



Board of Retirement Regular Meeting

Sacramento County Employees' Retirement System

Agenda Item 10

MEETING DATE: November 7, 2017

SUBJECT: Actuarial Valuation and Review and GASB 67 Report
as of June 30, 2017

SUBMITTED FOR: ___ Consent X Deliberation and Action ___ Receive and File

RECOMMENDATION

Staff recommends that the Board:

- 1) Receive and file the Actuarial Valuation and Review as of June 30, 2017 as prepared by Segal Consulting;
- 2) Adopt the 2018-2019 fiscal year employer and employee contribution rates recommended by Segal in their report;
- 3) Consider any other recommendations made in the Segal report; and
- 4) Receive and file the Governmental Accounting Standards Board Statement 67 Actuarial Valuation as of June 30, 2017.

PURPOSE

To ensure timely action on the annual actuarial valuation to establish retirement contribution rates for participating employers and members and on the GASB 67 report to facilitate timely completion of projects that rely on these reports including the annual independent audit and the Comprehensive Annual Financial Report (CAFR).

DISCUSSION

The Actuarial Valuation and Review as of June 30, 2017, prepared by Segal Consulting is attached for your consideration. The discussion that follows highlights key components of the report. Segal will attend the Board Meeting to present the report and answer any questions you might have.

Investment Return for 2016-2017 - Through fiscal year 2016-2017, the annual investment return assumption for the plan is 7.50%. For the 2016-2017 plan year, the annual return on an actuarial basis was 7.46% (as determined using the seven-year asset smoothing), which is only 0.04% below the 7.50% annual investment return assumption. The annual investment

return on a market value basis was 13.55%, which exceeded the annual investment return assumption by 6.05%.

As a result of higher-than-assumed investment return on a market value basis, SCERS reduced its net deferred losses of \$555.5 million as of June 30, 2016 to \$81.0 million as of June 30, 2017. If SCERS meets its investment return assumption going forward, the \$81 million net deferred losses will be recognized over the next six years, which will put moderate upward pressure on the employer contribution rate. While SCERS has \$46.9 million in the Contingency Reserve available to help mitigate future losses, it will not be sufficient to fully offset current net deferred losses. [See pages iii and 6 of the valuation]

Funding Status - SCERS' funding status on an actuarial value of assets basis (using seven-year asset smoothing) decreased from 87.3% to 81.1%, and on a market value of assets basis decreased from 81.4% to 80.4%. [See pages ii, vii, 6-7, 9-11, and 23 of the valuation]

Funding Status					
Year Ending June 30	(1) Actuarial Accrued Liability	(2) Market Value of Assets	(3) Market Value of Assets as a % of Actuarial Accrued Liability (2)/(1)	(4) Actuarial Value of Assets	(5) Actuarial Value of Assets as a % of Actuarial Accrued Liability (4)/(1)
2017	\$10,680,998	\$8,584,225	80.4%	\$8,665,226	81.1%
2016	9,436,090	7,680,865	81.4%	\$8,236,402	87.3%

The Unfunded Actuarial Accrued Liability (UAAL) increased from \$1.2 billion in 2016 to \$2.0 billion in 2017 due primarily to the changes in actuarial assumptions. [See page vii of the valuation]

Changes in Actuarial Assumptions – In May 2017, the Board approved changes in actuarial assumptions as recommended by the plan actuary. These assumption changes were incorporated into the annual actuarial valuation as of June 30, 2017, which establishes the retirement contribution rates for the 2018-2019 fiscal year.

The following notable assumptions and methods were adopted by the Board for the June 30, 2017 valuation:

- Inflation: 3.00% assumed rate of annual price inflation (reduced from 3.25%)
- Investment return: 7.00% assumed annual investment return (reduced from 7.50%)
- Salary increases: 3.25% assumed combined inflationary and real across the board salary increase (reduced from 3.50%)
- Mortality: Adjust assumed mortality rates and use a generational approach to anticipating future mortality improvement

Impact on Employer Contribution Rates - Contribution rates are expressed as a percentage of members' pension-eligible compensation, also known as a "percentage of payroll."

The changes to the actuarial assumptions resulted in a total contribution rate increase of just under 10% of payroll, with a 3.88% increase in the normal cost rate (shared equally by members and employers), and a 5.82% increase in the UAAL amortization rate paid by employers.

When implementing changes in actuarial assumptions that result in material increases in contributions, it has been the practice at SCERS to phase-in the cost impact on the employer contribution rate over a multi-year period (phase-in). In May 2017, the Board approved a plan to recognize the full impact of the assumption changes on member and employer normal cost immediately, and to phase-in the impact on the employer UAAL amortization rate over three years, so that the full cost impact of the assumption changes would be recognized before the next triennial experience study is conducted.

The table below summarizes the impact on the aggregate total employer contribution rate due to changes in the actuarial assumptions. [See page 21 of the valuation]

Aggregate Total Employer Contribution Rate (June 30, 2016 Valuation)	20.82%
Effect of investment losses	0.02%
Effect of actual experience different from expected	(0.07%)
Effect of members picking up the normal cost (County)	(0.12%)
Effect of changes in actuarial assumptions	7.76%
Aggregate Total Employer Contribution Rate before 3-year phase-in (June 30, 2017 valuation)	28.41%
Effect of 3-year phase in of cost impact on UAAL amortization rate due to changes in actuarial assumptions	(3.88%)
Aggregate Total Employer Contribution Rate, after 3-year phase-in (June 30, 2017 valuation)	24.53%

Below are the aggregate total employer contribution rates by employer type before and after the phase-in. [See pages ii, vi, and 16-19 of the valuation]

Aggregate Total Employer Contribution Rate (Before 3-Year Phase-in on UAAL)			
Employer	FY2018-2019	FY2017-2018	Increase
County of Sacramento	28.40%	20.72%	7.68%
Superior Court	25.49%	19.05%	6.44%
Special Districts, Rio Linda*	14.46%	12.43%	2.03%
Special Districts, others	33.17%	26.69%	6.48%
All Employers Combined	28.41%	20.82%	7.59%

Aggregate Total Employer Contribution Rate (After 3-Year Phase-in on UAAL)			
Employer	FY2018-2019	FY2017-2018	Increase
County of Sacramento	24.42%	20.72%	3.70%
Superior Court	22.65%	19.05%	3.60%
Special Districts, Rio Linda*	14.46%	12.43%	2.03%
Special Districts, others	30.43%	26.69%	3.74%
All Employers Combined	24.53%	20.82%	3.71%

* Rio Linda Elverta Recreation and Park district (Rio Linda) joined SCERS as a participating employer effective October 1, 2017. This employer and its members will pay only the normal cost rate for 2018/2019, and subsequently will be responsible for its share of the actuarial experience as reflected in future actuarial valuations.

Please note that the cited aggregate total employer contribution rates are a combination of the normal cost rate and the UAAL amortization rate across all member categories and benefit tiers. The higher employer contribution rate for District employers is attributable to a higher UAAL amortization payment as, unlike the County and the Superior Court, District employers did not provide UAAL funding from pension obligation bonds in 2004 when benefit formulas were enhanced. Information regarding the UAAL amortization layers and amortization periods can be found on page 90 of the valuation.

Impact on Member Contribution Rates - The aggregate member contribution rate across all member categories and benefit tiers) will increase from 9.91% of payroll to 11.84% of payroll, an increase of 1.93% of payroll. This change was primarily due to the changes in actuarial assumptions (an increase of 1.83% of payroll). [See pages ii and 22 of the valuation] Information regarding the base (unadjusted) employee contribution rates by tier can be found on pages 84-89 of the valuation.

Changes in Member Contribution Rate Rates			
Benefit Tier	FY 2018-2019	FY 2017-2018	Increase
Miscellaneous Tier 1	5.95%	4.95%	1.00%
Miscellaneous Tier 2	3.87%	3.54%	0.33%
Miscellaneous Tier 3	5.55%	4.78%	0.77%
Miscellaneous Tier 4	8.37%	7.24%	1.13%
Miscellaneous Tier 5	9.37%	7.93%	1.44%
Safety Tier 1	19.20%	16.09%	3.11%
Safety Tier 2	14.75%	12.42%	2.33%
Safety Tier 3	14.33%	12.10%	2.23%
Safety Tier 4	15.05%	13.14%	1.91%

Effects of Pension Reform – The impact of the County’s and the state’s pension reform measures are already being seen in the SCERS member workforce, and significant cost reductions resulting from these measures are projected to be realized over the next 5-10 years.

Normal Cost Impact - The new CalPEPRA benefit tiers became operative on January 1, 2013. Miscellaneous Tier 5 and Safety Tier 4 continue to have the lowest employer normal costs. The lower employer cost for these tiers is primarily attributable to lower benefit formulas than in the legacy tiers, pension-eligible compensation is limited to base salary (i.e., no differentials or allowances), an annual cap on the compensation that is pension-eligible, and employees must pay half of the normal cost of the benefits. CalPEPRA also established a mechanism for moving legacy tier members toward paying 50% of the normal cost to fund their benefits.

Before the adoption of CalPEPRA, the County had implemented new lower employer cost tiers for Miscellaneous members (Tier 4) and Safety members (Tier 3). The lower employer cost of these tiers relative to the legacy tiers is primarily attributable to lower benefit formulas and the members paying a larger share of normal cost.

Below is the summary of the impact on the County's employer normal cost under the 'pension reform' tiers (Miscellaneous Tiers 4 & 5 and Safety Tiers 3 & 4) and increased legacy member normal cost sharing (Miscellaneous Tiers 1, 2 & 3 and Safety Tiers 1 & 2). [See pages 16 and 17 of the valuation]

Changes in Employer Normal Costs			
Plan/Tier	Before Normal Cost Sharing	After Normal Cost Sharing	Decrease
Miscellaneous Tier 1	14.03%	10.84%	(3.19%)
Miscellaneous Tier 2	12.55%	8.21%	(4.34%)
Miscellaneous Tier 3	16.00%	10.95%	(5.05%)
Miscellaneous Tier 4	12.00%	10.37%	(1.63%)
Miscellaneous Tier 5	N/A	9.37%	N/A
Safety Tier 1	25.16%	23.74%	1.42%
Safety Tier 2	24.04%	19.61%	4.43%
Safety Tier 3	22.66%	18.66%	4.00%
Safety Tier 4	N/A	15.05%	N/A

Participation Levels - Equally important to the lower cost of the new tiers is the transition of the workforce from participation levels in the legacy tiers versus participation levels in the 'pension reform' tiers.

Changes in Active Membership			
Plan/Tier	As of June 30, 2017	As of June 30, 2016	Increase/ (Decrease)
Miscellaneous Tier 1	65	83	(21.7%)
Miscellaneous Tier 2	57	62	(8.1%)
Miscellaneous Tier 3	7,206	7,746	(7.0%)
Miscellaneous Tier 4	362	328	10.4%
Miscellaneous Tier 5	2,887	2,144	34.7%
Safety Tier 1	166	218	(23.9%)
Safety Tier 2	1,285	1,337	(3.9%)
Safety Tier 3	112	102	9.8%
Safety Tier 4	447	373	19.8%

This transition has taken place in just the last five years. Currently, 30% of the membership is in the new tiers. It is projected that within five years, 50% or more of the membership will be in the new tiers. Pension reform will continue to have a positive impact on employer normal cost for the next decade and beyond.

Ratio of Retired to Active Participants - As noted in previous valuation reports, the downsizing of the County workforce following the Great Financial Crisis, combined with an increased number of retirees and beneficiaries (primarily due to the 'baby boom' demographic) has impacted the ratio of non-active participants to active participants. Compared to 2008, when there were considerably more active participants than non-active participants, there are now 1.18 retired (non-active) participants for every active participant. [See page 1 of the valuation] While a steady increase in retirees and beneficiaries is expected to continue for the next 5-8 years [See page 2 of the valuation], there continued to be an increase in the number of active SCERS members, which helped to keep the ratio of non-active participants to active participants stable. It is unclear, however, if and/or for how long, the growth in active employees will keep pace with the growth in retirees and beneficiaries.

SCERS Net Cash Flow - An important ramification of the ratio of retired to active participants is the relationship between retirement system income (contributions plus investment income) versus benefit payments. Notwithstanding the increasing level of benefit payments, SCERS was able to remain cash flow positive due to the income generated by the investment portfolio. However, given the steady increase in benefit payments and the sustained lower-return environment in capital markets, it was expected that benefit payments would eventually exceed contributions and investment income. In 2016, that threshold was crossed, it continued in 2017, and is likely to remain. [See page 4 of the valuation] SCERS has taken steps to bring more income generating investments into its portfolio (e.g., in the real assets asset class) and ongoing cash flow needs was an important consideration in the asset/liability study conducted in 2016.

Asset Volatility and Liability Volatility Ratios [See page 25 of the valuation]

The Asset Volatility Ratio (AVR), which is calculated by dividing the market value of assets by the total active member payroll. The AVR indicates the potential for retirement contribution volatility for any given level of investment return volatility. At June 30, 2017, SCERS' AVR is 8.8, meaning that a 1% asset gain/loss relative to the assumed investment return would impact contributions by 8.8% of annual covered payroll.

The Liability Volatility Ratio (LVR), which is calculated by dividing the Actuarial Accrued Liability (AAL) by the total payroll, indicates the longer-term potential for retirement contribution volatility for any given level of investment return volatility because, over an extended period of time, the plan's assets should track the plan's liabilities. The LVR also indicates how volatile contributions will be in response to changes in the AAL. At June 30, 2017, SCERS' LVR is 10.9, which is about 24% higher than the AVR, indicating that contribution volatility is expected to increase over the long-term as the plan becomes better funded.

While it is certainly important to understand how contribution rates are likely to change based on changes in the level of assets and/or liabilities, some observations are in order regarding the AVR and LVR data in the valuation:

- The higher the level of benefits provided by a plan, the more volatile the costs of the plan will be. This is reflected in the higher volatility associated with the higher Safety benefits versus the lower Miscellaneous benefits

- Since both the AVR and LVR are tied to the level of the active member payroll, significant changes in the payroll will have a material impact on the ratios.

Estimated Annual Amounts in Valuation Report - A number of the tables in the report include an 'Estimated Annual Amount.' This number represents the estimated annual dollar cost for a given contribution rate or rates. [See, e.g., pages v, and 16-19 of the valuation] Segal calculates these amounts based on a projected payroll for the year. [See page 20 of the valuation] This projection is derived from the payroll numbers for the current fiscal year provided by the County last December, to which Segal applies a payroll growth assumption of 3.25%. Since it is unclear whether the County payroll will increase by 3.25% in the upcoming fiscal year, caution should be exercised with respect to relying on the estimated dollar amounts in the report as the actual cost that will need to be paid by the County or other participating employers.

BACKGROUND

As you know, SCERS is governed by and administered in accordance with the requirements of the County Employees Retirement Law (CERL) and with the provisions of Article XVI, Section 17 of the California Constitution. Under the law, the SCERS Board has plenary authority and fiduciary responsibility for the administration of the retirement system. While Section 31453 of the CERL requires an actuarial valuation at intervals not to exceed three years, the Board's policy is to conduct a valuation annually.

The annual actuarial valuation measures the current and projected assets and liabilities of the retirement system, as well as the system's funded status. This information forms the basis for establishing the actuary's recommendations for the employer and employee contribution rates for the upcoming fiscal year. The Board then uses the actuary's recommendations in adopting the appropriate contribution rates, which are conveyed to the Board of Supervisors for implementation.

In measuring the assets and liabilities, and determining the plan's funded status, the actuary uses investment and actuarial experience to-date, plus various assumptions about the projected future growth in assets and liabilities. The actuarial assumptions include both economic and demographic assumptions which are long term in nature, as opposed to the experience that might be anticipated in the next few years.

In each valuation, the previous year's experience is compared to the actuarial assumptions, and to the extent there are differences, the contribution rates are adjusted. This is referred to as the 'experience reconciliation' or 'annual experience adjustment' and can result in either an upward or downward adjustment in the next year's contribution rate depending on whether the experience produced an 'actuarial gain' or 'actuarial loss.'

The review of demographic and economic assumptions is done as part of the triennial experience study. As the name suggests, in such a study the actuary analyzes the investment and actuarial experience over a three-year period for the purposes of determining whether the experience is consistent with the actuarial assumptions. In certain instances, however,

experience or trends may call into question the continued reasonableness of an assumption, and in such a case, the actuary will recommend a change in the assumption itself. An assumption change typically has a greater effect on contribution rates than the reconciliation in the annual experience adjustment, however the use of realistic assumptions is important to maintain adequate funding and an equitable distribution of the cost of the retirement system across generations. As with experience adjustments, an assumption change can result in either an upward or downward adjustment in future cost.

The last triennial experience study prepared by Segal Consulting covered the period July 1, 2013 through June 30, 2016 and was presented for the Board's consideration in May 2017. At that time, the Board approved various actuarial assumptions which have been used in preparing the valuation as of June 30, 2017.

In determining appropriate contribution rates, the overall goal is to establish employer and employee contribution rates which, together with investment earnings, will provide sufficient funding to pay the benefits earned by SCERS members. To accomplish this, the actuary identifies two cost components.

First, the actuary determines the contribution rate necessary to cover the 'normal cost' of the retirement benefits. This is the amount which, when applied to the projected future compensation of the member, along with projected future investment earnings, will be sufficient to provide for the payment of the prospective benefits for the member as established by the relevant provisions of the CERL and CalPEPRA. The normal cost is shared by the employer and employee, with the specific cost-sharing formula established either by statute or pursuant to collective bargaining or other labor agreements. With certain limitations, the cost-sharing burden can be modified by changes in those agreements.

Second, the actuary determines the contribution rate necessary to fund the portion of the ultimate benefit liability that has not been covered by previous normal cost contributions and investment returns. This cost component is referred to as 'unfunded accrued actuarial liability' (UAAL) amortization rate and arises from several factors including actuarial losses; investment under-performance; the adoption of retroactive benefit enhancements for which additional contributions were not collected; and retirement incentives.

GASB 67 ACTUARIAL VALUATION REPORT

Also attached is the GASB 67 Actuarial Valuation as of June 30, 2017, which has been prepared by Segal Consulting.

GASB 67 redefined pension liability and expense for financial reporting purposes. When measuring pension liability, GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as SCERS uses for funding. As a result, the Total Pension Liability measure for financial reporting purposes is determined on the same basis as SCERS' Actuarial Accrued Liability measure for funding, and as a result, the amounts are the same (\$10,680,998,000).

The GASB 67 Valuation Report provides additional information related to pension liability, the changes in pension liability, the discount rate used in determining the pension liability, the sensitivity of net pension liability to changes in the discount rate, as well as other note disclosures as required.

The information in this report will be incorporated into SCERS' Comprehensive Annual Financial Report (CAFR) as required, which will be presented to the Board in December.

ATTACHMENTS

Actuarial Valuation and Review as of June 30, 2017.

Governmental Accounting Standards Board Statement 67
Actuarial Valuation as of June 30, 2017

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Sacramento County Employees' Retirement System

Actuarial Valuation and Review as of
June 30, 2017



This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety. The measurements shown in the actuarial valuation may not be applicable for other purposes.

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November 1, 2017

*Board of Retirement
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Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2017. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2018-2019 and analyzes the preceding year's experience.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement System. The census information and financial information on which our calculations were based was prepared by the Retirement System. That assistance is gratefully acknowledged. The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, Enrolled Actuary.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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); and changes in plan provisions or applicable law.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Retirement System.


We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By: 

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Senior Vice President and Actuary*



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JAC/bbf

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SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

Purpose

This report has been prepared by Segal Consulting to present a valuation of the Sacramento County Employees' Retirement System as of June 30, 2017. The valuation was performed to determine whether the asset and contribution levels will be sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Retirement System, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2017, provided by the Retirement System;
- The assets of the plan as of June 30, 2017, provided by the Retirement System;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

One of the general goals of an actuarial valuation is to establish contributions which fully fund the System's liabilities, and which, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the System's assets, liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the System's staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with prior year's information.

Reference: Pg. 90

The contribution requirements are determined as a percentage of payroll. The System's employer rates provide for both Normal Cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have applied the funding policy adopted by the Board on June 19, 2013 to (1) continue to amortize the unfunded actuarial accrued liability (UAAL) established as a result of the 2010 Early Retirement Incentive Program for the Sacramento County Law Enforcement Managers Association (LEMA) members over a 10-year period beginning June 30, 2010 and (2) to amortize the System's remaining outstanding balance of the June 30, 2012 UAAL over a declining 23-year period (18 years as of June 30, 2017). Effective with the June 30, 2013 valuation, the Board of Retirement's funding policy is to amortize any change in UAAL that arises due to actuarial gains or losses or from changes in actuarial assumptions or methods at each valuation over its own declining 20-year period. Any change in UAAL that arises due to plan amendments will be amortized over its own declining 15-year period and any change in UAAL due to retirement incentive programs will be amortized over its own

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

declining period of up to 5 years. The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2018 through June 30, 2019.

Significant Issues in Valuation Year

- Reference:* Pg. 58
- The results of this valuation reflect changes in the economic and demographic assumptions as recommended by Segal and adopted by the Board for the June 30, 2017 valuation. These changes were documented in our Actuarial Experience Study and are also outlined in Section 4, Exhibit III of this report. These assumption changes resulted in an increase in the average employer rate of 7.76% of payroll and an increase in the aggregate member rate of 1.83% of payroll. Out of the 7.76% of payroll increase in average employer rate, 1.94% is an increase in the Normal Cost rate and 5.82% is an increase in the UAAL rate.
- The Board adopted a three-year phase-in of the cost impact of the changes in actuarial assumptions on the employer's UAAL rate only. The employer should be aware that their contributions for 2019/2020 and 2020/2021 (that will be established in the June 30, 2018 and June 30, 2019 valuations, respectively) will increase again due to the further recognition of the cost impact of these changes in actuarial assumptions, including the interest cost associated with the phase-in. We have shown the rates for 2018/2019 both before and after the phase-in in this report.
- Reference:* Pgs. 24, 51
- The ratio of the actuarial value of assets to actuarial accrued liabilities decreased from 87.3% to 81.1%. On a market value of assets basis, the funded ratio decreased from 81.4% to 80.4%. The System's unfunded actuarial accrued liability increased from \$1,200 million as of June 30, 2016 to \$2,016 million as of June 30, 2017. The change in the UAAL is primarily due to the changes in actuarial assumptions. A reconciliation of the System's unfunded actuarial accrued liability is provided in Section 3, Exhibit H.
- Reference:* Pg. 21
- The aggregate employer rate increased from 20.82% of payroll to 24.53% of payroll. The reasons for this change in contribution rate are: (i) changes in actuarial assumptions after considering the three-year phase-in of the UAAL rate impact, (ii) lower than expected returns on investments (after "smoothing") and (iii) other actuarial losses, offset to some degree by (iv) higher than expected contributions, (v) lower than expected individual salary increases during 2016/2017, (vi) lower UAAL rate due to higher than expected increase in total payroll, (vii) lower than expected COLA increases and (viii) Rep Units 16 and 25 members agreeing to contribute an additional portion of the Normal Cost in 2017/2018 and 2018/2019. A reconciliation of the System's aggregate employer rate is provided in Section 2, Subsection D, Chart 14.
- Reference:* Pg. 22
- The aggregate member rate calculated in this valuation has increased from 9.91% of payroll to 11.84% of payroll. The increase in member rate is primarily due to changes in actuarial assumptions and Rep Units 16 and 25 members agreeing to contribute an additional portion of the Normal Cost in 2017/2018 and 2018/2019. A reconciliation of the System's aggregate member rate is provided in Section 2, Subsection D, Chart 15.

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

Reference: Pg. 6

- As of June 30, 2017, about 26% of active members are enrolled in the CalPEPRA tiers. As a result of the implementation of the CalPEPRA tiers, the aggregate Normal Cost rate is lower by about 0.5% of payroll compared to what the Normal Cost rate would have been if the active members were enrolled in the legacy tiers.
- As indicated in Section 2, Subsection B, Chart 7 of this report, the total net unrecognized investment loss as of June 30, 2017 is \$81.0 million (as compared to a net unrecognized investment loss of \$555.5 million as of June 30, 2016). This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes over the next six years. That means that even if the System earns the assumed rate of investment return of 7.00% per year on a market value basis, there will still be investment losses on the actuarial value of assets in the next few years. Therefore, if the actual market return is equal to the assumed rate of 7.00% and all the other actuarial assumptions are met, the employer contribution requirements would increase in the next few years.
- The unrecognized investment losses represent about 1% of the market value of assets. Unless offset by future investment gains or other favorable experience, the recognition of the \$81.0 million in past market losses is expected to have an impact on the System's future funded ratio and the aggregate employer contributions. This potential impact may be illustrated as follows:
 - If the deferred losses were recognized immediately in the actuarial value of assets, the funded percentage would decrease from 81.1% to 80.4%.

For comparison purposes, if all the deferred losses in the June 30, 2016 valuation had been recognized immediately in the June 30, 2016 valuation, the funded percentage would have decreased from 87.3% to 81.4%.
 - If the deferred losses were recognized immediately in the actuarial value of assets, the aggregate employer contribution rate would increase from 24.53% of payroll to 25.1% of payroll. Note that both of these rates are calculated with the three-year phase-in of the UAAL rate impact from the assumption changes.

For comparison purposes, if all the deferred losses in the June 30, 2016 valuation had been recognized immediately in the June 30, 2016 valuation, the aggregate employer contribution rate would have increased from 21.1% of payroll to 25.4% of payroll.
- In this valuation, \$34.3 million of the amount in the Contingency Reserve from June 30, 2016 was applied to credit interest to the valuation reserve accounts as of June 30, 2017. The remaining \$46.9 million in the Contingency Reserve as of June 30, 2017 is available to credit interest to the valuation reserve accounts or to offset actuarial losses in future valuations at the Board's discretion. If that amount were applied in the June 30, 2017 valuation, the aggregate employer contribution rate would have decreased by about 0.3% of payroll.

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

- The actuarial valuation report as of June 30, 2017 is based on financial information as of that date. Changes in the value of assets subsequent to that date are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.
- As the actuarial valuation report as of June 30, 2017 establishes the funding requirements for 2018/2019, this report only reflects the sharing of the total Normal Cost rate between the employer and County members in the legacy tiers through 2018/2019. The additional Normal Cost that the Miscellaneous County Rep Units 16 and 25 members in the legacy tiers have agreed to pay in order to reach 50% of the total Normal Cost rate beyond 2018/2019 will be reflected in next year's actuarial valuation.
- Rio Linda Elverta Recreation and Parks District became a participating employer effective October 1, 2017. Employees will be enrolled in Miscellaneous Tier 5, regardless of any reciprocity with other retirement systems. The employer and its members will pay only the Normal Cost rate for 2018/2019. In subsequent valuations, the employer will be responsible for its share of the actuarial experience and those rates will be reflected in future actuarial valuations.

Impact of Future Experience on Contribution Rates

Future contribution requirements may differ from those determined in the valuation because of:

- difference between actual experience and anticipated experience;
- changes in actuarial assumptions or methods;
- changes in statutory provisions; and
- difference between the contribution rates determined by the valuation and those adopted by the Board.

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

Summary of Key Valuation Results

	June 30, 2017		June 30, 2016	
	(Before Phase-in)			
Employer Contribution Rates (Dollar amounts in thousands):				
	Total Rate	Estimated Annual Amount ⁽¹⁾	Total Rate	Estimated Annual Amount ⁽¹⁾
Miscellaneous Tier 1	21.70%	\$1,213	16.17%	\$904
Miscellaneous Tier 2	19.45%	803	14.41%	595
Miscellaneous Tier 3	22.35%	126,479	16.66%	94,301
Miscellaneous Tier 4	20.80%	5,942	15.01%	4,288
Miscellaneous Tier 5	20.13%	31,842	14.44%	22,830
Safety Tier 1	55.97%	12,675	41.30%	9,353
Safety Tier 2	51.84%	77,294	37.44%	55,822
Safety Tier 3	50.89%	5,758	36.51%	4,132
Safety Tier 4	47.28%	16,480	34.11%	11,889
All Categories Combined	28.41%	\$278,486	20.82%	\$204,114
Aggregate Member Contribution Rates (Dollar amounts in thousands):				
	Total Rate	Estimated Annual Amount ⁽¹⁾	Total Rate	Estimated Annual Amount ⁽¹⁾
All Categories Combined	11.84%	\$116,075	9.91%	\$97,154
Individual Member Contribution Rates:				
(Before reflecting members in legacy tiers agreeing to contribute an additional portion of the Normal Cost)				
	Total Rate ⁽²⁾	Per Member Annual Amount ⁽³⁾	Total Rate ⁽²⁾	Per Member Annual Amount ⁽³⁾
Miscellaneous Tier 1	5.95%	\$5,038	4.95%	\$4,192
Miscellaneous Tier 2	3.87%	2,749	3.54%	2,515
Miscellaneous Tier 3	5.55%	4,282	4.78%	3,685
Miscellaneous Tier 4	8.37%	6,491	7.24%	5,609
Miscellaneous Tier 5	9.37%	5,133	7.93%	4,344
Safety Tier 1	19.20%	25,928	16.09%	21,724
Safety Tier 2	14.75%	16,906	12.42%	14,240
Safety Tier 3	14.33%	14,281	12.10%	12,057
Safety Tier 4	15.05%	11,736	13.14%	10,247

⁽¹⁾ Based on June 30, 2017 projected annual compensation.

⁽²⁾ Based on single full-rates payable by members who enter on or after January 1, 1975.

⁽³⁾ Based on average projected annual compensation for members in each respective tier.

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

Summary of Key Valuation Results

	June 30, 2017		June 30, 2016	
	(After Phase-in)			
Employer Contribution Rates (Dollar amounts in thousands):	Total Rate	Estimated Annual Amount ⁽¹⁾	Total Rate	Estimated Annual Amount ⁽¹⁾
Miscellaneous Tier 1	18.85%	\$1,054	16.17%	\$904
Miscellaneous Tier 2	16.61%	686	14.41%	595
Miscellaneous Tier 3	19.51%	110,428	16.66%	94,301
Miscellaneous Tier 4	17.96%	5,131	15.01%	4,288
Miscellaneous Tier 5	17.30%	27,357	14.44%	22,830
Safety Tier 1	48.41%	10,963	41.30%	9,353
Safety Tier 2	44.28%	66,022	37.44%	55,822
Safety Tier 3	43.33%	4,902	36.51%	4,132
Safety Tier 4	39.72%	13,845	34.11%	11,889
All Categories Combined	24.53%	\$240,388	20.82%	\$204,114
Aggregate Member Contribution Rates (Dollar amounts in thousands):	Total Rate	Estimated Annual Amount ⁽¹⁾	Total Rate	Estimated Annual Amount ⁽¹⁾
All Categories Combined	11.84%	\$116,075	9.91%	\$97,154
Individual Member Contribution Rates:	Total Rate ⁽²⁾	Per Member Annual Amount ⁽³⁾	Total Rate ⁽²⁾	Per Member Annual Amount ⁽³⁾
(Before reflecting members in legacy tiers agreeing to contribute an additional portion of the Normal Cost)				
Miscellaneous Tier 1	5.95%	\$5,038	4.95%	\$4,192
Miscellaneous Tier 2	3.87%	2,749	3.54%	2,515
Miscellaneous Tier 3	5.55%	4,282	4.78%	3,685
Miscellaneous Tier 4	8.37%	6,491	7.24%	5,609
Miscellaneous Tier 5	9.37%	5,133	7.93%	4,344
Safety Tier 1	19.20%	25,928	16.09%	21,724
Safety Tier 2	14.75%	16,906	12.42%	14,240
Safety Tier 3	14.33%	14,281	12.10%	12,057
Safety Tier 4	15.05%	11,736	13.14%	10,247

⁽¹⁾ Based on June 30, 2017 projected annual compensation.

⁽²⁾ Based on single full-rates payable by members who enter on or after January 1, 1975.

⁽³⁾ Based on average projected annual compensation for members in each respective tier.

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

Summary of Key Valuation Results – continued

	June 30, 2017	June 30, 2016
Funded Status (Dollar Amounts in thousands):		
Actuarial accrued liability ⁽¹⁾	\$10,680,998	\$9,436,090
Actuarial value of assets (AVA) ⁽¹⁾	8,665,226	8,236,402
Market value of assets (MVA)	8,584,225	7,680,865
Funded percentage on an AVA basis	81.1%	87.3%
Funded percentage on a MVA basis	80.4%	81.4%
Unfunded actuarial accrued liability on an AVA basis	\$2,015,772	\$1,199,688
Unfunded actuarial accrued liability on a MVA basis	2,096,773	1,755,225
Key Assumptions:		
Interest rate	7.00%	7.50%
Inflation rate	3.00%	3.25%
Across-the-board real salary increase	0.25%	0.25%

⁽¹⁾ Includes non-valuation reserves and designations.

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

Summary of Key Valuation Demographic and Financial Data

	June 30, 2017	June 30, 2016	Change from Prior Year
Active Members:			
Number of members	12,587	12,393	1.6%
Average age	46.0	46.3	-0.3
Average service	12.1	12.4	-0.3
Projected total compensation	\$980,359,126	\$938,554,870	4.5%
Average projected compensation	\$77,887	\$75,733	2.8%
Retired Member and Beneficiaries:			
Number of members:			
Service retired	9,103	8,710	4.5%
Disability retired	717	717	0.0%
Beneficiaries	1,576	1,533	2.8%
Total	11,396	10,960	4.0%
Average age	69.5	69.4	0.1
Average monthly benefit	\$3,260	\$3,156	3.3%
Vested Terminated Members:			
Number of terminated vested members ⁽¹⁾	3,425	3,301	3.8%
Average age	47.4	47.2	0.2
Summary of Financial Data (dollar amounts in thousands):			
Market value of assets	\$8,584,225	\$7,680,865	11.8%
Return on market value of assets	13.55%	-1.00%	N/A
Actuarial value of assets	\$8,665,226	\$8,236,402	5.2%
Return on actuarial value of assets	6.88%	6.57%	N/A
Valuation value of assets	\$8,641,779	\$8,169,906	5.8%
Return on valuation value of assets	7.46%	6.70%	N/A

⁽¹⁾ Includes terminated members due a refund of member contributions.

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare an actuarial valuation, Segal Consulting (“Segal”) relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by SCERS. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** This valuation is based on the market value of assets as of the valuation date, as provided by SCERS.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal’s actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The valuation is prepared at the request of the Board to assist the sponsors of the Fund in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If SCERS is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of SCERS, it is not a fiduciary in its capacity as actuaries and consultants with respect to SCERS.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, vested terminated members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1
Member Population: 2008 – 2017

Year Ended June 30	Active Members	Vested Terminated Members⁽¹⁾	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2008	15,180	2,661	7,709	0.68
2009	14,796	2,818	7,968	0.73
2010	13,340	2,740	8,346	0.83
2011	12,434	2,710	8,821	0.93
2012	12,155	2,851	9,239	0.99
2013	12,026	3,249	9,634	1.07
2014	12,049	3,201	10,049	1.10
2015	12,072	3,261	10,541	1.14
2016	12,393	3,301	10,960	1.15
2017	12,587	3,425	11,396	1.18

⁽¹⁾ Includes terminated members due a refund of member contributions

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 12,587 active members with an average age of 46.0, average years of service of 12.1 years and average compensation of \$77,887. The 12,393 active members in the prior valuation had an average age of 46.3, average service of 12.4 years and average compensation of \$75,733.

Inactive Members

In this year's valuation, there were 3,425 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 3,301 in the prior valuation.

These graphs show a distribution of active members by age and by years of service.

CHART 2
Distribution of Active Members by Age as of June 30, 2017

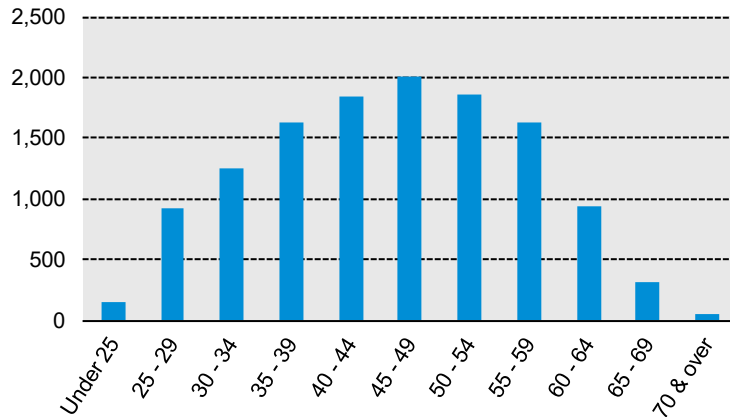
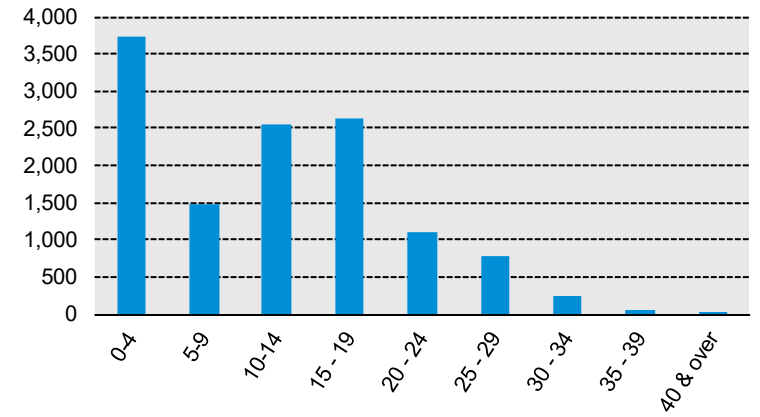


CHART 3
Distribution of Active Members by Years of Service as of June 30, 2017



SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

Retired Members and Beneficiaries

As of June 30, 2017, 9,820 retired members and 1,576 beneficiaries were receiving total monthly benefits of \$37,156,271. For comparison, in the previous valuation, there were 9,427 retired members and 1,533 beneficiaries receiving monthly benefits of \$34,592,112.

These graphs show a distribution of the current retired members and beneficiaries based on their monthly amount and age, by type of pension.

CHART 4
Distribution of Retired Members and Beneficiaries by Type and by Monthly Amount as of June 30, 2017

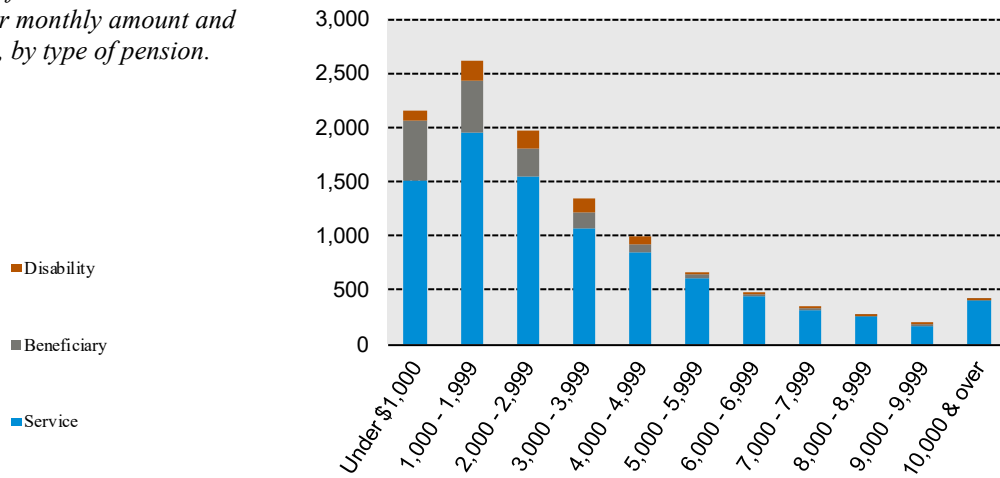
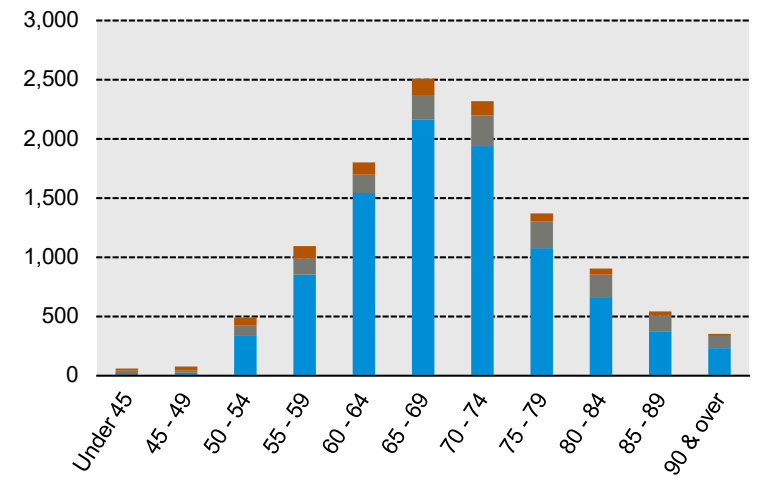


CHART 5
Distribution of Retired Members and Beneficiaries by Type and by Age as of June 30, 2017



SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

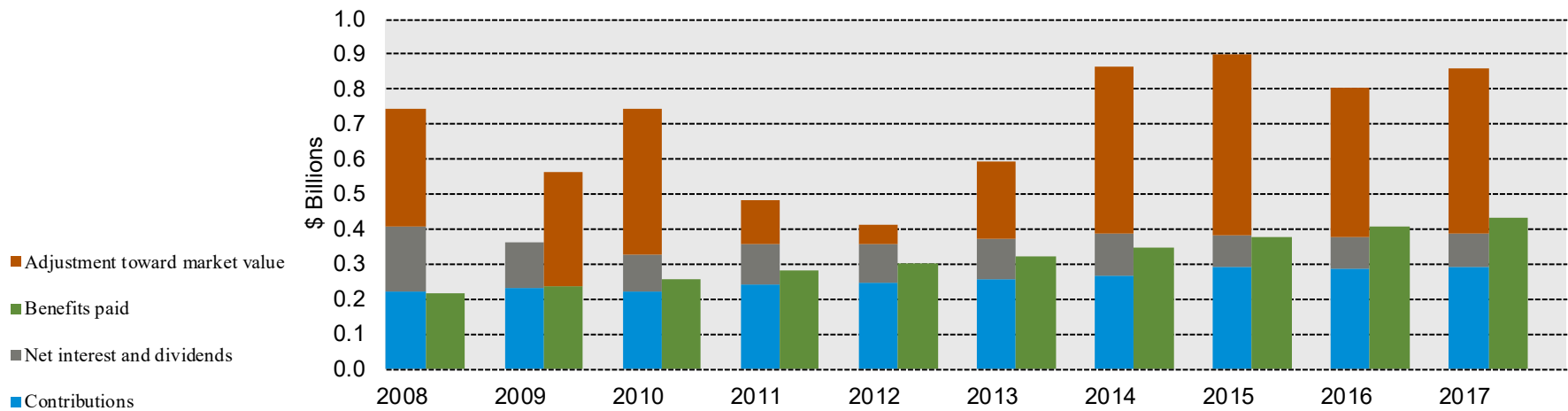
B. FINANCIAL INFORMATION

Retirement plan funding anticipates that, over the long term, both contributions and net investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments.

Retirement plan assets change as a result of the net impact of these income and expense components. The adjustment toward market value shown in the chart is the “non-cash” earnings on investments implicitly included in the actuarial value of assets. Additional financial information, including a summary of these transactions for the valuation year, is presented in Section 3, Exhibits D and E.

The chart depicts the components of changes in the actuarial value of assets over the last ten years. Note: The first bar represents increases in assets during each year while the second bar details the decreases.

CHART 6
Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended June 30, 2008 – 2017



SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

It is generally considered desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Retirement has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable.

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets does not have an impact on the actuarial value of assets.

The determination of the Actuarial and Valuation Value of Assets is provided on the following page.

In developing the actuarial value of assets as of June 30, 2017, we have used the investment gains/losses from the last few years starting July 1, 2008. The investment gain for the year ending June 30, 2017 was calculated by comparing the actual market return against an expected market return of 7.50% per annum used in the June 30, 2016 valuation. As adopted by the Board, any investment gains/losses established after July 1, 2008 will be recognized over a seven-year period and the deferred return will be further adjusted, if necessary, so that the actuarial value of assets will stay within 30% of the market value of assets. Deferred gains and losses as of June 30, 2013 have been combined and will be recognized in equal amounts over a period of six years starting July 1, 2013.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

CHART 7 - Determination of Actuarial and Valuation Value of Assets for Year Ended June 30, 2017

From	To	Contributions	Benefits	Market Value	Average Market Value
7/2008	6/2009	\$231,634,350	\$235,677,778	\$4,407,858,000	\$5,807,291,027
7/2009	6/2010	219,555,464	258,023,786	4,980,962,000	4,462,064,342
7/2010	6/2011	240,071,877	280,594,039	6,140,644,000	5,040,052,530
7/2011	6/2012	244,788,721	301,803,914	6,073,926,000	6,187,197,677
7/2012	6/2013	257,906,339	323,566,930	6,787,995,000	6,124,682,749
7/2013	6/2014	268,138,220	347,619,527	7,810,001,000	6,828,714,719
7/2014	6/2015	291,101,995	374,657,240	7,878,814,000	7,856,443,766
7/2015	6/2016	286,513,833	405,702,024	7,680,865,000	7,900,083,408
7/2016	6/2017	293,417,055	432,066,219	8,584,225,000	7,689,978,429

From	To	Total Actual Market Return (net)	Expected Market Return (net)	Investment Gain (Loss)	Deferred Factor	Deferred Return
7/2008	6/2009	\$(1,324,427,572)	\$457,324,168	\$(1,781,751,740)		
7/2009	6/2010	611,572,322	351,387,567	260,184,755		
7/2010	6/2011	1,200,204,162	390,604,071	809,600,091		
7/2011	6/2012	(9,702,807)	479,507,820	(489,210,627)		
7/2012	6/2013	779,729,591	459,351,206	320,378,385	0.333	\$(3,253,890)
7/2013	6/2014	1,101,487,307	512,153,604	589,333,703	0.429	252,571,587
7/2014	6/2015	152,368,245	589,233,282	(436,865,037)	0.571	(249,637,164)
7/2015	6/2016	(78,760,809)	592,506,256	(671,267,065)	0.714	(479,476,475)
7/2016	6/2017	1,042,009,164	576,748,382	465,260,782	0.857	398,794,956

The chart shows the determination of the actuarial and the valuation value of assets as of the valuation date.

1.	Total Deferred Return ⁽²⁾					\$(81,000,985)
2.	Net Market Value					8,584,225,000
3.	Actuarial Value of Assets (Item 2 – Item 1)					8,665,225,985
4.	Actuarial Value as a Percentage of Market Value (Before Corridor: Item 3 / Item 2)					100.94%
5.	Actuarial Value of Assets – Corridor Limits:					
a.	Lower Limit – 70% of Net Market Value					\$6,008,957,500
b.	Upper Limit – 130% of Net Market Value					11,159,492,500
6.	Actuarial Value of Assets (within corridor)					8,665,225,985
7.	Non-valuation reserves and designations:					
a.	Contingency Reserve					\$46,852,270
b.	Other Non-Valuation Reserves					0
c.	Subtotal					\$46,852,270
8.	Preliminary Valuation Value of Assets (Item 6 – Item 7c)					8,618,373,715
9.	Adjustment to Preliminary Valuation Value of Assets					
a.	Balance of transfer to offset member COLA rate					\$18,424,000
b.	Surplus/(deficit) for withdrawn employer (preliminary) ⁽³⁾					(41,829,227)
c.	Subtotal					\$(23,405,227)
10.	Final Valuation Value of Assets (Item 8 – Item 9c)					\$8,641,778,942

⁽¹⁾ Based on action taken by the Board, the net deferred loss of \$9,761,669 through June 30, 2013 as of that valuation has been recognized in six level amounts with two periods of recognition remaining after the June 30, 2017 valuation.

⁽²⁾ The amounts of deferred return that will be recognized in each subsequent valuation are as follows:

6/30/2018	\$(9,275,175)	6/30/2020	\$(7,648,231)	6/30/2022	\$(29,429,469)
6/30/2019	\$(9,275,175)	6/30/2021	\$(91,838,760)	6/30/2023	\$66,465,825

⁽³⁾ Based on the latest estimate available as of June 30, 2016 for Florin Fire adjusted with interest at the assumed rate of investment return to June 30, 2017.

Note: Results may be slightly off due to rounding.

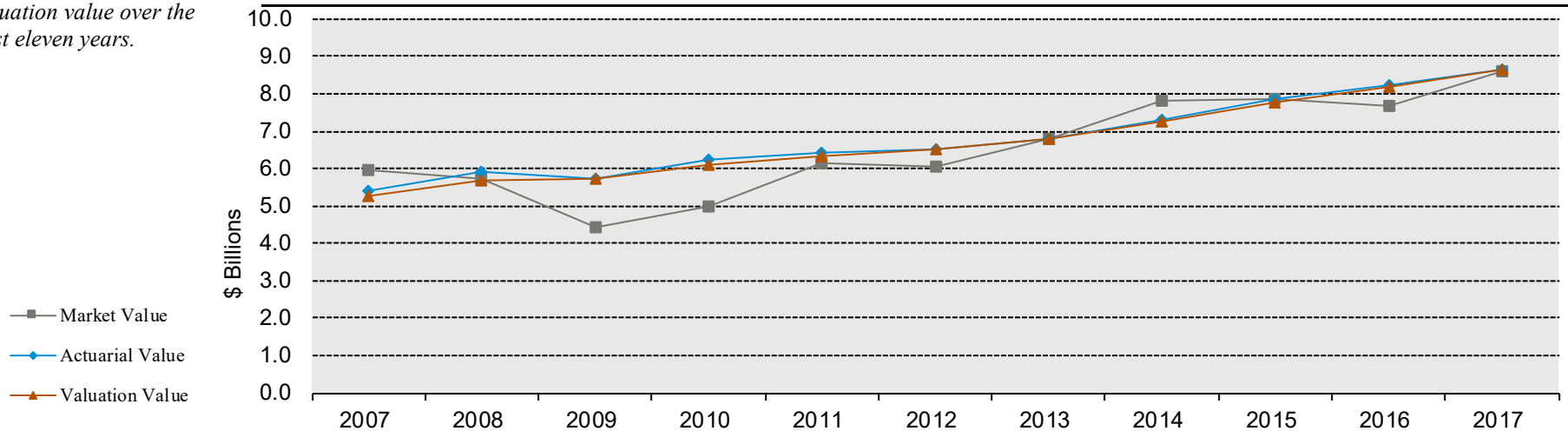
SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

The market value, actuarial value, and valuation value of assets are representations of SCERS' financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets, but with less volatility. The valuation value of assets is the actuarial value, excluding any non-valuation reserves. The valuation asset value is significant because SCERS' liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

This chart shows the change in market value, actuarial value and valuation value over the past eleven years.

CHART 8

Market Value, Actuarial Value and Valuation Value of Assets as of June 30, 2007 – 2017



SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term

development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The net experience gain was \$2.3 million, \$2.9 million loss from investments and \$5.2 million gain from all other sources. The net experience variation from individual sources other than investments was less than 0.1% of the actuarial accrued liability. An explanation of the experience variation is provided on page 12 and in Section 3, Exhibit H. A discussion of the major components of the actuarial experience is on the following pages.

CHART 9

Actuarial Experience for Year Ended June 30, 2017

1. Net loss from investments ⁽¹⁾	\$2,904,000
2. Net gain from other experience ⁽²⁾	<u>(5,169,000)</u>
3. Net experience gain: (1) + (2)	<u>\$(2,265,000)</u>

⁽¹⁾ Details in Chart 10.

⁽²⁾ Details in Section 3, Exhibit H. Does not include the effect of plan or assumption changes, if any.

This chart provides a summary of the actuarial experience during the past year.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on SCERS' investment policy. For valuation purposes, the assumed rate of return on the valuation value of assets was 7.50% in the June 30, 2016 valuation. The actual rate of return on a valuation basis for the 2016/2017 plan year was 7.46%.

Since the actual return on the valuation value of assets for the year was less than the assumed return, SCERS experienced an actuarial loss during the year ended June 30, 2017 with regard to its investments.

This chart shows the gain/(loss) due to investment experience.

CHART 10

Investment Experience for Year Ended June 30, 2017 – Market, Actuarial and Valuation Value of Assets

	Market Value	Actuarial Value	Valuation Value
1. Actual return	\$1,042,009,000	\$567,473,000	\$610,522,000
2. Average value of assets	7,689,979,000	8,245,516,000	8,179,020,000
3. Actual rate of return: (1) ÷ (2)	13.55%	6.88%	7.46%
4. Assumed rate of return	7.50%	7.50%	7.50%
5. Expected return:	<u>576,748,000</u>	<u>618,414,000</u>	<u>613,426,000</u>
6. Actuarial gain/(loss): (1) – (5)	<u>\$465,261,000</u>	<u>\$(50,941,000)</u>	<u>\$(2,904,000)</u>

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial, valuation, and market basis for the last ten years.

CHART 11

Investment Return – Market Value, Actuarial Value and Valuation Value: 2008 – 2017

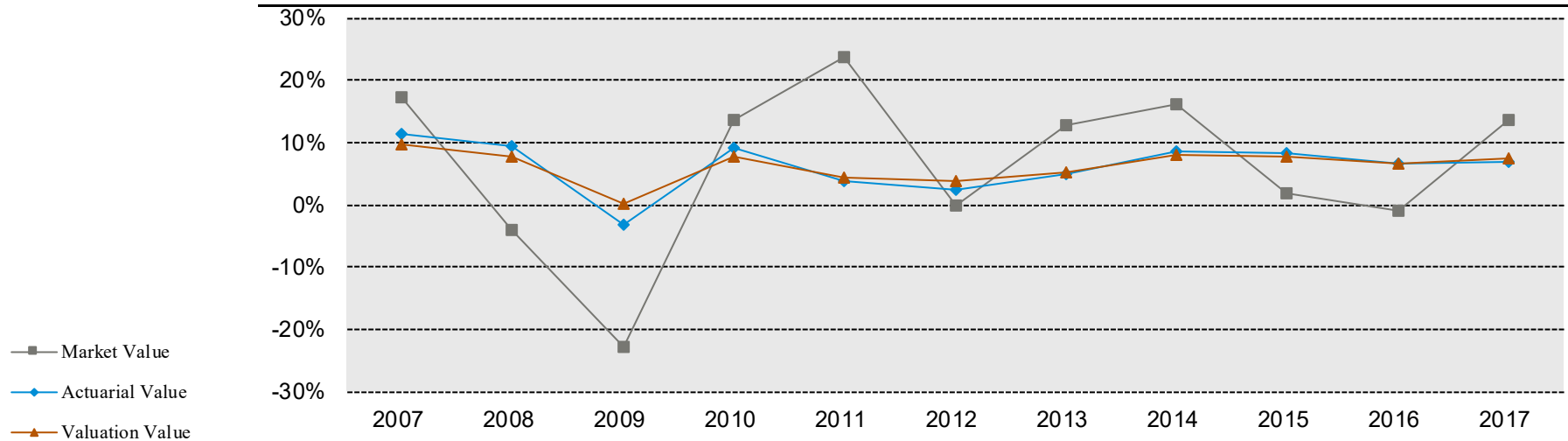
Year Ended June 30	Market Value Investment Return		Actuarial Value Investment Return		Valuation Value Investment Return	
	Amount	Percent	Amount	Percent	Amount	Percent
2008	\$(240,661,000)	(3.98%)	\$523,169,000	9.56%	\$413,272,000	7.72%
2009	(1,324,428,000)	(22.81%)	(196,500,000)	(3.27%)	9,241,000	0.16%
2010	611,573,000	13.71%	525,248,000	9.08%	450,949,000	7.83%
2011	1,200,204,000	23.81%	244,352,000	3.89%	269,937,000	4.37%
2012	(9,702,000)	(0.16%)	166,087,000	2.57%	238,467,000	3.73%
2013	779,729,000	12.73%	333,523,000	5.07%	341,373,000	5.19%
2014	1,101,488,000	16.13%	594,718,000	8.70%	551,884,000	8.06%
2015	152,368,000	1.94%	609,387,000	8.28%	572,950,000	7.82%
2016	(78,761,000)	(1.00%)	516,765,000	6.57%	521,978,000	6.70%
2017	1,042,009,000	13.55%	567,473,000	6.88%	610,522,000	7.46%
Five-Year Geometric Average Return		8.45%	7.09%		7.04%	
Ten-Year Geometric Average Return		4.57%	5.67%		5.88%	

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

Subsection B described the actuarial asset valuation method that gradually takes into account fluctuations in the market value rate of return. The effect of this is to stabilize the actuarial rate of return, which contributes to leveling pension plan costs.

This chart illustrates how this leveling effect has actually worked over the years 2007 - 2017.

CHART 12
Market, Actuarial and Valuation Rates of Return for Years Ended June 30, 2007 – 2017



SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation.

These include:

- actual turnover among the participants,
- retirement experience (earlier or later than expected),
- mortality (more or fewer deaths than expected),
- the number of disability retirements, and
- salary increases different than assumed.

The net gain from this other experience for the year ended June 30, 2017 amounted to \$5.2 million which is less than 0.1% of the actuarial accrued liability. See Section 3, Exhibit H for a detailed development of the Unfunded Actuarial Accrued Liability, and the breakdown of the actuarial gain/loss from other experience.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

D. EMPLOYER AND MEMBER CONTRIBUTIONS

Employer contributions consist of two components:

Normal Cost

The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution rate is expressed as a level percentage of the member's compensation.

Contribution to the Unfunded Actuarial Accrued Liability (UAAL)

The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative unfunded actuarial accrued liability) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the System) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual inflation rate of 3.25% (i.e., 3.00% inflation plus 0.25% real across-the-board salary increase). The UAAL established as a result of the Early Retirement Incentive Program for LEMA members is amortized over a 10-year period beginning June 30, 2010. Effective with the June 30, 2013 valuation, the System's remaining outstanding balance of the June 30, 2012 UAAL is being amortized over a declining 23-year period (18 years as of June 30, 2017). The change in UAAL that arises due to actuarial gains or losses or from changes in actuarial assumptions or methods at each valuation is amortized over its own declining 20-year period. Any change in UAAL that arises due to plan amendments will be amortized over its own declining 15-year period and any change in UAAL due to retirement incentive programs will be amortized over its own declining period of up to 5 years.

Starting with the June 30, 2015 valuation, we have added to the Miscellaneous employer UAAL rate for the County an amount to reflect the net withdrawal liability for the Library Authority and Air Quality Districts when they terminated their affiliation with the County and became special districts.

The recommended employer contributions are provided on Chart 13.

Employer Normal Cost and UAAL contribution rates are calculated assuming payments made at the end of every pay period.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

Member Contributions

Miscellaneous Tiers 1, 2, 3 & 4

Safety Tiers 1, 2, & 3

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for Miscellaneous members and Safety members, respectively, in the legacy tiers. The basic contribution rate is determined as that percentage of compensation which if paid annually from a member's first year of membership through the prescribed retirement age would accumulate to the amount necessary to fund a prescribed annuity.

The annuity is equal to:

- 1/240 of Final Average Salary per year of service at age 55 for current Miscellaneous Tier 1, Tier 2 and Tier 3 members
- 1/120 of Final Average Salary per year of service at age 60 for current Miscellaneous Tier 4 members
- 1/100 of Final Average Salary per year of service at age 50 for current Safety Tier 1, Tier 2 and Tier 3 members

In addition to their basic contributions, members in the legacy tiers pay one-half of the total Normal Cost necessary to fund their cost-of-living benefits. The cost to provide the cost-of-living benefits is offset somewhat by the balance available in an account maintained in the valuation to offset member's COLA rates in the legacy tiers.

Accumulation includes semi-annual crediting of interest at the assumed investment earning rate. For members paying half rates prior to the June 30, 2015 valuation, their rates should be exactly one-half of the rates described above. Note that effective with the June 30, 2015 valuation, all members are reported as paying at least full-rate.

Starting in 2014/2015, most County members in the legacy tiers agreed to contribute either 1/3, 1/4, or 1/5 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members agreed to contribute an additional 1/3, 1/4, or 1/5 of the difference in the Normal Cost rate in 2015/2016, 2016/2017 and 2017/2018.

For Rep Unit 26 Miscellaneous members, the member rates they started to contribute in 2015/2016 were 1% of payroll higher than the rates they paid in 2014/2015. In

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

developing their rates for 2016/2017, we added an additional 2% of payroll to the rates for 2015/2016.

For Orangevale Recreation and Park District members, the member rates they started to contribute in 2015/2016 were 1/2 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members agreed to contribute an additional 1/2 of the difference in the Normal Cost rate in 2016/2017.

As of 2017/2018, all of the above members who have previously agreed to contribute a higher Normal Cost rate are paying 50% of the total Normal Cost rate.

For Rep Unit 16 Miscellaneous members, the member rates effective January 1, 2018 are 1/2 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members have agreed to contribute an additional 1/4 of the difference in the Normal Cost rate in 2018/2019 and 2019/2020. We will reflect the 2019/2020 increase in preparing the June 30, 2018 valuation.

For Rep Unit 25 Miscellaneous members, the member rates effective January 1, 2018 are 2% of payroll higher than the employees' then current Normal Cost. These members have agreed to contribute an additional 2% of payroll in 2018/2019 and to contribute 50% of the total Normal Cost rate in 2019/2020. We will reflect the 2019/2020 increase in preparing the June 30, 2018 valuation.

*Miscellaneous Tier 5 &
Safety Tier 4*

Pursuant to Section 7522.30(a) of the Government Code, Miscellaneous Tier 5 and Safety Tier 4 members are required to contribute at least 50% of the Normal Cost rate. In addition, there are certain additional requirements that would have to be met such as requiring the new employees to pay the contribution rate of "similarly situated employees", if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees. (reference: Section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e).

The member contribution rates are provided in Appendix A.

Member contributions are assumed to be made at the end of every pay period.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

CHART 13

Recommended Employer Contribution Rates (Dollar Amounts in Thousands)

County Only⁽¹⁾	June 30, 2017 Actuarial Valuation		June 30, 2016 Actuarial Valuation	
	Rate	Estimated Annual Amount ⁽²⁾	Rate	Estimated Annual Amount ⁽²⁾
Miscellaneous – Tier 1 Members				
Normal Cost	10.84%	\$537	9.65%	\$478
UAAL	10.43%	516	6.18%	306
Total Contribution	21.27%	\$1,053	15.83%	\$784
Total Contribution after 3-Year Phase-In ⁽³⁾	18.43%	\$913	N/A	N/A
Miscellaneous – Tier 2 Members				
Normal Cost	8.26%	\$279	7.67%	\$259
UAAL	10.43%	352	6.18%	209
Total Contribution	18.69%	\$631	13.85%	\$468
Total Contribution after 3-Year Phase-In ⁽³⁾	15.85%	\$535	N/A	N/A
Miscellaneous – Tier 3 Members				
Normal Cost	11.03%	\$55,423	9.71%	\$48,790
UAAL	10.43%	52,411	6.18%	31,053
Total Contribution	21.46%	\$107,834	15.89%	\$79,843
Total Contribution after 3-Year Phase-In ⁽³⁾	18.62%	\$93,564	N/A	N/A
Miscellaneous – Tier 4 Members				
Normal Cost	10.37%	\$2,962	8.83%	\$2,522
UAAL	10.43%	2,980	6.18%	1,766
Total Contribution	20.80%	\$5,942	15.01%	\$4,288
Total Contribution after 3-Year Phase-In ⁽³⁾	17.96%	\$5,131	N/A	N/A
Miscellaneous – Tier 5 Members				
Normal Cost	9.37%	\$13,656	7.93%	\$11,557
UAAL	10.43%	15,202	6.18%	9,007
Total Contribution	19.80%	\$28,858	14.11%	\$20,564
Total Contribution after 3-Year Phase-In ⁽³⁾	16.96%	\$24,719	N/A	N/A
All Miscellaneous County Categories Combined				
Normal Cost	10.63%	\$72,857	9.28%	\$63,606
UAAL	10.43%	71,461	6.18%	42,341
Total Contribution	21.06%	\$144,318	15.46%	\$105,947
Total Contribution after 3-Year Phase-In ⁽³⁾	18.22%	\$124,862	N/A	N/A

⁽¹⁾ Includes elected officials (Board of Supervisors, Sheriff, District Attorney and Assessor).

⁽²⁾ Based on June 30, 2017 projected annual payroll, see page 20.

⁽³⁾ The change in the UAAL rate for Miscellaneous County due to the assumption changes was 4.26% of payroll as of June 30, 2017. One-third of that amount will be phased-in for each of the three actuarial valuations as of June 30, 2017, 2018 and 2019.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

CHART 13 (continued)

Recommended Employer Contribution Rates (Dollar Amounts in Thousands)

County Only⁽¹⁾	June 30, 2017 Actuarial Valuation		June 30, 2016 Actuarial Valuation	
	Rate	Estimated Annual Amount ⁽²⁾	Rate	Estimated Annual Amount ⁽²⁾
Safety – Tier 1 Members				
Normal Cost	23.74%	\$5,376	20.33%	\$4,604
UAAL	32.23%	7,299	20.97%	4,749
Total Contribution	55.97%	\$12,675	41.30%	\$9,353
Total Contribution after 3-Year Phase-In ⁽³⁾	48.41%	\$10,963	N/A	N/A
Safety – Tier 2 Members				
Normal Cost	19.61%	\$29,239	16.47%	\$24,556
UAAL	32.23%	48,055	20.97%	31,266
Total Contribution	51.84%	\$77,294	37.44%	\$55,822
Total Contribution after 3-Year Phase-In ⁽³⁾	44.28%	\$66,022	N/A	N/A
Safety – Tier 3 Members				
Normal Cost	18.66%	\$2,111	15.54%	\$1,759
UAAL	32.23%	3,647	20.97%	2,373
Total Contribution	50.89%	\$5,758	36.51%	\$4,132
Total Contribution after 3-Year Phase-In ⁽³⁾	43.33%	\$4,902	N/A	N/A
Safety – Tier 4 Members				
Normal Cost	15.05%	\$5,246	13.14%	\$4,580
UAAL	32.23%	11,234	20.97%	7,309
Total Contribution	47.28%	\$16,480	34.11%	\$11,889
Total Contribution after 3-Year Phase-In ⁽³⁾	39.72%	\$13,845	N/A	N/A
All Safety County Categories Combined				
Normal Cost	19.26%	\$41,972	16.29%	\$35,499
UAAL	32.23%	70,235	20.97%	45,697
Total Contribution	51.49%	\$112,207	37.26%	\$81,196
Total Contribution after 3-Year Phase-In ⁽³⁾	43.93%	\$95,732	N/A	N/A
All County Categories Combined				
Normal Cost	12.71%	\$114,829	10.97%	\$99,105
UAAL	15.69%	141,696	9.75%	88,038
Total Contribution	28.40%	\$256,525	20.72%	\$187,143
Total Contribution after 3-Year Phase-In	24.42%	\$220,594	N/A	N/A

⁽¹⁾ Includes elected officials (Board of Supervisors, Sheriff, District Attorney and Assessor).

⁽²⁾ Based on June 30, 2017 projected annual payroll, see page 20.

⁽³⁾ The change in the UAAL rate for Safety County due to the assumption changes was 11.34% of payroll as of June 30, 2017. One-third of that amount will be phased-in for each of the three actuarial valuations as of June 30, 2017, 2018 and 2019.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

CHART 13 (continued)

Recommended Employer Contribution Rates (Dollar Amounts in Thousands)

Superior Court Only	June 30, 2017 Actuarial Valuation		June 30, 2016 Actuarial Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Miscellaneous – Tier 1 Members				
Normal Cost	14.03%	\$82	12.01%	\$71
UAAL	10.40%	61	6.15%	36
Total Contribution	24.43%	\$143	18.16%	\$107
Total Contribution after 3-Year Phase-In ⁽²⁾	21.59%	\$126	N/A	N/A
Miscellaneous – Tier 2 Members				
Normal Cost	12.55%	\$94	10.72%	\$81
UAAL	10.40%	78	6.15%	46
Total Contribution	22.95%	\$172	16.87%	\$127
Total Contribution after 3-Year Phase-In ⁽²⁾	20.11%	\$151	N/A	N/A
Miscellaneous – Tier 3 Members				
Normal Cost	16.00%	\$6,503	13.69%	\$5,564
UAAL	10.40%	4,227	6.15%	2,500
Total Contribution	26.40%	\$10,730	19.84%	\$8,064
Total Contribution after 3-Year Phase-In ⁽²⁾	23.56%	\$9,576	N/A	N/A
Miscellaneous – Tier 5 Members				
Normal Cost	9.37%	\$564	7.93%	\$478
UAAL	10.40%	626	6.15%	370
Total Contribution	19.77%	\$1,190	14.08%	\$848
Total Contribution after 3-Year Phase-In ⁽²⁾	16.93%	\$1,019	N/A	N/A
All Superior Court Categories Combined				
Normal Cost	15.09%	\$7,243	12.90%	\$6,194
UAAL	10.40%	4,992	6.15%	2,952
Total Contribution	25.49%	\$12,235	19.05%	\$9,146
Total Contribution after 3-Year Phase-In ⁽²⁾	22.65%	\$10,872	N/A	N/A

⁽¹⁾ Based on June 30, 2017 projected annual payroll, see page 20.

⁽²⁾ The change in the UAAL rate for Superior Court due to the assumption changes was 4.26% of payroll as of June 30, 2017. One-third of that amount will be phased-in for each of the three actuarial valuations as of June 30, 2017, 2018 and 2019.

Note: Superior Court members have not agreed to contribute any additional portion of the total Normal Cost.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

CHART 13 (continued)

Recommended Employer Contribution Rates (Dollar Amounts in Thousands)

District Only	June 30, 2017 Actuarial Valuation		June 30, 2016 Actuarial Valuation	
	Rate	Estimated Annual Amount ⁽¹⁾	Rate	Estimated Annual Amount ⁽¹⁾
Miscellaneous – Tier 1 Members				
Normal Cost	14.03%	\$7	12.01%	\$6
UAAL ^{(2),(3)}	18.71%	10	14.26%	7
Total Contribution	32.74%	\$17	26.27%	\$13
Total Contribution after 3-Year Phase-In ⁽⁴⁾	30.00%	\$15	N/A	N/A
Miscellaneous – Tier 3 Members				
Normal Cost	15.89%	\$3,635	13.59%	\$3,132
UAAL ^{(2),(3)}	18.71%	4,280	14.26%	3,262
Total Contribution	34.60%	\$7,915	27.85%	\$6,394
Total Contribution after 3-Year Phase-In ⁽⁴⁾	31.86%	\$7,288	N/A	N/A
Miscellaneous – Tier 5 Members				
Normal Cost ⁽⁵⁾	9.37%	\$599	7.93%	\$507
UAAL ^{(2),(3)}	18.71%	1,195	14.26%	911
Total Contribution	28.08%	\$1,794	22.19%	\$1,418
Total Contribution after 3-Year Phase-In ⁽⁴⁾	25.34%	\$1,619	N/A	N/A
All District Categories Combined				
Normal Cost	14.46%	\$4,241	12.43%	\$3,645
UAAL ^{(2),(3)}	18.71%	5,485	14.26%	4,180
Total Contribution	33.17%	\$9,726	26.69%	\$7,825
Total Contribution after 3-Year Phase-In ⁽⁴⁾	30.43%	\$8,922	N/A	N/A
All County and District Categories Combined				
Normal Cost	12.89%	\$126,313	11.11%	\$108,944
UAAL	15.52%	152,173	9.71%	95,170
Total Contribution	28.41%	\$278,486	20.82%	\$204,114
Total Contribution after 3-Year Phase-In	24.53%	\$240,388	N/A	N/A

⁽¹⁾ Based on June 30, 2017 projected annual payroll, see page 20.

⁽²⁾ For Districts with a future service only improvement, their UAAL rates are lower than those shown above by 2.79% and 3.73% for June 30, 2017 and June 30, 2016, respectively.

⁽³⁾ See Appendix C for the development of additional District UAAL rates.

⁽⁴⁾ The change in the UAAL rate for the Districts due to the assumption changes was 4.12% of payroll as of June 30, 2017. One-third of that amount will be phased-in for each of the three actuarial valuations as of June 30, 2017, 2018 and 2019.

⁽⁵⁾ This is the employer contribution rate for Rio Linda Elverta Recreation and Parks District as the employer will only pay the Normal Cost rate for 2017/2018 and 2018/2019.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

CHART 13 (continued)

Recommended Employer Contribution Rates (Dollar Amounts in Thousands)

June 30, 2017 projected annual payroll used in developing employer contribution rates on the four previous pages

	<u>County⁽¹⁾</u>	<u>Superior Court</u>	<u>District</u>	<u>Total</u>
Miscellaneous Tier 1	\$4,951	\$588	\$52	\$5,591
Miscellaneous Tier 2	3,377	752	0	4,129
Miscellaneous Tier 3	502,476	40,646	22,876	565,998
Miscellaneous Tier 4	28,569	0	0	28,569
Miscellaneous Tier 5	<u>145,743</u>	<u>6,023</u>	<u>6,388</u>	<u>158,154</u>
Subtotal	\$685,116	\$48,009	\$29,316	\$762,441
Safety Tier 1	\$22,646	\$0	\$0	\$22,646
Safety Tier 2	149,101	0	0	149,101
Safety Tier 3	11,315	0	0	11,315
Safety Tier 4	<u>34,856</u>	<u>0</u>	<u>0</u>	<u>34,856</u>
Subtotal	\$217,918	\$0	\$0	\$217,918
Total	\$903,034	\$48,009	\$29,316	\$980,359

⁽¹⁾ Includes elected officials (Board of Supervisors, Sheriff, District Attorney and Assessor).

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

The contribution rates as of June 30, 2017 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting

future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

Reconciliation of Recommended Contribution Rate

The chart below details the changes in the recommended contribution from the prior valuation to the current year's valuation.

The chart reconciles the contribution rate from the prior valuation to the amount determined in this valuation.

CHART 14

Reconciliation of Average Recommended Employer Contribution Rate from June 30, 2016 to June 30, 2017 (Dollar Amounts in Thousands)

	Contribution Rate	Estimated Annual Dollar Cost ⁽¹⁾
Average Recommended Contribution Rate as of June 30, 2016 (After Reflecting Additional Normal Cost Contributions by Certain Legacy Members for 2017/2018)	20.82%	\$204,114
Effect of investment losses	0.02%	196
Effect of more than expected contributions	-0.05%	(490)
Effect of lower than expected individual salary increases	-0.02%	(196)
Effect of decrease in UAAL rate from higher than expected increase in total payroll	-0.11%	(1,078)
Effect of lower than expected COLA increases	-0.08%	(784)
Effect of Rep Units 16 and 25 increase in 2017/2018 member contributions	-0.07%	(686)
Effect of Rep Units 16 and 25 increase in 2018/2019 member contributions	-0.05%	(490)
Effect of changes in actuarial assumptions (before phase-in)	7.76%	76,076
Effect of three-year phase-in of change in UAAL rate due to changes in actuarial assumptions	-3.88%	(38,098)
Effect of demographic changes and other actuarial (gains)/losses	<u>0.19%</u>	<u>1,824</u>
Subtotal	3.71%	36,274
Average Recommended Contribution Rate as of June 30, 2017 (After Reflecting Three-Year Phase-In and Additional Normal Cost Contributions by Certain Legacy Members for 2018/2019)	24.53%	\$240,388

⁽¹⁾ Based on June 30, 2017 projected annual payroll of \$980,359,000.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

The member contribution rates as of June 30, 2017 are based on all of the data described in the previous sections, the actuarial assumptions described in Section 4, and the Plan provisions adopted at the time of preparation of the Actuarial Valuation. They include all changes affecting future costs, adopted benefit changes, actuarial gains and losses and changes in the actuarial assumptions.

Reconciliation of Recommended Contribution Rate

The chart below details the changes in the recommended member contribution rate from the prior valuation to the current year's valuation.

The chart reconciles the member contribution rate from the prior valuation to the amount determined in this valuation.

CHART 15
Reconciliation of Average Recommended Member Contribution Rate from June 30, 2016 to June 30, 2017 (Dollar Amounts in Thousands)

	Contribution Rate	Estimated Amount ⁽¹⁾
Average Recommended Contribution Rate as of June 30, 2016 (After Reflecting Additional Normal Cost Contributions by Certain Legacy Members for 2016/2017)	9.91% ⁽²⁾	\$97,154
Effect of reduction in COLA offset ⁽³⁾	0.03%	294
Effect of Rep Units 16 and 25 increase in 2017/2018 member contributions	0.08%	784
Effect of Rep Units 16 and 25 increase in 2018/2019 member contributions	0.05%	490
Effect of changes in actuarial assumptions	1.83%	17,941
Effect of demographic changes	-0.06%	(588)
Subtotal	1.93%	18,921
Average Recommended Contribution Rate as of June 30, 2017 (After Reflecting Additional Normal Cost Contributions by Certain Legacy Members for 2017/2018)	11.84%⁽²⁾	\$116,075

⁽¹⁾ Based on June 30, 2017 projected annual payroll of \$980,359,000.

⁽²⁾ Rates have been adjusted to reflect a reserve available to reduce part of the COLA contributions.

⁽³⁾ A number of years ago, the Board allocated excess earnings to offset a portion the members' COLA contribution over their anticipating working career with SCERS' participating employers. The COLA contribution rate offset is recalculated every year to reflect the demographic profile of the members eligible to receive the offset on the valuation date.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

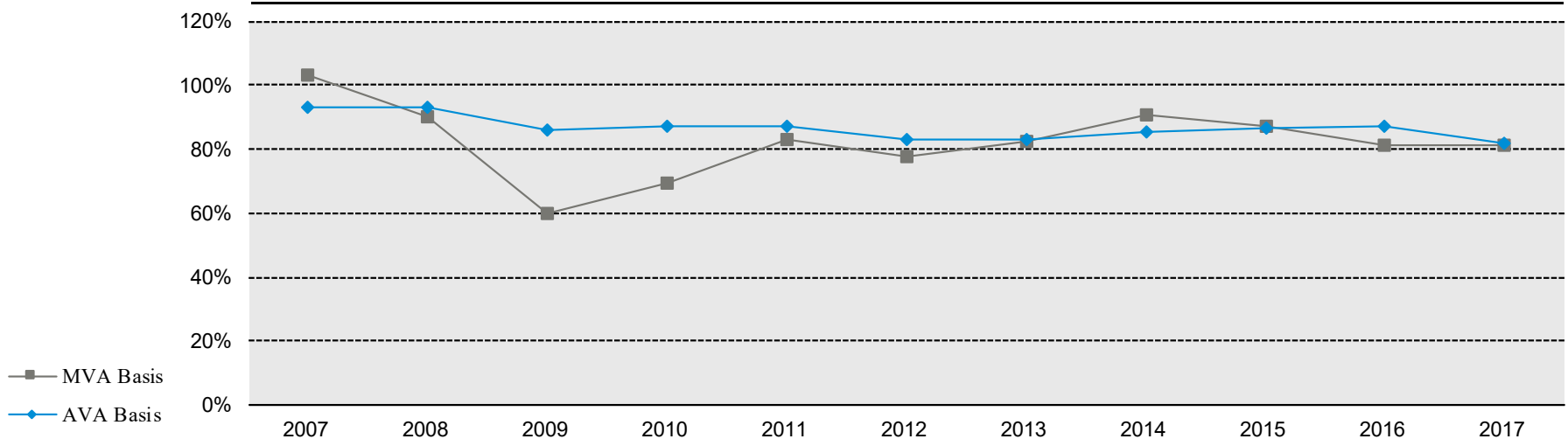
E. FUNDED RATIO

A critical piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the actuarial value of assets and market value of assets to the actuarial accrued liabilities of the plan. High ratios indicate a well-funded plan that is well positioned to pay benefits when they are due. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other changes.

The funded status measures shown in this valuation are appropriate for assessing the need for or amount of future contributions. However, they are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. As the chart below shows, the measures are different depending on whether the valuation or market value of assets is used.

The Chart below depicts a history of the funded ratio for the Plan.

CHART 16
Funded Ratio for Plan Years Ending June 30, 2007 – 2017



SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

CHART 17

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets⁽¹⁾ (a)	Actuarial Accrued Liability (AAL)⁽¹⁾ (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (%) (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll (%) [(b) - (a)] / (c)
6/30/2008	\$5,930,758,000	\$6,363,355,000	\$432,597,000	93.2	\$902,971,000	47.9
6/30/2009	5,730,215,000	6,661,993,000	931,778,000	86.0	968,130,000	96.2
6/30/2010	6,216,994,000	7,090,497,000	873,503,000	87.7	912,644,000	95.7
6/30/2011	6,420,824,000	7,382,897,000	962,073,000	87.0	880,766,000	109.2
6/30/2012	6,529,895,000	7,838,223,000	1,308,328,000	83.3	875,672,000	149.4
6/30/2013	6,797,757,000	8,210,980,000	1,413,223,000	82.8	877,657,000	161.0
6/30/2014	7,312,993,000	8,580,928,000	1,267,935,000	85.2	879,999,000	144.1
6/30/2015	7,838,825,000	9,028,679,000	1,189,854,000	86.8	897,341,000	132.6
6/30/2016	8,236,402,000	9,436,090,000	1,199,688,000	87.3	938,555,000	127.8
6/30/2017	8,665,226,000	10,680,998,000	2,015,772,000	81.1	980,359,000	205.6

⁽¹⁾ Includes contingency reserve and other non-valuation reserves.

SECTION 2: Valuation Results for the Sacramento County Employees' Retirement System

F. VOLATILITY RATIOS

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the market value of assets divided by total payroll, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measure since it is based on the current level of assets.

For SCERS, the current AVR is 8.8. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to 8.8% of one-year's payroll. Since SCERS amortizes actuarial gains and losses over a period of 20 years as of June 30, 2017, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

The LVR also indicates how volatile contributions will be in response to changes in the Actuarial Accrued Liability due to actual experience or to changes in actuarial assumptions.

For SCERS, the current LVR is 10.9. This is about 24% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long-term.

CHART 19

Volatility Ratios for Years Ended June 30, 2008 – 2017

Year Ended June 30	<u>Asset Volatility Ratios</u>			<u>Liability Volatility Ratios</u>		
	Miscellaneous	Safety	Total	Miscellaneous	Safety	Total
2008	5.3	10.0	6.4	5.9	11.3	7.0
2009	3.8	7.4	4.6	5.7	11.3	6.9
2010	4.5	9.1	5.5	6.4	13.4	7.8
2011	5.8	11.6	7.0	6.9	14.0	8.4
2012	5.8	11.0	6.9	7.5	14.5	9.0
2013	6.6	11.7	7.7	7.9	14.6	9.4
2014	7.6	13.2	8.9	8.1	15.2	9.8
2015	7.5	13.0	8.8	8.4	15.8	10.1
2016	7.0	12.2	8.2	8.4	15.7	10.1
2017	7.4	13.5	8.8	8.9	17.8	10.9

This chart shows how the asset and liability volatility ratios have varied over time.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT A

Table of Plan Coverage

i. Miscellaneous Tier 1

Category	Year Ended June 30		Change From Prior Year
	2017	2016	
Active members in valuation			
Number	65	83	-21.7%
Average age	61.4	60.7	0.7
Average service	35.3	34.5	0.8
Projected total compensation ⁽¹⁾	\$5,590,986	\$6,591,339	-15.2%
Projected average compensation	\$86,015	\$79,414	8.3%
Account balances	\$10,926,199	\$13,179,286	-17.1%
Total active vested members	65	83	-21.7%
Vested terminated members			
Number ⁽²⁾	45	48	-6.3%
Average age	65.5	64.3	1.2
Retired members			
Number in pay status	2,803	2,894	-3.1%
Average age	75.3	74.7	0.6
Average monthly benefit	\$3,623	\$3,482	4.0%
Disabled members			
Number in pay status	160	173	-7.5%
Average age	76.1	75.7	0.4
Average monthly benefit	\$2,281	\$2,185	4.4%
Beneficiaries			
Number in pay status	746	762	-2.1%
Average age	77.7	77.4	0.3
Average monthly benefit	\$1,841	\$1,770	4.0%

⁽¹⁾ Projected compensation for the June 30, 2017 valuation was calculated by increasing the annualized compensation earned during 2016-2017 by 3.25%.

⁽²⁾ Includes terminated members due a refund of contributions.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT A

Table of Plan Coverage

ii. Miscellaneous Tier 2

Category	Year Ended June 30		Change From Prior Year
	2017	2016	
Active members in valuation			
Number	57	62	-8.1%
Average age	56.1	55.2	0.9
Average service	26.3	25.3	1.0
Projected total compensation ⁽¹⁾	\$4,129,310	\$4,375,098	-5.6%
Projected average compensation	\$72,444	\$70,566	2.7%
Account balances	\$4,815,423	\$4,981,868	-3.3%
Total active vested members	57	62	-8.1%
Vested terminated members			
Number ⁽²⁾	154	170	-9.4%
Average age	57.3	56.9	0.4
Retired members			
Number in pay status	344	330	4.2%
Average age	68.7	68.2	0.5
Average monthly benefit	\$1,092	\$1,068	2.2%
Disabled members			
Number in pay status	29	31	-6.5%
Average age	66.3	65.8	0.5
Average monthly benefit	\$938	\$931	0.8%
Beneficiaries			
Number in pay status	56	53	5.7%
Average age	70.2	69.3	0.9
Average monthly benefit	\$725	\$730	-0.7%

⁽¹⁾ Projected compensation for the June 30, 2017 valuation was calculated by increasing the annualized compensation earned during 2016-2017 by 3.25%.

⁽²⁾ Includes terminated members due a refund of contributions.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT A

Table of Plan Coverage

iii. Miscellaneous Tier 3

Category	Year Ended June 30		Change From Prior Year
	2017	2016	
Active members in valuation			
Number	7,206	7,746	-7.0%
Average age	50.4	50.0	0.4
Average service	16.0	15.3	0.7
Projected total compensation ^{(1),(2)}	\$565,997,630	\$578,615,519	-2.2%
Projected average compensation	\$78,545	\$74,699	5.1%
Account balances	\$452,670,559	\$444,544,752	1.8%
Total active vested members	7,101	7,548	-5.9%
Vested terminated members			
Number ⁽³⁾	2,374	2,343	1.3%
Average age	48.8	48.1	0.7
Retired members			
Number in pay status	4,305	3,922	9.8%
Average age	67.2	66.9	0.3
Average monthly benefit	\$2,502	\$2,392	4.6%
Disabled members			
Number in pay status	277	260	6.5%
Average age	63.4	62.7	0.7
Average monthly benefit	\$1,838	\$1,798	2.2%
Beneficiaries			
Number in pay status	401	361	11.1%
Average age	65.3	65.4	-0.1
Average monthly benefit	\$1,070	\$1,017	5.2%

⁽¹⁾ Projected compensation for the June 30, 2017 valuation was calculated by increasing the annualized compensation earned during 2016-2017 by 3.25%.

⁽²⁾ For members without a salary reported for the June 30, 2017 valuation, we have assigned them an annual salary of \$78,470.

⁽³⁾ Includes terminated members due a refund of contributions.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT A

Table of Plan Coverage

iv. Miscellaneous Tier 4

Category	Year Ended June 30		Change From Prior Year
	2017	2016	
Active members in valuation			
Number	362	328	10.4%
Average age	42.5	41.7	0.8
Average service	4.0	3.3	0.7
Projected total compensation ⁽¹⁾	\$28,568,633	\$23,965,104	19.2%
Projected average compensation	\$78,919	\$73,064	8.0%
Account balances	\$7,733,808	\$5,348,557	44.6%
Total active vested members	88	10	780.0%
Vested terminated members			
Number ⁽²⁾	75	63	19.0%
Average age	39.5	37.8	1.7
Retired members			
Number in pay status	4	2	100.0%
Average age	59.9	57.8	2.1
Average monthly benefit	\$461	\$704	-34.5%
Disabled members			
Number in pay status	--	--	N/A
Average age	--	--	N/A
Average monthly benefit	--	--	N/A
Beneficiaries			
Number in pay status	--	--	N/A
Average age	--	--	N/A
Average monthly benefit	--	--	N/A

⁽¹⁾ Projected compensation for the June 30, 2017 valuation was calculated by increasing the annualized compensation earned during 2016-2017 by 3.25%.

⁽²⁾ Includes terminated members due a refund of contributions.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT A

**Table of Plan Coverage
v. Miscellaneous Tier 5**

Category	Year Ended June 30		Change From Prior Year
	2017	2016	
Active members in valuation			
Number	2,887	2,144	34.7%
Average age	37.7	37.3	0.4
Average service	1.8	1.4	0.4
Projected total compensation ⁽¹⁾	\$158,153,671	\$109,881,536	43.9%
Projected average compensation	\$54,781	\$51,251	6.9%
Account balances	\$22,873,487	\$12,509,733	82.8%
Total active vested members	16	10	60.0%
Vested terminated members			
Number ⁽²⁾	336	221	52.0%
Average age	38.3	37.3	1.0
Retired members			
Number in pay status	--	--	N/A
Average age	--	--	N/A
Average monthly benefit	--	--	N/A
Disabled members			
Number in pay status	--	--	N/A
Average age	--	--	N/A
Average monthly benefit	--	--	N/A
Beneficiaries			
Number in pay status	--	--	N/A
Average age	--	--	N/A
Average monthly benefit	--	--	N/A

⁽¹⁾ Projected compensation for the June 30, 2017 valuation was calculated by increasing the annualized compensation earned during 2016-2017 by 3.25%.

⁽²⁾ Includes terminated members due a refund of contributions.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT A

Table of Plan Coverage

vi. Safety Tier 1

Category	Year Ended June 30		Change From Prior Year
	2017	2016	
Active members in valuation			
Number	166	218	-23.9%
Average age	50.9	50.4	0.5
Average service	24.3	23.8	0.5
Projected total compensation ^{(1),(2)}	\$22,646,147	\$28,634,501	-20.9%
Projected average compensation	\$136,423	\$131,351	3.9%
Account balances	\$36,961,796	\$43,645,257	-15.3%
Total active vested members	166	218	-23.9%
Vested terminated members			
Number ⁽³⁾	61	77	-20.8%
Average age	52.0	51.4	0.6
Retired members			
Number in pay status	1,287	1,250	3.0%
Average age	65.3	65.3	0.0
Average monthly benefit	\$7,136	\$6,898	3.5%
Disabled members			
Number in pay status	191	195	-2.1%
Average age	65.7	65.3	0.4
Average monthly benefit	\$4,703	\$4,495	4.6%
Beneficiaries			
Number in pay status	332	320	3.8%
Average age	67.8	67.6	0.2
Average monthly benefit	\$3,009	\$2,944	2.2%

⁽¹⁾ Projected compensation for the June 30, 2017 valuation was calculated by increasing the annualized compensation earned during 2016-2017 by 3.25%.

⁽²⁾ For members without a salary reported for the June 30, 2017 valuation, we have assigned them an annual salary of \$136,290.

⁽³⁾ Includes terminated members due a refund of contributions.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT A

Table of Plan Coverage

vii. Safety Tier 2

Category	Year Ended June 30		Change From Prior Year
	2017	2016	
Active members in valuation			
Number	1,285	1,337	-3.9%
Average age	44.1	43.4	0.7
Average service	16.0	15.2	0.8
Projected total compensation ^{(1), (2)}	\$149,101,362	\$149,123,940	0.0%
Projected average compensation	\$116,032	\$111,536	4.0%
Account balances	\$161,472,884	\$143,337,770	12.7%
Total active vested members	1,280	1,325	-3.4%
Vested terminated members			
Number ⁽³⁾	347	356	-2.5%
Average age	42.5	41.8	0.7
Retired members			
Number in pay status	360	312	15.4%
Average age	63.6	64.3	-0.7
Average monthly benefit	\$4,878	\$4,646	5.0%
Disabled members			
Number in pay status	59	57	3.5%
Average age	53.6	52.7	0.9
Average monthly benefit	\$3,115	\$3,115	0.0%
Beneficiaries			
Number in pay status	41	37	10.8%
Average age	55.6	54.7	0.9
Average monthly benefit	\$2,104	\$2,110	-0.3%

⁽¹⁾ Projected compensation for the June 30, 2017 valuation was calculated by increasing the annualized compensation earned during 2016-2017 by 3.25%.

⁽²⁾ For members without a salary reported for the June 30, 2017 valuation, we have assigned them an annual salary of \$115,640.

⁽³⁾ Includes terminated members due a refund of contributions.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT A

Table of Plan Coverage

viii. Safety Tier 3

Category	Year Ended June 30		Change From Prior Year
	2017	2016	
Active members in valuation			
Number	112	102	9.8%
Average age	37.8	37.0	0.8
Average service	5.7	5.2	0.5
Projected total compensation ⁽¹⁾	\$11,315,008	\$9,767,462	15.8%
Projected average compensation	\$101,027	\$95,759	5.5%
Account balances	\$5,611,343	\$4,013,814	39.8%
Total active vested members	64	30	113.3%
Vested terminated members			
Number ⁽²⁾	9	6	50.0%
Average age	39.9	38.7	1.2
Retired members			
Number in pay status	--	--	N/A
Average age	--	--	N/A
Average monthly benefit	--	--	N/A
Disabled members			
Number in pay status	1	1	0.0%
Average age	39.1	38.1	1.0
Average monthly benefit	\$3,062	\$3,002	2.0%
Beneficiaries			
Number in pay status	--	--	N/A
Average age	--	--	N/A
Average monthly benefit	--	--	N/A

⁽¹⁾ Projected compensation for the June 30, 2017 valuation was calculated by increasing the annualized compensation earned during 2016-2017 by 3.25%.

⁽²⁾ Includes terminated members due a refund of contributions.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT A

Table of Plan Coverage

ix. Safety Tier 4

Category	Year Ended June 30		Change From Prior Year
	2017	2016	
Active members in valuation			
Number	447	373	19.8%
Average age	33.1	32.4	0.7
Average service	2.5	1.8	0.7
Projected total compensation ⁽¹⁾	\$34,856,379	\$27,600,372	26.3%
Projected average compensation	\$77,978	\$73,996	5.4%
Account balances	\$10,224,544	\$6,035,418	69.4%
Total active vested members	33	10	230.0%
Vested terminated members			
Number ⁽²⁾	24	17	41.2%
Average age	34.8	32.1	2.7
Retired members			
Number in pay status	--	--	N/A
Average age	--	--	N/A
Average monthly benefit	--	--	N/A
Disabled members			
Number in pay status	--	--	N/A
Average age	--	--	N/A
Average monthly benefit	--	--	N/A
Beneficiaries			
Number in pay status	--	--	N/A
Average age	--	--	N/A
Average monthly benefit	--	--	N/A

⁽¹⁾ Projected compensation for the June 30, 2017 valuation was calculated by increasing the annualized compensation earned during 2016-2017 by 3.25%.

⁽²⁾ Includes terminated members due a refund of contributions.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of June 30, 2017
By Age and Years of Service**

i. Miscellaneous Tier 1

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--	--	--
30 - 34	--	--	--	--	--	--	--	--	--	--
35 - 39	--	--	--	--	--	--	--	--	--	--
40 - 44	--	--	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--	--	--
50 - 54	3	--	--	--	--	--	--	1	2	--
55 - 59	\$83,307	--	--	--	--	--	--	\$121,245	\$64,339	--
60 - 64	24	--	--	--	--	1	1	3	19	--
65 - 69	80,031	--	--	--	--	\$27,644	\$67,807	80,391	83,374	--
70 & over	22	--	--	--	--	1	6	2	11	2
	84,994	--	--	--	--	115,462	104,055	100,821	73,065	\$62,360
	16	--	--	1	--	1	--	1	6	7
	96,904	--	--	\$172,368	--	49,134	--	191,404	91,325	84,229
	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	65	--	--	1	--	3	7	7	38	9
	\$86,015	--	--	\$172,368	--	\$64,080	\$98,877	\$107,924	\$80,643	\$79,370

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of June 30, 2017
By Age and Years of Service**

ii. Miscellaneous Tier 2

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--	--	--
30 - 34	--	--	--	--	--	--	--	--	--	--
35 - 39	--	--	--	--	--	--	--	--	--	--
40 - 44	--	--	--	--	--	--	--	--	--	--
45 - 49	7	--	--	--	--	2	5	--	--	--
50 - 54	\$62,480	--	--	--	--	\$62,748	\$62,373	--	--	--
55 - 59	18	--	--	--	2	1	13	2	--	--
60 - 64	75,575	--	--	--	\$62,525	101,778	77,227	\$64,781	--	--
65 - 69	22	--	--	--	2	2	14	4	--	--
70 & over	74,352	--	--	--	54,021	74,405	76,757	76,073	--	--
	7	--	--	--	2	--	4	1	--	--
	69,140	--	--	--	58,952	--	74,256	69,057	--	--
	3	--	--	--	--	2	--	1	--	--
	70,626	--	--	--	--	81,910	--	48,059	--	--
	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	57	--	--	--	6	7	36	8	--	--
	\$72,444	--	--	--	\$58,499	\$77,129	\$74,651	\$68,871	--	--

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of June 30, 2017
By Age and Years of Service**

iii. Miscellaneous Tier 3

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
25 - 29	14	3	11	--	--	--	--	--	--	--
30 - 34	305	17	152	126	10	--	--	--	--	--
35 - 39	782	10	263	373	134	2	--	--	--	--
40 - 44	1,023	20	173	442	357	30	1	--	--	--
45 - 49	1,265	14	182	387	472	167	42	1	--	--
50 - 54	1,401	20	158	303	395	233	238	50	4	--
55 - 59	1,310	11	101	274	364	220	220	108	12	--
60 - 64	795	6	81	182	242	111	112	51	10	--
65 - 69	260	4	45	59	82	33	23	13	1	--
70 & over	51	1	6	14	17	6	3	3	1	--
Total	7,206	106	1,172	2,160	2,073	802	639	226	28	--
	\$78,545	\$60,734	\$73,528	\$75,085	\$76,538	\$89,923	\$88,453	\$93,871	\$95,857	--

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of June 30, 2017
By Age and Years of Service**

iv. Miscellaneous Tier 4

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
25 - 29	28	20	8	--	--	--	--	--	--	--
30 - 34	\$60,620	\$58,518	\$65,874	--	--	--	--	--	--	--
35 - 39	77	59	18	--	--	--	--	--	--	--
40 - 44	75,496	75,598	75,162	--	--	--	--	--	--	--
45 - 49	70	50	18	2	--	--	--	--	--	--
50 - 54	81,400	81,205	83,242	\$69,704	--	--	--	--	--	--
55 - 59	57	45	11	--	1	--	--	--	--	--
60 - 64	77,793	79,438	71,141	--	\$76,917	--	--	--	--	--
65 - 69	35	28	6	1	--	--	--	--	--	--
70 & over	77,900	80,871	72,604	26,465	--	--	--	--	--	--
	46	38	7	--	1	--	--	--	--	--
	78,810	80,012	73,991	--	66,883	--	--	--	--	--
	31	22	9	--	--	--	--	--	--	--
	75,565	80,045	64,613	--	--	--	--	--	--	--
	15	10	5	--	--	--	--	--	--	--
	117,183	126,941	97,666	--	--	--	--	--	--	--
	2	2	--	--	--	--	--	--	--	--
	88,264	88,264	--	--	--	--	--	--	--	--
	1	--	1	--	--	--	--	--	--	--
	297,312	--	297,312	--	--	--	--	--	--	--
Total	362	274	83	3	2	--	--	--	--	--
	\$78,919	\$79,480	\$78,091	\$55,291	\$71,900	--	--	--	--	--

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of June 30, 2017
By Age and Years of Service**

v. Miscellaneous Tier 5

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	117	117	--	--	--	--	--	--	--	--
	\$42,009	\$42,009	--	--	--	--	--	--	--	--
25 - 29	681	680	1	--	--	--	--	--	--	--
	51,156	51,105	\$85,748	--	--	--	--	--	--	--
30 - 34	644	642	2	--	--	--	--	--	--	--
	56,051	55,944	90,242	--	--	--	--	--	--	--
35 - 39	432	432	--	--	--	--	--	--	--	--
	57,588	57,588	--	--	--	--	--	--	--	--
40 - 44	324	324	--	--	--	--	--	--	--	--
	55,148	55,148	--	--	--	--	--	--	--	--
45 - 49	258	257	1	--	--	--	--	--	--	--
	56,772	56,833	41,064	--	--	--	--	--	--	--
50 - 54	182	181	1	--	--	--	--	--	--	--
	56,289	56,354	44,681	--	--	--	--	--	--	--
55 - 59	153	152	1	--	--	--	--	--	--	--
	57,560	57,456	73,450	--	--	--	--	--	--	--
60 - 64	69	65	3	1	--	--	--	--	--	--
	61,682	61,001	69,456	\$82,629	--	--	--	--	--	--
65 - 69	22	21	1	--	--	--	--	--	--	--
	57,847	57,875	57,266	--	--	--	--	--	--	--
70 & over	5	5	--	--	--	--	--	--	--	--
	66,293	66,294	--	--	--	--	--	--	--	--
Total	2,887	2,876	10	1	--	--	--	--	--	--
	\$54,781	\$54,722	\$69,106	\$82,629	--	--	--	--	--	--

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of June 30, 2017
By Age and Years of Service**

vi. Safety Tier 1

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--	--	--
30 - 34	--	--	--	--	--	--	--	--	--	--
35 - 39	--	--	--	--	--	--	--	--	--	--
40 - 44	8	--	--	--	2	6	--	--	--	--
45 - 49	\$134,745	--	--	--	\$83,155	\$151,942	--	--	--	--
50 - 54	77	--	--	2	4	44	27	--	--	--
55 - 59	147,637	--	--	\$140,537	134,399	146,029	\$152,744	--	--	--
60 - 64	51	--	--	--	5	18	26	2	--	--
65 - 69	130,315	--	--	--	127,225	131,190	131,299	\$117,382	--	--
70 & over	22	--	--	1	5	5	11	--	--	--
	123,764	--	--	114,171	121,180	123,941	125,731	--	--	--
	7	--	--	--	1	--	6	--	--	--
	100,517	--	--	--	81,088	--	103,755	--	--	--
	1	--	--	--	--	--	1	--	--	--
	127,645	--	--	--	--	--	127,645	--	--	--
Total	166	--	--	3	17	73	71	2	--	--
	\$136,423	--	--	\$131,748	\$119,236	\$141,343	\$136,212	\$117,382	--	--

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of June 30, 2017
By Age and Years of Service**

vii. Safety Tier 2

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
25 - 29	1	--	1	--	--	--	--	--	--	--
30 - 34	76	3	33	38	2	--	--	--	--	--
35 - 39	272	1	44	162	62	3	--	--	--	--
40 - 44	399	1	24	98	234	38	4	--	--	--
45 - 49	333	--	13	40	164	108	7	1	--	--
50 - 54	137	--	4	17	56	45	14	1	--	--
55 - 59	44	--	6	8	14	12	4	--	--	--
60 - 64	19	--	7	4	7	--	1	--	--	--
65 - 69	4	--	1	1	2	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
Total	1,285	5	133	368	541	206	30	2	--	--
	\$116,032	\$85,776	\$106,350	\$109,612	\$116,643	\$131,716	\$121,634	\$152,099	--	--

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of June 30, 2017
By Age and Years of Service**

viii. Safety Tier 3

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
25 - 29	12	3	9	--	--	--	--	--	--	--
	\$95,987	\$82,039	\$100,636	--	--	--	--	--	--	--
30 - 34	39	14	24	1	--	--	--	--	--	--
	94,480	86,357	98,023	\$123,147	--	--	--	--	--	--
35 - 39	28	14	11	2	1	--	--	--	--	--
	101,682	104,755	105,812	76,083	\$64,426	--	--	--	--	--
40 - 44	13	8	3	1	1	--	--	--	--	--
	105,827	112,028	88,381	93,377	121,005	--	--	--	--	--
45 - 49	12	6	4	1	1	--	--	--	--	--
	118,508	147,609	96,933	55,525	93,187	--	--	--	--	--
50 - 54	4	--	3	--	--	--	1	--	--	--
	84,096	--	91,972	--	--	--	\$60,467	--	--	--
55 - 59	3	2	1	--	--	--	--	--	--	--
	123,157	127,756	113,958	--	--	--	--	--	--	--
60 - 64	1	1	--	--	--	--	--	--	--	--
	127,675	127,675	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	112	48	55	5	3	--	1	--	--	--
	\$101,027	\$105,974	\$99,363	\$84,843	\$92,873	--	\$60,467	--	--	--

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of June 30, 2017
By Age and Years of Service**

ix. Safety Tier 4

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	37	37	--	--	--	--	--	--	--	--
	\$71,450	\$71,450	--	--	--	--	--	--	--	--
25 - 29	187	180	7	--	--	--	--	--	--	--
	77,002	76,583	\$87,789	--	--	--	--	--	--	--
30 - 34	103	90	13	--	--	--	--	--	--	--
	76,364	75,655	81,269	--	--	--	--	--	--	--
35 - 39	41	37	4	--	--	--	--	--	--	--
	77,851	77,240	83,498	--	--	--	--	--	--	--
40 - 44	20	17	3	--	--	--	--	--	--	--
	77,024	77,946	71,798	--	--	--	--	--	--	--
45 - 49	19	15	2	2	--	--	--	--	--	--
	79,198	81,905	81,523	\$56,565	--	--	--	--	--	--
50 - 54	24	24	--	--	--	--	--	--	--	--
	92,802	92,802	--	--	--	--	--	--	--	--
55 - 59	13	12	1	--	--	--	--	--	--	--
	91,757	91,897	90,069	--	--	--	--	--	--	--
60 - 64	3	2	1	--	--	--	--	--	--	--
	96,891	100,302	90,069	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	447	414	31	2	--	--	--	--	--	--
	\$77,978	\$77,729	\$82,697	\$56,565	--	--	--	--	--	--

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT C

Reconciliation of Member Data – June 30, 2016 to June 30, 2017

	Active Members	Vested Terminated Members⁽¹⁾	Pensioners	Disableds	Beneficiaries	Total
Number as of June 30, 2016	12,393	3,301	8,710	717	1,533	26,654
New members	1,095	80	0	0	106	1,281
Terminations – with vested rights	-312	312	0	0	0	0
Contributions refunds	-118	-75	0	0	0	-193
Retirements	-473	-140	613	0	0	0
New disabilities	-8	-9	-11	28	0	0
Return to work	27	-24	-3	0	0	0
Deaths	-15	-20	-207	-28	-73	-343
Data adjustments	-2	0	1	0	10	9
Number as of June 30, 2017	12,587	3,425	9,103	717	1,576	27,408

⁽¹⁾ Includes terminated members due a refund of member contributions.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended June 30, 2017	Year Ended June 30, 2016
Contribution income:		
Employer contributions	\$203,928,000	\$209,020,000
Employee contributions	<u>89,489,000</u>	<u>77,494,000</u>
Net contribution income	\$293,417,000	\$286,514,000
Investment income:		
Interest, dividends and other income	\$182,778,000	\$158,454,000
Recognition of capital appreciation	475,510,000	424,051,000
Less investment and administrative fees	<u>-90,815,000</u>	<u>-65,740,000</u>
Net investment income	<u>567,473,000</u>	<u>516,765,000</u>
Total income available for benefits	\$860,890,000	\$802,279,000
Less benefit payments:		
Benefits paid	-\$429,754,000	-\$403,356,000
Withdrawal of contributions	<u>-2,312,000</u>	<u>-2,346,000</u>
Net benefit payments	-\$432,066,000	-\$405,702,000
Change in reserve for future benefits	\$428,824,000	\$397,577,000

Note: Results may be slightly off due to rounding.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT E

Summary Statement of Assets

	Year Ended June 30, 2017	Year Ended June 30, 2016
Cash equivalents	\$243,462,000	\$416,441,000
Accounts receivable:		
Securities sold	\$42,467,000	\$113,982,000
Accrued investment income	15,589,000	17,917,000
Employee and employer contributions	<u>4,508,000</u>	<u>8,073,000</u>
Total accounts receivable	62,564,000	139,972,000
Investments:		
Equities	\$4,793,665,000	\$3,953,054,000
Absolute return	766,986,000	724,682,000
Opportunities	176,176,000	165,182,000
Fixed income investments	1,600,309,000	1,555,857,000
Real assets	1,060,388,000	909,577,000
Securities lending collateral	<u>352,234,000</u>	<u>422,520,000</u>
Total investments at market value	8,749,758,000	7,730,872,000
Other assets	<u>501,000</u>	<u>378,000</u>
Total assets	\$9,056,285,000	\$8,287,663,000
Less accounts payable:		
Accounts payable and other liabilities	-\$28,026,000	-\$38,485,000
Investment trades and warrants payable	-91,800,000	-145,793,000
Securities lending liability	<u>-352,234,000</u>	<u>-422,520,000</u>
Total accounts payable	-\$472,060,000	-\$606,798,000
Net assets at market value	<u>\$8,584,225,000</u>	<u>\$7,680,865,000</u>
Net assets at actuarial value	<u>\$8,665,226,000</u>	<u>\$8,236,402,000</u>
Net assets at valuation value	<u>\$8,641,779,000</u>	<u>\$8,169,906,000</u>

Note: Results may be slightly off due to rounding.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT F

Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, we first determine the amount and timing of all future payments that will be made by the Plan for current participants. We then discount these payments at the valuation interest rate to the date of the valuation, thereby determining their present value. We refer to this present value as the "liability" of the Plan.

Second, we determine how this liability will be met. These actuarial "assets" include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer Normal Cost contributions, and the present value of future employer amortization payments.

Actuarial Balance Sheet (Dollar Amounts in Thousands)			
Assets	<u>Basic</u>	<u>Cola</u>	<u>Total</u>
1. Total valuation assets			
a. Valuation value assets	\$5,836,503	\$2,805,276	\$8,641,779
b. Balance of transfer to offset member COLA rate	0	18,424	18,424
c. Adjustment to 1a. for surplus/(deficit) for withdrawn employer (preliminary) ⁽¹⁾	-41,829	0	-41,829
d. Contingency Reserve	46,852	0	46,852
2. Present value of future contributions by members	517,489	174,940	692,429
3. Present value of future employer contributions for:			
a. Entry age Normal Cost	1,029,563	191,502	1,221,065
b. Unfunded actuarial accrued liability	<u>1,664,511</u>	<u>351,261</u>	<u>2,015,772</u>
4. Total current and future assets	\$9,053,089	\$3,541,403	\$12,594,492
Liabilities			
5. Present value of retirement allowances payable to present retired members	\$3,788,969	\$2,232,117	\$6,021,086
6. Present value of retirement allowances to be granted			
a. Active members	4,946,610	1,232,412	6,179,022
b. Inactive members with vested rights	312,487	76,874	389,361
7. Non-valuation reserves	0	0	0
8. Surplus/(deficit) for withdrawn employer (preliminary) ⁽¹⁾	-41,829	0	-41,829
9. Contingency Reserve	<u>46,852</u>	<u>0</u>	<u>46,852</u>
10. Total liabilities	\$9,053,089	\$3,541,403	\$12,594,492

⁽¹⁾ Based on the latest estimate available as of June 30, 2016 for Florin Fire adjusted with interest at the assumed rate of investment return to June 30, 2017.

Note: Results may be slightly off due to rounding.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT G

Summary of Reported Asset Information as of June 30, 2017

	Reserves
<u>Included in Valuation Value of Assets</u>	
Employee reserve	\$796,936,750
Employer reserve	2,800,542,201
Retiree reserve	5,004,343,153
Retiree death benefit reserve	<u>16,551,611</u>
Subtotal: Preliminary Valuation Value of Assets ⁽¹⁾	\$8,618,373,715
<u>Not Included in Valuation Value of Assets</u>	
Contingency Reserve	<u>\$46,852,270</u>
Subtotal: Actuarial Value of Assets	\$8,665,225,985
Market stabilization reserve	<u>(81,000,985)</u>
Total Market Value of Assets	\$8,584,225,000

⁽¹⁾ Please note that the Final Valuation Value of Assets (i.e. \$8,641,778,942) as shown on page 6 is calculated by taking the Preliminary Valuation Value of Assets and adjusting for the balance of transfer to offset member COLA rate and for the surplus/(deficit) for the withdrawn employer.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT G

Summary of Reported Asset Information as of June 30, 2017 (Continued) – Change in Reserves

	Balance at 06/30/2016	Interest Credited	Contributions	Benefits	Transfers	Balance at 06/30/2017
Employee Reserve	\$758,437,459	\$13,900,124	\$89,488,759	\$(2,311,977)	\$(62,577,615)	\$796,936,750
Employer Reserve	2,722,084,072	208,854,762	203,928,296	(217,531)	(334,107,398)	2,800,542,201
Retiree Reserve	4,658,693,869	377,735,482	0	(428,771,211)	396,685,013	5,004,343,153
Death Benefit Reserve	<u>16,047,451</u>	<u>1,269,660</u>	<u>0</u>	<u>(765,500)</u>	<u>0</u>	<u>16,551,611</u>
Subtotal	\$8,155,262,851	\$601,760,028	\$293,417,055	\$(432,066,219)	\$0	\$8,618,373,715
Contingency Reserve	<u>\$81,139,092</u>	<u>\$(34,286,822)</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$46,852,270</u>
Subtotal	\$81,139,092	\$(34,286,822)	\$0	\$0	\$0	\$46,852,270
Total Allocated Reserves	\$8,236,401,943	\$567,473,206	\$293,417,055	\$(432,066,219)	\$0	\$8,665,225,985
Market Stabilization Reserve	<u>\$(555,536,943)</u>	<u>\$474,535,958</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$(81,000,985)</u>
Net Market Value of Assets	<u>\$7,680,865,000</u>	<u>\$1,042,009,164</u>	<u>\$293,417,055</u>	<u>\$(432,066,219)</u>	<u>\$0</u>	<u>\$8,584,225,000</u>

Note: Results may be slightly off due to rounding.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT G

Summary of Reported Asset Information as of June 30, 2017 (Continued) – Summary of Earnings

	<u>Per Excess Earnings Policy</u>
Earnings from July 1, 2016 to June 30, 2017	\$1,042,009,164
Contingency Reserve ⁽¹⁾	<u>34,286,822</u>
Subtotal:	\$1,076,295,986
Amounts Credited for:	
Market Stabilization Reserve	\$(474,535,958)
Regular Interest Crediting	<u>(601,760,028)</u>
Subtotal	\$(1,076,295,986)
Net Excess Earnings	\$0
Amount Credited Under Excess Earnings Policy for:	
Contingency Reserve ⁽¹⁾	\$0
Board Provided Supplemental Benefits	0
Amount Over Reserved Benefits	0
Employer Reserves	0
Member Future COLA Contribution Offset	<u>0</u>
Subtotal	\$0
Remaining Excess Earnings	<u>\$0</u>

⁽¹⁾ The Board has decided to use \$34,286,822 of the Contingency Reserve on June 30, 2017 to credit interest. As there was a balance of \$81,139,092 in the Contingency Reserve as of June 30, 2016, the remaining balance in that reserve as of June 30, 2017 after deducting the \$34,286,822 use in 2016/2017 is \$46,852,270.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT H

Development of Unfunded/(Overfunded) Actuarial Accrued Liability for Year Ended June 30, 2017

1.	Unfunded actuarial accrued liability at beginning of year	\$1,199,688,000
2.	Total Normal Cost	200,615,000
3.	Expected employer and member contributions	-292,798,000
4.	Interest	<u>86,820,000</u>
5.	Expected unfunded actuarial accrued liability	\$1,194,325,000
6.	Actuarial (gain)/loss due to all changes:	
	(a) Investment return less than expected	\$2,904,000
	(b) Actual contributions greater than expected ^{(1),(2)}	-6,525,000
	(c) Salary increases less than expected ⁽²⁾	-2,550,000
	(d) COLA increases less than expected ⁽²⁾	-10,214,000
	(e) Other experience loss ^{(2),(3)}	14,120,000
	(f) Changes in actuarial assumptions	823,712,000
	(g) Total changes	<u>\$821,447,000</u>
7.	Unfunded actuarial accrued liability at end of year	<u>\$2,015,772,000</u>

(1) Due to the one-year lag in implementation of the contribution rates determined in the June 30, 2016 valuation.

(2) The sum of 6(b) through 6(e) is equal to the net gain of \$5.2 million shown in Section 2, Chart 9.

(3) The \$14.1 million was 0.1% of the \$10,680 million in total actuarial accrued liability for the entire System.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT I

Section 415 Limitations

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active participants could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar amount indexed for inflation. That limit is \$210,000 for 2016 and \$215,000 for 2017. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

Benefits for members in non-CalPEPRA tiers in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Contributions rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

EXHIBIT J

Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions:

The estimates on which the cost of the Plan is calculated including:

- (a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;
- (b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) Retirement rates — the rate or probability of retirement at a given age; and
- (d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost:

The amount of contributions required to fund the level cost allocated to the current year of service.

Actuarial Accrued Liability For Actives:

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

Actuarial Accrued Liability For Pensioners:

The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded Actuarial Accrued Liability:

The extent to which the actuarial accrued liability of the Plan exceeds (or is exceeded by) the assets of the Plan. There is a wide range of approaches to recognizing the unfunded or overfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

SECTION 3: Supplemental Information for the Sacramento County Employees' Retirement System

**Amortization of the Unfunded
(Overfunded) Actuarial
Accrued Liability:**

Payments made over a period of years equal in value to the Plan's unfunded or overfunded actuarial accrued liability.

Investment Return:

The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the market value gains and losses to avoid significant swings in the value of assets from one year to the next.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1. Retired members as of the valuation date (including 1,576 beneficiaries in pay status)	11,396
2. Members inactive during year ended June 30, 2017 with vested rights	3,425
3. Members active during the year ended June 30, 2017	12,587

The actuarial factors as of the valuation date are as follows (amounts in 000s):

1. Normal Cost	\$242,388
2. Present value of future benefits	12,589,469
3. Present value of future Normal Costs	1,931,918
4. Actuarial accrued liability ⁽¹⁾	10,657,551
Retired members and beneficiaries	\$6,021,086
Inactive members with vested rights	389,361
Active members	4,247,104
5. Valuation value of assets ⁽¹⁾ (\$8,584,225 at market value as reported by Retirement System)	8,641,779
6. Unfunded actuarial accrued liability	\$2,015,772

⁽¹⁾ Excludes non-valuation reserves and designations.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

The determination of the recommended average employer contribution is as follows
(amounts in 000s):

	Dollar Amount	% of Payroll
1. Total Normal Cost	\$242,388	24.73%
2. Expected employee contributions	<u>-116,075</u>	<u>-11.84%</u>
3. Employer Normal Cost: (1) + (2)	\$126,313	12.89%
4. Amortization of unfunded actuarial accrued liability	<u>152,173</u>	<u>15.52%</u>
5. Total recommended average employer contribution: (3) + (4)	\$278,486	28.41%
6. Projected compensation	\$980,359	

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

EXHIBIT II

Schedule of Employer Contributions

Plan Year Ended June 30	Annual Required Contributions	Actual Contributions	Percentage Contributed
2008	\$167,054,356	\$167,054,356	100.0%
2009	177,011,005	177,011,005	100.0%
2010	167,141,893	167,141,893	100.0%
2011	182,920,751	182,920,751	100.0%
2012	179,098,469	179,098,469	100.0%
2013	189,663,720	189,663,720	100.0%
2014	210,503,324	210,503,324	100.0%
2015	222,959,365	222,959,365	100.0%
2016	209,020,000	209,020,000	100.0%
2017	203,928,296	203,928,296	100.0%

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

EXHIBIT III

Actuarial Assumptions/Methods

Rationale for Assumptions: The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2013 through June 30, 2016 Actuarial Experience Study report dated May 8, 2017.

Economic Assumptions

Net Investment Return: 7.00%; net of administration and investment expenses.

Employee Contribution Crediting Rate¹: 3.00% (assumed rate of inflation); compounded semi-annually.

Cost-of-Living Adjustment for Retirees: Miscellaneous and Safety Tier 1 benefits are assumed to increase at 3.0% per year. Miscellaneous Tier 3, Tier 4 and Tier 5 and Safety Tier 2, Tier 3 and Tier 4 benefits are assumed to increase at 2.0% per year. Miscellaneous Tier 2 receive no COLA increases.

Payroll Growth Inflation of 3.00% per year plus real “across the board” salary increases of 0.25% per year.

Increase in Section 7522.10 Compensation Limit Increase of 3.00% per year from the valuation date.

¹ Current policy is to credit the member contribution account with interest up to the current 5-year Treasury rate, if such earnings are available. However, the difference in earnings between the 5-year Treasury rate and the target crediting rate will be applied to the other valuation reserves so that the overall valuation reserve target crediting rate is maintained at 7.00%.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Salary Increases:

Annual Rate of Compensation Increase (%)		
Inflation: 3.00%, plus “across the board” salary increases of 0.25% per year; plus the following merit and promotional increases.		
Years of Service	Miscellaneous	Safety
0-1	5.00	7.50
1-2	4.75	7.25
2-3	4.50	6.50
3-4	4.00	5.50
4-5	3.50	5.00
5-6	2.75	4.25
6-7	2.25	3.75
7-8	2.00	3.25
8-9	1.75	3.00
9-10	1.50	2.50
10 or more	1.25	2.00

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Demographic Assumptions

Post – Retirement Mortality Rates:

Healthy:

For Miscellaneous Members and Beneficiaries: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table projected generationally with the two-dimensional scale MP-2016 set forward one year for males and no age adjustment for females

For Safety Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table projected generationally with the two-dimensional scale MP-2016 set back four years for males and females

Disabled:

For Miscellaneous Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table projected generationally with the two-dimensional scale MP-2016 set forward seven years for males and set forward eight years for females

For Safety members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table projected generationally with the two-dimensional scale MP-2016 set forward four years for males and females

The RP-2014 tables and adjustments as shown above reflect the mortality experience, based on a review of mortality experience in the June 30, 2016 Actuarial Experience Study. The generational projection is a provision for future mortality improvement.

Member Contribution Rates:

For Miscellaneous members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table projected 20 years with the two-dimensional scale MP-2016 set forward one year for males and no age adjustment for females weighted 40% male and 60% female

For Safety members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table projected generationally with the two-dimensional scale MP-2016 set back four years for males and females weighted 75% male and 25% female

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Termination Rates before Retirement:

Age	Rate (%)			
	Mortality			
	Miscellaneous		Safety	
	Male	Female	Male	Female
25	0.03	0.01	0.03	0.01
30	0.03	0.01	0.03	0.01
35	0.03	0.02	0.03	0.02
40	0.04	0.02	0.04	0.02
45	0.06	0.04	0.06	0.04
50	0.10	0.06	0.10	0.06
55	0.17	0.10	0.17	0.10
60	0.28	0.15	0.28	0.15
65	0.49	0.22	0.49	0.22

Note that the generational projections are not reflected in the above mortality rates.

All Miscellaneous pre-retirement deaths are assumed to be non-duty. For Safety, 50% of pre-retirement deaths are assumed to be non-duty and the rest are assumed to be duty.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Termination Rates before Retirement (continued):

Age	Rate (%)	
	Disability	
	Miscellaneous⁽¹⁾	Safety⁽²⁾
20	0.00	0.10
25	0.01	0.10
30	0.03	0.16
35	0.05	0.32
40	0.08	0.43
45	0.13	0.51
50	0.21	0.76
55	0.34	0.96
60	0.46	1.30

⁽¹⁾ 30% of Miscellaneous disabilities are assumed to be duty disabilities. The other 70% are assumed to be non-duty disabilities.

⁽²⁾ 90% of Safety disabilities are assumed to be duty disabilities. The other 10% are assumed to be non-duty disabilities.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Termination Rates before Retirement (continued):

Rate (%)		
Withdrawal (< 5 Years of Service) ⁽¹⁾		
Years of Service	Miscellaneous	Safety
0 – 1	13.00	6.00
1 – 2	8.00	5.00
2 – 3	7.00	4.00
3 – 4	6.00	3.00
4 – 5	5.50	3.00
Withdrawal (5+ Years of Service) ⁽²⁾		
Age	Miscellaneous	Safety
20	5.50	2.50
25	5.50	2.50
30	5.20	2.20
35	4.40	1.70
40	3.40	1.35
45	2.70	1.10
50	2.44	1.00
55	2.34	1.00
60	2.24	1.00
65	1.48	0.00

⁽¹⁾ 65% of the Miscellaneous members and 50% of the Safety members are assumed to elect a refund of contribution balance while the remaining 35% and 50% of Miscellaneous and Safety members, respectively, are assumed to elect a deferred retirement benefit. No withdrawal is assumed after a member is assumed to retire.

⁽²⁾ 40% of the Miscellaneous members and 15% of the Safety members are assumed to elect a refund of contribution balance while the remaining 60% and 85% of Miscellaneous and Safety members, respectively, are assumed to elect a deferred retirement benefit. No withdrawal is assumed after a member is assumed to retire.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Retirement Rates:

Age	Rate (%)						
	Miscellaneous Tier 1	Miscellaneous Tiers 2 & 3	Miscellaneous Tier 4	Miscellaneous Tier 5	Safety Tiers 1 & 2	Safety Tier 3	Safety Tier 4
45	0.00	0.00	0.00	0.00	2.00	1.50	0.00
46	0.00	0.00	0.00	0.00	2.00	1.50	0.00
47	0.00	0.00	0.00	0.00	2.00	1.50	0.00
48	0.00	0.00	0.00	0.00	2.00	1.50	0.00
49	0.00	0.00	0.00	0.00	5.00	4.00	0.00
50	6.00	2.00	2.00	0.00	22.00	10.00	15.00
51	4.50	2.00	2.00	0.00	16.00	12.00	10.50
52	4.50	2.00	2.00	4.00	16.00	14.00	12.00
53	4.50	3.00	2.00	1.50	20.00	16.00	14.00
54	5.50	4.00	3.00	2.50	20.00	18.00	15.50
55	12.00	6.00	4.00	3.50	20.00	50.00	40.00
56	18.00	6.00	5.00	4.50	25.00	25.00	25.00
57	18.00	8.00	6.00	5.50	25.00	25.00	25.00
58	18.00	10.00	7.00	6.50	25.00	25.00	25.00
59	20.00	12.00	8.00	7.50	30.00	30.00	25.00
60	28.00	12.00	9.00	8.50	45.00	45.00	45.00
61	35.00	14.00	10.00	9.50	55.00	55.00	55.00
62	35.00	25.00	18.00	17.00	70.00	70.00	70.00
63	35.00	25.00	16.00	15.00	70.00	70.00	70.00
64	35.00	30.00	20.00	19.00	70.00	70.00	70.00
65	35.00	35.00	25.00	24.00	100.00	100.00	100.00
66	40.00	40.00	20.00	20.00	100.00	100.00	100.00
67	40.00	40.00	20.00	20.00	100.00	100.00	100.00
68	50.00	50.00	30.00	30.00	100.00	100.00	100.00
69	60.00	60.00	40.00	40.00	100.00	100.00	100.00
70	100.00	100.00	100.00	100.00	100.00	100.00	100.00

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

**Retirement Age and Benefit for
Deferred Vested Members:**

For deferred vested members, we make the following retirement assumption:

Miscellaneous Age:	59
Safety Age:	53

We assume that 35% of future Miscellaneous and 45% of future Safety deferred vested members will continue to work for a reciprocal employer. For reciprocals, we assume 4.50% and 5.25% compensation increases per annum, respectively.

Future Benefit Accruals:

1.0 year of service per year for the full-time employees. Continuation of current partial service accrual for part-time employees.

Unknown Data for Members:

Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Definition of Active Members:

All active members of SCERS as of the valuation date.

Form of Payment:

All members are assumed to elect the unmodified option at retirement.

Percent Married:

80% of male members; 55% of female members.

Age of Spouse:

Female spouses are 3 years younger than their spouses. Male spouses are 2 years older than their spouses.

**Service from Unused
Sick Leave Conversion:**

The following assumptions for service converted from unused sick leave as a percentage of service at retirement are used:

Service Retirements:

Miscellaneous:	1.50%
Safety:	2.25%

Disability Retirements:

Miscellaneous:	0.25%
Safety:	0.25%

Pursuant to Section 31641.01, the cost of this benefit will be charged only to employers and will not affect member contribution rates.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Actuarial Methods

Actuarial Value of Assets:	The market value of assets less unrecognized returns from the last few years starting July 1, 2008. Unrecognized return is equal to the difference between actual and expected returns on a market value basis and is recognized over a seven-year period. The deferred return is further adjusted, if necessary, so that the actuarial value of assets will stay within 30% of the market value of assets. Deferred gains and losses as of June 30, 2013 have been combined and will be recognized in equal amounts over a six-year period starting July 1, 2013.
Valuation Value of Assets:	Actuarial value of assets reduced by the value of the non-valuation reserves and designations.
Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the age at the member's hire date. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation.
Amortization Policy:	<p>The UAAL established as a result of the Early Retirement Incentive Program for LEMA members is amortized over a 10-year period beginning June 30, 2010. The balance of the UAAL as of June 30, 2012 shall be amortized separately from any future changes in UAAL over a period of 23 years from June 30, 2012.</p> <p>Any new UAAL as a result of actuarial gains or losses identified in the annual valuation as of June 30 will be amortized over a period of 20 years.</p> <p>Any new UAAL as a result of change in actuarial assumptions or methods will be amortized over a period of 20 years.</p> <p>The change in UAAL as a result of any plan amendments will be amortized over a period of 15 years and the change in UAAL resulting from retirement incentive programs will be amortized over a period of up to 5 years.</p>

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Changes in Actuarial Assumptions	Based on our Actuarial Experience Study, the following assumptions have changed. Previously, those assumptions were as follows:
<u>Economic Assumptions</u>	
Net Investment Return:	7.50%; net of administration and investment expenses.
Employee Contribution Crediting Rate¹:	3.25% (assumed rate of inflation); compounded semi-annually.
Cost-of-Living Adjustment for Retirees:	Miscellaneous and Safety Tier 1 benefits are assumed to increase at 3.25% per year. Miscellaneous Tier 3, Tier 4 and Tier 5 and Safety Tier 2, Tier 3 and Tier 4 benefits are assumed to increase at 2.0% per year. Miscellaneous Tier 2 receive no COLA increases.
Payroll Growth	Inflation of 3.25% per year plus real “across the board” salary increases of 0.25% per year.
Increase in Section 7522.10 Compensation Limit	Increase of 3.25% per year from the valuation date.

¹ Current policy is to credit the member contribution account with interest up to the current 5-year Treasury rate, if such earnings are available. However, the difference in earnings between the 5-year Treasury rate and the target crediting rate will be applied to the other valuation reserves so that the overall valuation reserve target crediting rate is maintained at 7.50%.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Changes in Actuarial Assumptions (previous assumptions – continued)

Salary Increases:

<u>Annual Rate of Compensation Increase (%)</u>		
Inflation: 3.25%, plus “across the board” salary increases of 0.25% per year; plus the following merit and promotional increases.		
<u>Years of Service</u>	<u>Miscellaneous</u>	<u>Safety</u>
0-1	5.00	8.00
1-2	4.50	7.00
2-3	3.75	6.00
3-4	3.50	5.00
4-5	3.00	4.00
5-6	2.50	3.50
6-7	2.25	3.25
7-8	2.00	3.00
8-9	1.75	2.75
9-10	1.00	2.00
10 or more	1.00	1.75

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Changes in Actuarial Assumptions (previous assumptions – continued)

Demographic Assumptions

Post – Retirement Mortality Rates:

Healthy:

For Miscellaneous Members and Beneficiaries: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2022

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2022 set back one year for males and set forward two years for females

Disabled:

For Miscellaneous Members: RP-2000 Disabled Retiree Mortality Table projected with Scale BB to 2022 with no age adjustment for males and set forward three years for females

For Safety members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2022 set forward two years

The above mortality tables contain about a 10% margin, based on actual to expected deaths, as a provision to reflect future mortality improvement, based on a review of mortality experience in the June 30, 2013 Actuarial Experience Study.

Member Contribution Rates:

For Miscellaneous members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2022 weighted 40% male and 60% female

For Safety members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2022 set back one year for males and set forward two years for females weighted 70% male and 30% female

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Changes in Actuarial Assumptions (previous assumptions – continued)

Termination Rates before Retirement:

Age	Rate (%)			
	Mortality			
	Miscellaneous		Safety	
	Male	Female	Male	Female
25	0.04	0.02	0.04	0.02
30	0.04	0.02	0.04	0.03
35	0.07	0.04	0.07	0.05
40	0.10	0.07	0.10	0.08
45	0.14	0.11	0.13	0.12
50	0.20	0.16	0.19	0.19
55	0.34	0.24	0.30	0.30
60	0.58	0.41	0.52	0.51
65	0.98	0.74	0.88	0.93

All Miscellaneous pre-retirement deaths are assumed to be non-duty. For Safety, 50% of pre-retirement deaths are assumed to be non-duty and the rest are assumed to be duty.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Changes in Actuarial Assumptions (previous assumptions – continued)

Termination Rates before Retirement (continued):

Age	Rate (%)	
	Disability	
	Miscellaneous⁽¹⁾	Safety⁽²⁾
20	0.00	0.10
25	0.01	0.10
30	0.03	0.16
35	0.05	0.26
40	0.08	0.45
45	0.16	0.61
50	0.26	0.80
55	0.36	1.26
60	0.52	2.10

⁽¹⁾ 25% of Miscellaneous disabilities are assumed to be duty disabilities. The other 75% are assumed to be non-duty disabilities.

⁽²⁾ 90% of Safety disabilities are assumed to be duty disabilities. The other 10% are assumed to be non-duty disabilities.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Changes in Actuarial Assumptions (previous assumptions – continued)

Termination Rates before Retirement (continued):

Rate (%)		
Withdrawal (< 5 Years of Service) ⁽¹⁾		
Years of Service	Miscellaneous	Safety
0 – 1	13.00	8.00
1 – 2	8.00	6.00
2 – 3	7.00	5.00
3 – 4	6.00	4.00
4 – 5	5.50	3.00
Withdrawal (5+ Years of Service) ⁽²⁾		
Age	Miscellaneous	Safety
20	5.00	2.50
25	5.00	2.50
30	4.70	2.50
35	4.20	2.20
40	3.40	1.85
45	2.70	1.60
50	2.20	1.50
55	1.85	1.50
60	1.30	1.50
65	1.00	0.00

⁽¹⁾ 75% of the Miscellaneous members and 50% of the Safety members are assumed to elect a refund of contribution balance while the remaining 25% and 50% of Miscellaneous and Safety members, respectively, are assumed to elect a deferred retirement benefit. No withdrawal is assumed after a member is assumed to retire.

⁽²⁾ 50% of the Miscellaneous members and 20% of the Safety members are assumed to elect a refund of contribution balance while the remaining 50% and 80% of Miscellaneous and Safety members, respectively, are assumed to elect a deferred retirement benefit. No withdrawal is assumed after a member is assumed to retire.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Changes in Actuarial Assumptions (previous assumptions – continued)

Retirement Rates:

Age	Rate (%)						
	Miscellaneous Tier 1	Miscellaneous Tiers 2 & 3	Miscellaneous Tier 4	Miscellaneous Tier 5	Safety Tiers 1 & 2	Safety Tier 3	Safety Tier 4
45	0.00	0.00	0.00	0.00	2.00	1.50	0.00
46	0.00	0.00	0.00	0.00	2.00	1.50	0.00
47	0.00	0.00	0.00	0.00	2.00	1.50	0.00
48	0.00	0.00	0.00	0.00	2.00	1.50	0.00
49	0.00	0.00	0.00	0.00	5.00	4.00	0.00
50	6.00	2.00	2.00	0.00	25.00	10.00	15.00
51	4.00	2.00	2.00	0.00	18.00	12.00	10.50
52	4.00	2.00	2.00	4.00	18.00	14.00	12.00
53	4.00	3.00	2.00	1.50	22.00	16.00	14.00
54	7.00	4.00	3.00	2.50	22.00	18.00	15.50
55	10.00	6.00	4.00	3.50	22.00	50.00	40.00
56	15.00	6.00	5.00	4.50	25.00	25.00	25.00
57	16.00	8.00	6.00	5.50	25.00	25.00	25.00
58	18.00	12.00	7.00	6.50	25.00	25.00	25.00
59	22.00	14.00	8.00	7.50	30.00	30.00	25.00
60	28.00	14.00	9.00	8.50	45.00	45.00	45.00
61	30.00	14.00	10.00	9.50	55.00	55.00	55.00
62	35.00	25.00	18.00	17.00	70.00	70.00	70.00
63	35.00	30.00	16.00	15.00	70.00	70.00	70.00
64	40.00	35.00	20.00	19.00	70.00	70.00	70.00
65	50.00	40.00	25.00	24.00	100.00	100.00	100.00
66	45.00	45.00	20.00	20.00	100.00	100.00	100.00
67	45.00	45.00	20.00	20.00	100.00	100.00	100.00
68	50.00	50.00	30.00	30.00	100.00	100.00	100.00
69	60.00	60.00	40.00	40.00	100.00	100.00	100.00
70	100.00	100.00	100.00	100.00	100.00	100.00	100.00

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Changes in Actuarial Assumptions (previous assumptions – continued)

**Retirement Age and Benefit for
Deferred Vested Members:**

For deferred vested members, we make the following retirement assumption:

Miscellaneous Age: 59

Safety Age: 53

We assume that 40% of future Miscellaneous and 50% of future Safety deferred vested members will continue to work for a reciprocal employer. For reciprocals, we assume 4.50% and 5.25% compensation increases per annum, respectively.

Age of Spouse:

Female (or male) spouses are 3 years younger (or older) than their spouses.

**Service from Unused
Sick Leave Conversion:**

The following assumptions for service converted from unused sick leave as a percentage of service at retirement are used:

Service Retirements:

Miscellaneous: 1.50%

Safety: 2.25%

Disability Retirements:

Miscellaneous: 0.00%

Safety: 0.25%

Pursuant to Section 31641.01, the cost of this benefit will be charged only to employers and will not affect member contribution rates.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

EXHIBIT IV

Summary of Plan Provisions

This exhibit summarizes the major provisions of the SCERS included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Membership Eligibility:	Membership with SCERS usually begins with the employment by the County or member District as a permanent full-time or part-time employee as provided in the County Salary Resolution or the District's Salary Resolution.
<i>Miscellaneous Tier 1</i>	All Miscellaneous members hired prior to September 27, 1981.
<i>Miscellaneous Tier 2 and Tier 3</i>	All Miscellaneous members hired on or after September 27, 1981. Membership into Tier 2 or Tier 3 is determined by date of hire and by bargaining unit.
<i>Miscellaneous Tier 4</i>	All Miscellaneous members hired on or after January 1, 2012 as adopted by the County. Membership into Tier 4 is determined by date of hire.
<i>Miscellaneous Tier 5</i>	All Miscellaneous members hired on or after January 1, 2013.
<i>Safety Tier 1 and Tier 2</i>	Membership into Tier 1 or Tier 2 for Safety employee is determined by date of hire and by bargaining unit.
<i>Safety Tier 3</i>	All Safety members hired on or after January 1, 2012 as adopted by the County. Membership into Tier 3 is determined by date of hire.
<i>Safety Tier 4</i>	All Safety members hired on or after January 1, 2013.

Final Compensation for Benefit Determination:	
<i>Miscellaneous and Safety Tier 1</i>	Highest consecutive 1 year (12 months) of compensation earnable (§31462.1) (FAS1)
<i>Miscellaneous Tier 2, Tier 3, and Tier 4 and Safety Tier 2 and Tier 3</i>	Highest consecutive 3 years (36 months) of compensation earnable. (§31462) (FAS3)
<i>Miscellaneous Tier 5 and Safety Tier 4</i>	Highest consecutive 3 years (36 months) of pensionable compensation. (§7522.10(c), §7522.32 and §7522.34) (FAS3)

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Service: Years of service. (Yrs)

Service Retirement Eligibility:

Miscellaneous

Tiers 1, 2, 3 and 4

Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years of service, regardless of age (§31672).

Tier 5

Age 52 with 5 years of service, or age 70 regardless of service (§7522.20(a)).

Safety

Tiers 1, 2 and 3

Age 50 with 10 years of service, or after 20 years of Safety service, regardless of age (§31663.25).

Tier 4

Age 50 with 5 years of service, or age 70 regardless of service (§7522.25(d)).

Benefit Formula:

Miscellaneous Plans

Retirement Age

Benefit Formula

Miscellaneous Tier 1 (§31676.14)

50

$(1.48\% \times \text{FAS1} - 1/3 \times 1.48\% \times \$350 \times 12) \times \text{Yrs}$

55

$(1.95\% \times \text{FAS1} - 1/3 \times 1.95\% \times \$350 \times 12) \times \text{Yrs}$

60

$(2.44\% \times \text{FAS1} - 1/3 \times 2.44\% \times \$350 \times 12) \times \text{Yrs}$

62

$(2.61\% \times \text{FAS1} - 1/3 \times 2.61\% \times \$350 \times 12) \times \text{Yrs}$

65 or later

$(2.61\% \times \text{FAS1} - 1/3 \times 2.61\% \times \$350 \times 12) \times \text{Yrs}$

*Miscellaneous Tier 2 and Tier 3
(§31676.14)*

50

$(1.48\% \times \text{FAS3} - 1/3 \times 1.48\% \times \$350 \times 12) \times \text{Yrs}$

55

$(1.95\% \times \text{FAS3} - 1/3 \times 1.95\% \times \$350 \times 12) \times \text{Yrs}$

60

$(2.44\% \times \text{FAS3} - 1/3 \times 2.44\% \times \$350 \times 12) \times \text{Yrs}$

62

$(2.61\% \times \text{FAS3} - 1/3 \times 2.61\% \times \$350 \times 12) \times \text{Yrs}$

65 or later

$(2.61\% \times \text{FAS3} - 1/3 \times 2.61\% \times \$350 \times 12) \times \text{Yrs}$

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

	Retirement Age	Benefit Formula
<i>Miscellaneous Tier 4 (§31676.1)</i>	50	$(1.18\% \times \text{FAS3} - 1/3 \times 1.18\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(1.49\% \times \text{FAS3} - 1/3 \times 1.49\% \times \$350 \times 12) \times \text{Yrs}$
	60	$(1.92\% \times \text{FAS3} - 1/3 \times 1.92\% \times \$350 \times 12) \times \text{Yrs}$
	62	$(2.09\% \times \text{FAS3} - 1/3 \times 2.09\% \times \$350 \times 12) \times \text{Yrs}$
	65 or later	$(2.43\% \times \text{FAS3} - 1/3 \times 2.43\% \times \$350 \times 12) \times \text{Yrs}$
<i>Miscellaneous Tier 5 (§7522.20(a))</i>	52	$1.00\% \times \text{FAS3} \times \text{Yrs}$
	55	$1.30\% \times \text{FAS3} \times \text{Yrs}$
	60	$1.80\% \times \text{FAS3} \times \text{Yrs}$
	62	$2.00\% \times \text{FAS3} \times \text{Yrs}$
	65	$2.30\% \times \text{FAS3} \times \text{Yrs}$
	67 or later	$2.50\% \times \text{FAS3} \times \text{Yrs}$
Safety Plans	Retirement Age	Benefit Formula
<i>Safety Tier 1 (§31664.1)</i>	50	$(3.00\% \times \text{FAS1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(3.00\% \times \text{FAS1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
	60 or later	$(3.00\% \times \text{FAS1} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
<i>Safety Tier 2 (§31664.1)</i>	50	$(3.00\% \times \text{FAS3} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(3.00\% \times \text{FAS3} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
	60 or later	$(3.00\% \times \text{FAS3} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
<i>Safety Tier 3 (§31664.2)</i>	50	$(2.29\% \times \text{FAS3} - 1/3 \times 2.29\% \times \$350 \times 12) \times \text{Yrs}$
	55	$(3.00\% \times \text{FAS3} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$
	60 or later	$(3.00\% \times \text{FAS3} - 1/3 \times 3.00\% \times \$350 \times 12) \times \text{Yrs}$

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

	Retirement Age	Benefit Formula
<i>Safety Tier 4 (§7522.25(d))</i>	50	2.00%xFAS3xYrs
	55	2.50%xFAS3xYrs
	57 or later	2.70%xFAS3xYrs

Maximum Benefit:

<i>Miscellaneous Tier 1, Tier 2, Tier 3 and Tier 4 and Safety Tier 1, Tier 2 and Tier 3</i>	100% of Highest Average Compensation	(§31676.14, §31676.1, §31664.1, §31664.2)
<i>Miscellaneous Tier 5 and Safety Tier 4</i>	None	

Additional Benefit Information:

- For Miscellaneous members of the following Districts, benefits accrued before June 29, 2003 will continue to be calculated using §31676.1.
 1. Fair Oaks Cemetery District
 2. Galt Arno Cemetery District

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Non-duty Disability:

Miscellaneous and Safety Tier 1

Eligibility

Five years of service (§31720).

Benefit Formula

1.5% per year of service for Miscellaneous Tier 1 and 1.8% per year of service for Safety Tier 1. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65 for Miscellaneous Tier 1 and 55 for Safety Tier 1, but the total benefit cannot be more than one-third of Final Compensation (§31727 and §31727.2). The Service Retirement benefit is payable, if greater.

Miscellaneous Tier 2, Tier 3, Tier 4,
and Tier 5 and Safety Tier 2, Tier 3
and Tier 4

Eligibility

Five years of service (§31720).

Benefit Formula

20% of Final Compensation for the first five years of service plus 2% for each year of additional service for a maximum of 40% of Final Compensation (§31727.7). The Service Retirement benefit is payable, if greater.

Line-of-Duty Disability:

All Members

Eligibility

No age or service requirements (§31720).

Benefit Formula

50% of the Final Compensation or 100% of Service Retirement benefit, if greater (§31727.4).

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Pre-Retirement Death:

All Members

Eligibility

No age or service requirements.

Benefit

Refund of employee contributions with interest plus one month's compensation for each year of service to a maximum of six month's compensation (§31781).

Death in Line-of-Duty

50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).

OR

Vested Members

Eligibility

Five years of service.

Benefit

60% of the greater of Service or Non-Duty Disability Retirement benefit payable to surviving eligible spouse (§31765.1, §31781.1), in lieu of above.

Death in Line-of-Duty

50% of Final compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787).

Death After Retirement:

All Members

*Service Retirement or
Non-Duty Disability*

60% of member's unmodified allowance continued to eligible spouse (§31760.1). An additional \$4,000 lump sum benefit is payable to member's beneficiary (§31789.3). An eligible spouse is a surviving spouse who was married to the member at least one year prior to the date of retirement (§31760.1).

Line-of-Duty Disability

100% of member's allowance continued to eligible spouse (§31786). An additional \$4,000 lump sum benefit is payable to member's beneficiary (§31789.3). An eligible spouse is a surviving spouse who was married to the member at least one year prior to the date of retirement (§31760.1).

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Withdrawal Benefits:

<i>Less than Five Years of Service</i>	Refund of accumulated employee contributions with interest, or earned benefit at age 70 (§31628). Effective January 1, 2003, a member may also elect to leave their contributions on deposit in the retirement fund (§31629.5).
<i>Five or More Years of Service</i>	If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire (§31700).

Post-retirement

Cost-of-Living Benefits:

<i>Miscellaneous and Safety Tier 1</i>	Future changes based on Consumer Price Index to a maximum of 4% per year, excess “banked.” (§31870.3)
<i>Miscellaneous Tier 3, Tier 4 and Tier 5 and Safety Tier 2, Tier 3 and Tier 4</i>	Future changes based on Consumer Price Index to a maximum of 2% per year, excess “banked.” (§31870)

Note: There is no cost-of-living benefit for Miscellaneous Tier 2.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Member Contributions:	Please refer to Appendix A for the specific rates.
<i>Miscellaneous Tier 1</i>	
<i>Basic</i>	Provide for an average annuity at age 55 equal to 1/240 of FAS1. (§31621.3)
<i>Cost-of-Living</i>	Provide for one-half of future Cost-of-Living costs.
<i>Miscellaneous Tier 2</i>	
<i>Basic</i>	Provide for an average annuity at age 55 equal to 1/240 of FAS3. (§31621.3)
<i>Cost-of-Living</i>	None.
<i>Miscellaneous Tier 3</i>	
<i>Basic</i>	Provide for an average annuity at age 55 equal to 1/240 of FAS3. (§31621.3)
<i>Cost-of-Living</i>	Provide for one-half of future Cost-of-Living costs.
<i>Miscellaneous Tier 4</i>	
<i>Basic</i>	Provide for an average annuity at age 60 equal to 1/120 of FAS3. (§31621)
<i>Cost-of-Living</i>	Provide for one-half of future Cost-of-Living costs.
<i>Miscellaneous Tier 5</i>	50% of the total Normal Cost rate.
<i>Safety Tier 1, Tier 2 and Tier 3</i>	
<i>Basic</i>	Provide for an average annuity at age 50 equal to 1/100 of FAS1 (FAS3 for Tier 2 and Tier 3). (§31639.25)
<i>Cost-of-Living</i>	Provide for one-half of future Cost-of-Living costs.
<i>Safety Tier 4</i>	50% of the total Normal Cost rate.

Notes: The above rates are known as full rates. For members paying half rates prior to the June 30, 2015 valuation, their rates should be one-half of the rates provided in this report. Note that effective with the June 30, 2015 valuation, all members are reported as paying at least full-rate. In addition, for members entering the plan on or after January 1, 1975, they pay a rate based on a single entry age (§31621.11 and §31639.26).

Starting in 2014/2015, most County members in the legacy tiers agreed to contribute either 1/3, 1/4, or 1/5 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members agreed to contribute an additional 1/3, 1/4, or 1/5 of the difference in the Normal Cost rate in 2015/2016, 2016/2017 and 2017/2018.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

For Rep Unit 26 Miscellaneous members, the member rates they started to contribute in 2015/2016 were 1% of payroll higher than the rates they paid in 2014/2015. In developing their rates for 2016/2017, we added an additional 2% of payroll to the rates for 2015/2016.

For Orangevale Recreation and Park District members, the member rates they started to contribute in 2015/2016 were 1/2 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members agreed to contribute an additional 1/2 of the difference in the Normal Cost rate in 2016/2017.

As of 2017/2018, all of the above members who have previously agreed to contribute a higher Normal Cost rate are paying 50% of the total Normal Cost rate.

For Rep Unit 16 Miscellaneous members, the member rates effective January 1, 2018 are 1/2 of the difference between the employee's then current Normal Cost and 50% of the total Normal Cost rate. Those members have agreed to contribute an additional 1/4 of the difference in the Normal Cost rate in 2018/2019 and 2019/2020. We will reflect the 2019/2020 increase in preparing the June 30, 2018 valuation.

For Rep Unit 25 Miscellaneous members, the member rates effective January 1, 2018 are 2% of payroll higher than the employees' then current Normal Cost. These members have agreed to contribute an additional 2% of payroll in 2018/2019 and to contribute 50% of the total Normal Cost rate in 2019/2020. We will reflect the 2019/2020 increase in preparing the June 30, 2018 valuation.

Other Information:

Safety Tier 1, Tier 2 and Tier 3 members with 30 or more years of service are exempt from paying member contributions. The same applies for Miscellaneous members hired on or before March 7, 1973.

NOTE:

The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuation. If the System should find the plan summary not in accordance with the actual provisions, the System should alert the actuary so they can both be sure the proper provisions are valued.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix A

Member Contribution Rates

Comparison of Member Rate⁽¹⁾ from June 30, 2016 and June 30, 2017 Valuation

Note: Contribution rates for most Miscellaneous County members and all Safety County members in the legacy tiers who have agreed to contribute an additional Normal Cost before and after the gross-up for the integration with Social Security can be found in Appendix D in Subsections B and C, respectively.

Miscellaneous	June 30, 2017			June 30, 2016			Increase/(Decrease) in Rate
	Basic	COLA ⁽²⁾	Total	Basic	COLA	Total	
Tier 1	4.05%	1.90%	5.95%	3.70%	1.25%	4.95%	1.00%
Tier 2	3.87%	0.00%	3.87%	3.54%	0.00%	3.54%	0.33%
Tier 3	3.87%	1.68%	5.55%	3.54%	1.24%	4.78%	0.77%
Tier 4	6.82%	1.55%	8.37%	6.12%	1.12%	7.24%	1.13%
Tier 5	7.71%	1.66%	9.37%	6.68%	1.25%	7.93%	1.44%

Safety	June 30, 2017			June 30, 2016			Increase/(Decrease) in Rate
	Basic	COLA ⁽²⁾	Total	Basic	COLA	Total	
Tier 1	11.15%	8.05%	19.20%	9.92%	6.17%	16.09%	3.11%
Tier 2	10.60%	4.15%	14.75%	9.43%	2.99%	12.42%	2.33%
Tier 3	10.60%	3.73%	14.33%	9.43%	2.67%	12.10%	2.23%
Tier 4	11.80%	3.25%	15.05%	10.61%	2.53%	13.14%	1.91%

⁽¹⁾ Members who enter on or after 1/1/1975 contribute as indicated above and all others contribute the rate at their respective entry ages.

⁽²⁾ The COLA rates as a percentage of the Basic rates have increased from the prior valuation. This is primarily due to the change in actuarial assumptions and in particular, the implementation of generational mortality, which makes the COLA benefit more valuable as members are expected to live longer and so are anticipated to collect more COLA benefits. This is especially the case for younger members as those members are expected to have larger mortality improvement over time based on the generational mortality methodology. In addition, for Miscellaneous Tier 1, the COLA contribution offset as a percentage of payroll has decreased as more members have remained active and are working longer than expected under our assumptions.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix A

Member Contribution Rates (Continued)

Miscellaneous Members' Contribution Rates from the June 30, 2017 Actuarial Valuation

Entry Age	Basic Only						COLA Only						Total					
	First \$350 of Monthly Salary			Salary in Excess of \$350			First \$350 of Monthly Salary			Salary in Excess of \$350			First \$350 of Monthly Salary			Salary in Excess of \$350		
	Tier 1	Tier 2 & Tier 3	Tier 4	Tier 1	Tier 2 & Tier 3	Tier 4	Tier 1	Tier 3	Tier 4	Tier 1	Tier 3	Tier 4	Tier 1	Tier 3	Tier 4	Tier 1	Tier 3	Tier 4
16	2.07%			3.10%			0.97%			1.46%			3.04%			4.56%		
17	2.10%			3.15%			0.99%			1.48%			3.09%			4.63%		
18	2.13%			3.19%			1.00%			1.50%			3.13%			4.69%		
19	2.16%			3.24%			1.01%			1.52%			3.17%			4.76%		
20	2.19%			3.28%			1.03%			1.54%			3.22%			4.82%		
21	2.22%			3.33%			1.05%			1.57%			3.27%			4.90%		
22	2.25%			3.38%			1.06%			1.59%			3.31%			4.97%		
23	2.28%			3.42%			1.07%			1.61%			3.35%			5.03%		
24	2.31%			3.47%			1.09%			1.63%			3.40%			5.10%		
25	2.35%			3.52%			1.10%			1.65%			3.45%			5.17%		
26	2.38%			3.57%			1.12%			1.68%			3.50%			5.25%		
27	2.41%			3.62%			1.13%			1.70%			3.54%			5.32%		
28	2.45%			3.67%			1.15%			1.72%			3.60%			5.39%		
29	2.48%			3.72%			1.17%			1.75%			3.65%			5.47%		
30	2.51%			3.77%			1.18%			1.77%			3.69%			5.54%		
31	2.55%			3.82%			1.20%			1.80%			3.75%			5.62%		
32	2.59%			3.88%			1.21%			1.82%			3.80%			5.70%		
33	2.62%			3.93%			1.23%			1.85%			3.85%			5.78%		
34	2.66%			3.99%			1.25%			1.88%			3.91%			5.87%		
35	2.70%	2.58%	4.55%	4.05%	3.87%	6.82%	1.27%	1.12%	1.04%	1.90%	1.68%	1.55%	3.97%	3.70%	5.59%	5.95%	5.55%	8.37%
36	2.74%			4.11%			1.29%			1.93%			4.03%			6.04%		
37	2.78%			4.17%			1.31%			1.96%			4.09%			6.13%		
38	2.82%			4.23%			1.33%			1.99%			4.15%			6.22%		
39	2.86%			4.29%			1.35%			2.02%			4.21%			6.31%		
40	2.91%			4.36%			1.37%			2.05%			4.28%			6.41%		
41	2.95%			4.42%			1.39%			2.08%			4.34%			6.50%		
42	2.99%			4.49%			1.41%			2.11%			4.40%			6.60%		
43	3.05%			4.57%			1.43%			2.15%			4.48%			6.72%		
44	3.10%			4.65%			1.46%			2.19%			4.56%			6.84%		
45	3.15%			4.72%			1.48%			2.22%			4.63%			6.94%		
46	3.19%			4.79%			1.50%			2.25%			4.69%			7.04%		
47	3.23%			4.85%			1.52%			2.28%			4.75%			7.13%		
48	3.27%			4.91%			1.54%			2.31%			4.81%			7.22%		
49	3.31%			4.96%			1.55%			2.33%			4.86%			7.29%		
50	3.32%			4.98%			1.56%			2.34%			4.88%			7.32%		
51	3.32%			4.98%			1.56%			2.34%			4.88%			7.32%		

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix A

Member Contribution Rates (Continued)

Miscellaneous Members' Contribution Rates from the June 30, 2017 Actuarial Valuation

Entry Age	Basic Only						COLA Only						Total					
	First \$350 of Monthly Salary			Salary in Excess of \$350			First \$350 of Monthly Salary			Salary in Excess of \$350			First \$350 of Monthly Salary			Salary in Excess of \$350		
	Tier 1	Tier 2 & Tier 3	Tier 4	Tier 1	Tier 2 & Tier 3	Tier 4	Tier 1	Tier 3	Tier 4	Tier 1	Tier 3	Tier 4	Tier 1	Tier 3	Tier 4	Tier 1	Tier 3	Tier 4
52	3.31%			4.97%			1.56%			2.34%			4.87%			7.31%		
53	3.30%			4.95%			1.55%			2.33%			4.85%			7.28%		
54	3.28%			4.92%			1.54%			2.31%			4.82%			7.23%		
55	3.28%			4.92%			1.54%			2.31%			4.82%			7.23%		
56	3.28%			4.92%			1.54%			2.31%			4.82%			7.23%		
57	3.28%			4.92%			1.54%			2.31%			4.82%			7.23%		
58	3.28%			4.92%			1.54%			2.31%			4.82%			7.23%		
59 & Over	3.28%			4.92%			1.54%			2.31%			4.82%			7.23%		

Members who enter prior to 1/1/1975 contribute on the basis of their actual entry age and all others contribute on the basis of a single entry age of 35.

All members	Tier 5		
	All Eligible Pay ⁽¹⁾		
	Basic Only	COLA Only	Total
	7.71%	1.66%	9.37%

⁽¹⁾ It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2017 is equal to \$118,775 (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2017 (reference: Section 7522.10(d)).

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix A

Member Contribution Rates (Continued)

Miscellaneous Members' Contribution Rates from the June 30, 2017 Actuarial Valuation

Assumptions used in developing member contribution rates from the June 30, 2017 actuarial valuation

Interest:	7.00% per annum
COLA:	Tier 1: 3.00%
	Tier 2: 0.00%
	Tier 3: 2.00%
	Tier 4: 2.00%
	Tier 5: 2.00%
Mortality:	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table projected 20 years with the two-dimensional scale MP-2016 set forward one year for males and no age adjustment for females weighted 40% male and 60% female
Salary increase:	Inflation (3.00%) + Across-the-Board Increase (0.25%) + Merit (See Exhibit III).
COLA Loading Factor:	Tier 1 ⁽²⁾ : 47.00%
	Tier 3 ⁽²⁾ : 43.42%
	Tier 4 ⁽²⁾ : 22.77%
	Tier 5: 21.53%
	⁽²⁾ Factors have been adjusted to reflect a reserve carried by the Board to reduce part of the COLA contributions.
Non-Refundability factor:	Tier 1: 100.00%
	Tier 2: 100.00%
	Tier 3: 98.60%
	Tier 4: 96.37%
	Tier 5: 93.41%

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix A

Member Contribution Rates (Continued)

Safety Members' Contribution Rates from the June 30, 2017 Actuarial Valuation

Entry Age	Basic Only				COLA Only						Total					
	First \$350 of Monthly Salary		Salary in Excess of \$350		First \$350 of Monthly Salary			Salary in Excess of \$350			First \$350 of Monthly Salary		Salary in Excess of \$350			
	Tier 1	Tier 2 & Tier 3	Tier 1	Tier 2 & Tier 3	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3
18	6.65%		9.97%		4.80%			7.20%			11.45%			17.17%		
19	6.71%		10.06%		4.85%			7.27%			11.56%			17.33%		
20	6.78%		10.17%		4.89%			7.34%			11.67%			17.51%		
21	6.85%		10.27%		4.95%			7.42%			11.80%			17.69%		
22	6.91%		10.37%		4.99%			7.49%			11.90%			17.86%		
23	6.99%		10.48%		5.05%			7.57%			12.04%			18.05%		
24	7.05%		10.58%		5.09%			7.64%			12.14%			18.22%		
25	7.13%		10.69%		5.15%			7.72%			12.28%			18.41%		
26	7.20%		10.80%		5.20%			7.80%			12.40%			18.60%		
27	7.28%		10.92%		5.26%			7.89%			12.54%			18.81%		
28	7.35%		11.03%		5.31%			7.97%			12.66%			19.00%		
29	7.43%	7.07%	11.15%	10.60%	5.37%	2.77%	2.49%	8.05%	4.15%	3.73%	12.80%	3.84%	9.56%	19.20%	14.75%	14.33%
30	7.51%		11.27%		5.43%			8.14%			12.94%			19.41%		
31	7.60%		11.40%		5.49%			8.23%			13.09%			19.63%		
32	7.69%		11.53%		5.55%			8.33%			13.24%			19.86%		
33	7.78%		11.67%		5.62%			8.43%			13.40%			20.10%		
34	7.87%		11.81%		5.69%			8.53%			13.56%			20.34%		
35	7.97%		11.96%		5.76%			8.64%			13.73%			20.60%		
36	8.08%		12.12%		5.83%			8.75%			13.91%			20.87%		
37	8.19%		12.28%		5.91%			8.87%			14.10%			21.15%		
38	8.31%		12.47%		6.01%			9.01%			14.32%			21.48%		
39	8.45%		12.67%		6.10%			9.15%			14.55%			21.82%		
40	8.55%		12.83%		6.18%			9.27%			14.73%			22.10%		
41	8.63%		12.95%		6.23%			9.35%			14.86%			22.30%		
42	8.71%		13.06%		6.29%			9.43%			15.00%			22.49%		
43	8.76%		13.14%		6.33%			9.49%			15.09%			22.63%		
44	8.79%		13.18%		6.35%			9.52%			15.14%			22.70%		
45	8.77%		13.16%		6.33%			9.50%			15.10%			22.66%		
46	8.73%		13.10%		6.31%			9.46%			15.04%			22.56%		
47	8.65%		12.97%		6.25%			9.37%			14.90%			22.34%		
48	8.51%		12.77%		6.15%			9.22%			14.66%			21.99%		
49 & Over	8.37%		12.55%		6.04%			9.06%			14.41%			21.61%		

Members who enter prior to 1/1/1975 contribute on the basis of their actual entry age and all others contribute on the basis of a single entry age of 29.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix A

Member Contribution Rates (Continued)

Safety Members' Contribution Rates from the June 30, 2017 Actuarial Valuation

	Tier 4		
	All Eligible Pay ⁽¹⁾		
	Basic Only	COLA Only	Total
All members	11.80%	3.25%	15.05%

⁽¹⁾ It is our understanding that in the determination of pension benefits under the CalPEPRA formulas, the compensation that can be taken into account for 2017 is equal to \$118,775 (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2017 (reference: Section 7522.10(d)).

Assumptions used in developing member contribution rates from the June 30, 2017 actuarial valuation

Interest:	7.00% per annum	
COLA:	Tier 1:	3.00%
	Tier 2:	2.00%
	Tier 3:	2.00%
	Tier 4:	2.00%
Mortality:	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table projected generationally with the two-dimensional scale MP-2016 set back four years for males and females weighted 75% male and 25% female	
Salary increase:	Inflation (3.00%) + Across-the-Board Increase (0.25%) + Merit (See Exhibit III).	
COLA Loading Factor:	Tier 1 ⁽²⁾ :	72.22%
	Tier 2 ⁽²⁾ :	39.13%
	Tier 3 ⁽²⁾ :	35.23%
	Tier 4:	27.54%
	⁽²⁾ Factors have been adjusted to reflect a reserve carried by the Board to reduce part of the COLA contributions.	
Non-Refundability factor:	Tier 1:	100.00%
	Tier 2 ⁽²⁾ :	99.74%
	Tier 3 ⁽²⁾ :	99.18%
	Tier 4:	98.38%

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix B

UAAL Amortization Schedule as of June 30, 2017 (Dollar Amounts in Thousands)

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment
Miscellaneous	June 30, 2012	Restart amortization	\$814,400	\$822,194	18	\$63,079
	June 30, 2013	Actuarial loss	34,060	33,444	16	2,795
	June 30, 2014	Actuarial gain	(125,182)	(124,057)	17	(9,917)
	June 30, 2014	Assumption changes	(46,607)	(46,188)	17	(3,692)
	June 30, 2015	Actuarial gain	(73,919)	(73,687)	18	(5,653)
	June 30, 2015	Withdrawn employers	2,989	2,979	18	229
	June 30, 2016	Actuarial loss	12,986	12,983	19	959
	June 30, 2017	Actuarial loss	12,571	12,571	20	896
	June 30, 2017	Assumption changes	466,874	<u>466,874</u>	20	<u>33,274</u>
Subtotal				\$1,107,113		\$81,970
Safety	June 30, 2010	LEMA	\$4,047	\$1,763	3	\$631
	June 30, 2012	Restart amortization	493,928	498,654	18	38,257
	June 30, 2013	Actuarial loss	53,174	52,212	16	4,364
	June 30, 2013	DSA Retirement Incentive	6,134	1,517	1	1,574
	June 30, 2014	Actuarial gain	(40,247)	(39,885)	17	(3,189)
	June 30, 2014	Assumption changes	62,388	61,827	17	4,943
	June 30, 2015	Actuarial gain	(8,318)	(8,292)	18	(636)
	June 30, 2016	Actuarial gain	(1,139)	(1,139)	19	(84)
	June 30, 2017	Actuarial gain	(14,836)	(14,836)	20	(1,057)
	June 30, 2017	Assumption changes	356,837	<u>356,837</u>	20	<u>25,431</u>
Subtotal				\$908,658		\$70,234
Grand Total				<u>\$2,015,772</u>		<u>\$152,204</u>

Note: Results may be slightly off due to rounding.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix C

Calculation of Additional District Rate as of June 30, 2017 for Certain District Employers

Additional contributions were made by the County to buy down the County and Superior Court UAAL contribution rate through the issuance of Pension Obligation Bonds (POB). As the other district employers did not participate in the POBs, their rates as calculated on page 19 of this report have been increased to reflect that they did not buy down their UAAL rates.

The calculation of the additional District rate as of June 30, 2017 is as follows:

1. June 30, 2016 POB Balance	\$31,845,834
2. Additional Rate in June 30, 2016 Valuation	8.11%
3. June 30, 2016 Projected District Payroll	\$29,577,000
4. June 30, 2017 POB Balance ⁽¹⁾	\$31,745,625
5. 18-Year Amortization	0.07672
6. June 30, 2017 Projected District Payroll	\$29,316,000
7. Additional Rate in June 30, 2017 Valuation ⁽²⁾	8.31%

⁽¹⁾ Equal to $\$31,845,834 * 1.075 - 8.11\% * \$29,577,000 * (1+0.075/2)$.

⁽²⁾ Equal to $\$31,745,625 * 0.07672 / \$29,316,000$.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix D

Normal Cost Rates with Additional Member Contributions under Cost Sharing Arrangements

The Normal Cost rates adjusted for the additional member contributions are developed in the following steps:

Step A: Calculate the Normal Cost rates for the employer and the member assuming that no members contribute an additional portion of the Normal Cost.

Step B: Calculate the Normal Cost rates for the employer and the member assuming that members pay exactly one-half of the total Normal Cost rate. In this step, we have adjusted the employer rate to account for the cost associated with the cessation of member contributions for Miscellaneous members hired on or before March 7, 1973 and after 30 years of service and for Safety Tier 1, Tier 2 and Tier 3 members after 30 years of service

Step C: Gross up the member Normal Cost rates developed in Step B for the integration with Social Security

These steps are outlined in the following pages.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix D

Normal Cost Rates with Additional Member Contributions under Cost Sharing Arrangements (continued)

Total Normal Cost Contribution Rates
Employer and Member Normal Cost Rates

(A) Normal Cost (Prior to any Additional Normal Cost Contributions by the Member)

	Miscellaneous			
	Percent of Payroll			
	Member Paying Full Rate			
	<u>Tier 1⁽¹⁾</u>	<u>Tier 2</u>	<u>Tier 3</u>	<u>Tier 4</u>
Employer	14.03%	12.55%	16.00%	12.00%
Member	5.95%	3.87%	5.55%	8.37%
Member COLA Buydown	0.86%	0.00	0.28%	0.28%
Total	20.84%	16.42%	21.83%	20.65%

	Safety		
	Percent of Payroll		
	Member Paying Full Rate		
	<u>Tier 1⁽¹⁾</u>	<u>Tier 2</u>	<u>Tier 3</u>
Employer	25.16%	24.04%	22.66%
Member	19.20%	14.75%	14.33%
Member COLA Buydown	1.53%	0.29%	0.29%
Total	45.89%	39.08%	37.28%

Note: Member rates shown are for annual salary in excess of \$4,200 (or monthly salary of \$350). For annual salary less than \$4,200 (or monthly salary of \$350), the rates are equal to 2/3 of the rates shown. Also, the member COLA buydown is a non-cash contribution item.

⁽¹⁾ These are the single entry age rates at age 35 and 29 for Miscellaneous and Safety, respectively.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix D

Normal Cost Rates with Additional Member Contributions under Cost Sharing Arrangements (continued)

Total Normal Cost Contribution Rates
Employer and Member Normal Cost Rates

(B) Normal Cost (Assuming Exactly 50:50 Payment by the Employer and the Member) – Before Gross-up for the Integration with Social Security

	Miscellaneous			
	Percent of Payroll			
	Member Paying Full Rate			
	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 3</u>	<u>Tier 4</u>
Employer	10.84% ⁽¹⁾	8.21%	10.95%	10.37%
Member ⁽⁴⁾	9.56%	8.21%	10.67%	10.09%
Member COLA Buydown	0.86%	0.00%	0.28%	0.28%
Total	21.26%	16.42%	21.90%	20.74%

	Safety		
	Percent of Payroll		
	Member Paying Full Rate		
	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 3</u>
Employer	23.74% ⁽²⁾	19.61% ⁽³⁾	18.66%
Member ⁽⁴⁾	21.42%	19.26%	18.37%
Member COLA Buydown	1.53%	0.29%	0.29%
Total	46.69%	39.16%	37.32%

Note: Member rates shown are for annual salary in excess of \$4,200 (or monthly salary of \$350). For annual salary less than \$4,200 (or monthly salary of \$350), the rates are equal to 2/3 of the rates shown. Also, the member COLA buydown is a non-cash contribution item.

- (1) The employer rate has been adjusted by 0.42% of payroll to account for the cost associated with the cessation of member contributions for those members hired on or before March 7, 1973 and after 30 years of service.
- (2) The employer rate has been adjusted by 0.79% of payroll to account for the cost associated with the cessation of member contributions after 30 years of service.
- (3) The employer rate has been adjusted by 0.06% of payroll to account for the cost associated with the cessation of member contributions after 30 years of service.
- (4) The member rates have not been grossed up for the rate on the first \$4,200 in annual salary being less (by one-third) when compared to the 50:50 total Normal Cost rate. Please see the following page for the rates after the gross-up.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix D

Normal Cost Rates with Additional Member Contributions under Cost Sharing Arrangements (continued)

Total Normal Cost Contribution Rates
Employer and Member Normal Cost Rates

(C) Normal Cost (Assuming Exactly 50:50 Payment by the Employer and the Member) – After Gross-up for the Integration with Social Security

	Miscellaneous			
	Percent of Payroll			
	Member Paying Full Rate			
	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 3</u>	<u>Tier 4</u>
Employer	10.84% ⁽¹⁾	8.21%	10.95%	10.37%
Member ⁽⁴⁾	9.72%	8.37%	10.86%	10.27%
Member COLA Buydown	0.86%	0.00%	0.28%	0.28%
Total	21.42%	16.58%	22.09%	20.92%

	Safety		
	Percent of Payroll		
	Member Paying Full Rate		
	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 3</u>
Employer	23.74% ⁽²⁾	19.61% ⁽³⁾	18.66%
Member ⁽⁴⁾	21.64%	19.50%	18.63%
Member COLA Buydown	1.53%	0.29%	0.29%
Total	46.91%	39.40%	37.58%

Note: Member rates shown are for annual salary in excess of \$4,200 (or monthly salary of \$350). For annual salary less than \$4,200 (or monthly salary of \$350), the rates are equal to 2/3 of the rates shown. Also, the member COLA buydown is a non-cash contribution item.

- (1) The employer rate has been adjusted by 0.42% of payroll to account for the cost associated with the cessation of member contributions for those members hired on or before March 7, 1973 and after 30 years of service.
- (2) The employer rate has been adjusted by 0.79% of payroll to account for the cost associated with the cessation of member contributions after 30 years of service.
- (3) The employer rate has been adjusted by 0.06% of payroll to account for the cost associated with the cessation of member contributions after 30 years of service.
- (4) The member rates have been grossed up for the rate on the first \$4,200 in annual salary being less (by one-third) when compared to the 50:50 total Normal Cost rate.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix D

Normal Cost Rates with Additional Member Contributions under Cost Sharing Arrangements (continued)

Total Normal Cost Contribution Rates
 (For the County and Elected Officials Only)
 Employer and Member Normal Cost Rates

Rep Unit #16 – Assuming Member Contributes a Total of 3/4 of the Difference between (A) and (C) for 2018/2019

	Miscellaneous			
	Percent of Payroll Member Paying Full Rate			
	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 3</u>	<u>Tier 4</u>
Employer	11.64%	9.30%	12.21%	10.78%
Member	8.78%	7.25%	9.53%	9.80%
Member COLA Buydown	0.86%	0.00%	0.28%	0.28%
Total	21.28%	16.55%	22.02%	20.86%

	Safety		
	Percent of Payroll Member Paying Full Rate		
	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 3</u>
Employer		Not Applicable	
Member			
Member COLA Buydown			
Total			

Note: Member rates shown are for annual salary in excess of \$4,200 (or monthly salary of \$350). For annual salary less than \$4,200 (or monthly salary of \$350), the rates are equal to 2/3 of the rates shown. Also, the member COLA buydown is a non-cash contribution item.

SECTION 4: Reporting Information for the Sacramento County Employees' Retirement System

Appendix D

Normal Cost Rates with Additional Member Contributions under Cost Sharing Arrangements (continued)

Total Normal Cost Contribution Rates
 (For the County and Elected Officials Only)
 Employer and Member Normal Cost Rates

Rep Unit #25 – Assuming Member Contributes a Total of 4%⁽¹⁾ for 2018/2019

	Miscellaneous			
	Percent of Payroll Member Paying Full Rate			
	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 3</u>	<u>Tier 4</u>
Employer	10.84%	8.55%	12.06%	10.37%
Member	9.72%	7.87%	9.55%	10.27%
Member COLA Buydown	0.86%	0.00%	0.28%	0.28%
Total	21.42%	16.42%	21.89%	20.92%

	Safety		
	Percent of Payroll Member Paying Full Rate		
	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 3</u>
Employer		Not Applicable	
Member			
Member COLA Buydown			
Total			

Note: Member rates shown are for annual salary in excess of \$4,200 (or monthly salary of \$350). For annual salary less than \$4,200 (or monthly salary of \$350), the rates are equal to 2/3 of the rates shown. Also, the member COLA buydown is a non-cash contribution item.

⁽¹⁾ For members in Miscellaneous Tiers 1 and 4, we have limited the increase in the employee rates to be no greater than what they would have to contribute assuming exactly 50:50 payment of the Normal Cost by the employer and the member.

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Sacramento County Employees' Retirement System (SCERS)

**Governmental Accounting Standards
Board Statement 67 (GASBS 67)
Actuarial Valuation as of June 30, 2017**

The logo for Segal Consulting is a large, dark blue, stylized arrow pointing to the right. It has a white star-like symbol at its tip. The text "Segal Consulting" is written in white, sans-serif font across the middle of the arrow.

★ Segal Consulting

This report has been prepared at the request of the Board of Retirement to assist in administering the Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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November 1, 2017

*Board of Retirement
Sacramento County Employees' Retirement System
980 9th Street, Suite 1900
Sacramento, CA 95814*

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board Statement 67 (GASBS 67) Actuarial Valuation as of June 30, 2017. It contains various information that will need to be disclosed in order to comply with GASBS 67.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement System. The census and financial information on which our calculations were based was provided by the Retirement System. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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; and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for the Retirement System.

We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal Consulting, a Member of The Segal Group, Inc.

By:

*Paul Angelo, FSA, EA, MAAA, FCA
Senior Vice President and Actuary*

*Andy Yeung, ASA, EA, MAAA, FCA
Vice President and Actuary*

MYM/bbf

SECTION 1

VALUATION SUMMARY

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SECTION 2

GASBS 67 INFORMATION

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SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

Purpose

This report has been prepared by Segal Consulting to present certain disclosure information required by Governmental Accounting Standards Board Statement 67 (GASBS 67) as of June 30, 2017. This valuation is based on:

- The benefit provisions of SCERS, as administered by the Board;
- The characteristics of covered active members, terminated vested members, and retired members and beneficiaries as of June 30, 2017, provided by SCERS;
- The assets of the Plan as of June 30, 2017, provided by SCERS;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the June 30, 2017 valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board for the June 30, 2017 valuation.

General Observations on GASBS 67 Actuarial Valuation

The following points should be considered when reviewing this GASBS 67 report:

- The Governmental Accounting Standards Board (GASB) rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans still develop and adopt funding policies under current practices.
- When measuring pension liability GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as SCERS uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on the same basis as SCERS' Actuarial Accrued Liability (AAL) measure for funding. We note that the same is generally true for the Normal Cost component of the annual plan cost for funding and financial reporting.
- The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan Fiduciary Net Position. The Plan Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) on a market value basis.

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

Significant Issues in Valuation Year

The following key findings were the result of this actuarial valuation:

- The NPL was measured as of June 30, 2017 and June 30, 2016 and determined based upon the results of the actuarial valuations as of June 30, 2017 and June 30, 2016, respectively.

The NPL increased from \$1,755.2 million as of June 30, 2016 to \$2,096.8 million as of June 30, 2017 primarily as a result of changes in actuarial assumptions (an increase in the liability by about \$823.7 million) offset to some extent by favorable investment return. Changes in these values during the last two fiscal years ending June 30, 2016 and June 30, 2017 can be found in Exhibit 3.
- The discount rate used to determine the TPL and NPL as of June 30, 2017 and June 30, 2016 was 7.00% and 7.50%, respectively. Details on the derivation of the discount rate as of June 30, 2017 can be found in Exhibit 5 of Section 2. Various other information that is required to be disclosed can be found throughout Exhibits 1 through 4 in Section 2.
- The NPL as of June 30, 2017 excludes a liability of \$41.8 million that is attributable to members of Florin Fire based on the latest estimate of the asset shortfall for this withdrawn employer available as of June 30, 2016 adjusted with interest at the assumed rate of investment return (i.e., 7.50% as of June 30, 2016) to June 30, 2017.
- The Plan Fiduciary Net Position includes \$18.4 million that is available to offset a portion of the members' future COLA contribution rates. Since the \$18.4 million can only be used in the future to reduce contribution rates for the employees, we have included a liability of the same amount so that the employer's net NPL is unchanged by the availability of this amount.

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

Summary of Key Valuation Results

	2017	2016
Disclosure elements for fiscal year ending June 30:		
Service Cost ⁽¹⁾	\$193,490,288	\$186,437,969
Total Pension Liability	10,680,998,000	9,436,090,000
Plan Fiduciary Net Position	8,584,225,000	7,680,865,000
Net Pension Liability	2,096,773,000	1,755,225,000
Schedule of contributions⁽²⁾ for fiscal year ending June 30:		
Actuarially determined contributions	\$203,928,296	\$209,020,162
Actual contributions	203,928,296	209,020,162
Contribution deficiency (excess)	0	0
Demographic data for plan year ending June 30:		
Number of retired members and beneficiaries	11,396	10,960
Number of vested terminated members ⁽³⁾	3,425	3,301
Number of active members	12,587	12,393
Key assumptions:		
Investment rate of return	7.00%	7.50%
Inflation rate	3.00%	3.25%
Projected salary increases ⁽⁴⁾	4.50% - 10.75%, varying by service, including inflation	4.50% - 11.50%, varying by service, including inflation

- ⁽¹⁾ *The Service Cost is based on the previous year's valuation, meaning the 2017 and 2016 values are based on the valuations as of June 30, 2016 and June 30, 2015, respectively.*
- ⁽²⁾ *Includes contributions made by Florin Fire.*
- ⁽³⁾ *Includes terminated members with member contributions on deposit.*
- ⁽⁴⁾ *Includes inflation at 3.00% plus real across the board salary increase of 0.25% plus merit and promotional increases for 2017 and includes inflation at 3.25% plus real across the board salary increase of 0.25% plus merit and promotional increases for 2016.*

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare an actuarial valuation, Segal Consulting (“Segal”) relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by SCERS. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** This valuation is based on the market value of assets as of the valuation date, as provided by SCERS.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal’s actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The valuation is prepared at the request of the Board to assist the sponsors of the Fund in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.

SECTION 1: Valuation Summary for the Sacramento County Employees' Retirement System

- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- If SCERS is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

As Segal Consulting has no discretionary authority with respect to the management or assets of SCERS, it is not a fiduciary in its capacity as actuaries and consultants with respect to SCERS.

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

EXHIBIT 1

General Information – “Financial Statements”, Note Disclosures and Required Supplementary Information for a Cost-Sharing Pension Plan

Plan Description

Plan administration. The Sacramento County Employees' Retirement System (SCERS) was established by the County of Sacramento in 1941. SCERS is administered by the Board of Retirement and governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et. seq). SCERS is a cost-sharing multiple employer public employee retirement system whose main function is to provide service retirement, disability, death and survivor benefits to the Safety and Miscellaneous members employed by the County of Sacramento. SCERS also provides retirement benefits to the employee members of the Superior Court of California (County of Sacramento) and eleven Special Districts.

The management of SCERS is vested with the Sacramento County Board of Retirement. The Board consists of nine members and two alternates. Four members are appointed by the Board of Supervisors, two members are elected by the Miscellaneous membership, one member and one alternate are elected by the Safety membership, one member and one alternate are elected by the retired members of the System; and the County Director of Finance serves as ex officio member. All members of the Board of Retirement serve terms of three years except for the County Director of Finance whose term runs concurrent with his term as Director of Finance.

Plan membership. At June 30, 2017, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	11,396
Vested terminated members entitled to but not yet receiving benefits	3,425
Active members	<u>12,587</u>
Total	27,408

Benefits provided. SCERS provides service retirement, disability, death and survivor benefits to eligible employees. All permanent full-time or part-time employees of the County of Sacramento or contracting district become members of SCERS upon employment. There are separate retirement plans for Safety and Miscellaneous member employees. Safety membership is extended to those involved in active law enforcement, fire suppression, and certain other classifications. There are four tiers applicable to Safety members. Those hired prior to January 1, 2012 are included in either Tier 1 or Tier 2 depending on date of hire and bargaining unit. Those hired after that date but prior to January 1, 2013 are included in Tier 3. Any new Safety member who becomes a member on or after January 1, 2013 is designated PEPRA Safety (Tier 4) and is subject to the

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

provisions of California Public Employees' Pension Reform Act of 2013 (PEPRA), California Government Code 7522 et seq. and Assembly Bill (AB) 197. All other employees are classified as Miscellaneous members. There are five tiers applicable to Miscellaneous members. Those hired prior to September 27, 1981 are included in Tier 1. Those hired after that date but prior to January 1, 2012 are included in Tier 2 or Tier 3 depending on date of hire and bargaining unit. County members hired after that date but prior to January 1, 2013 are included in Tier 4. New members hired on or after January 1, 2013 are designated as PEPRA Miscellaneous (Tier 5) and are subject to the provisions of California Government Code 7522 et seq. and AB 197.

Safety members hired prior to January 1, 2013, are eligible to retire once they attain the age of 50 and have acquired 10 or more years of retirement service credit. A member with 20 years of service is eligible to retire regardless of age. Safety members who are first hired on or after January 1, 2013, are eligible to retire once they have attained the age of 50, and have acquired five years of retirement service credit.

Miscellaneous members hired prior to January 1, 2013, are eligible to retire once they attain the age of 50 and have acquired 10 or more years of retirement service credit. A member with 30 years of service is eligible to retire regardless of age. Miscellaneous members who are first hired on or after January 1, 2013, are eligible to retire once they have attained the age of 52, and have acquired five years of retirement service credit.

The retirement benefit the member will receive is based upon age at retirement, final average compensation, years of retirement service credit and retirement plan and tier.

Safety member benefits for Tier 1 and Tier 2 are calculated pursuant to the provisions of California Government Code Section 31664.1. Safety member benefits for Tier 3 are calculated pursuant to the provision of California Government Code Section 31664.2. The monthly allowance is equal to 2% of the first \$350 of final compensation, plus 3% of the excess final compensation times years of accrued retirement service credit times age factor from either Section 31664.1 (Tier 1 and 2) or 31664.2 (Tier 3). Safety member benefits for those who are first hired on or after January 1, 2013, are calculated pursuant to the provision of California Government Code Section 7522.25(d). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement credit multiplied by the age factor from Section 7522.25(d).

Miscellaneous member benefits for Tier 1, Tier 2 and Tier 3 are calculated pursuant to the provisions of California Government Code Section 31676.14. Miscellaneous member benefits for Tier 4 are calculated pursuant to the provisions of California Government Code Section 31676.1. The monthly allowance is equal to 1/90th of the first \$350 of final compensation, plus 1/60th of the excess final compensation times years of accrued retirement service credit times age factor from either Section 31676.14 (Tier 1, Tier 2 and Tier 3) or Section 31676.1 (Tier 4). Miscellaneous member benefits for those who are first hired on or after January 1, 2013, are calculated pursuant to the provision of California Government Code Section 7522.20(a). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement credit multiplied by the age factor from Section 7522.20(a).

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

For members with membership dates before January 1, 2013, the maximum monthly retirement allowance is 100% of final compensation. There is no maximum for members with membership dates on or after January 1, 2013.

Final average compensation consists of the highest 12 consecutive months for a Tier 1 Safety or Tier 1 Miscellaneous member and the highest 36 consecutive months for a Tier 2, Tier 3, Tier 4 or Tier 5 member.

The member may elect an unmodified retirement allowance, or choose an optional retirement allowance. The unmodified retirement allowance provides the highest monthly benefit and a 60% continuance to an eligible surviving spouse. An eligible surviving spouse is one married to the member one year prior to the effective retirement date. There are four optional retirement allowances the member may choose. Each of the optional retirement allowances requires a reduction in the unmodified retirement allowance in order to allow the member the ability to provide certain benefits to a surviving spouse or named beneficiary having an insurable interest in the life of the member.

SCERS provides an annual cost-of-living benefit to Safety Tier 1, Tier 2, Tier 3 and Tier 4 member retirees and Miscellaneous Tier 1, Tier 3, Tier 4 and Tier 5 member retirees. The cost-of-living adjustment, based upon the Consumer Price Index for the San Francisco-Oakland-San Jose area, is capped at 4.0% for Tier 1 members and 2% for all other members eligible for a cost-of-living adjustment.

The County of Sacramento and contracting districts contribute to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Retirement. Employer contribution rates are adopted annually based upon recommendations received from SCERS' actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2017 for 2016/2017 (based on the June 30, 2015 valuation) was 21.27% of compensation.

All members are required to make contributions to SCERS regardless of the retirement plan or tier in which they are included. The average member contribution rate as of June 30, 2017 for 2016/2017 (based on the June 30, 2015 valuation) was 9.33% of compensation.

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

EXHIBIT 2

Net Pension Liability

The components of the Net Pension Liability of the SCERS as follows:

	June 30, 2017	June 30, 2016
Total Pension Liability	10,680,998,000	\$9,436,090,000
Plan Fiduciary Net Position	<u>(8,584,225,000)</u>	<u>(7,680,865,000)</u>
Net Pension Liability	\$2,096,773,000	\$1,755,225,000
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	80.37%	81.40%

The Net Pension Liability (NPL) was measured as of June 30, 2017 and 2016 and determined based upon the Total Pension Liability (TPL) from actuarial valuations as of June 30, 2017 and 2016, respectively.

Plan Provisions. The plan provisions used in the measurement of the NPL as of June 30, 2017 and 2016 are the same as those used in the SCERS actuarial valuations as of June 30, 2017 and 2016, respectively.

Actuarial assumptions. The TPL that was measured by an actuarial valuation as of June 30, 2017 used the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.00%
Salary increases	4.50% to 10.75%, varying by service, including inflation
Investment rate of return	7.00%, net of pension plan investment expense, including inflation
Other assumptions	See the analysis of actuarial experience study for the period July 1, 2013 through June 30, 2016.

The TPL that was measured by an actuarial valuation as of June 30, 2016 used the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.25%
Salary increases	4.50% to 11.50%, varying by service, including inflation
Investment rate of return	7.50%, net of pension plan investment expense, including inflation
Other assumptions	See the analysis of actuarial experience study for the period July 1, 2010 through June 30, 2013.

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before deducting investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
U.S. Large Cap Equity	17.00%	5.61%
U.S. Small Cap Equity	4.00%	6.37%
International Developed Equity	16.00%	6.96%
Emerging Markets Equity	4.00%	9.28%
High Yield Bonds	1.00%	3.65%
Bank Loans	1.00%	2.96%
Growth Oriented Abs. Return	3.00%	4.97%
Private Equity	9.00%	8.70%
Private Credit/Private Debt	4.00%	5.10%
Core/Core Plus Bonds	10.00%	1.06%
Global Bonds	3.00%	0.07%
U.S. Treasury	5.00%	0.16%
Diversifying Abs. Return	7.00%	3.04%
Private Real Estate	7.00%	4.37%
Private Assets	7.00%	7.74%
Commodities	<u>2.00%</u>	3.76%
Total	100.00%	

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

Discount rate. The discount rate used to measure the TPL was 7.00% as of June 30, 2017 and 7.50% as of June 30, 2016. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2017 and June 30, 2016.

Sensitivity of the June 30, 2017 NPL to changes in the discount rate. The following presents the NPL of the SCERS as of June 30, 2017, calculated using the discount rate of 7.00%, as well as what the SCERS' NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate:

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Net Pension Liability as of June 30, 2017	\$3,611,235,000	\$2,096,773,000	\$860,712,000

Sensitivity of the June 30, 2016 NPL to changes in the discount rate. The following presents the NPL of the SCERS as of June 30, 2016, calculated using the discount rate of 7.50%, as well as what the SCERS' NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability as of June 30, 2016	\$2,983,885,000	\$1,755,225,000	\$737,575,000

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

EXHIBIT 3

Schedule of Changes in SCERS Net Pension Liability – Last Two Fiscal Years

	2017	2016
Total Pension Liability		
Service Cost ⁽¹⁾	\$193,490,288	\$186,437,969
Interest	706,016,047	675,919,948
Change of benefit terms	0	0
Differences between expected and actual experience	-46,244,335	-49,244,917
Changes of assumptions	823,712,000	0
Benefit payments, including refunds of employee contributions	<u>-432,066,000</u>	<u>-405,702,000</u>
Net change in Total Pension Liability	\$1,244,908,000	\$407,411,000
Total Pension Liability – beginning	<u>9,436,090,000</u>	<u>9,028,679,000</u>
Total Pension Liability – ending (a)	<u>\$10,680,998,000</u>	<u>\$9,436,090,000</u>
Plan Fiduciary Net Position		
Contributions – employer	\$201,928,000	\$207,884,000
Contributions – employee	89,489,000	77,494,000
Net investment income	1,048,915,000	-72,399,000
Benefit payments, including refunds of employee contributions	-432,066,000	-405,702,000
Administrative expense	-6,906,000	-6,362,000
Other	<u>2,000,000⁽²⁾</u>	<u>1,136,000⁽³⁾</u>
Net change in Plan Fiduciary Net Position	903,360,000	-197,949,000
Plan Fiduciary Net Position – beginning	<u>7,680,865,000</u>	<u>7,878,814,000</u>
Plan Fiduciary Net Position – ending (b)	\$8,584,225,000	\$7,680,865,000
Net Pension Liability – ending (a) – (b)	<u>\$2,096,773,000</u>	<u>\$1,755,225,000</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	80.37%	81.40%
Covered employee payroll ⁽⁴⁾	\$958,934,000	\$912,421,000
Plan Net Pension Liability as percentage of covered employee payroll	218.66%	192.37%

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

EXHIBIT 3

Schedule of Changes in SCERS Net Pension Liability – Last Two Fiscal Years (continued)

- (1) *The Service Cost is based on the previous year's valuation, meaning the 2017 and 2016 values are based on the valuations as of June 30, 2016 and June 30, 2015, respectively.*
- (2) *We have classified the \$2,000,000 contribution made by Florin Fire during 2016/2017 in the "Other" category. This is done to anticipate that the NPL for the non-active employer to be disclosed later in our GASBS 68 actuarial valuation as of June 30, 2018 will be calculated by adjusting with interest only the latest withdrawal liability amount determined for that non-active employer (and without adjusting for the \$2,000,000 contribution made during 2016/2017).*
Throughout the rest of this report, those contributions are included in the Actuarially Determined Contributions for the System's active and non-active employers.
- (3) *In last year's report, we classified the \$1,136,000 contribution made by Florin Fire during 2015/2016 in the "Other" category. This was done because the NPL for the non-active employer disclosed in our GASBS 68 actuarial valuation as of June 30, 2017 was calculated by adjusting with interest only the latest withdrawal liability amount determined for that non-active employer (and without adjusting for the \$1,136,000 contribution made during 2015/2016).*
Throughout the rest of this report, those contributions are included in the Actuarially Determined Contributions for the System's active and non-active employers.
- (4) *Covered employee payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of the retirement benefits are included.*

Notes to Schedule:

Benefit changes: None

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

EXHIBIT 4

Schedule of SCERS' Contributions – Last Ten Fiscal Years

Year Ended June 30	Actuarially Determined Contributions^{(1),(2)}	Contributions in Relation to the Actuarially Determined Contributions⁽²⁾	Contribution Deficiency (Excess)	Covered-Employee Payroll^{(3),(4)}	Contributions as a Percentage of Covered Employee Payroll
2008	\$167,054,356	\$167,054,356	\$0	\$851,016,000	19.63%
2009	177,011,005	177,011,005	0	923,375,000	19.17%
2010	167,141,893	167,141,893	0	872,804,000	19.15%
2011	182,920,751	182,920,751	0	818,804,000	22.34%
2012	179,098,469	179,098,469	0	835,737,000	21.43%
2013	189,663,720	189,663,720	0	858,551,000	22.09%
2014	210,503,324	210,503,324	0	858,343,000	24.52%
2015	222,959,365	222,959,365	0	873,328,000	25.53%
2016	209,020,162	209,020,162	0	912,421,000	22.91%
2017	203,928,296	203,928,296	0	958,934,000	21.27%

See accompanying notes to this schedule on next page.

- (1) All "Actuarially Determined Contributions" through June 30, 2015 were determined as the "Annual Required Contribution" under GASBS 25 and 27.
- (2) Includes contributions made by Florin Fire, as applicable.
- (3) Payroll for the years ending 2008 through 2012 are calculated by dividing the contribution dollar amount by the contribution as a percentage of payroll.
- (4) Covered employee payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of the retirement benefits are included.

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

Notes to Exhibit 4

Methods and assumptions used to establish "actuarially determined contribution" rates:

Valuation date	Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported
Actuarial cost method	Entry Age Actuarial Cost Method
Amortization method	Level percent of payroll (3.50% payroll growth assumed)
Remaining amortization period	
June 30, 2015 valuation	20 years (declining) as of June 30, 2015 for the outstanding balance of the June 30, 2012 UAAL. The UAAL established as a result of the Early Retirement Incentive Program for LEMA members is amortized over a 10-year period, beginning June 30, 2010. Effective June 30, 2013, any changes in UAAL due to actuarial gains or losses or due to changes in actuarial assumptions or methods will be amortized over a 20-year closed period effective with each valuation. Any change in UAAL that arises due to plan amendments will be amortized over its own declining 15-year period and any change in UAAL due to retirement incentive programs will be amortized over a declining period of up to 5 years.
Asset valuation method	The market value of assets less unrecognized returns from each of the last six years. Unrecognized return is equal to the difference between actual and expected returns on a market value basis and is recognized over a seven-year period. The deferred return is further adjusted, if necessary, so that the actuarial value of assets will stay within 30% of the market value of assets. Deferred gains and losses as of June 30, 2013 have been combined and will be recognized in equal amounts over a six-year period starting July 1, 2013.
Actuarial assumptions:	
June 30, 2015 valuation (used for the year ended June 30, 2017 ADC)	
<i>Investment rate of return</i>	7.50%, net of pension plan investment expense, including inflation
<i>Inflation rate</i>	3.25%
<i>Projected salary increases</i>	4.50% - 11.50%, varying by age, including inflation
<i>Cost of living adjustments</i>	3.25% of Miscellaneous and Safety Tier 1 retirement income, 2.00% of Miscellaneous Tier 3, Tier 4 and Tier 5 and Safety Tier 2, Tier 3 and Tier 4 retirement income, and 0.00% of Miscellaneous Tier 2 retirement income.
<i>Other assumptions</i>	Same as those used in the June 30, 2015 funding actuarial valuation.
Other information:	All members with membership dates on or after January 1, 2013 enter the new tiers created by the California Public Employees' Pension Reform Act of 2013 (PEPRA).

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

EXHIBIT 5

Projection of Plan Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2017 (\$ in millions)

Year Beginning July 1,	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Plan Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2017	\$8,584	\$374	\$490	\$8	\$595	\$9,055
2018	9,055	372	517	8	627	9,529
2019	9,529	373	548	9	659	10,003
2020	10,003	372	581	9	691	10,476
2021	10,476	380	616	9	723	10,953
2022	10,953	381	651	10	755	11,428
2023	11,428	373	689	10	786	11,889
2024	11,889	373	726	11	817	12,341
2025	12,341	372	765	11	847	12,784
2026	12,784	371	804	11	877	13,216
2044	15,817	54 ⁽¹⁾	1,330	14	1,057	15,584
2045	15,584	50 ⁽¹⁾	1,337	14	1,041	15,324
2046	15,324	47 ⁽¹⁾	1,341	14	1,022	15,039
2064	8,088	24 ⁽¹⁾	966	7	530	7,667
2065	7,667	23 ⁽¹⁾	926	7	502	7,259
2066	7,259	22 ⁽¹⁾	886	7	475	6,863
2084	3,426	10 ⁽¹⁾	203	3	232	3,462
2085	3,462	9 ⁽¹⁾	178	3	236	3,526
2086	3,526	9 ⁽¹⁾	155	3	241	3,618
2104	9,699	9 ⁽¹⁾	2	9	679	10,376
2105	10,376	10 ⁽¹⁾	2	9	726	11,101
2106	11,101	10 ⁽¹⁾	1	10	777	11,878
2135	78,959	71 ⁽¹⁾	0 ⁽²⁾	71	5,527	84,486
2136	84,486					
2136	Discounted Value: 27 ⁽³⁾					

⁽¹⁾ Mainly attributable to employer contributions to fund each year's annual administrative expenses.

⁽²⁾ Less than \$1 million, when rounded.

⁽³⁾ \$84,486 million when discounted with interest at the rate of 7.00% per annum has a value of \$27 million (or 0.31% of the Plan Fiduciary Net Position) as of June 30, 2017.

SECTION 2: GASBS Information for Sacramento County Employees' Retirement System

EXHIBIT 5 (continued)

Projection of Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2017 (\$ in millions)

Notes:

- (1) Amounts may not total exactly due to rounding.
 - (2) Years 2027-2043, 2047-2063, 2067-2083, 2087-2103, and 2107-2134 have been omitted from this table.
 - (3) Column (a): Except for the "discounted value" shown for 2136, all of the projected beginning Plan Fiduciary Net Position amounts shown have not been adjusted for the time value of money.
 - (4) Column (b): Projected total contributions include employee and employer normal cost contributions based on closed group projections (based on covered active members as of June 30, 2017); plus employer contributions to the unfunded actuarial accrued liability. Contributions are assumed to occur halfway through the year, on average.
 - (5) Column (c): Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2017. The projected benefit payments reflect the cost of living increase assumptions used in the June 30, 2017 report.
 - (6) Column (d): Projected administrative expenses are calculated as approximately 0.09% of the beginning Plan Fiduciary Net Position amount. The 0.09% portion was based on the actual fiscal year 2016-2017 administrative expenses as a percentage of the beginning Plan Fiduciary Net Position amount as of July 1, 2016. Administrative expenses are assumed to occur halfway through the year, on average.
 - (7) Column (e): Projected investment earnings are based on the assumed investment rate of return of 7.00% per annum.
 - (8) As illustrated in this Exhibit, the Plan Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.00% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2017 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.
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