap Index	-5.28	-6.55	-2.33	0.02	11.96	16.12	16.56	9.89	8.40
Russell Mid-Cap Growth Index	-5.82	-5.83	-0.30	2.46	12.57	16.25	17.13	10.11	8.66
Russell Mid-Cap Value Index	-4.73	-7.30	-4.47	-2.54	11.34	15.84	15.96	9.57	7.93
Russell 2000 Index	-6.28	-6.68	-2.97	0.03	8.50	14.12	15.55	8.13	7.12
Russell 2000 Value Index	-4.91	-7.41	-6.83	-4.95	5.95	11.77	13.23	6.62	5.70
Russell 2000 Growth Index	-7.58	-5.95	0.91	5.11	11.04	16.47	17.83	9.59	8.46
DJ US REIT Index	-5.86	-4.69	-6.01	1.87	12.53	7.99	12.53	6.78	6.39
DJ-UBS US Commodity Index	-0.92	-9.91	-14.28	-28.14	-16.48	-14.56	-6.96	-9.88	-4.91
DJ-UBS US Gold Index	3.42	-4.99	-6.06	-12.46	-10.26	-12.83	-2.49	3.82	9.15

Non-US Indices Trailing Performance

Annualized Performance to Date: Ending Aug-15	1 Month	3 Months	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
MSCI AC World Index ex USA	-7.63	-10.40	-3.86	-11.97	2.03	5.71	5.22	1.97	4.50
MSCI AC World Index	-6.81	-8.14	-3.18	-5.79	7.03	9.98	10.18	5.14	5.84
MSCI EAFE Index	-7.35	-8.07	0.14	-7.07	4.24	8.99	7.53	2.71	4.43
MSCI Emerging Markets index	-9.01	-17.40	-12.62	-22.67	-3.51	-2.07	-0.59	0.54	5.85
ML Global Government Bond Ex. U.S. Index	0.99	1.32	-3.52	-11.13	-4.21	-6.74	-1.93	1.60	2.48
Euro	1.42	2.20	-7.40	-14.93	-7.82	-3.85	-2.49	-3.83	-0.93
Japanese Yen	2.24	2.40	-1.06	-14.28	-10.02	-13.55	-7.07	-1.56	-0.86
UK Pound Sterling	-1.44	0.79	-1.36	-7.39	-0.29	-1.07	0.01	-2.41	-1.55

US Fixed Income Indices Trailing Performance

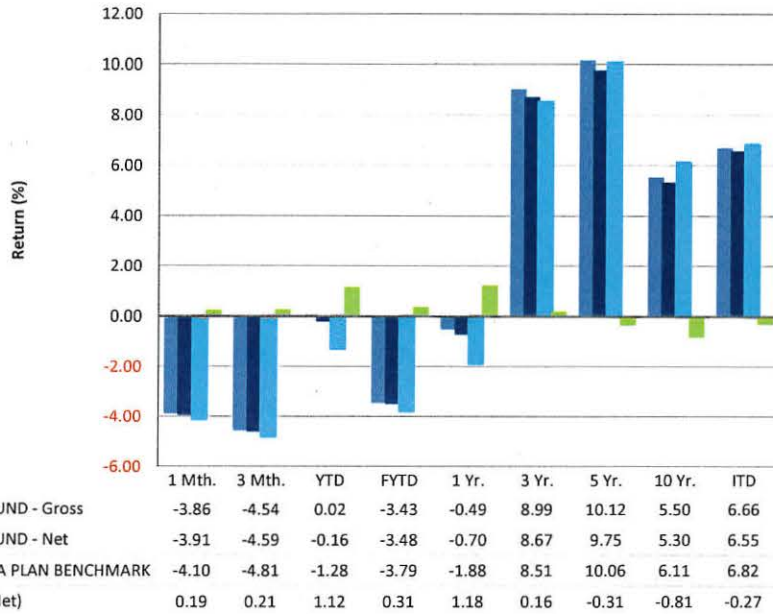
Annualized Performance to Date: Ending Aug-15	1 Month	3 Months	YTD	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
ML 3-month T-bill Total Return Index	0.01	0.01	0.02	0.03	0.04	0.06	0.08	0.17	1.36
BarCap Aggregate Bond Index	-0.14	-0.55	0.45	1.55	3.59	1.53	2.98	4.54	4.46
ML U.S. Corp/Govt Master Index	-0.22	-0.67	0.34	1.39	3.70	1.48	3.08	4.60	4.43
ML U.S. Corporate Master Index	-0.67	-1.77	-0.59	-0.42	4.33	2.40	4.35	6.39	5.13
BarCap Mortgage Backed Securities Index	0.08	-0.05	1.02	2.66	4.03	1.85	2.83	4.39	4.59
ML U.S. High Yield Master Index	-1.76	-3.84	0.08	-3.04	3.52	4.81	7.08	8.84	7.21
JPM EMBI Global	-1.08	-2.35	1.08	-2.98	5.13	1.47	5.04	7.05	7.08

San Mateo County Total Fund Characteristics

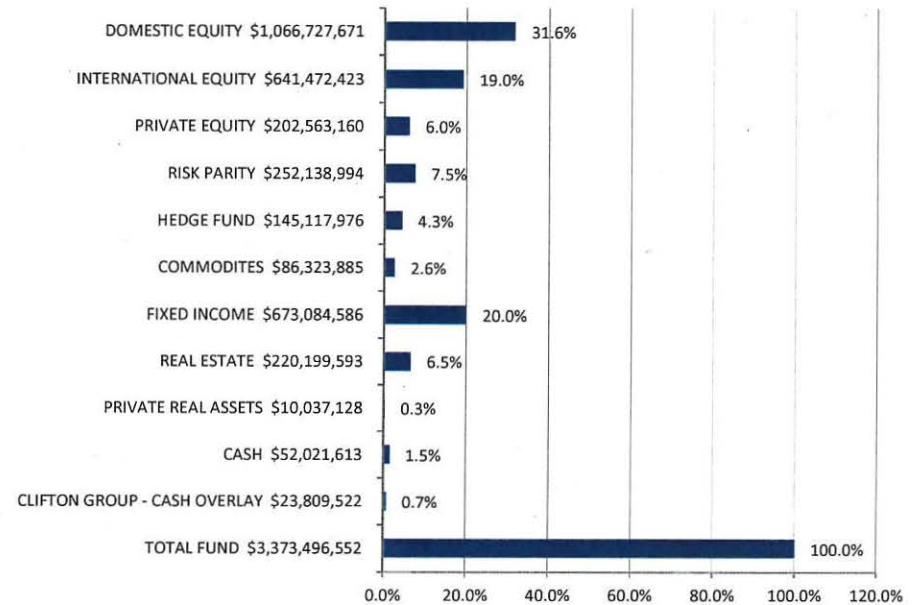


August 31, 2015

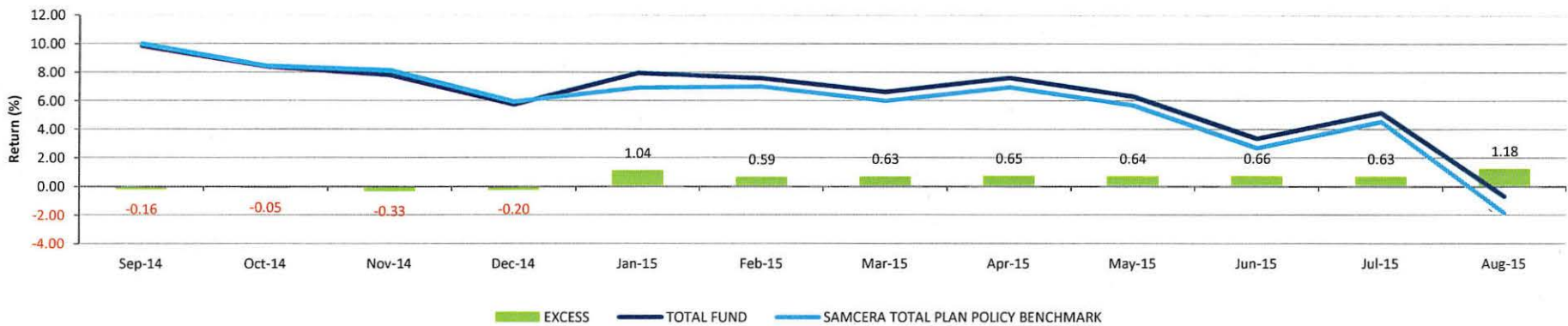
Total Fund Performance



Asset Allocation



Rolling Month End Annual Returns

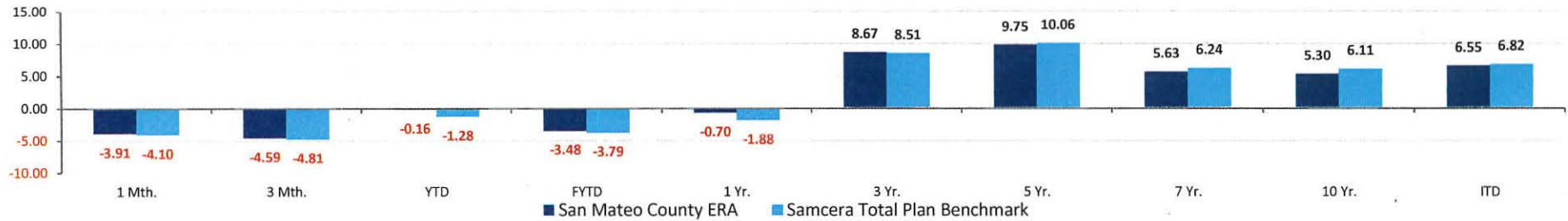


San Mateo County Composite Return Summary



August 31, 2015

Return Comparison



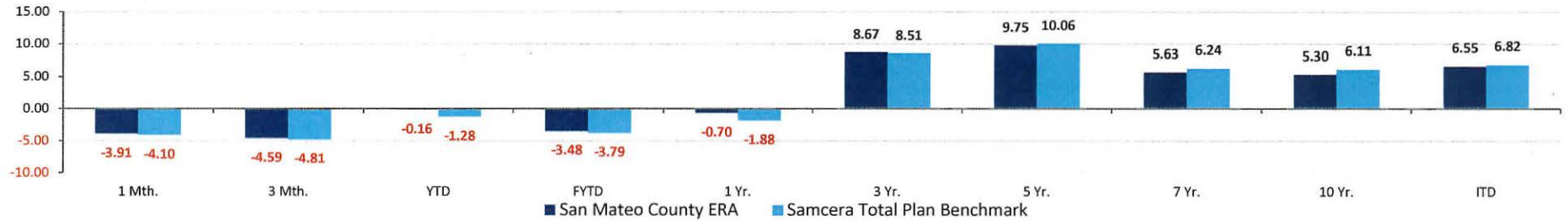
Composite Returns (Net of Manager Fees)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
San Mateo County ERA	3,373,496,552	-3.91	-4.59	-0.16	-3.48	-0.70	8.67	9.75	5.63	5.30	6.55
Samcera Total Plan Benchmark		-4.10	-4.81	-1.28	-3.79	-1.88	8.51	10.06	6.24	6.11	6.82
Excess		0.19	0.21	1.12	0.31	1.18	0.16	-0.31	-0.60	-0.81	-0.27
San Mateo Ex-Clifton Overlay	3,349,687,030	-3.87	-4.58	-0.26	-3.45	-0.81	8.66	9.74	5.56	5.16	6.48
Samcera Total Plan Benchmark		-4.10	-4.81	-1.28	-3.79	-1.88	8.51	10.06	6.24	6.11	6.82
Excess		0.22	0.23	1.01	0.34	1.08	0.14	-0.32	-0.68	-0.95	-0.34
Total Equity	1,708,200,095	-6.41	-7.14	-2.13	-5.47	-3.27	11.32	11.89	5.54	5.08	7.35
Samcera Total Equity Benchmark		-6.32	-6.98	-2.85	-5.37	-2.23	12.38	12.77	6.81	6.46	7.87
Excess		-0.08	-0.17	0.71	-0.10	-1.04	-1.06	-0.88	-1.28	-1.38	-0.52
Total Fixed Income	673,084,586	-1.00	-1.90	0.20	-0.83	-0.45	2.96	4.78	6.15	4.92	5.69
Samcera Fixed Income Benchmark		-0.45	-1.06	0.12	-0.00	-0.46	0.89	2.94	4.52	4.44	5.22
Excess		-0.55	-0.84	0.08	-0.83	0.02	2.07	1.84	1.63	0.48	0.47
Total Risk Parity	252,138,994	-4.69	-8.21	-4.17	-4.89	-4.47	2.77	--	--	--	5.16
Samcera Risk Parity Benchmark		-3.68	-3.85	-1.27	-2.45	0.98	9.34	--	--	--	8.39
Excess		-1.02	-4.36	-2.90	-2.45	-5.44	-6.57	--	--	--	-3.22

San Mateo County Composite Return Summary



August 31, 2015

Return Comparison



Composite Returns (Net of Manager Fees)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Hedge Fund Composite	145,117,976	1.46	1.44	4.00	3.89	12.37	7.28	--	--	--	5.24
Samcera LIBOR + 4%		0.34	1.03	2.77	0.69	4.18	4.19	--	--	--	4.21
Excess		1.11	0.41	1.23	3.21	8.19	3.10	--	--	--	1.03
Total Private Equity	202,563,160	0.47	0.58	14.11	1.59	18.85	14.35	--	--	--	-33.75
Samcera PE Benchmark		-5.79	-5.35	-0.90	-3.98	3.13	17.94	--	--	--	16.88
Excess		6.26	5.93	15.01	5.57	15.73	-3.59	--	--	--	-50.63
Total Commodities	86,323,885	-2.58	-11.00	-15.23	-14.41	-27.13	-13.28	--	--	--	-9.07
Bloomberg Commodity Index		-0.92	-9.91	-12.82	-11.44	-28.14	-14.56	--	--	--	-13.25
Excess		-1.66	-1.09	-2.41	-2.97	1.01	1.28	--	--	--	4.17
Private Real Assets	10,037,128	0.00	86.23	16.83	86.23	17.42	--	--	--	--	15.98
Samcera CPI + 5%		0.00	1.16	4.53	0.41	4.89	--	--	--	--	4.73
Excess		0.00	85.07	12.31	85.81	12.53	--	--	--	--	11.24
Total Real Estate	220,199,593	0.00	5.16	12.12	0.00	15.88	13.70	14.49	3.43	6.76	8.29
Samcera Real Estate Benchmark		0.00	3.92	7.45	0.00	14.63	12.92	14.29	3.19	6.58	8.68
Excess		0.00	1.24	4.67	0.00	1.25	0.78	0.20	0.24	0.18	-0.39
Total Cash	52,021,613	0.04	0.09	0.16	0.09	0.30	0.50	0.62	0.15	1.29	2.17
Samcera Cash Benchmark		0.01	0.01	0.02	0.01	0.03	0.06	0.08	0.17	1.36	2.03
Excess		0.02	0.08	0.14	0.08	0.28	0.44	0.55	-0.02	-0.07	0.15

San Mateo County Manager Return Summary



August 31, 2015

Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Equity	1,708,200,095	-6.41	-7.14	-2.13	-5.47	-3.27	11.32	11.89	5.54	5.08	7.35
Samcera Total Equity Benchmark		-6.32	-6.98	-2.85	-5.37	-2.23	12.38	12.77	6.81	6.46	7.87
Excess		-0.08	-0.17	0.71	-0.10	-1.04	-1.06	-0.88	-1.28	-1.38	-0.52
Total Domestic Equity	1,066,727,671	-5.66	-5.63	-1.86	-4.40	0.95	14.10	15.38	7.84	6.06	8.07
Samcera Dom. Equity Benchmark		-6.07	-6.12	-2.62	-4.84	0.39	14.62	16.02	8.79	7.36	8.43
Excess		0.41	0.50	0.76	0.44	0.56	-0.52	-0.64	-0.95	-1.30	-0.37
Total Large Cap Equity	866,492,912	-5.75	-5.56	-1.32	-3.86	1.62	14.45	15.47	7.89	6.40	8.81
Russell 1000		-6.02	-6.00	-2.57	-4.20	0.40	14.68	16.07	8.89	7.35	9.20
Excess		0.26	0.44	1.25	0.34	1.22	-0.23	-0.61	-0.99	-0.95	-0.39
Barrow Hanley	104,516,298	-5.55	-6.54	-1.51	-5.42	0.92	15.55	15.91	--	--	14.34
Russell 1000 Value		-5.96	-7.43	-6.12	-5.54	-3.48	13.92	14.68	--	--	13.76
Excess		0.41	0.89	4.61	0.12	4.40	1.63	1.23	--	--	0.58
Blackrock S&P 500 Index Fund	545,458,864	-5.93	-5.77	-2.72	-3.95	0.66	--	--	--	--	13.67
S&P 500		-6.03	-5.92	-2.88	-4.06	0.48	--	--	--	--	13.59
Excess		0.11	0.15	0.16	0.11	0.19	--	--	--	--	0.09
Brown Advisory	106,086,606	-5.62	-3.13	1.84	-2.44	3.86	--	--	--	--	11.84
Russell 1000 Growth		-6.07	-4.60	0.96	-2.89	4.26	--	--	--	--	14.15
Excess		0.45	1.46	0.88	0.45	-0.39	--	--	--	--	-2.31
DE Shaw Commingled Fund	110,431,144	-5.20	-5.85	-0.11	-3.25	--	--	--	--	--	-0.11
Russell 1000		-6.02	-6.00	-2.57	-4.20	--	--	--	--	--	-2.57
Excess		0.81	0.15	2.46	0.95	--	--	--	--	--	2.46

San Mateo County Manager Return Summary



August 31, 2015

Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Small Cap Equity	200,234,759	-5.26	-5.92	-4.24	-6.68	-2.12	13.16	15.35	7.67	4.75	6.17
Russell 2000 Index		-6.28	-6.68	-2.97	-7.37	0.03	14.12	15.55	8.13	7.12	7.32
Excess		1.03	0.76	-1.27	0.69	-2.15	-0.96	-0.20	-0.46	-2.36	-1.15
Boston Company	97,892,033	-4.49	-5.20	-4.72	-6.56	-3.70	12.66	14.26	--	--	13.16
Russell 2000 Value		-4.91	-7.41	-6.83	-7.53	-4.95	11.77	13.23	--	--	12.68
Excess		0.42	2.22	2.11	0.98	1.25	0.88	1.03	--	--	0.48
Chartwell Investment Mgmt	102,342,727	-5.98	-6.60	-3.77	-6.80	-0.57	13.85	17.01	8.72	7.38	7.97
Russell 2000 Growth		-7.58	-5.95	0.91	-7.20	5.11	16.47	17.83	9.59	8.46	8.37
Excess		1.60	-0.64	-4.68	0.40	-5.68	-2.62	-0.82	-0.86	-1.08	-0.40
Total International Equity	641,472,423	-7.64	-9.62	-2.46	-7.25	-10.23	5.94	4.78	0.64	3.37	5.13
MSCI ACW ex US-IMI		-7.37	-10.33	-3.60	-7.83	-11.93	5.63	5.01	1.92	4.28	4.64
Excess		-0.27	0.71	1.15	0.58	1.71	0.30	-0.23	-1.28	-0.91	0.49
Total Developed Markets Equity	577,219,692	-7.66	-9.17	-1.40	-6.74	-8.87	6.90	5.43	1.29	3.96	3.84
MSCI ACW ex US-IMI		-7.37	-10.33	-3.60	-7.83	-11.93	5.63	5.01	1.92	4.28	4.35
Excess		-0.29	1.16	2.20	1.09	3.06	1.27	0.42	-0.63	-0.33	-0.51
Baillie Gifford	190,526,619	-8.27	-10.47	-2.04	-8.36	-9.21	7.96	--	--	--	6.57
MSCI ACWI ex US Growth		-7.50	-9.64	-1.99	-7.25	-8.34	6.54	--	--	--	4.76
Excess		-0.77	-0.82	-0.05	-1.11	-0.86	1.43	--	--	--	1.81
Blackrock EAFE Index Fund	130,429,457	-7.37	-8.13	-0.01	-5.45	-7.31	--	--	--	--	-2.85
MSCI EAFE ND		-7.36	-8.11	-0.21	-5.43	-7.47	--	--	--	--	-3.09
Excess		-0.02	-0.01	0.20	-0.02	0.16	--	--	--	--	0.24

San Mateo County Manager Return Summary



August 31, 2015

Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Mondrian Investment Partners	194,329,454	-7.57	-8.69	-2.48	-5.97	-10.39	5.81	5.71	2.12	4.36	5.20
MSCI ACWI ex US Value		-7.75	-11.16	-5.77	-8.49	-15.56	4.83	4.42	1.71	3.92	4.70
Excess		0.18	2.46	3.29	2.52	5.17	0.98	1.29	0.42	0.43	0.50
Pyramis Intl Small Cap	61,934,162	-6.62	-8.80	1.07	-6.69	-6.31	7.71	--	--	--	5.32
MSCI ACWI Small Cap ex US Net		-5.58	-9.42	0.32	-7.38	-9.14	8.31	--	--	--	5.36
Excess		-1.04	0.62	0.74	0.69	2.83	-0.59	--	--	--	-0.04
Total Emerging Markets Equity	64,252,731	-7.49	-13.70	-11.57	-11.87	-21.42	-1.72	--	--	--	-3.39
MSCI Emerging Markets ND		-9.04	-17.55	-12.85	-15.35	-22.95	-2.41	--	--	--	-4.31
Excess		1.55	3.84	1.28	3.48	1.53	0.69	--	--	--	0.92
Eaton Vance	25,948,481	-4.19	-10.62	-8.41	-8.72	-18.61	-0.56	--	--	--	-2.39
MSCI Emerging Markets GD		-9.01	-17.40	-12.62	-15.26	-22.67	-2.07	--	--	--	-3.95
Excess		4.82	6.78	4.21	6.54	4.07	1.51	--	--	--	1.55
EV Parametric EM	38,304,250	--	--	--	--	--	--	--	--	--	--
MSCI Emerging Markets GD		--	--	--	--	--	--	--	--	--	--
Excess		--	--	--	--	--	--	--	--	--	--
Total Fixed Income	673,084,586	-1.00	-1.90	0.20	-0.83	-0.45	2.96	4.78	6.15	4.92	5.69
Samcera Fixed Income Benchmark		-0.45	-1.06	0.12	-0.00	-0.46	0.89	2.94	4.52	4.44	5.22
Excess		-0.55	-0.84	0.08	-0.83	0.02	2.07	1.84	1.63	0.48	0.47
Total Domestic Fixed Income	574,490,598	-0.53	-1.18	1.00	-0.15	0.69	2.81	4.81	6.22	5.03	5.84
Samcera US Fixed Inc Benchmark		-0.56	-1.23	0.64	-0.07	0.59	1.21	3.32	4.79	4.63	5.45
Excess		0.02	0.05	0.35	-0.08	0.09	1.61	1.48	1.43	0.40	0.39
Total Core Fixed Income	335,873,720	-0.43	-0.87	0.29	0.30	1.11	2.42	4.23	5.77	4.72	5.65
BC U.S. Aggregate		-0.14	-0.55	0.45	0.55	1.56	1.53	2.98	4.54	4.46	5.34
Excess		-0.28	-0.32	-0.16	-0.25	-0.45	0.90	1.25	1.23	0.26	0.31

San Mateo County Manager Return Summary



August 31, 2015

Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Pyramis Core Bond	233,145,886	-0.52	-0.90	0.19	0.16	1.23	1.94	3.75	5.72	--	5.06
BC U.S. Aggregate		-0.14	-0.55	0.45	0.55	1.56	1.53	2.98	4.54	--	4.70
Excess		-0.37	-0.36	-0.26	-0.39	-0.33	0.42	0.78	1.18	--	0.36
Western Asset Management	2,257,103	0.13	-0.40	0.86	0.94	1.37	3.08	4.86	6.61	5.15	5.21
BC U.S. Aggregate		-0.14	-0.55	0.45	0.55	1.56	1.53	2.98	4.54	4.46	4.39
Excess		0.28	0.15	0.41	0.39	-0.18	1.56	1.88	2.07	0.70	0.82
Western Total Return	100,470,731	-0.36	--	--	--	--	--	--	--	--	--
BC U.S. Aggregate		-0.14	--	--	--	--	--	--	--	--	0.55
Excess		-0.21	--	--	--	--	--	--	--	--	--
Brown Brothers Harriman	67,881,293	-0.76	-1.46	-0.14	-1.01	-3.05	-2.44	2.22	--	--	2.61
BC US Tips		-0.76	-1.53	-0.22	-0.56	-2.73	-1.47	2.79	--	--	3.09
Excess		0.00	0.06	0.07	-0.45	-0.32	-0.97	-0.57	--	--	-0.48
Total Opportunistic Credit	170,735,585	-0.65	-1.67	2.72	-0.68	1.14	8.08	9.64	--	--	10.35
BC BA Intermediate HY Index		-1.22	-2.34	1.29	-0.99	0.14	4.96	7.06	--	--	8.09
Excess		0.57	0.67	1.43	0.31	1.00	3.12	2.58	--	--	2.26
AG Opportunistic Whole Loan	25,169,739	1.16	1.16	1.38	1.16	0.92	--	--	--	--	-0.78
BC BA Intermediate HY Index		-1.22	-2.34	1.29	-0.99	0.14	--	--	--	--	1.70
Excess		2.37	3.50	0.09	2.15	0.77	--	--	--	--	-2.47
Angelo Gordon	44,058,692	0.00	2.14	6.98	2.14	8.90	--	--	--	--	11.40
BC BA Intermediate HY Index		-1.22	-2.34	1.29	-0.99	0.14	--	--	--	--	4.37
Excess		1.22	4.48	5.69	3.13	8.75	--	--	--	--	7.03
Beach Point Select Fund	39,251,571	-0.18	-0.99	--	-0.22	--	--	--	--	--	5.39
BC BA Intermediate HY Index		-1.22	-2.34	--	-0.99	--	--	--	--	--	0.15
Excess		1.03	1.35	--	0.77	--	--	--	--	--	5.24

San Mateo County Manager Return Summary



August 31, 2015

Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Brigade Cap Mngmt	62,255,583	-2.05	-5.58	-1.21	-3.51	-5.17	3.93	6.47	--	--	6.37
BC BA Intermediate HY Index		-1.22	-2.34	1.29	-0.99	0.14	4.96	7.06	--	--	7.08
Excess		-0.84	-3.24	-2.49	-2.52	-5.32	-1.03	-0.59	--	--	-0.71
Total Global Fixed Income	98,593,988	-3.68	-5.99	-4.20	-4.75	-6.59	3.15	--	--	--	4.22
Samcera Global Fixed Benchmark		0.00	-0.31	-2.74	0.16	-6.60	-1.18	--	--	--	1.21
Excess		-3.68	-5.68	-1.45	-4.92	0.01	4.33	--	--	--	3.01
Franklin Templeton	98,593,988	-3.68	-5.99	-4.20	-4.75	-6.59	2.69	--	--	--	3.92
BC Multiverse Index		0.00	-0.31	-2.74	0.16	-6.60	-1.18	--	--	--	1.21
Excess		-3.68	-5.68	-1.45	-4.92	0.01	3.87	--	--	--	2.71
Total Risk Parity	252,138,994	-4.69	-8.21	-4.17	-4.89	-4.47	2.77	--	--	--	5.16
Samcera Risk Parity Benchmark		-3.68	-3.85	-1.27	-2.45	0.98	9.34	--	--	--	8.39
Excess		-1.02	-4.36	-2.90	-2.45	-5.44	-6.57	--	--	--	-3.22
AQR Global Risk III	120,303,180	-5.03	-9.78	-6.13	-7.13	-9.47	0.79	--	--	--	3.81
Samcera Risk Parity Benchmark		-3.68	-3.85	-1.27	-2.45	0.98	9.34	--	--	--	8.39
Excess		-1.35	-5.93	-4.87	-4.68	-10.45	-8.55	--	--	--	-4.57
Panagora	131,835,814	-4.39	-6.72	-2.30	-2.75	1.33	--	--	--	--	1.13
Samcera Risk Parity Benchmark		-3.68	-3.85	-1.27	-2.45	0.98	--	--	--	--	2.25
Excess		-0.71	-2.87	-1.03	-0.30	0.35	--	--	--	--	-1.12
Total Real Estate	220,199,593	0.00	5.16	12.12	0.00	15.88	13.70	14.49	3.43	6.76	8.29
Samcera Real Estate Benchmark		0.00	3.92	7.45	0.00	14.63	12.92	14.29	3.19	6.58	8.68
Excess		0.00	1.24	4.67	0.00	1.25	0.78	0.20	0.24	0.18	-0.39
Invesco Core Real Estate	220,199,593	0.00	5.16	12.12	0.00	15.88	13.46	14.50	3.43	6.76	7.57
Samcera NCREIF ODCE EW (gross)		0.00	3.92	7.45	0.00	14.63	12.92	14.29	3.19	6.58	7.22
Excess		0.00	1.24	4.67	0.00	1.25	0.55	0.21	0.24	0.18	0.35



San Mateo County Manager Return Summary



August 31, 2015

Composite Returns (NET)	Market Value (\$)	1 Mth.	3 Mth.	YTD	FYTD	1 Yr.	3 Yr.	5 Yr.	7 Yr.	10 Yr.	ITD
Total Alternatives	444,042,149	0.21	-1.04	3.78	-0.60	4.59	3.87	-10.92	-13.65	-5.90	-4.39
Samcera Alternatives Benchmark		-2.62	-3.72	-1.46	-3.61	-2.81	7.75	10.29	6.17	6.51	7.13
Excess		2.83	2.68	5.24	3.00	7.40	-3.88	-21.21	-19.82	-12.41	-11.52
Total Private Equity	202,563,160	0.47	0.58	14.11	1.59	18.85	14.35	--	--	--	-33.75
Samcera PE Benchmark		-5.79	-5.35	-0.90	-3.98	3.13	17.94	--	--	--	16.88
Excess		6.26	5.93	15.01	5.57	15.73	-3.59	--	--	--	-50.63
Private Real Assets	10,037,128	0.00	86.23	16.83	86.23	17.42	--	--	--	--	15.98
Samcera CPI + 5%		0.00	1.16	4.53	0.41	4.89	--	--	--	--	4.73
Excess		0.00	85.07	12.31	85.81	12.53	--	--	--	--	11.24
Total Hedge Fund Composite	145,117,976	1.46	1.44	4.00	3.89	12.37	7.28	--	--	--	5.24
Samcera LIBOR + 4%		0.34	1.03	2.77	0.69	4.18	4.19	--	--	--	4.21
Excess		1.11	0.41	1.23	3.21	8.19	3.10	--	--	--	1.03
Total Commodities	86,323,885	-2.58	-11.00	-15.23	-14.41	-27.13	-13.28	--	--	--	-9.07
Bloomberg Commodity Index		-0.92	-9.91	-12.82	-11.44	-28.14	-14.56	--	--	--	-13.25
Excess		-1.66	-1.09	-2.41	-2.97	1.01	1.28	--	--	--	4.17
Total Cash	52,021,613	0.04	0.09	0.16	0.09	0.30	0.50	0.62	0.15	1.29	2.17
Samcera Cash Benchmark		0.01	0.01	0.02	0.01	0.03	0.06	0.08	0.17	1.36	2.03
Excess		0.02	0.08	0.14	0.08	0.28	0.44	0.55	-0.02	-0.07	0.15
SamCera General Account	44,231,102	0.05	0.13	0.22	0.12	0.29	0.17	0.23	0.33	1.56	2.16
SamCera Treasury & LAIF	7,785,443	0.00	0.00	0.00	0.00	0.00	0.47	0.68	0.05	1.16	2.90
San Mateo County ERA	3,373,496,552	-3.91	-4.59	-0.16	-3.48	-0.70	8.67	9.75	5.63	5.30	6.55
Samcera Total Plan Benchmark		-4.10	-4.81	-1.28	-3.79	-1.88	8.51	10.06	6.24	6.11	6.82
Excess		0.19	0.21	1.12	0.31	1.18	0.16	-0.31	-0.60	-0.81	-0.27

San Mateo County
Accounting Change in Market Value Details

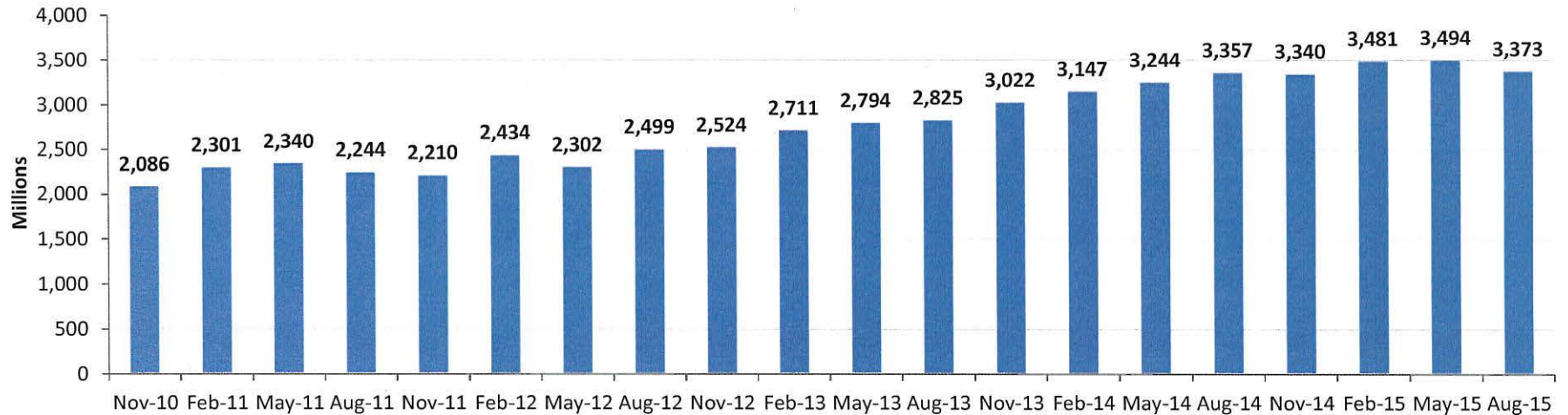


August 31, 2015

Record of Asset Growth

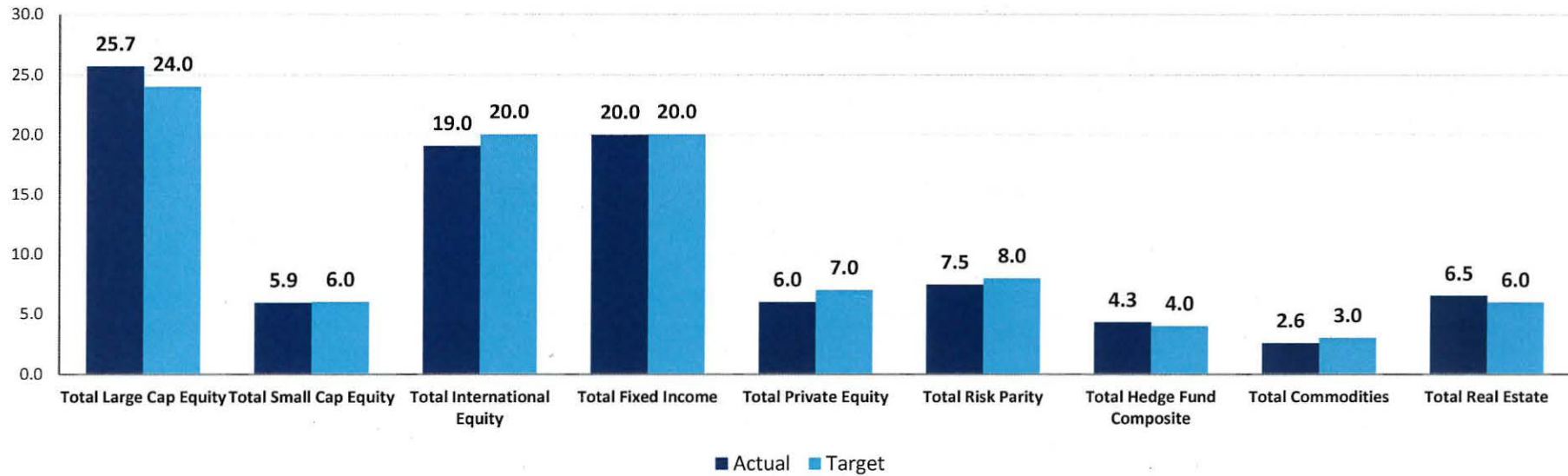
	Three Months	One Year
TOTAL FUND		
Beginning Market Value	3,493,570,238	3,356,904,604
Contributions	190,799,335	413,052,899
Withdrawals	-150,575,861	-380,089,166
Income Received	8,107,754	38,810,686
Gain/Loss	-168,216,844	-55,370,501
Ending Market Value	3,373,496,552	3,373,496,552

Net Asset Values Over Time (\$'000)



August 31, 2015

Actual vs Target Weights



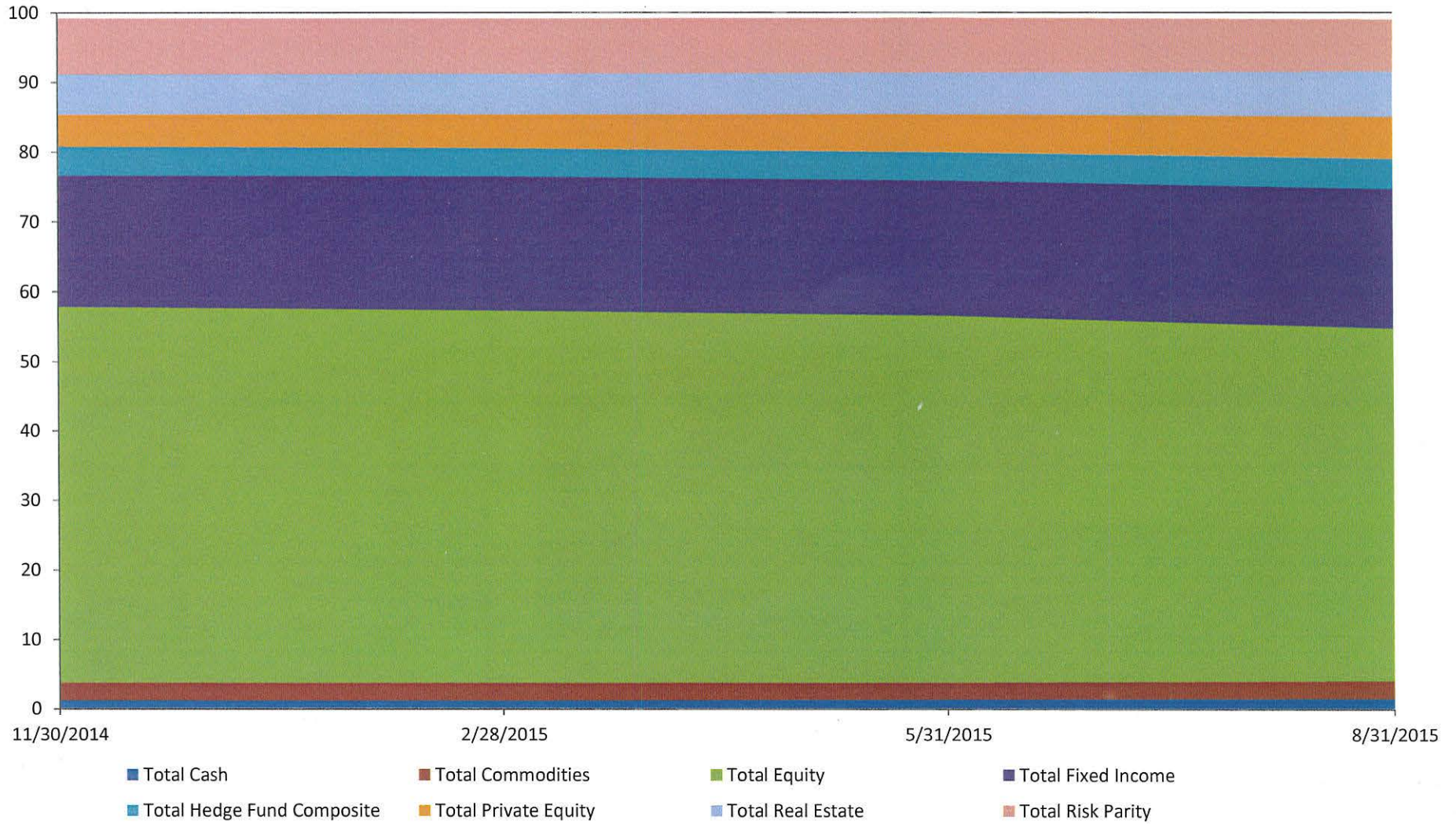
	Min	Actual	Target	Deviation	Max
Total Large Cap Equity	22.0	25.7	24.0	1.7	26.0
Total Small Cap Equity	4.0	5.9	6.0	-0.1	8.0
Total International Equity	18.0	19.0	20.0	-1.0	22.0
Total Fixed Income	18.0	20.0	20.0	0.0	22.0
Total Private Equity	5.0	6.0	7.0	-1.0	9.0
Total Risk Parity	6.0	7.5	8.0	-0.5	10.0
Total Hedge Fund Composite	2.0	4.3	4.0	0.3	6.0
Total Commodities	1.0	2.6	3.0	-0.4	5.0
Total Real Estate	4.0	6.5	6.0	0.5	8.0

San Mateo County Asset Allocation Over Time



August 31, 2015

Asset Allocation over Time

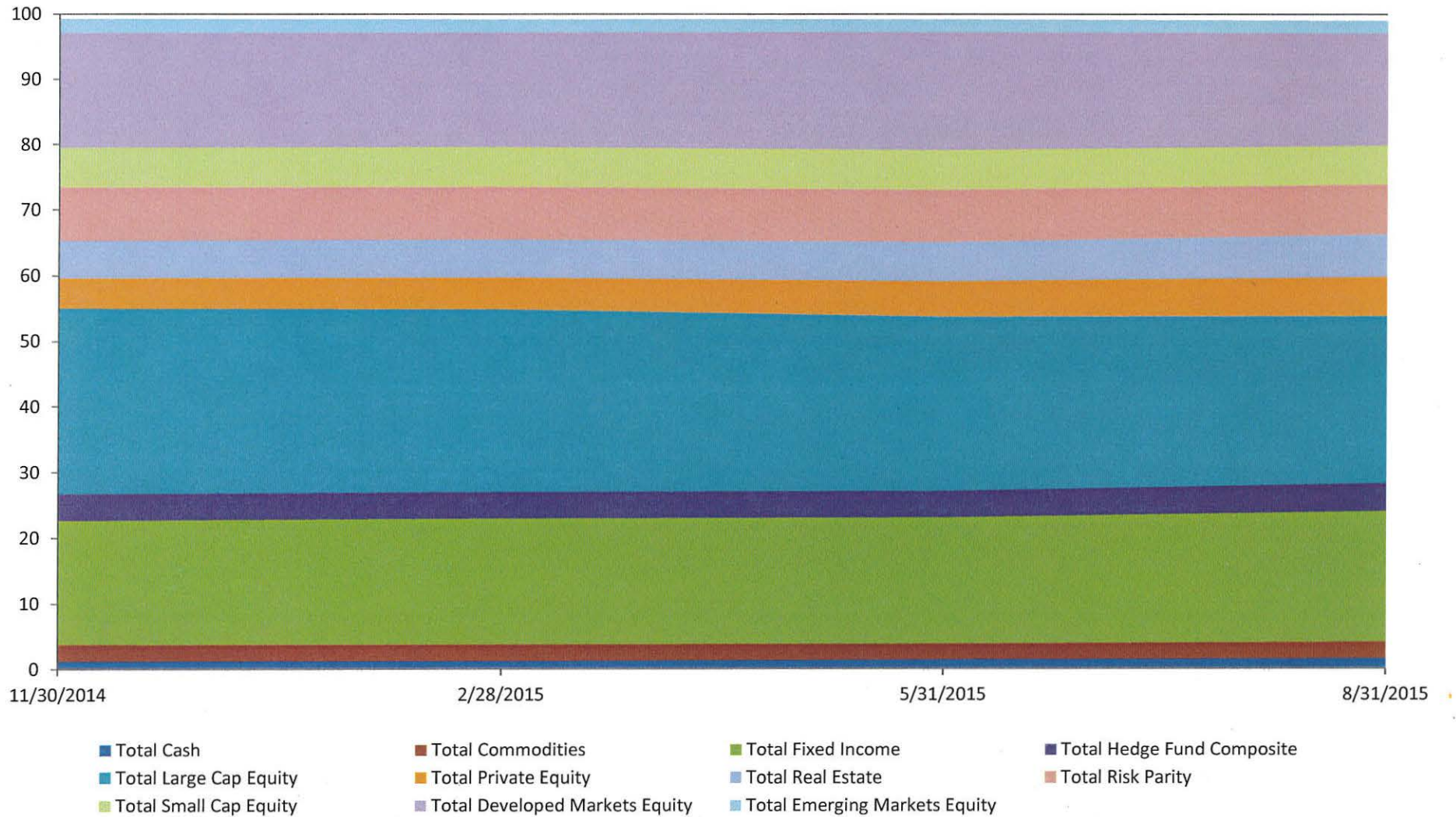


San Mateo County
Sub-Asset Class Allocation Over Time



August 31, 2015

Sub-Asset Class Allocation Over Time



SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Item 6.2

TO: Board of Retirement

FROM: Michael Coultrip, Chief Investment Officer

SUBJECT: Report on Opportunistic Credit Manager Annual Reviews (Angelo Gordon and Beach Point)



Staff Recommendation

Review the report on the annual review of SamCERA's Opportunistic Credit managers.

Background

The Opportunistic Credit annual manager reviews occurred over multiple days to accommodate various scheduling conflicts. On September 3rd, SamCERA staff and consultant held annual review meetings in SamCERA's office for two of our Opportunistic Credit managers (Angelo Gordon and Beach Point). Brigade Capital Management's annual review meeting was conducted on September 17th and the related meeting notes and update will be provided at October's Board meeting.

Each meeting lasted approximately 1.5 hours, and consisted of a firm/organizational update, investment process review, performance review and attribution, and current positioning/market outlook.

Discussion

On September 3rd, Angelo Gordon's Securitized Asset Recovery (STAR) and Opportunistic Whole Loan (OWL) strategies were reviewed. STAR focuses on non-agency RMBS and CMBS, while OWL focuses on re-performing and non-performing whole loans. There was a planned transition at Angelo Gordon recently. In July, the Chief Operations Officer (COO) position was eliminated and the associated responsibilities were assumed by other officers of the firm. However, the former COO retained his responsibilities related to the firm's real estate investments and as a member of the Investment Committee. Also, in August the firm announced a new addition to the team, who will serve as Senior Managing Director and Head of Credit.

Next, Beach Point's Select Fund strategy, which focuses on mid-market, off-the-run, complex and less-liquid securities, was reviewed. The strategy invests across the capital structure in distressed/opportunistic securities, event-driven bonds, bank debt and credit-informed equities with a North American and European focus.

There were no significant concerns identified during the portfolio reviews. Attached are meeting notes from SIS summarizing the findings from these annual reviews.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

Attachments

- A. Angelo Gordon Securitized Asset Recovery Fund and Opportunistic Whole Loan Fund Annual Review Meeting Notes (confidential)
- B. Beach Point Select Fund Annual Review Meeting Notes (confidential)

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Item 6.4

TO: Board of Retirement
FROM: Scott Hood, Chief Executive Officer
SUBJECT: Investment Consulting Services



Staff Recommendation

Provide direction to staff in regards to Investment Consultant services.


Discussion

This agenda item is informational only and provides the Board an opportunity to discuss its current Investment Consultant and the provision of investment consulting services. Staff will present potential approaches and seek feedback and general direction from the Board.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Item 7.1

TO: Board of Retirement 
FROM: Scott Hood, Chief Executive Officer
SUBJECT: Approval of SACRS Voting Delegate and Alternates for the SACRS Fall 2015 Business Meeting

Staff Recommendation

Staff recommends the Board designate Michal Settles, Vice Chair, as the Voting Delegate, Susan Lee, as the First Delegate Alternate, and Scott Hood, CEO, as the Second Delegate Alternate to cast SamCERA's votes at the SACRS Fall 2015 Conference.

Background

Prior to each SACRS conference the retirement boards are asked to select the individuals from each county system who are authorized to serve as voting delegate and alternate voting delegates at the conference business meeting.

Discussion

SamCERA normally selects the highest-ranking board officer who will attend the conference as the voting delegate. Delegates can be either trustees or staff. For this SACRS conference, Board Vice Chair, Michal Settles will be the highest-ranking Board officer in attendance. Susan Lee is planning to be the only other Trustee remaining at the conference on Friday. We typically recommend the CEO be the final alternate.

The business meeting will occur on the last morning of the conference, at 10:00 a.m., Friday, November 20, 2015.



SACRS VOTING PROXY FORM

The following are authorized by the SAN MATEO County Retirement Board to vote on behalf of the County Retirement System at the upcoming SACRS Conference (*if you have more than one alternate, please attach the list of alternates in priority order*):

MICHAL SETTLES, VICE CHAIR Voting Delegate
SUSAN LEE, TRUSTEE Alternate Voting Delegate
SCOTT HOOD, CEO, SECOND ALTERNATE

These delegates were approved by the Retirement Board on 09 / 29 / 2015.

The person authorized to fill out this form on behalf of the Retirement Board:

Signature: _____
Print Name: SCOTT HOOD
Position: CEO
Date: SEPTEMBER 30, 2015


Please send your system's voting proxy by **October 1, 2015** to Sulema H. Peterson, SACRS Administrator at Sulema@sacrs.org.

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
Board of Retirement

September 29, 2015

Agenda Item 7.2

TO: Board of Retirement

FROM: Scott Hood, Chief Executive Officer 

SUBJECT: Approval of Supplemental Contributions Memorandum of Understanding
With the San Mateo County Mosquito and Vector Control District

Staff Recommendation

Approve a resolution authorizing the Chair to sign the Memorandum of Understanding (MOU) between the San Mateo County Mosquito and Vector Control District (District) and SamCERA regarding retirement system funding.

Background

The Board and the County entered into an MOU to accelerate the reduction of its unfunded accrued actuarial liability (UAAL) by making supplemental contributions. Starting in 2014, the County has made supplemental contributions, which in turn, has reduced the County's unfunded liabilities.

Discussion

In March of 2015, Dr. Chindi Peavey, District Manager, inquired about options for the District to pay down its UAAL. Staff and Milliman provided a report regarding the reduction of the District's then projected UAAL of \$2.45 million. In August, SamCERA's CEO and CIO met with the District's Finance Committee and discussed the reduction of the UAAL as well as SamCERA's Investment Policy. On September 9th, the District approved the attached MOU and a supplemental contribution of \$1,510,429. Similar to the County's MOU, the District's MOU provides that:

- All supplemental contributions will be treated actuarially so as to benefit only the District. Neither the County nor the Court will see any actuarial impact from these supplemental contributions.
- All supplemental funds will be treated the same as all other funds for investment purposes.
- The District will always retain discretion to provide a smaller or greater supplemental contribution, but never less than the statutory rate.
- The MOU will be effective as of October 1, 2015 and will run through June 30, 2023. During the term the District may or may not make additional supplemental contributions.

Attachment

Resolution and Executed MOU from the San Mateo County Mosquito and Vector Control District

San Mateo County Employees' Retirement Association

RESOLUTION 15-16-__

RESOLUTION AUTHORIZING THE CHAIR TO EXECUTE A MEMORANDUM OF UNDERSTANDING BETWEEN THE SAN MATEO COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT AND THE SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION REGARDING RETIREMENT SYSTEM FUNDING

WHEREAS, the Board has the power and duty to manage and administer a retirement system (the "System") for participating current and retired employees of the County of San Mateo ("County"), the Superior Court of San Mateo ("Court") and the San Mateo County Mosquito and Vector Control District ("District") under Chapter 3 (commencing with Section 31450) of Part 3 of Division 1 of Title 3 of the Government Code ("37 Act") and the California Public Employees' Pension Reform Act of 2013 ("PEPRA") contained in Article 4 of Division 7, Title 1 (Commencing with Section 7522) Government Code; and

WHEREAS, as of the most recent actuarial valuation date of June 30, 2015, the System is 82.6% funded with an unfunded actuarial accrued liability (UAAL) of \$702 million; the UAAL is being funded by County, the Court and the District through annual contributions over a layered amortization period of 15 years; and

WHEREAS, in order to reduce the District's long term costs of contributing to the System by accelerating the reduction of the UAAL, the District has requested SamCERA to accept deposits of certain supplemental funding amounts made in addition to the annual Statutory Contribution Rate ("SCR"); and

WHEREAS, the District understands that the cumulative effect of depositing supplement funding amounts above the District's SCR in accordance with this Memorandum of Understanding (MOU) will accelerate the reduction of the District's SCR over what the District's SCR would have been had the District not deposited such supplemental funding; and

WHEREAS, the District understands that any such supplemental contributions made by the District shall be subject to the same investment risks as the other funds in the Retirement Fund and further understands that the Retirement Fund's investment gains or losses may be higher or lower than the expected rate of return, which in turn, will affect the reduction of the UAAL, other projected impacts of supplemental contributions, and the corresponding necessary Statutory Contribution Rate contribution amounts; and

WHEREAS, the District further understands that all supplemental contributions deposited into the Retirement Fund will remain in the Retirement Fund and will be used solely for the

provision of System benefits to members and their beneficiaries and the costs of investment, information technology and other administrative costs of the System. Thereby,

BE IT RESOLVED, that the Chair is authorized to execute the attached “Memorandum of Understanding between the San Mateo County Mosquito and Vector Control District and the San Mateo County Employees’ Retirement Association regarding Retirement System Funding.”

BE IT FURTHER RESOLVED, that the Chief Executive Officer is hereby authorized and directed to execute any necessary subsequent amendments and minor modifications in order to implement and administer the MOU.

* * * * *

Regularly passed and adopted, by the San Mateo County Employees’ Retirement Association, Board of Retirement, on September 29, 2015.

Ayes, Trustees:

Noes, Trustees:

Absent, Trustees:

Abstain, Trustees:

Natalie Kwan Lloyd, Board Secretary

**MEMORANDUM OF UNDERSTANDING BETWEEN THE
SAN MATEO COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT AND
THE SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
REGARDING RETIREMENT SYSTEM FUNDING**

This Retirement System Funding Memorandum of Understanding ("MOU") entered into this 9th day of September, 2015, by and between the San Mateo County Mosquito and Vector Control District ("District"), a special district created established under Section 2000 et seq of the Health and Safety Code and the San Mateo County Employees' Retirement Association ("SamCERA"), a retirement association established under Section 31550 of the Government Code.

WITNESSETH:

WHEREAS, SamCERA, acting through its Board of Retirement, has the power and duty to manage and administer a retirement system (the "System") for participating current and retired employees of the County of San Mateo ("County"), the Superior Court of San Mateo County ("Court") and the District under Chapter 3 (commencing with Section 31450) of Part 3 of Division 1 of Title 3 of the Government Code ('37 Act") and the California Public Employees' Pension Reform Act of 2013 ("PEPRA") contained in Article 4 of Division 7, Title 1 (Commencing with Section 7522) Government Code; and

WHEREAS, as of the actuarial valuation date of June 30, 2014, the System is 78.8% funded with an unfunded actuarial accrued liability (UAAL) of \$804 million; the UAAL is being funded by the County, the Court, and the District through annual contributions over a layered amortization period of 15 years; and

WHEREAS, commencing in 2014, in order to reduce County's long term costs of contributing to the System by accelerating the reduction of the UAAL, the County deposited supplemental fund amounts above the County's annual Statutory Contribution Rate ("SCR") in accordance with an MOU; and

WHEREAS, in order to reduce District 's long term costs of contributing to the System by accelerating the reduction of the UAAL, District has requested SamCERA to accept deposits of certain supplemental funding amounts made in addition to its SCR; and

WHEREAS, the District understands that depositing supplemental fund amounts above the District's SCR in accordance with this MOU will accelerate the reduction of the

District's SCR over what the District's SCR would have been had the District not deposited such supplemental funding; and

WHEREAS, District understands that any such supplemental contributions made by District shall be subject to the same investment risks as the other funds in the Retirement Fund and further understands that the Retirement Fund's investment gains or losses may be higher or lower than the expected rate of return, which in turn, will affect the reduction of the UAAL, other projected impacts of supplemental contributions, and the corresponding necessary SCR contribution amounts; and

WHEREAS, District further understands that all supplemental contributions deposited into the Retirement Fund will remain in the Retirement Fund and will be used solely for the provision of System benefits to members and their beneficiaries and the costs of investment, information technology and other administrative costs of the System.

NOW, THEREFORE, in consideration of the foregoing and the terms, covenants and conditions herein contained, SamCERA and District agree as follows:

1. **Definitions.** Capitalized terms which are not defined in the recitals to the MOU are used as defined below:
 - (a) **"Actuarial Valuation"** means the actuarial investigation and valuation of the System that is required to be performed pursuant to Section 31453 of the '37 Act.
 - (b) **"District Supplementary Contribution Account" ("DSCA")** means the side account created by SamCERA for deposits of District payments as described in paragraph 4.
 - (c) **"Fiscal Year"** means the period of twelve months beginning on July 1 of any calendar year and ending on June 30 of the following calendar year.
 - (d) **"Statutory Contribution Rate (SCR)"** means District's employer contribution rate with respect to a Fiscal Year as determined by SamCERA in accordance with the '37 Act including but not limited to Section 31453.
 - (e) **"Retirement Fund"** means the fund established under the System, as defined in Section 31475 and Section 31588 of the '37 Act.

- (f) **“Scheduled Due Date”** means the date(s) on which District is required to deposit its SCR payments into the Retirement Fund. If District chooses to pay on a bi-weekly payroll basis, such deposits are required on or before the 7th day subsequent to the payroll accrual date. If District prepays on an annual Fiscal Year basis, each annual deposit is required on or before the first pay day in July of the commencement of the Fiscal Year. If District prepays on a semi-annual Fiscal Year basis, the first semi-annual prepayment is required on or before the first pay day in July of the commencement of the Fiscal Year and the second semi-annual prepayment is required on or before the first pay day in January.
- (g) **“True Up”** means the process at the end of each fiscal year whereby SamCERA determines the difference between the dollar amount pre-paid by District based on estimated SCR contributions and the dollar amount of the actual District SCR contributions that should have been paid for that fiscal year.
2. **Creation of “District Supplementary Contribution Account.”** SamCERA will create a side account in the Retirement Fund, which shall be known as the “District Supplementary Contribution Account” (“DSCA”). The DSCA will be used only for deposits by District of the payments described in paragraph 4 and any earnings thereon. No District SCR contribution amounts, even if paid by an annual or semi-annual pre-payment, will be deposited into the DSCA. The funds in the DSCA will be only used for the provision of System benefits to members and their beneficiaries and the costs of investment, information technology and other administrative costs of the System.
3. **Investing of Funds in the DSCA.** SamCERA shall invest all funds on deposit in the DSCA with the rest of the Retirement Fund. DSCA funds will not be considered separately for investment decisions made by SamCERA. All earnings and losses, net of proportionate costs for investment, information technology and other administrative costs, with regards to DSCA funds will accrue to the funds in the DSCA as described in paragraph 5.
4. **Deposits into the DSCA.** District may make lump sum deposits of amounts above the SCR into the DSCA at times mutually agreeable to SamCERA and District. Any funds to be deposited in the DSCA must be received by SamCERA no later than 3 business days prior to the end of the calendar month.

5. **Actuarial Valuation and Accrual of Investment Returns.** Inclusion in the annual Actuarial Valuation and accrual of investment returns for the funds in the DSCA shall be as follows.

- (a) Funds added by District to the DSCA in any given year shall be included by SamCERA's actuary in the annual actuarial valuation for the fiscal year ending on that June 30th.
- (b) Deposits that have been in the fund less than six months prior to the regular crediting dates of June 30 and December 31 of each year will accrue the actual market investment return rate, net of fees and costs, from the date of deposit to the next occurrence of a crediting date.
- (c) All funds on deposit in the DSCA for more than six months prior to a crediting date shall accrue the actuarially calculated return on actuarial value of the DSCA credited to other employer reserve accounts. All funds in the DSCA and the earnings thereon shall be included by SamCERA's actuary in its annual "Actuarial Valuation."

For the purposes of implementing Item 5(c) above, all funds on deposit in the DSCA for more than six months prior to a crediting date shall be credited using the same five-year smoothing methodology used to determine the earnings for other SamCERA reserves. However, crediting and actuarial recognition of earnings for the DSCA shall be separate from the crediting to all other reserves and the DSCA will not take part in nor contribute to the actuarial gains and losses of other reserves.

6. **Recognizing DSCA for Employer Contributions.** The actuarial value of the funds in the DSCA will be recognized for the purposes of calculating District's SCR. At no time will the funds be recognized for the purpose of calculating the SCR for the County, the Court or any other future SamCERA participating employer, except as described in Section 12 below.

7. **Pre-Payments of SCR.**

- (a) If District is making a prepayment on an annual basis or semi-annual basis as of its Scheduled Due Date, the prepayment of the SCR will be calculated incorporating an estimate by SamCERA for the remainder of the Fiscal Year in which it is paid.

- (b) SCR prepayment amounts will be Trued Up at the end of the Fiscal Year by SamCERA's collection of any under payment of the SCR pursuant to paragraph 8 below or by SamCERA decreasing the succeeding year's required SCR amount by the extent of any over payment of the SCR.
 - (c) Only the prepayment of the SCR will be discounted at the assumed investment return rate of the Retirement Fund.
 - (d) The level of any prepayment of the SCR will remain in effect for the entire Fiscal Year and cannot be adjusted until the commencement of the succeeding Fiscal Year, unless an adjustment is specifically requested by the District Manager.
8. **Failure to Make Timely SCR.** Under any payment schedule, in accordance with Section 31585 of the '37 Act, if there is a failure of District to make its SCR amount on the Scheduled Due Date, SamCERA will request a transfer the funds from the District. The owed SCR contributions are legal charges against the funds of the District. District may not use funds on deposit in the DSCA in lieu of any SCR payment.
9. **Amendments.** No amendment or waiver of any provision of this Agreement shall be effective unless the same shall be in writing and signed by District and SamCERA, and then such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given.
10. **Governing Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of California.
11. **Headings.** Section headings in this Agreement are included only for convenience of reference and shall not constitute a part of this Agreement for any other purpose.
12. **Term and Termination.** Unless terminated earlier, this Agreement shall be in effect as of October 1, 2015, and shall remain in effect until June 30, 2023. This agreement may be terminated by District upon 30 days written notice to SamCERA. After termination of this agreement, any funds deposited into the DSCA pursuant to this agreement, and earnings thereon, will continue to be recognized for the purposes of calculating District's SCR. At no time will the funds be recognized for the purpose of calculating the SCR for the County, the Court or any other future SamCERA employer while the funds remain in the

DSCA. DSCA Funds may be transferred to the employers' advance reserve account upon District's written request, such transfer to be effective as of the first day of the fiscal year beginning after SamCERA's receipt of the request. After any such transfer, these funds will be recognized for the purpose of calculating the SCR for all participating SamCERA employers.

13. **Notices.** Notice by either party to the other under this Agreement shall be deemed given when delivered in writing either through e-mail or regular mail sent to the following persons:

If to District, to: the District Manager.

If to SamCERA, to: the Chief Executive Officer.

14. **Implementation.** District and SamCERA agree to prepare such addenda to this Agreement as may be necessary or desirable to address the technical requirements of implementing this Agreement. Such addenda can be agreed to by the District Manager on behalf of District and the Chief Executive Officer on behalf of SamCERA.

END OF MOU

SIGNATURES ON NEXT PAGE

IN WITNESS WHEREOF, the parties hereto, by their duly authorized representatives, have affixed their hands.

SAN MATEO COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

By: Rick Wykoff Date: 9-14-15
~~Donna Rutherford~~ Vice President Rick Wykoff
President, Board of Trustees Board of Trustees

ATTEST:


Secretary Board of Trustees

SAN MATEO COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

By: _____ Date: _____
Paul Hackleman
Chair, Board of Retirement

ATTEST:

Secretary Board of Retirement

