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

By

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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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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.

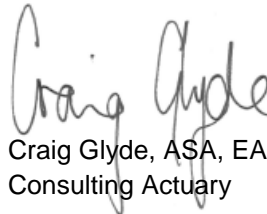
We would like to express our appreciation to Mr. Scott Hood, Chief Executive Officer of SamCERA, and to members of his staff, who gave substantial assistance in supplying the data on which this report is based.

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

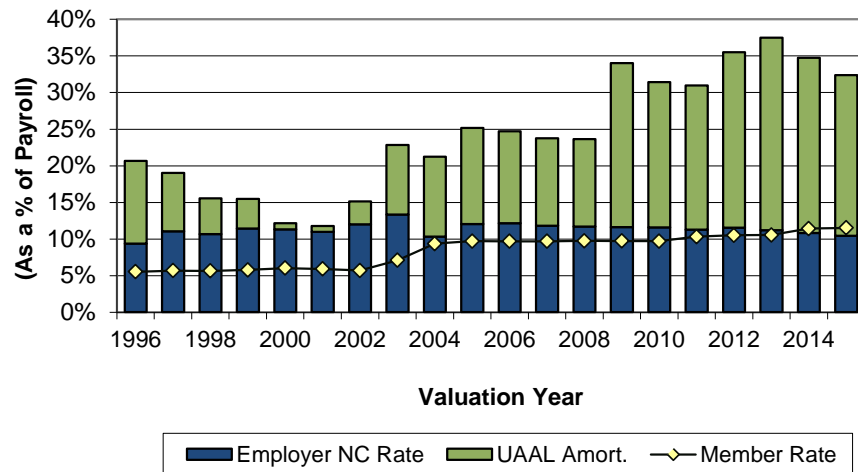
The Statutory Contribution Rate is equal to the payment of the Employer Normal Cost rate plus a 15-year layered amortization of the UAAL (excluding the CSCA) for each year beginning with the UAAL as of June 30, 2008. The UAAL rate for the County is reduced to reflect the CSCA. The Statutory Contribution 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.

Employer Statutory Contribution Rate



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.

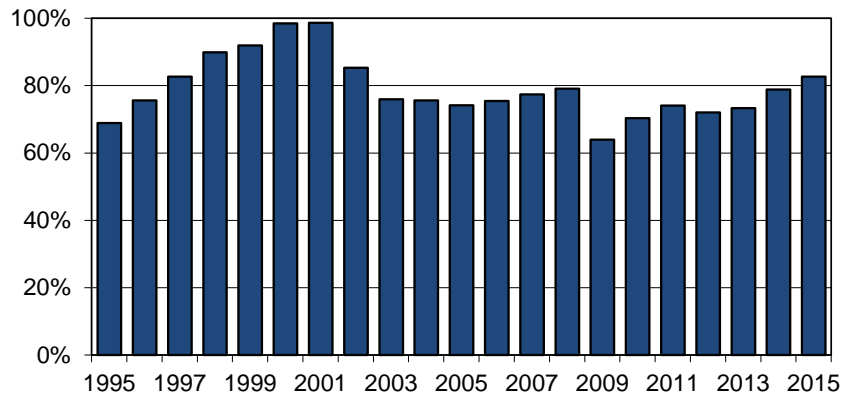
**Funding Progress
 (continued)**

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

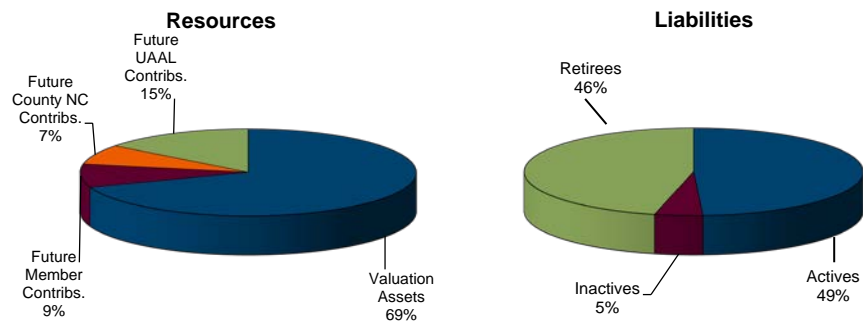
For the fiscal year ending June 30, 2015, SamCERA earned 3.5% net of investment expenses, on its market assets. This figure was provided by SamCERA and will be shown in the 2015 CAFR.

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.

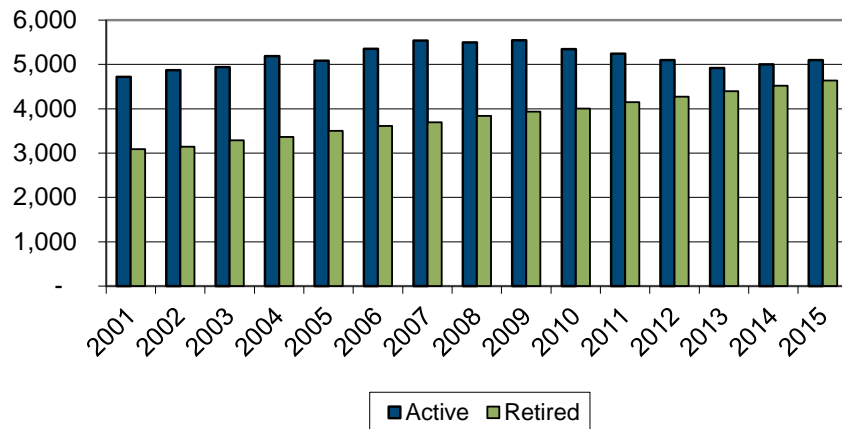


Member Information

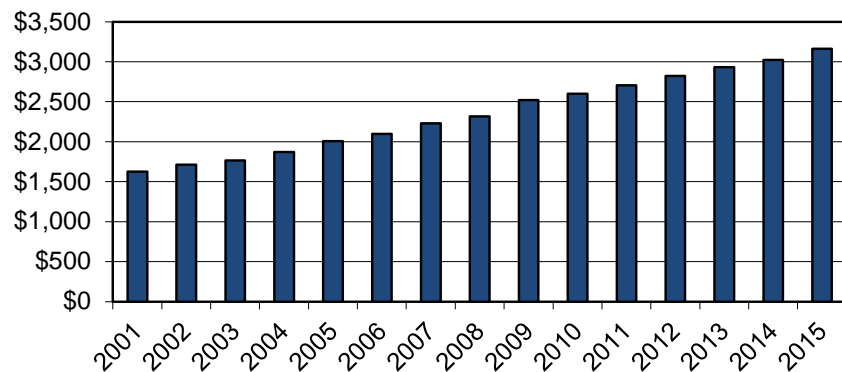
The number of active members included in the valuation increased by 1.8% from 5,004 in 2014 to 5,095 in 2015.

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.

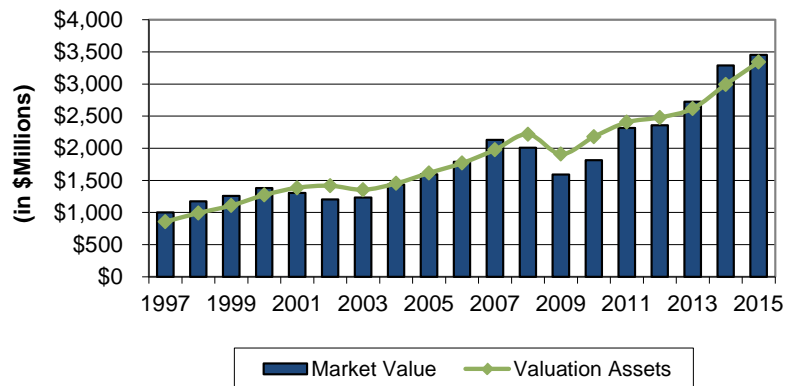
Actuarial Value of Assets

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	803,591	1,038,945
Total Association Benefits	<u>168,109,207</u>	<u>159,341,978</u>
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	<u>77,156,633</u>
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	<u>0</u>
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**

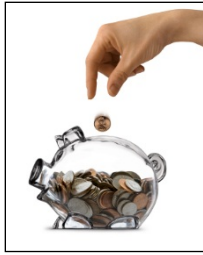
The UAAL, at any date after establishment of a system, is affected by any actuarial gains or losses arising when the actual experience of the system varies from the experience anticipated by the actuarial assumptions used in the valuations. To the extent actual experience, as it develops, differs from 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						Prior Year
	Gross Normal Cost	Member Contributions	Basic Normal Cost	COLA Normal Cost	Total Normal Cost	UAAL Contribution Rate ⁽¹⁾	Total Contribution Rate	Total Contribution Rate ⁽²⁾
<u>Plan 1</u>								
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%
<u>Plan 2</u>								
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%
<u>Plan 3</u>								
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%
<u>Plan 4</u>								
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%
<u>Plan 5</u>								
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%
<u>Plan 7</u>								
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%
<u>All Plans</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%

- (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)

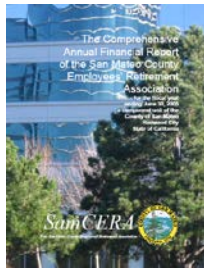
Unfunded Actuarial Liability Amortization Detail							
Date Established	Description ⁽⁴⁾	Balance as of June 30, 2015	Interest on Balance	Amort. Payment on June 30, 2016 ¹	Balance as of June 30, 2016 ²	Remaining Period as of June 30, 2016	July 1, 2016 Amortization Payment
June 30, 2008	Initial UAAL	\$ 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



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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
Subtotal	<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
Subtotal	<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
Subtotal	<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.

General Males 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.

Safety Males RP-2000 Healthy Combined Mortality Table for Males with adjustment for White Collar workers (minimum is 1.0%).

General Females 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.

Safety Females 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,

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). 31765.2)

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
 Subtotaled 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

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	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

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	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

Count	Years of Service									Total Count	
	Age	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	0
25-29	6	8	1	0	0	0	0	0	0	0	15
30-34	4	9	19	1	0	0	0	0	0	0	33
35-39	1	3	21	20	2	0	0	0	0	0	47
40-44	1	1	13	34	27	3	0	0	0	0	79
45-49	0	1	2	21	30	10	0	0	0	0	64
50-54	0	1	2	9	8	5	6	0	0	0	31
55-59	0	0	0	3	2	0	0	1	0	0	6
60-64	0	0	1	2	0	1	1	1	0	0	6
65 & Over	0	0	0	1	0	0	0	0	0	0	1
Total Count	12	23	59	91	69	19	7	2	0	0	282

Compensation	Years of Service									Average Comp.	
	Age	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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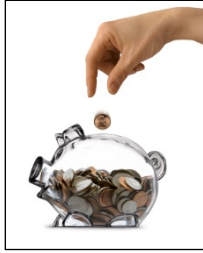
**Exhibit C-5c: Distribution of Retired Members by Age and Retirement Year as of June 30, 2015
 Probation Plans Combined**

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.

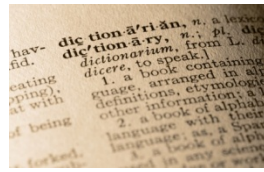
Exhibit D-6: Probation Member Contribution Rates

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.