

**San Bernardino County Employees'
Retirement Association**

**Actuarial Valuation and Review
as of June 30, 2016**



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 17, 2016

*Board of Retirement
San Bernardino County Employees' Retirement Association
348 West Hospitality Lane, Third Floor
San Bernardino, CA 92415-0014*

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2016. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2017-2018 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 Plan. The census information on which our calculations were based was prepared by SBCERA and the financial information was provided by the Retirement Association. 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; 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.

The actuarial calculations were completed under the supervision of John Monroe, 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 the expectations for the Plan.

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:

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

AW/jl

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SECTION 1: Valuation Summary for the San Bernardino County Employees' Retirement Association

PURPOSE AND SCOPE

This report has been prepared by Segal Consulting to present an actuarial valuation of the San Bernardino County Employees' Retirement Association as of June 30, 2016. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- The benefit provisions of the Retirement Association, as administered by the Board of Retirement;
- The characteristics of covered active members, terminated vested members, and retired members and beneficiaries as of June 30, 2016, provided by SBCERA;
- The assets of the Plan as of June 30, 2016, provided by SBCERA;
- 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 that fully fund the system's liabilities, and that, 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 Association's assets, liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the Association'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.

Please note that the Actuarial Standards Board has adopted a revised Actuarial Standard of Practice (ASOP) No. 4 that provides guidelines for actuaries to follow when measuring pension obligations. For a plan such as that offered by the Retirement Association that may use undesignated excess earnings to provide supplemental benefits, the valuation report must indicate that the impact of any such future use of undesignated excess earnings on the future financial condition of the plan has not been explicitly measured or otherwise reflected in the valuation. However, it should be noted that under the Board's Interest Crediting Policy, the balance of \$2.5 billion (negative) in the Contra Account has to be fully restored out of future excess earnings before any subsequent earnings can be used to provide for any supplemental benefits.

The contribution requirements are determined as a percentage of payroll. The Association's employer rates provide for both normal cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In 2002, the Board of Retirement elected to amortize the Association's unfunded actuarial accrued liability as of June 30, 2002 over a declining 20-year period. Any change in unfunded actuarial accrued liability that arises due to actuarial gains or losses or due to changes in actuarial assumptions or methods at each valuation after June 30, 2002 is amortized over its own declining 20-year period. Effective with the June 30, 2012 valuation, any change in unfunded actuarial accrued liability that arises due to plan

Ref: Pg. 58

SECTION 1: Valuation Summary for the San Bernardino County Employees' Retirement Association

amendments is amortized over its own declining 15-year period (with the exception of a change due to retirement incentives, which is amortized over its own 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, 2017 through June 30, 2018.

SIGNIFICANT ISSUES IN THIS VALUATION

The following key findings were the result of this actuarial valuation

- Ref: Pg. 10*

➤ The market value of assets earned a return of -0.97% for the July 1, 2015 to June 30, 2016 plan year. The actuarial value of assets earned a return of 5.77% for the same period due to the deferral of most of the current year investment losses and the recognition of prior investment gains and losses. This resulted in an actuarial loss when measured against the assumed rate of return for 2015-2016 of 7.50%. This actuarial investment loss increased the average employer contribution rate by 0.76% of payroll.
- Ref: Pg. 24*

Ref: Pg. 57

➤ The ratio of the actuarial value of assets to actuarial accrued liabilities increased from 80.8% to 81.9%. The Association's Unfunded Actuarial Accrued Liability (UAAL) decreased from \$1.96 billion as of June 30, 2015 to \$1.93 billion as of June 30, 2016. The decrease in the UAAL is due to contributions paying down a portion of the UAAL and lower than expected salary increases for active members. The decrease is offset to some extent by lower than expected return on the actuarial value of assets after "smoothing" and actual contributions less than expected. A reconciliation of the Association's UAAL is provided in Section 3, Exhibit I.
- Ref: Pg. 21*

➤ The recommended average employer contribution rate increased from 27.45% of payroll as of June 30, 2015 to 27.55% of payroll in the June 30, 2016 valuation. The increase in the average employer contribution rate is primarily due to lower than expected return on the actuarial value of assets after "smoothing". The increase is offset to some extent by lower than expected salary increases for active members. A complete reconciliation of the Association's aggregate employer rate is provided in Section 2, Subsection D, Chart 15.
- Ref: Pg. 22*

➤ The recommended average member contribution rate decreased from 10.87% of payroll in the June 30, 2015 valuation to 10.77% of payroll in the June 30, 2016 valuation. This decrease was mainly the result of a change in the membership demographics. A complete reconciliation of the Association's aggregate member rate is provided in Section 2, Subsection D, Chart 16.
- Ref: Pg. 5*

➤ As indicated in Section 2, Subsection B, Chart 7 of this report, the total unrecognized investment loss as of June 30, 2016 is \$540 million as compared to an unrecognized gain of \$16 million in the June 30, 2015 valuation. This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes over the next few years. This implies that even if the assets earn the assumed rate of investment return of 7.50% per year (net of expenses) on a **market value** basis, there would be investment losses on the actuarial value of assets in the next few years as shown in the footnote

SECTION 1: Valuation Summary for the San Bernardino County Employees' Retirement Association

on Chart 7. Therefore, if the actual net market return is equal to the assumed 7.50% rate and all other actuarial assumptions are met, the contribution requirements would increase in each of the next few years as those losses are recognized.

- The June 30, 2016 unrecognized investment loss of \$540 million represents about 6.6% of the market value of assets. Unless offset by future investment gains or other favorable experience, the recognition of the \$540 million market losses is expected to have an impact on the Association's future funded ratio and the aggregate employer contribution rate. This potential impact may be illustrated as follows:

- If the deferred losses were recognized immediately in the actuarial value of assets, the funded ratio would decrease from 81.9% to 76.8%.

For comparison purposes, if all the deferred gains in the June 30, 2015 valuation had been recognized immediately in the June 30, 2015 valuation, the funded percentage would have increased from 80.8% to 81.0%.

- If the deferred losses were recognized immediately in the actuarial value of assets, the aggregate employer contribution rate would increase from 27.55% to 30.41%.

For comparison purposes, if all the deferred gains in the June 30, 2015 valuation had been recognized immediately in the June 30, 2015 valuation, the aggregate employer contribution rate would have decreased from 27.45% to 27.36%.

Ref: Pg. 29

- This valuation includes 110 new Safety employees who transferred from the City of San Bernardino around July 1, 2016. The inclusion of these employees in the valuation results in an increase in the Safety County Tier 2 Normal Cost rate from 14.03% as of June 30, 2015 to 15.15% as of June 30, 2016 due to the higher entry age of the employees. However, the combined Safety County Tier 1 and Tier 2 employer contribution rate decreases by nearly 1% of payroll as a result of a lower UAAL rate due to the increase in payroll.

Ref: Pgs. 36-37

- There was nearly a 20% decrease in active members in the Other Safety cost group from June 30, 2015 to June 30, 2016. This results in a 13% decrease in payroll for that cost group. This decrease does not significantly impact the UAAL or the UAAL amortization payment in dollars for the cost group. However, it does cause about a 10% of payroll increase in the UAAL rate due to the UAAL amortization payments being expressed as a percent of a smaller payroll.

Ref: Pg. 92

- As requested by SBCERA staff, Appendix C, D and E show the employer and member contribution rates based on a 50/50 sharing of Normal Cost for Tier 1. For purposes of these calculations, we have been directed by SBCERA to assume that the cessation of member contributions after 30 years of service for Tier 1 members continues per the County Employees Retirement Law (CERL) and that the cost associated with this provision is to be paid for by employers.
- The actuarial report as of June 30, 2016 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.

SECTION 1: Valuation Summary for the San Bernardino County Employees' Retirement Association

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 San Bernardino County Employees' Retirement Association

Summary of Key Valuation Results (all dollar amounts in thousands)

| | June 30, 2016 | | June 30, 2015 | |
|---|---------------|--|---------------|--|
| | Total Rate | Estimated Annual Amount ⁽¹⁾ | Total Rate | Estimated Annual Amount ⁽¹⁾ |
| Employer Contribution Rates: | | | | |
| County General Tier 1 | 22.41% | \$163,442 | 22.33% | \$173,675 |
| County General Tier 2 | 19.36 | 40,262 | 19.20 | 27,873 |
| County Safety Tier 1 | 50.20 | 89,530 | 50.98 | 93,783 |
| County Safety Tier 2 | 43.21 | 19,035 | 42.91 | 9,218 |
| County combined | 26.93 | 312,269 | 26.99 | 304,549 |
| Superior Court Tier 1 | 24.70 | 13,896 | 23.90 | 13,314 |
| Superior Court Tier 2 | 21.65 | 2,451 | 20.77 | 1,484 |
| South Coast Air Quality Management District (SCAQMD) Tier 1 | 34.93 | 22,810 | 32.93 | 22,533 |
| South Coast Air Quality Management District (SCAQMD) Tier 2 | 30.91 | 1,964 | 28.90 | 814 |
| Other General Tier 1 | 34.53 | 13,257 | 33.05 | 12,544 |
| Other General Tier 2 | 30.09 | 1,769 | 29.50 | 1,467 |
| Other Safety Tier 1 | 83.19 | 2,308 | 72.31 | 2,224 |
| Other Safety Tier 2 | 73.73 | 312 | 63.17 | 384 |
| All employers combined | 27.55 | 371,036 | 27.45 | 359,313 |
| Average Member Contribution Rates⁽²⁾: | | | | |
| | Total Rate | Estimated Annual Amount ⁽¹⁾ | Total Rate | Estimated Annual Amount ⁽¹⁾ |
| County General Tier 1 | 10.89% | \$79,424 | 10.94% | \$85,087 |
| County General Tier 2 | 8.45 | 17,573 | 8.37 | 12,151 |
| County Safety Tier 1 | 12.75 | 22,739 | 12.82 | 23,584 |
| County Safety Tier 2 | 15.15 | 6,674 | 14.03 | 3,014 |
| County combined | 10.90 | 126,410 | 10.97 | 123,836 |
| Superior Court Tier 1 | 10.63 | 5,980 | 10.77 | 6,000 |
| Superior Court Tier 2 | 8.45 | 957 | 8.37 | 598 |
| South Coast Air Quality Management District (SCAQMD) Tier 1 | 9.41 | 6,145 | 9.51 | 6,508 |
| South Coast Air Quality Management District (SCAQMD) Tier 2 | 7.66 | 487 | 7.66 | 216 |
| Other General Tier 1 | 10.74 | 4,123 | 10.88 | 4,130 |
| Other General Tier 2 | 8.74 | 514 | 9.33 | 464 |
| Other Safety Tier 1 | 13.93 | 387 | 13.57 | 418 |
| Other Safety Tier 2 | 13.06 | 55 | 13.21 | 80 |
| All employers combined | 10.77 | 145,058 | 10.87 | 142,250 |

⁽¹⁾ Based on projected annual compensation for each valuation date.

⁽²⁾ The refundability factors as of June 30, 2016 remained the same from June 30, 2015 are 1.07 for General Tier 1 and 1.03 for Safety Tier 1. See Appendix A and B for the individual member contribution rates.

SECTION 1: Valuation Summary for the San Bernardino County Employees' Retirement Association

Summary of Key Valuation Results (all dollar amounts in thousands)

| | June 30, 2016 | June 30, 2015 |
|--|---------------|---------------|
| Funded Status: | | |
| Actuarial accrued liability (AAL) ⁽¹⁾ | \$10,669,688 | \$10,214,473 |
| Actuarial value of assets (AVA) ⁽²⁾⁽³⁾ | \$8,736,959 | \$8,255,353 |
| Market value of assets (MVA) ⁽³⁾ | \$8,196,974 | \$8,271,659 |
| Funded ratio on AVA basis (AVA/AAL) | 81.89% | 80.82% |
| Funded ratio on MVA basis (MVA/AAL) | 76.82% | 80.98% |
| Unfunded actuarial accrued liability (UAAL) on AVA basis | \$1,932,729 | \$1,959,120 |
| Unfunded actuarial accrued liability (UAAL) on MVA basis | \$2,472,714 | \$1,942,814 |
| Key Assumptions: | | |
| Interest rate | 7.50% | 7.50% |
| Inflation rate | 3.25% | 3.25% |
| Salary increases (excluding merit) | 3.75% | 3.75% |

⁽¹⁾ Includes liabilities held for Survivor Benefit and Burial Allowance reserves. For June 30, 2016 those amounts are \$32,293 and \$732, respectively. The AAL for retirement plan benefits is \$10,636,663 as of June 30, 2016.

⁽²⁾ Includes assets held for Survivor Benefit and Burial Allowance reserves. For June 30, 2016 those amounts are \$61,357 and \$732, respectively. The AVA for retirement plan benefits is \$8,674,870 as of June 30, 2016.

⁽³⁾ The June 30, 2016 and June 30, 2015 market and actuarial value of assets exclude \$5.9 million and \$5.9 million, respectively. These amounts represent the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer.

SECTION 1: Valuation Summary for the San Bernardino County Employees' Retirement Association

Summary of Key Valuation Demographic and Financial Data

| | June 30, 2016 | June 30, 2015 | Percentage Change |
|---|-----------------|-----------------|-------------------|
| Active Members: | | | |
| Number of members | 20,538 | 19,938 | 3.0% |
| Average age | 44.4 | 44.5 | N/A |
| Average service | 10.9 | 11.1 | N/A |
| Projected total compensation | \$1,346,408,201 | \$1,309,095,254 | 2.9% |
| Average projected compensation | \$65,557 | \$65,658 | -0.2% |
| Retired Member and Beneficiaries: | | | |
| Number of members: | | | |
| Service retired | 8,542 | 8,115 | 5.3% |
| Disability retired | 1,520 | 1,503 | 1.1% |
| Beneficiaries ⁽¹⁾ | 1,568 | 1,510 | 3.8% |
| Total | 11,630 | 11,128 | 4.5% |
| Average age | 68.9 | 68.8 | N/A |
| Average monthly benefit ⁽²⁾ | \$3,331 | \$3,228 | 3.2% |
| Vested Terminated Members: | | | |
| Number of vested terminated members ⁽³⁾ | 5,136 | 4,804 | 6.9% |
| Average age | 45.1 | 45.3 | N/A |
| Summary of Financial Data (dollar amounts in thousands): | | | |
| Market value of assets | \$8,196,974 | \$8,271,659 | -0.9% |
| Return on market value of assets | -0.97% | 3.51% | N/A |
| Actuarial value of assets | \$8,736,959 | \$8,255,353 | 5.8% |
| Return on actuarial value of assets | 5.77% | 6.56% | N/A |
| Valuation value of assets ⁽⁴⁾ | \$8,742,113 | \$8,260,477 | 5.8% |
| Return on valuation value of assets | 5.77% | 6.56% | N/A |

(1) Excludes beneficiaries that are only receiving Survivor Benefit amounts.

(2) Excludes monthly benefits for Supplemental Disability and Survivor Benefit.

(3) Includes terminated members due a refund of member contributions plus accumulated interest.

(4) The June 30, 2016 and June 30, 2015 valuation value of assets include \$5.9 million and \$5.9 million, respectively. These amounts represent the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer.

SECTION 1: Valuation Summary for the San Bernardino County Employees' Retirement Association

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 SBCERA. 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 SBCERA.
- **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 SBCERA. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- 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

SECTION 1: Valuation Summary for the San Bernardino County Employees' Retirement Association

cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

- If the Association 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 SBCERA, it is not a fiduciary in its capacity as actuaries and consultants with respect to SBCERA.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

A. MEMBER DATA (ALL EMPLOYERS COMBINED)

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, vested terminated 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: 2007 – 2016

| Year Ended June 30 | Active Members | Vested Terminated Members ⁽¹⁾ | Retired Members and Beneficiaries | Ratio of Non-Actives to Actives |
|-----------------------|-------------------|---|--------------------------------------|------------------------------------|
| 2007 | 18,945 | 3,084 | 7,617 | 0.56 |
| 2008 | 19,414 | 3,430 | 7,971 | 0.59 |
| 2009 | 18,955 | 3,635 | 8,519 | 0.64 |
| 2010 | 19,520 | 3,635 | 8,843 | 0.64 |
| 2011 | 19,258 | 3,723 | 9,265 | 0.67 |
| 2012 | 19,306 | 3,782 | 9,736 | 0.70 |
| 2013 | 19,401 | 3,921 | 10,173 | 0.73 |
| 2014 | 19,497 | 4,356 | 10,618 | 0.77 |
| 2015 | 19,938 | 4,804 | 11,128 | 0.80 |
| 2016 | 20,538 | 5,136 | 11,630 | 0.82 |

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

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

Active Members

Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 20,538 active members with an average age of 44.4, average years of service of 10.9 years and average projected compensation of \$65,557. The 19,938 active members in the prior valuation had an average age of 44.5, average service of 11.1 years and average compensation of \$65,658.

Among the active members, there were none with unknown age information.

Inactive Members

In this year's valuation, there were 5,136 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 4,804 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, 2016

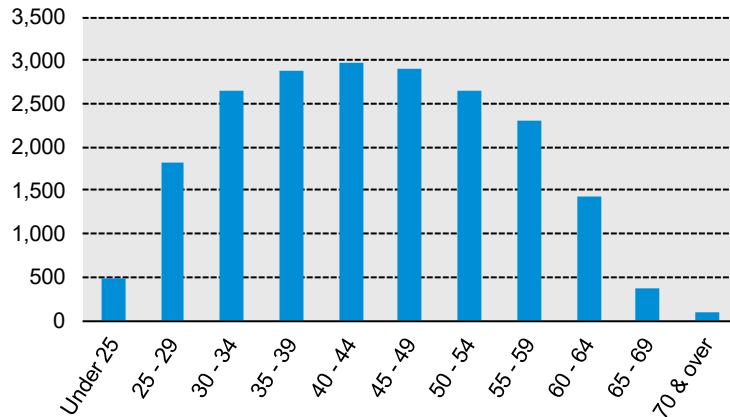
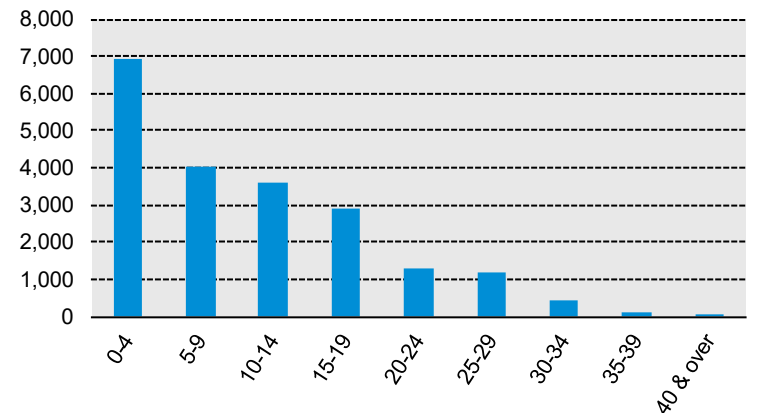


CHART 3
Distribution of Active Members by Years of Service as of June 30, 2016



SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

Retired Members and Beneficiaries

As of June 30, 2016, 10,062 retired members and 1,568 beneficiaries were receiving total monthly benefits of \$38,739,344. For comparison, in the previous valuation, there were 9,618 retired members and 1,510 beneficiaries receiving monthly benefits of \$35,917,275. These monthly benefits exclude benefits for Supplemental Disability and Survivor Benefit.

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

CHART 4
Distribution of Retired Members by Type and by Monthly Amount as of June 30, 2016

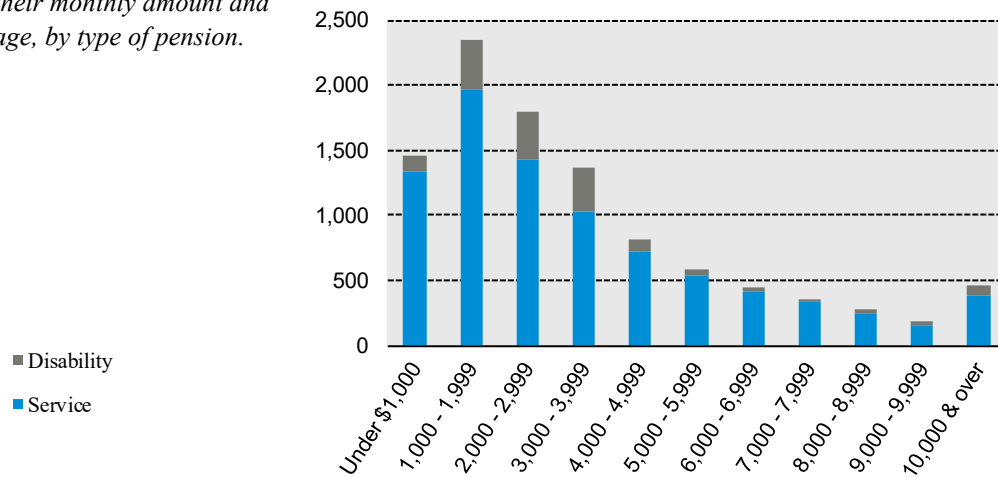
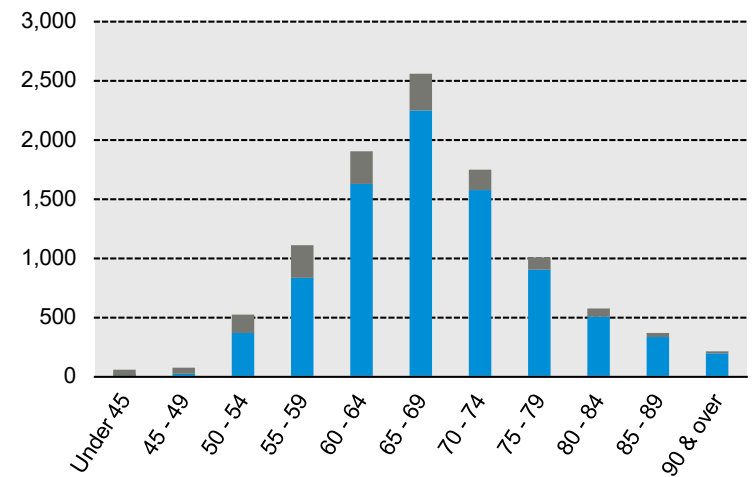


CHART 5
Distribution of Retired Members by Type and by Age as of June 30, 2016



SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

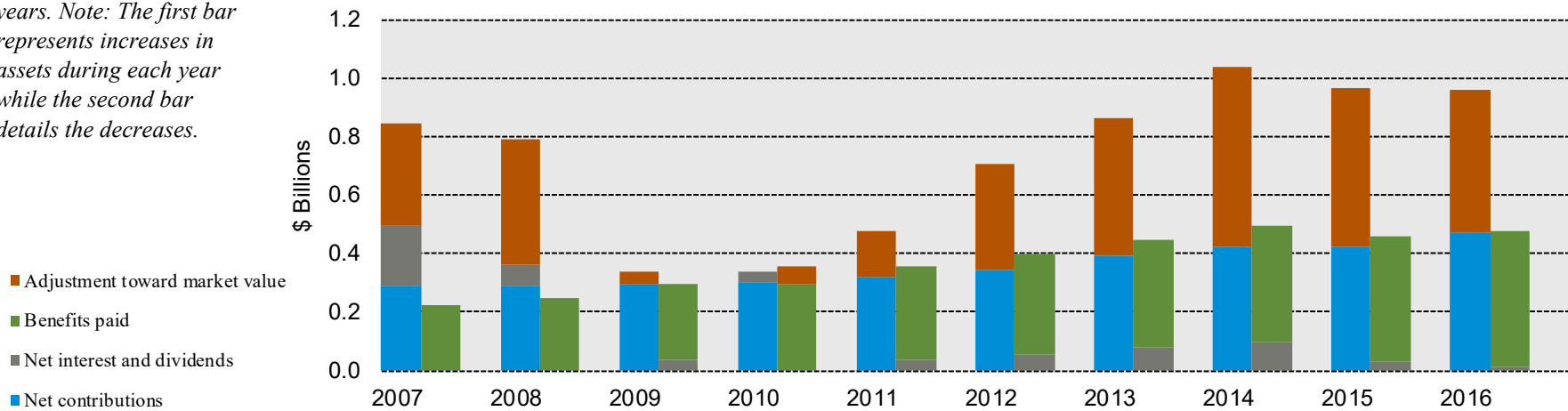
B. FINANCIAL INFORMATION

Retirement plan funding anticipates that, over the long term, both contributions (net of administrative expenses starting in 2015) and net investment earnings (less investment fees) will be needed to cover benefit payments and administrative expenses.

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, E and F.

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, 2007 – 2016



SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

It is 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 has no immediate effect on the actuarial value.

CHART 7

Determination of Actuarial and Valuation Value of Assets

| Plan Year Ending | Total Actual Market Return (net) | Expected Market Return (net) | Investment Gain / (Loss) | Deferred Factor | Deferred Return |
|---|----------------------------------|------------------------------|--------------------------|-----------------|------------------------|
| 6/30/2012 ⁽¹⁾ | \$31,767,425 | \$475,777,939 | \$(444,010,514) | 0.0 | \$0 |
| 6/30/2013 ⁽¹⁾ | 904,479,788 | 479,469,571 | 425,010,217 | 0.2 | 85,002,043 |
| 6/30/2014 ⁽¹⁾ | 868,148,758 | 551,469,681 | 316,679,077 | 0.4 | 126,671,631 |
| 6/30/2015 ⁽¹⁾ | 280,841,907 | 599,470,791 | (318,628,884) | 0.6 | (191,177,330) |
| 6/30/2016 ⁽¹⁾ | (80,027,512) | 620,574,772 | (700,602,284) | 0.8 | <u>(560,481,827)</u> |
| 1. Total Deferred Return ⁽²⁾ | | | | | \$(539,985,483) |
| 2. Market Value Of Assets | | | | | \$8,196,973,946 |
| 3. Actuarial Value of Assets (2) – (1) | | | | | \$8,736,959,429 |
| 4. Ratio of Actuarial Value To Market Value (3) / (2) | | | | | 106.6% |
| 5. Non-valuation Reserves | | | | | |
| (a) Burial allowance reserve | | | | | <u>\$731,907</u> |
| 6. Preliminary Valuation value of assets (3) – (5)(a) | | | | | \$8,736,227,522 |
| 7. Valuation Value of Assets ⁽³⁾ | | | | | <u>\$8,742,113,023</u> |

⁽¹⁾ Recognition at 20% per year over five years.

⁽²⁾ Deferred return amount as of June 30, 2016 recognized in each of the next four years

| | | |
|-------|------------------------------------|----------------------|
| (i) | Amount Recognized during 2016/2017 | \$(55,508,375) |
| (ii) | Amount Recognized during 2017/2018 | (140,510,418) |
| (iii) | Amount Recognized during 2018/2019 | (203,846,233) |
| (iv) | Amount Recognized during 2019/2020 | <u>(140,120,457)</u> |
| | | \$(539,985,483) |

⁽³⁾ Includes \$5.9 million that represents the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

CHART 8

Allocation of Valuation Value of Assets as of June 30, 2016

The calculation of the valuation value of assets from June 30, 2015 to June 30, 2016 by employer categories is provided below:

| | General | | | |
|---|-----------------|-------------------|---------------|---------------|
| | County | Superior Court | SCAQMD | Others |
| 1 Allocated Valuation Value of Assets as of Beginning of Plan Year | \$5,222,412,453 | \$291,719,049 | \$574,870,543 | \$197,482,738 |
| 2 Allocated Valuation Value of Assets as of Beginning of Plan Year Including Future County Safety Contributions | 5,222,412,453 | 291,719,049 | 574,870,543 | 197,482,738 |
| 3 Member Contributions | 93,066,557 | 6,729,182 | 6,576,571 | 4,389,430 |
| 4 Employer Contributions | 191,999,541 | 14,940,521 | 21,058,973 | 13,829,548 |
| 5 Allocated Administrative Expenses | 7,214,629 | 491,372 | 556,942 | 335,571 |
| 6 Benefit Payments Excluding Burial Allowance Payments (\$250) | 287,531,774 | 12,716,337 | 31,741,314 | 11,286,086 |
| 7 Subtotal (Item 1+3+4-5-6) | \$5,212,732,148 | \$300,181,043 | \$570,207,831 | \$204,080,059 |
| 8 Weighted Average Fund Balance | 5,217,572,299 | 295,950,046 | 572,539,187 | 200,781,399 |
| 9 Earnings Allocated in Proportion to Item 8 | 300,257,596 | 17,031,149 | 32,948,128 | 11,554,443 |
| 10 Allocated Valuation Value of Assets as of End of Plan Year (Item 7+9) | \$5,512,989,744 | \$317,212,192 | \$603,155,959 | \$215,634,502 |
| 11 Allocated Valuation Value of Assets as of End of Plan Year Including Future County Safety Contributions | \$5,512,989,744 | \$317,212,192 | \$603,155,959 | \$215,634,502 |

Note: Results may not add due to rounding.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

CHART 8 (continued)

Allocation of Valuation Value of Assets as of June 30, 2016

The calculation of the valuation value of assets from June 30, 2015 to June 30, 2016 by employer categories is provided below:

| | Safety | | Withdrawn Employers ⁽¹⁾ | Survivor Benefit Reserve | Total |
|---|--------------------------------|--------------|------------------------------------|--------------------------|-----------------|
| | County | Others | | | |
| 1 Allocated Valuation Value of Assets as of Beginning of Plan Year | \$1,866,361,014 | \$29,735,286 | \$14,725,478 | \$57,267,347 | \$8,254,573,908 |
| 2 Allocated Valuation Value of Assets as of Beginning of Plan Year Including Future County Safety Contributions | 1,872,264,061 ⁽²⁾ | 29,735,286 | 14,725,478 | 57,267,347 | 8,260,476,955 |
| 3 Member Contributions | 27,113,860 | 469,012 | 0 | 787,392 | 139,132,004 |
| 4 Employer Contributions | 95,651,663 | 2,243,974 | 0 | 787,396 | 340,511,616 |
| 5 Allocated Administrative Expenses | 1,605,952 | 28,798 | 0 | 0 | 10,233,264 |
| 6 Benefit Payments Excluding Burial Allowance Payments (\$250) | 116,143,889 | 2,260,107 | 488,758 | 1,852,771 | 464,021,036 |
| 7 Subtotal (Item 1+3+4-5-6) | \$1,871,376,696 | \$30,159,367 | \$14,236,720 | \$56,989,364 | \$8,259,963,228 |
| 8 Weighted Average Fund Balance | 1,868,868,855 | 29,947,327 | 14,481,099 | 57,128,356 | 8,257,268,568 |
| 9 Earnings Allocated in Proportion to Item 8 | 107,548,499 | 1,723,390 | 833,349 | 4,367,740 ⁽³⁾ | 476,264,294 |
| 10 Allocated Valuation Value of Assets as of End of Plan Year (Item 7+9) | \$1,978,925,195 | \$31,882,757 | \$15,070,069 | \$61,357,104 | \$8,736,227,522 |
| 11 Allocated Valuation Value of Assets as of End of Plan Year Including Future County Safety Contributions | \$1,984,810,696 ⁽⁴⁾ | \$31,882,757 | \$15,070,069 | \$61,357,104 | \$8,742,113,023 |

⁽¹⁾ Withdrawn employers include San Bernardino International Airport Authority, Inland Valley Development Agency and Rim of the World Recreation & Park District.

⁽²⁾ Includes \$5.9 million that represents the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer.

⁽³⁾ Actual Earnings for Survivor Benefit Reserve.

⁽⁴⁾ Includes \$5.9 million that represents the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer.

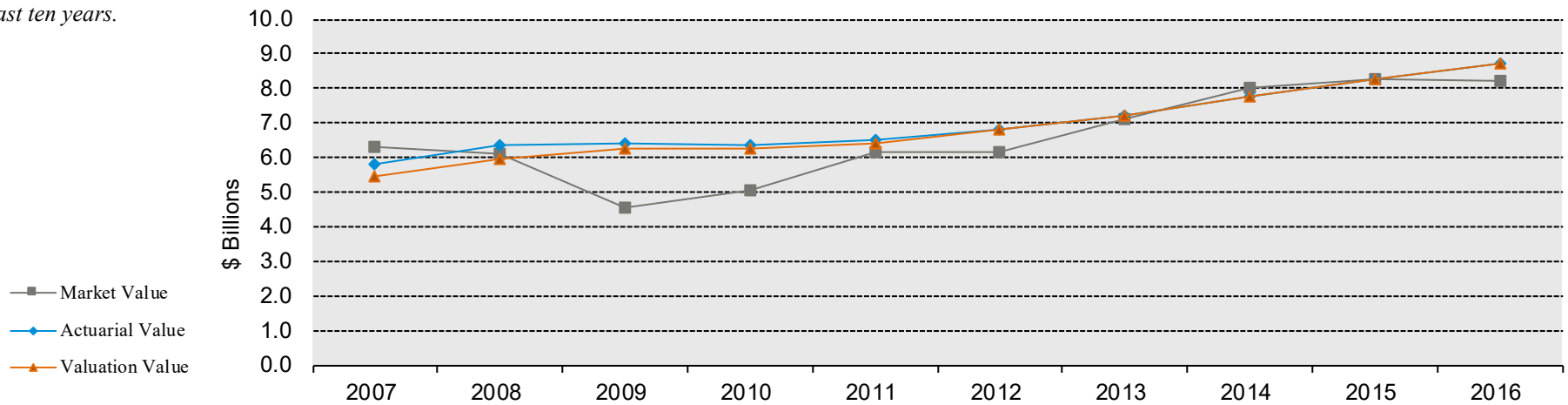
Note: Results may not add due to rounding.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

The market value, actuarial value and valuation value of assets are representations of SBCERA's 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 value of assets is significant because SBCERA's 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 the market value, actuarial value and valuation value over the past ten years.

CHART 9
Market Value, Actuarial Value and Valuation Value of Assets for Years Ended June 30, 2007 – 2016



SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

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 total loss is \$24.0 million, a \$143.0 million loss from investments and a \$119.0 million gain from all other sources. A discussion of the major components of the actuarial experience is on the following pages.

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

CHART 10
Actuarial Experience for Year Ended June 30, 2016

| | |
|---|-----------------------|
| 1. Net gain/(loss) from investments ⁽¹⁾ | \$(143,031,000) |
| 2. Net gain/(loss) from other experience ⁽²⁾ | <u>119,032,000</u> |
| 3. Net experience gain/(loss): (1) + (2) + (3) | <u>\$(23,999,000)</u> |

⁽¹⁾ Details in Chart 11

⁽²⁾ See Section 3, Exhibit I. Does not include the effect of plan, assumption or method changes, if any.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

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 the SBCERA's investment policy. For valuation purposes, the assumed rate of return on the valuation value of assets was 7.50% for the 2015/2016 plan year (based on the June 30, 2015 actuarial valuation). The actual rate of return on the valuation value of assets for the 2015/2016 plan year was 5.77%.

Since the actual return for the year was less than the assumed return, the SBCERA experienced an actuarial loss on the valuation value of assets during the year ended June 30, 2016 with regard to its investments.

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

CHART 11

Investment Experience for Year Ended June 30, 2016 – Market, Actuarial and Valuation Value of Assets

| | Market Value | Actuarial Value | Valuation Value |
|-------------------------------------|------------------------|------------------------|------------------------|
| 1. Value of investment return | \$(80,027,512) | \$476,264,294 | \$476,264,294 |
| 2. Average value of assets | 8,274,330,298 | 8,258,023,975 | 8,257,268,568 |
| 3. Rate of return: (1) ÷ (2) | -0.97% | 5.77% | 5.77% |
| 4. Assumed rate of return | 7.50% | 7.50% | 7.50% |
| 5. Expected return: (2) x (4) | \$620,574,772 | \$619,351,798 | \$619,295,143 |
| 6. Actuarial gain/(loss): (1) – (5) | <u>\$(700,602,284)</u> | <u>\$(143,087,504)</u> | <u>\$(143,030,849)</u> |

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

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 value basis for the last ten years.

CHART 12

Investment Return – Market Value, Actuarial Value and Valuation Value: 2007 – 2016

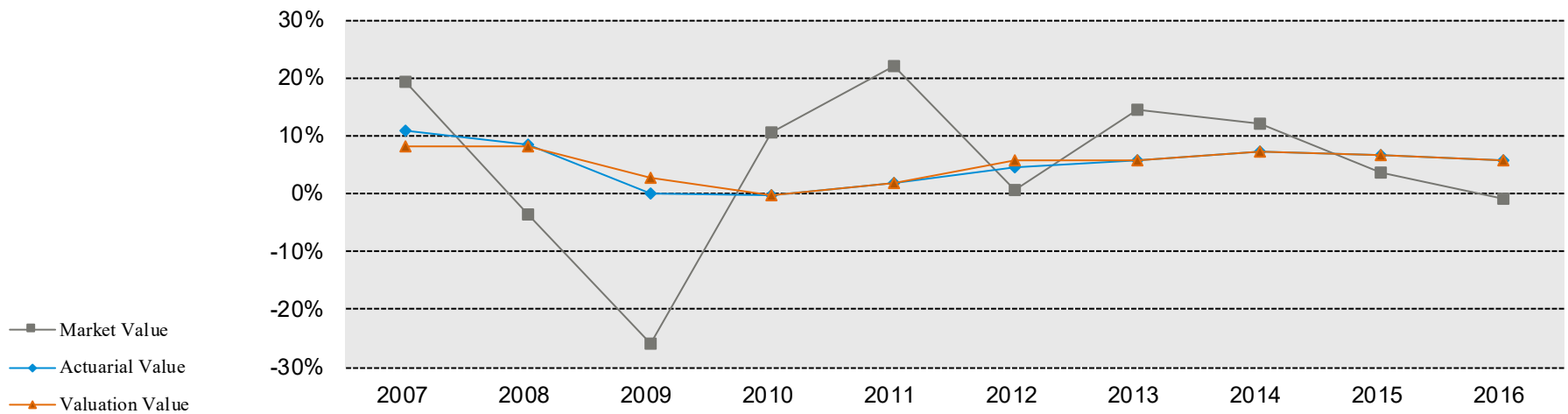
| Year Ended June 30 | Market Value Investment Return | | Actuarial Value Investment Return | | Valuation Value Investment Return | |
|--------------------------|-----------------------------------|---------|--------------------------------------|---------|--------------------------------------|---------|
| | Amount | Percent | Amount | Percent | Amount | Percent |
| 2007 | \$1,013,956,342 | 19.31% | \$560,254,777 | 10.76% | \$408,269,118 | 8.13% |
| 2008 | (236,343,803) | -3.74% | 497,334,680 | 8.54% | 447,385,275 | 8.13% |
| 2009 | (1,594,063,075) | -26.04% | 8,853,979 | 0.14% | 159,672,616 | 2.64% |
| 2010 | 476,972,282 | 10.49% | (24,237,257) | -0.38% | (28,227,423) | -0.45% |
| 2011 | 1,109,874,395 | 22.07% | 120,048,766 | 1.89% | 108,235,350 | 1.72% |
| 2012 | 31,767,425 | 0.52% | 299,992,593 | 4.62% | 365,138,308 | 5.69% |
| 2013 | 904,479,788 | 14.62% | 388,686,270 | 5.71% | 388,686,270 | 5.71% |
| 2014 | 868,148,759 | 12.20% | 524,022,197 | 7.26% | 524,022,197 | 7.26% |
| 2015 | 280,841,907 | 3.51% | 508,297,528 | 6.56% | 508,297,528 | 6.56% |
| 2016 | (80,027,512) | -0.97% | 476,264,294 | 5.77% | 476,264,294 | 5.77% |
| Five-Year Average Return | | 5.62% | 6.02% | | 6.21% | |
| Ten-Year Average Return | | 4.41% | 5.04% | | 5.12% | |

Note: Each year's yield is weighted by the average asset value in that year.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

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.

CHART 13
Market, Actuarial, and Valuation Rates of Return for Years Ended June 30, 2007 - 2016



SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

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:

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

The net gain from this other experience for the year ended June 30, 2016 amounted to \$119.0 million, which was 1.1% of the actuarial accrued liability. See Section 3, Exhibit I for a detailed development of the Unfunded Actuarial Accrued Liability.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

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. Please note that the normal cost rate for County General and Superior Court members is a combined rate based on the members at both employers.

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 Association) 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 combined annual inflation rate and "across the board" increases of 3.75%. The June 30, 2002 UAAL is being recognized over a 20-year declining period effective June 30, 2002. The change in unfunded liability that arises due to actuarial gains or losses or due to changes in actuarial assumptions or methods at each valuation is amortized over its own declining 20-year period. Effective with the June 30, 2012 valuation, any change in unfunded actuarial accrued liability that arises due to plan amendments is amortized over its own declining 15-year period (with the exception of retirement incentives which are amortized over its own declining period of up to 5 years). Please note that all pre-January 1, 1996 retirees and beneficiaries are included as County members only for purposes of this calculation.

The recommended employer contributions are provided on Chart 14. Chart 14a shows the employer rates in the June 30, 2016 valuation. Chart 14b shows the employer rates in the June 30, 2015 valuation. Please note that the employer rates provided in this report exclude any debt payments associated with any pension obligation bonds.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

Appendix C, D and E show the employer and member contribution rates based on a 50/50 sharing of Normal Cost for Tier 1 members. For purposes of these calculations, we have been directed by SBCERA to assume that the cessation of member contributions after 30 years of service for Tier 1 members continues per the County Employees Retirement Law (CERL) and that the cost associated with this provision is to be paid for by employers.

Member Contributions

Tier 1 Members

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for General members and Safety members, respectively. The basic contribution rate is determined so that the accumulation of a member's basic contributions made in a given year until a certain age will be sufficient to fund an annuity at that age that is equal to 1/100 of Final Average Salary. That age is 55 for General members and 50 for Safety members. It is assumed that contributions are made annually at the same rate, starting at entry age. In addition to their basic contributions, members pay one-half of the total normal cost necessary to fund their cost-of-living benefits. Accumulation includes semi-annual crediting of interest at the lesser of the assumed investment earning rate or the six-month T-bill rate. Any difference between the assumed investment earning rate and the actual interest crediting rate will be credited to the annuity reserve. The member contribution rates on a refundable basis are provided in Appendix A. Appendix B contains the member contribution rates on a nonrefundable basis. Please note that the member rates provided in the report are the full rate before reflecting any employer pickup.

Tier 2 Members

Pursuant to Section 7522.30(a) of the Government Code, General Tier 2 and Safety Tier 2 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

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

taken into account in this valuation only the requirements of Section 7522.30(c), but not the requirements of Section 7522.30(e).

The member contribution rates on a refundable basis are provided in Appendix A. Appendix B contains the member contribution rates on a nonrefundable basis for Tier 1 only.

Administrative Expense

The Board adopted an explicit administrative expense assumption of 0.60% of payroll effective with the June 30, 2014 valuation. This assumption will be reviewed as part of each regular triennial experience study.

This explicit administrative expense is allocated to both the employer and member based on the components of the total average contribution rate (before expenses) for the employer and member. This results in an administrative expense load shown in the following table:

| | <u>Average Contribution Rates Before Administrative Expense</u> | <u>Weighting</u> | <u>Total Loading</u> |
|----------|--|-------------------------|-----------------------------|
| Employer | 27.12% | 71.90% | 0.43% |
| Member | 10.60% | <u>28.10%</u> | <u>0.17%</u> |
| | | 100.00% | 0.60% |

Under this approach, the employer Normal Cost rate is then increased by the same percent of payroll as the member rate with the remaining employer loading allocated to the employer UAAL rate. This is done to maintain a 50/50 sharing of Normal Cost for those in Tier 2. The table below shows this allocation.

| <u>Allocation of Administrative Expense Load as % of Payroll</u> | |
|---|--------------|
| Addition to Employer Basic Normal Cost Rate | 0.17% |
| Addition to Employer Basic UAAL Rate | 0.26% |
| Addition to Member Basic Rate | <u>0.17%</u> |
| Total Addition to Contribution Rates | 0.60% |

The administrative expense load is added to the Basic rates for employers and members.

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**CHART 14a
Recommended Employer Contribution Rates**

| | June 30, 2016 Actuarial Valuation | | | | | |
|------------------------------|-----------------------------------|--|--------|--|--------|--|
| | Basic | | COLA | | Total | |
| | Rate | Estimated Annual Amount ⁽¹⁾ | Rate | Estimated Annual Amount ⁽¹⁾ | Rate | Estimated Annual Amount ⁽¹⁾ |
| County General Tier 1 | | | | | | |
| Normal Cost | 9.85% | \$71,839 | 1.65% | \$12,034 | 11.50% | \$83,873 |
| UAAL | 6.21% | 45,291 | 4.70% | 34,278 | 10.91% | 79,569 |
| Total Contribution | 16.06% | \$117,130 | 6.35% | \$46,312 | 22.41% | \$163,442 |
| County General Tier 2 | | | | | | |
| Normal Cost | 6.94% | \$14,433 | 1.51% | \$3,140 | 8.45% | \$17,573 |
| UAAL | 6.21% | 12,915 | 4.70% | 9,774 | 10.91% | 22,689 |
| Total Contribution | 13.15% | \$27,348 | 6.21% | \$12,914 | 19.36% | \$40,262 |
| County Safety Tier 1 | | | | | | |
| Normal Cost | 18.79% | \$33,511 | 3.35% | \$5,975 | 22.14% | \$39,486 |
| UAAL | 13.28% | 23,684 | 14.78% | 26,360 | 28.06% | 50,044 |
| Total Contribution | 32.07% | \$57,195 | 18.13% | \$32,335 | 50.20% | \$89,530 |
| County Safety Tier 2 | | | | | | |
| Normal Cost | 12.10% | \$5,330 | 3.05% | \$1,344 | 15.15% | \$6,674 |
| UAAL | 13.28% | 5,850 | 14.78% | 6,511 | 28.06% | 12,361 |
| Total Contribution | 25.38% | \$11,180 | 17.83% | \$7,855 | 43.21% | \$19,035 |
| All County Members | | | | | | |
| Normal Cost | 10.79% | \$125,113 | 1.94% | \$22,493 | 12.73% | \$147,606 |
| UAAL | 7.57% | 87,740 | 6.63% | 76,923 | 14.20% | 164,663 |
| Total Contribution | 18.36% | \$212,853 | 8.57% | \$99,416 | 26.93% | \$312,269 |
| Superior Court Tier 1 | | | | | | |
| Normal Cost | 9.85% | \$5,542 | 1.65% | \$928 | 11.50% | \$6,470 |
| UAAL | 10.45% | 5,879 | 2.75% | 1,547 | 13.20% | 7,426 |
| Total Contribution | 20.30% | \$11,421 | 4.40% | \$2,475 | 24.70% | \$13,896 |
| Superior Court Tier 2 | | | | | | |
| Normal Cost | 6.94% | \$786 | 1.51% | \$171 | 8.45% | \$957 |
| UAAL | 10.45% | 1,183 | 2.75% | 311 | 13.20% | 1,494 |
| Total Contribution | 17.39% | \$1,969 | 4.26% | \$482 | 21.65% | \$2,451 |
| SCAQMD Tier 1 | | | | | | |
| Normal Cost | 9.94% | \$6,491 | 1.74% | \$1,136 | 11.68% | \$7,627 |
| UAAL | 17.41% | 11,369 | 5.84% | 3,814 | 23.25% | 15,183 |
| Total Contribution | 27.35% | \$17,860 | 7.58% | \$4,950 | 34.93% | \$22,810 |
| SCAQMD Tier 2 | | | | | | |
| Normal Cost | 6.26% | \$398 | 1.40% | \$89 | 7.66% | \$487 |
| UAAL | 17.41% | 1,106 | 5.84% | 371 | 23.25% | 1,477 |
| Total Contribution | 23.67% | \$1,504 | 7.24% | \$460 | 30.91% | \$1,964 |

⁽¹⁾ Amounts are in thousands and are based on June 30, 2016 projected compensation (also in thousands) as shown on page 18. The Basic Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.17% and 0.26% of payroll, respectively.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

**CHART 14a (continued)
Recommended Employer Contribution Rates**

| | June 30, 2016 Actuarial Valuation | | | | | |
|-------------------------------|-----------------------------------|--|--------|--|--------|--|
| | Basic | | COLA | | Total | |
| | Rate | Estimated Annual Amount ⁽¹⁾ | Rate | Estimated Annual Amount ⁽¹⁾ | Rate | Estimated Annual Amount ⁽¹⁾ |
| Other General Tier 1 | | | | | | |
| Normal Cost | 11.27% | \$4,327 | 1.91% | \$733 | 13.18% | \$5,060 |
| UAAL | 16.60% | 6,373 | 4.75% | 1,824 | 21.35% | 8,197 |
| Total Contribution | 27.87% | \$10,700 | 6.66% | \$2,557 | 34.53% | \$13,257 |
| Other General Tier 2 | | | | | | |
| Normal Cost | 7.16% | \$421 | 1.58% | \$93 | 8.74% | \$514 |
| UAAL | 16.60% | 976 | 4.75% | 279 | 21.35% | 1,255 |
| Total Contribution | 23.76% | \$1,397 | 6.33% | \$372 | 30.09% | \$1,769 |
| Other Safety Tier 1 | | | | | | |
| Normal Cost | 19.20% | \$533 | 3.32% | \$92 | 22.52% | \$625 |
| UAAL | 38.53% | 1,069 | 22.14% | 614 | 60.67% | 1,683 |
| Total Contribution | 57.73% | \$1,602 | 25.46% | \$706 | 83.19% | \$2,308 |
| Other Safety Tier 2 | | | | | | |
| Normal Cost | 10.37% | \$44 | 2.69% | \$11 | 13.06% | \$55 |
| UAAL | 38.53% | 163 | 22.14% | 94 | 60.67% | 257 |
| Total Contribution | 48.90% | \$207 | 24.83% | \$105 | 73.73% | \$312 |
| All Employers Combined | | | | | | |
| Normal Cost | 10.67% | \$143,655 | 1.91% | \$25,746 | 12.58% | \$169,401 |
| UAAL | 8.60% | 115,858 | 6.37% | 85,777 | 14.97% | 201,635 |
| Total Contribution | 19.27% | \$259,513 | 8.28% | \$111,523 | 27.55% | \$371,036 |

⁽¹⁾ Amounts are in thousands and are based on June 30, 2016 projected compensation (also in thousands) shown below. The Basic Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.17% and 0.26% of payroll, respectively.

| | |
|-----------------------|-------------|
| County General Tier 1 | \$729,329 |
| County General Tier 2 | 207,967 |
| County Safety Tier 1 | 178,346 |
| County Safety Tier 2 | 44,053 |
| Superior Court Tier 1 | 56,260 |
| Superior Court Tier 2 | 11,324 |
| SCAQMD Tier 1 | 65,303 |
| SCAQMD Tier 2 | 6,355 |
| Other General Tier 1 | 38,392 |
| Other General Tier 2 | 5,881 |
| Other Safety Tier 1 | 2,775 |
| Other Safety Tier 2 | 423 |
| Total | \$1,346,408 |

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

**CHART 14b
Recommended Employer Contribution Rates**

| | June 30, 2015 Actuarial Valuation | | | | | |
|------------------------------|-----------------------------------|--|--------|--|--------|--|
| | Basic | | COLA | | Total | |
| | Rate | Estimated Annual Amount ⁽¹⁾ | Rate | Estimated Annual Amount ⁽¹⁾ | Rate | Estimated Annual Amount ⁽¹⁾ |
| County General Tier 1 | | | | | | |
| Normal Cost | 9.83% | \$76,454 | 1.67% | \$12,989 | 11.50% | \$89,443 |
| UAAL | 6.21% | 48,299 | 4.62% | 35,933 | 10.83% | 84,232 |
| Total Contribution | 16.04% | \$124,753 | 6.29% | \$48,922 | 22.33% | \$173,675 |
| County General Tier 2 | | | | | | |
| Normal Cost | 6.86% | \$9,959 | 1.51% | \$2,192 | 8.37% | \$12,151 |
| UAAL | 6.21% | 9,015 | 4.62% | 6,707 | 10.83% | 15,722 |
| Total Contribution | 13.07% | \$18,974 | 6.13% | \$8,899 | 19.20% | \$27,873 |
| County Safety Tier 1 | | | | | | |
| Normal Cost | 18.75% | \$34,493 | 3.35% | \$6,163 | 22.10% | \$40,656 |
| UAAL | 13.92% | 25,607 | 14.96% | 27,520 | 28.88% | 53,127 |
| Total Contribution | 32.67% | \$60,100 | 18.31% | \$33,683 | 50.98% | \$93,783 |
| County Safety Tier 2 | | | | | | |
| Normal Cost | 11.18% | \$2,402 | 2.85% | \$612 | 14.03% | \$3,014 |
| UAAL | 13.92% | 2,990 | 14.96% | 3,214 | 28.88% | 6,204 |
| Total Contribution | 25.10% | \$5,392 | 17.81% | \$3,826 | 42.91% | \$9,218 |
| All County Members | | | | | | |
| Normal Cost | 10.93% | \$123,308 | 1.94% | \$21,956 | 12.87% | \$145,264 |
| UAAL | 7.61% | 85,911 | 6.51% | 73,374 | 14.12% | 159,285 |
| Total Contribution | 18.54% | \$209,219 | 8.45% | \$95,330 | 26.99% | \$304,549 |
| Superior Court Tier 1 | | | | | | |
| Normal Cost | 9.83% | \$5,476 | 1.67% | \$930 | 11.50% | \$6,406 |
| UAAL | 9.71% | 5,409 | 2.69% | 1,499 | 12.40% | 6,908 |
| Total Contribution | 19.54% | \$10,885 | 4.36% | \$2,429 | 23.90% | \$13,314 |
| Superior Court Tier 2 | | | | | | |
| Normal Cost | 6.86% | \$490 | 1.51% | \$108 | 8.37% | \$598 |
| UAAL | 9.71% | 694 | 2.69% | 192 | 12.40% | 886 |
| Total Contribution | 16.57% | \$1,184 | 4.20% | \$300 | 20.77% | \$1,484 |
| SCAQMD Tier 1 | | | | | | |
| Normal Cost | 9.93% | \$6,795 | 1.76% | \$1,204 | 11.69% | \$7,999 |
| UAAL | 15.79% | 10,805 | 5.45% | 3,729 | 21.24% | 14,534 |
| Total Contribution | 25.72% | \$17,600 | 7.21% | \$4,933 | 32.93% | \$22,533 |
| SCAQMD Tier 2 | | | | | | |
| Normal Cost | 6.26% | \$176 | 1.40% | \$39 | 7.66% | \$215 |
| UAAL | 15.79% | 445 | 5.45% | 154 | 21.24% | 599 |
| Total Contribution | 22.05% | \$621 | 6.85% | \$193 | 28.90% | \$814 |

⁽¹⁾ Amounts are in thousands and are based on June 30, 2015 projected compensation (also in thousands) as shown on page 20. The Basic Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.17% and 0.26% of payroll, respectively.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

**CHART 14b (continued)
Recommended Employer Contribution Rates**

| | June 30, 2015 Actuarial Valuation | | | | | |
|-------------------------------|-----------------------------------|--|--------|--|--------|--|
| | Basic | | COLA | | Total | |
| | Rate | Estimated Annual Amount ⁽¹⁾ | Rate | Estimated Annual Amount ⁽¹⁾ | Rate | Estimated Annual Amount ⁽¹⁾ |
| Other General Tier 1 | | | | | | |
| Normal Cost | 11.00% | \$4,175 | 1.88% | \$714 | 12.88% | \$4,889 |
| UAAL | 15.59% | 5,917 | 4.58% | 1,738 | 20.17% | 7,655 |
| Total Contribution | 26.59% | \$10,092 | 6.46% | \$2,452 | 33.05% | \$12,544 |
| Other General Tier 2 | | | | | | |
| Normal Cost | 7.67% | \$381 | 1.66% | \$83 | 9.33% | \$464 |
| UAAL | 15.59% | 775 | 4.58% | 228 | 20.17% | 1,003 |
| Total Contribution | 23.26% | \$1,156 | 6.24% | \$311 | 29.50% | \$1,467 |
| Other Safety Tier 1 | | | | | | |
| Normal Cost | 19.02% | \$585 | 3.33% | \$102 | 22.35% | \$687 |
| UAAL | 32.32% | 994 | 17.64% | 543 | 49.96% | 1,537 |
| Total Contribution | 51.34% | \$1,579 | 20.97% | \$645 | 72.31% | \$2,224 |
| Other Safety Tier 2 | | | | | | |
| Normal Cost | 10.48% | \$64 | 2.73% | \$17 | 13.21% | \$81 |
| UAAL | 32.32% | 196 | 17.64% | 107 | 49.96% | 303 |
| Total Contribution | 42.80% | \$260 | 20.37% | \$124 | 63.17% | \$384 |
| All Employers Combined | | | | | | |
| Normal Cost | 10.81% | \$141,450 | 1.92% | \$25,153 | 12.73% | \$166,603 |
| UAAL | 8.49% | 111,146 | 6.23% | 81,564 | 14.72% | 192,710 |
| Total Contribution | 19.30% | \$252,596 | 8.15% | \$106,717 | 27.45% | \$359,313 |

⁽¹⁾ Amounts are in thousands and are based on June 30, 2015 projected compensation (also in thousands) shown below. The Basic Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.17% and 0.26% of payroll, respectively.

| | |
|-----------------------|-------------|
| County General Tier 1 | \$777,761 |
| County General Tier 2 | 145,174 |
| County Safety Tier 1 | 183,960 |
| County Safety Tier 2 | 21,482 |
| Superior Court Tier 1 | 55,709 |
| Superior Court Tier 2 | 7,150 |
| SCAQMD Tier 1 | 68,428 |
| SCAQMD Tier 2 | 2,819 |
| Other General Tier 1 | 37,955 |
| Other General Tier 2 | 4,973 |
| Other Safety Tier 1 | 3,077 |
| Other Safety Tier 2 | 607 |
| Total | \$1,309,095 |

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

The employer contribution rates as of June 30, 2016 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 Average Employer Contribution

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

CHART 15

Reconciliation of Recommended Average Employer Contribution from June 30, 2015 to June 30, 2016 (Dollar Amounts in Thousands)

| | Contribution Rate | Estimated Annual Dollar Cost ⁽¹⁾ |
|---|-------------------|---|
| Recommended Average Employer Contribution Rate in June 30, 2015 Valuation | 27.45% | \$359,313 |
| Effect of investment loss ⁽²⁾ | 0.76% | 10,233 |
| Effect of difference between actual and expected contributions ⁽³⁾ | 0.13% | 1,750 |
| Effect of lower than expected individual salary increases for actives | -0.72% | -9,694 |
| Effect of amortizing prior year's UAAL over a smaller than expected projected total payroll | 0.01% | 135 |
| Effect of changes in demographic profile of employee group | -0.15% | -2,020 |
| Effect of other experience (gains)/losses ⁽⁴⁾ | <u>0.07%</u> | <u>11,319</u> |
| Total change | <u>0.10%</u> | <u>\$11,723</u> |
| Recommended Average Employer Contribution Rate in June 30, 2016 Valuation | 27.55% | \$371,036 |

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

⁽¹⁾ Based on projected compensation for each valuation date shown.

⁽²⁾ Return on the valuation value of assets of 5.77% was less than the 7.50% assumed rate of return.

⁽³⁾ Including contribution loss from one-year delay in implementing higher contribution rates recommended in June 30, 2015 valuation.

⁽⁴⁾ Other differences in actual versus expected experience. Estimated annual dollar cost also reflects the change in projected compensation from the prior valuation.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

The member contribution rates as of June 30, 2016 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 Average Member Contribution Rate

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

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

CHART 16

Reconciliation of Recommended Average Member Contribution from June 30, 2015 to June 30, 2016

(Dollar Amounts in Thousands)

| | Contribution Rate | Estimated Annual Dollar Cost ⁽¹⁾ |
|--|-------------------|---|
| Recommended Average Member Contribution Rate in June 30, 2015 Valuation | 10.87% | \$142,250 |
| Effect of all changes including demographic profile of employee group ⁽²⁾ | <u>-0.10%</u> | <u>2,808</u> |
| Total change | <u>-0.10%</u> | <u>\$2,808</u> |
| Recommended Average Member Contribution Rate in June 30, 2016 Valuation | 10.77% | \$145,058 |

⁽¹⁾ Based on projected compensation for each valuation date shown.

⁽²⁾ Also reflects differences in actual versus expected experience. Estimated annual dollar cost also reflects the change in projected compensation from the prior valuation.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

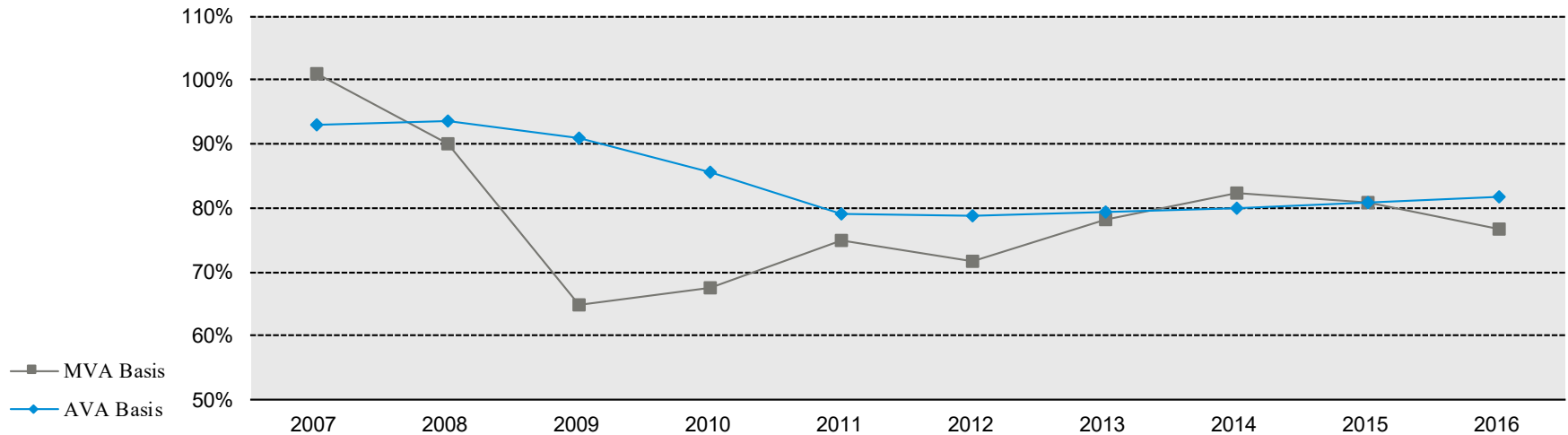
E. FUNDED RATIO

A commonly reported piece of information regarding the Plan's financial status is the funded ratio. These ratios compare the actuarial value of assets and market value of assets to the actuarial accrued liabilities of the Plan as calculated. High ratios indicate a well-funded plan with assets sufficient to cover the plan's actuarial accrued liabilities. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors. The chart below depicts a history of the funded

ratio for this plan. Chart 18 on the next page shows the Plan's schedule of funding progress for the last ten years.

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.

CHART 17
Funded Ratio for Plan Years Ending June 30, 2007 - 2016



SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

CHART 18

Schedule of Funding Progress

| Actuarial Valuation Date | Actuarial Value of Assets⁽¹⁾ (a) | Actuarial Accrued Liability ("AAL")⁽²⁾ (b) | Unfunded/ (Overfunded) AAL ("UAAL") (b) - (a) | Funded Ratio (a) / (b) | Projected Total Compensation (c) | UAAL as a Percentage of Projected Total Compensation [(b) - (a)] / (c) |
|---------------------------------|--|--|--|-----------------------------------|---|---|
| 06/30/2007 | \$5,797,400,029 | \$6,227,013,069 | \$429,613,040 | 93.10% | \$1,102,150,627 | 38.98% |
| 06/30/2008 | 6,341,530,865 | 6,773,628,506 | 432,097,641 | 93.62% | 1,219,561,653 | 35.43% |
| 06/30/2009 | 6,383,388,113 | 7,013,534,026 | 630,145,913 | 91.02% | 1,226,431,276 | 51.38% |
| 06/30/2010 ⁽³⁾ | 6,367,232,362 | 7,444,986,223 | 1,077,753,861 | 85.52% | 1,250,192,961 | 86.21% |
| 06/30/2011 | 6,484,506,557 | 8,189,645,890 | 1,705,139,333 | 79.18% | 1,244,554,740 | 137.01% |
| 06/30/2012 | 6,789,492,338 | 8,606,576,657 | 1,817,084,319 | 78.89% | 1,260,309,037 | 144.18% |
| 06/30/2013 ⁽⁴⁾ | 7,204,918,478 | 9,088,635,907 | 1,883,717,429 | 79.27% | 1,262,751,964 | 149.18% |
| 06/30/2014 ⁽⁴⁾ | 7,751,308,595 | 9,694,825,407 | 1,943,516,812 | 79.95% | 1,267,666,810 | 153.31% |
| 06/30/2015 ⁽⁴⁾ | 8,255,352,815 | 10,214,472,907 | 1,959,120,092 | 80.82% | 1,309,095,254 | 149.65% |
| 06/30/2016 ⁽⁴⁾ | 8,736,959,429 | 10,669,687,907 | 1,932,728,478 | 81.89% | 1,346,408,201 | 143.55% |

⁽¹⁾ Includes assets for Survivor Benefit, Burial Allowance, General Retiree Subsidy, and Excess Earnings reserves.

⁽²⁾ Includes liabilities held for Survivor Benefit, Burial Allowance, General Retiree Subsidy, and Excess Earnings reserves.

⁽³⁾ Does not reflect the subsequent transfer of \$40.6 million from the General Retiree Subsidy reserve to the Current Service reserve.

⁽⁴⁾ Does not reflect the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer.

SECTION 2: Valuation Results for the San Bernardino County Employees' Retirement Association

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 SBCERA, the current AVR is about 6.1. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 6.1% of one-year's payroll. Since SBCERA amortizes actuarial gains and losses over a period of 20 years, there would be a 0.4% 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 SBCERA, the current LVR is about 7.9. This is about 30% 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, 2009 – 2016

| Year Ended June 30 | Asset Volatility Ratios | | | Liability Volatility Ratios | | |
|--------------------|-------------------------|--------|-------|-----------------------------|--------|-------|
| | General | Safety | Total | General | Safety | Total |
| 2009 | 3.4 | 5.4 | 3.7 | 5.2 | 8.5 | 5.7 |
| 2010 | 3.7 | 5.9 | 4.0 | 5.4 | 9.0 | 6.0 |
| 2011 | 4.5 | 7.1 | 4.9 | 6.0 | 9.9 | 6.6 |
| 2012 | 4.5 | 7.1 | 4.9 | 6.2 | 10.4 | 6.8 |
| 2013 | 5.2 | 8.1 | 5.6 | 6.5 | 11.0 | 7.2 |
| 2014 | 5.8 | 9.2 | 6.3 | 6.8 | 12.0 | 7.6 |
| 2015 | 5.8 | 9.0 | 6.3 | 6.9 | 12.3 | 7.8 |
| 2016 | 5.6 | 8.4 | 6.1 | 7.1 | 11.9 | 7.9 |

This chart shows how the asset and liability volatility ratios have varied over time, both for the plan in total and separately for General and Safety.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
i. County General Tier 1**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|--------------------|---------------|---------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 11,530 | 12,374 | -6.8% |
| Average age | 47.7 | 47.0 | N/A |
| Average service | 13.9 | 13.0 | N/A |
| Projected total compensation | \$729,329,149 | \$777,759,816 | -6.2% |
| Projected average compensation | \$63,255 | \$62,854 | 0.6% |
| Account balances | \$729,738,320 | \$723,555,443 | 0.9% |
| Total active vested members | 10,404 | 10,621 | -2.0% |
| Vested terminated members:⁽¹⁾ | 3,701 | 3,689 | 0.3% |
| Retired members: | | | |
| Number in pay status | 6,665 | 6,360 | 4.8% |
| Average age | 70.0 | 69.9 | N/A |
| Average monthly benefit | \$3,093 | \$3,019 | 2.5% |
| Disabled members: | | | |
| Number in pay status | 737 | 744 | -0.9% |
| Average age | 66.0 | 65.4 | N/A |
| Average monthly benefit ⁽²⁾ | \$2,062 | \$2,010 | 2.6% |
| Beneficiaries in pay status: | | | |
| Number in pay status | 1,129 | 1,101 | 2.5% |
| Average age | 73.9 | 74.3 | N/A |
| Average monthly benefit ⁽³⁾ | \$1,492 | \$1,422 | 4.9% |

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

⁽²⁾ Excludes Supplemental Disability Benefit amounts.

⁽³⁾ Excludes Survivor Benefit amounts.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
ii. County General Tier 2**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|--------------------|---------------|---------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 4,525 | 3,243 | 39.5% |
| Average age | 37.1 | 36.4 | N/A |
| Average service | 1.4 | 1.1 | N/A |
| Projected total compensation | \$207,967,313 | \$145,174,291 | 43.3% |
| Projected average compensation | \$45,960 | \$44,765 | 2.7% |
| Account balances | \$22,222,568 | \$11,031,147 | 101.5% |
| Total active vested members | 20 | 18 | 11.1% |
| Vested terminated members:⁽¹⁾ | 677 | 416 | 62.7% |
| Retired members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit | N/A | N/A | N/A |
| Disabled members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit ⁽²⁾ | N/A | N/A | N/A |
| Beneficiaries in pay status: | | | |
| Number in pay status | 2 | 0 | N/A |
| Average age | 43.8 | N/A | N/A |
| Average monthly benefit ⁽³⁾ | \$1,788 | N/A | N/A |

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

⁽²⁾ Excludes Supplemental Disability Benefit amounts.

⁽³⁾ Excludes Survivor Benefit amounts.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
iii. County Safety Tier 1**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|---------------------------|---------------|-----------------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 1,812 | 1,900 | -4.6% |
| Average age | 42.4 | 41.9 | N/A |
| Average service | 15.3 | 14.7 | N/A |
| Projected total compensation | \$178,346,682 | \$183,960,220 | -3.1% |
| Projected average compensation | \$98,425 | \$96,821 | 1.7% |
| Account balances | \$191,041,972 | \$191,182,414 | -0.1% |
| Total active vested members | 1,679 | 1,752 | -4.2% |
| Vested terminated members:⁽¹⁾ | 193 | 195 | -1.0% |
| Retired members: | | | |
| Number in pay status | 848 | 805 | 5.3% |
| Average age | 64.1 | 64.1 | N/A |
| Average monthly benefit | \$6,652 | \$6,472 | 2.8% |
| Disabled members: | | | |
| Number in pay status | 712 | 691 | 3.0% |
| Average age | 62.4 | 62.0 | N/A |
| Average monthly benefit | \$4,889 | \$4,765 | 2.6% |
| Beneficiaries: | | | |
| Number in pay status | 320 | 295 | 8.5% |
| Average age | 66.5 | 66.6 | N/A |
| Average monthly benefit | \$2,638 | \$2,466 | 7.0% |

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

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
iv. County Safety Tier 2**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|--------------------|--------------|---------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 528 ⁽²⁾ | 271 | 94.8% |
| Average age | 31.7 | 29.8 | N/A |
| Average service | 1.5 | 1.4 | N/A |
| Projected total compensation | \$44,052,917 | \$21,482,301 | 105.1% |
| Projected average compensation | \$83,434 | \$79,270 | 5.3% |
| Account balances | \$5,987,633 | \$2,819,531 | 112.4% |
| Total active vested members | 0 | 1 | -100.0% |
| Vested terminated members:⁽¹⁾ | 50 | 17 | 194.1% |
| Retired members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit | N/A | N/A | N/A |
| Disabled members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit | N/A | N/A | N/A |
| Beneficiaries: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit | N/A | N/A | N/A |

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

⁽²⁾ Includes 110 new Safety employees who transferred from the City of San Bernardino around July 1, 2016.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
v. Superior Court Tier 1**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|--------------------|--------------|---------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 747 | 790 | -5.4% |
| Average age | 47.7 | 47.0 | N/A |
| Average service | 14.6 | 13.8 | N/A |
| Projected total compensation | \$56,259,724 | \$55,708,922 | 1.0% |
| Projected average compensation | \$75,314 | \$70,518 | 6.8% |
| Account balances | \$56,104,465 | \$54,556,709 | 2.8% |
| Total active vested members | 731 | 720 | 1.5% |
| Vested terminated members:⁽¹⁾ | 149 | 146 | 2.1% |
| Retired members: | | | |
| Number in pay status | 257 | 228 | 12.7% |
| Average age | 65.2 | 64.6 | N/A |
| Average monthly benefit | \$3,914 | \$3,882 | 0.8% |
| Disabled members: | | | |
| Number in pay status | 20 | 19 | 5.3% |
| Average age | 56.9 | 55.7 | N/A |
| Average monthly benefit ⁽²⁾ | \$2,370 | \$2,359 | 0.5% |
| Beneficiaries: | | | |
| Number in pay status | 14 | 13 | 7.7% |
| Average age | 59.5 | 59.7 | N/A |
| Average monthly benefit ⁽³⁾ | \$1,399 | \$1,527 | -8.4% |

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

⁽²⁾ Excludes Supplemental Disability Benefit amounts.

⁽³⁾ Excludes Survivor Benefit amounts.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
vi. Superior Court Tier 2**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|--------------------|-------------|---------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 203 | 140 | 45.0% |
| Average age | 35.6 | 35.8 | N/A |
| Average service | 1.6 | 1.0 | N/A |
| Projected total compensation | \$11,324,602 | \$7,150,258 | 58.4% |
| Projected average compensation | \$55,786 | \$51,073 | 9.2% |
| Account balances | \$1,162,267 | \$550,157 | 111.3% |
| Total active vested members | 3 | 2 | 50.0% |
| Vested terminated members:⁽¹⁾ | 14 | 9 | 55.6% |
| Retired members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit | N/A | N/A | N/A |
| Disabled members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit ⁽²⁾ | N/A | N/A | N/A |
| Beneficiaries: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit ⁽³⁾ | N/A | N/A | N/A |

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

⁽²⁾ Excludes Supplemental Disability Benefit amounts.

⁽³⁾ Excludes Survivor Benefit amounts.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
vii. SCAQMD Tier 1**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|--------------------|--------------|---------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 590 | 645 | -8.5% |
| Average age | 51.7 | 50.8 | N/A |
| Average service | 19.6 | 18.5 | N/A |
| Projected total compensation | \$65,303,256 | \$68,428,268 | -4.6% |
| Projected average compensation | \$110,683 | \$106,090 | 4.3% |
| Account balances | \$47,129,046 | \$45,503,126 | 3.6% |
| Total active vested members | 585 | 612 | -4.4% |
| Vested terminated members:⁽¹⁾ | 111 | 114 | -2.6% |
| Retired members: | | | |
| Number in pay status | 466 | 437 | 6.6% |
| Average age | 69.6 | 69.3 | N/A |
| Average monthly benefit | \$5,316 | \$5,000 | 6.3% |
| Disabled members: | | | |
| Number in pay status | 23 | 23 | 0.0% |
| Average age | 69.8 | 69.0 | N/A |
| Average monthly benefit ⁽²⁾ | \$3,100 | \$3,139 | -1.2% |
| Beneficiaries: | | | |
| Number in pay status | 73 | 73 | 0.0% |
| Average age | 73.5 | 73.2 | N/A |
| Average monthly benefit ⁽³⁾ | \$1,863 | \$1,844 | 1.0% |

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

⁽²⁾ Excludes Supplemental Disability Benefit amounts.

⁽³⁾ Excludes Survivor Benefit amounts.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
viii. SCAQMD Tier 2**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|--------------------|-------------|---------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 92 | 50 | 84.0% |
| Average age | 34.9 | 34.7 | N/A |
| Average service | 1.5 | 0.8 | N/A |
| Projected total compensation | \$6,354,537 | \$2,818,815 | 125.4% |
| Projected average compensation | \$69,071 | \$56,376 | 22.5% |
| Account balances | \$580,988 | \$188,176 | 208.7% |
| Total active vested members | 1 | 0 | N/A |
| Vested terminated members:⁽¹⁾ | 4 | 1 | 300.0% |
| Retired members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit | N/A | N/A | N/A |
| Disabled members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit ⁽²⁾ | N/A | N/A | N/A |
| Beneficiaries: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit ⁽³⁾ | N/A | N/A | N/A |

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

⁽²⁾ Excludes Supplemental Disability Benefit amounts.

⁽³⁾ Excludes Survivor Benefit amounts.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
ix. Other General Tier 1**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|--------------------|--------------|---------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 369 | 393 | -6.1% |
| Average age | 48.3 | 47.4 | N/A |
| Average service | 13.8 | 12.8 | N/A |
| Projected total compensation | \$38,392,100 | \$37,955,417 | 1.2% |
| Projected average compensation | \$104,044 | \$96,579 | 7.7% |
| Account balances | \$26,215,236 | \$26,120,407 | 0.4% |
| Total active vested members | 337 | 343 | -1.7% |
| Vested terminated members:⁽¹⁾ | 187 | 180 | 3.9% |
| Retired members: | | | |
| Number in pay status | 262 | 241 | 8.7% |
| Average age | 67.1 | 66.6 | N/A |
| Average monthly benefit | \$3,406 | \$3,339 | 2.0% |
| Disabled members: | | | |
| Number in pay status | 13 | 12 | 8.3% |
| Average age | 61.3 | 61.2 | N/A |
| Average monthly benefit ⁽²⁾ | \$2,413 | \$2,383 | 1.3% |
| Beneficiaries: | | | |
| Number in pay status | 26 | 24 | 8.3% |
| Average age | 67.5 | 67.5 | N/A |
| Average monthly benefit ⁽³⁾ | \$1,418 | \$1,360 | 4.3% |

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

⁽²⁾ Excludes Supplemental Disability Benefit amounts.

⁽³⁾ Excludes Survivor Benefit amounts.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
x. Other General Tier 2**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|--------------------|-------------|---------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 109 | 91 | 19.8% |
| Average age | 38.8 | 41.4 | N/A |
| Average service | 1.6 | 1.8 | N/A |
| Projected total compensation | \$5,880,564 | \$4,973,179 | 18.2% |
| Projected average compensation | \$53,950 | \$54,650 | -1.3% |
| Account balances | \$661,874 | \$316,694 | 109.0% |
| Total active vested members | 1 | 5 | -80.0% |
| Vested terminated members:⁽¹⁾ | | | |
| | 13 | 3 | 333.3% |
| Retired members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit | N/A | N/A | N/A |
| Disabled members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit ⁽²⁾ | N/A | N/A | N/A |
| Beneficiaries: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit ⁽³⁾ | N/A | N/A | N/A |

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

⁽²⁾ Excludes Supplemental Disability Benefit amounts.

⁽³⁾ Excludes Survivor Benefit amounts.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
xi. Other Safety Tier 1**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|--------------------|-------------|---------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 27 | 31 | -12.9% |
| Average age | 43.0 | 43.0 | N/A |
| Average service | 14.0 | 12.1 | N/A |
| Projected total compensation | \$2,774,579 | \$3,076,926 | -9.8% |
| Projected average compensation | \$102,762 | \$99,256 | 3.5% |
| Account balances | \$3,854,146 | \$3,794,938 | 1.6% |
| Total active vested members | 25 | 26 | -3.8% |
| Vested terminated members:⁽¹⁾ | 17 | 18 | -5.6% |
| Retired members: | | | |
| Number in pay status | 21 | 21 | 0.0% |
| Average age | 62.2 | 61.8 | N/A |
| Average monthly benefit | \$6,194 | \$5,584 | 10.9% |
| Disabled members: | | | |
| Number in pay status | 15 | 14 | 7.1% |
| Average age | 61.1 | 60.1 | N/A |
| Average monthly benefit | \$3,904 | \$3,974 | -1.8% |
| Beneficiaries: | | | |
| Number in pay status | 3 | 3 | 0.0% |
| Average age | 60.2 | 59.2 | N/A |
| Average monthly benefit | \$1,583 | \$1,552 | 2.0% |

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

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
xii. Other Safety Tier 2**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|---------------------------|-------------|-----------------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 6 | 10 | -40.0% |
| Average age | 28.2 | 28.8 | N/A |
| Average service | 1.3 | 0.9 | N/A |
| Projected total compensation | \$422,778 | \$606,841 | -30.3% |
| Projected average compensation | \$70,463 | \$60,684 | 16.1% |
| Account balances | \$62,914 | \$69,339 | -9.3% |
| Total active vested members | 0 | 0 | N/A |
| Vested terminated members:⁽¹⁾ | | | |
| | 4 | 0 | N/A |
| Retired members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit | N/A | N/A | N/A |
| Disabled members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit | N/A | N/A | N/A |
| Beneficiaries: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit | N/A | N/A | N/A |

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

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT A

**Table of Plan Coverage
xiii. Withdrawn Other General Employers⁽¹⁾**

| Category | Year Ended June 30 | | Change From Prior Year |
|---|--------------------|---------|------------------------|
| | 2016 | 2015 | |
| Active members in valuation: | | | |
| Number | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average service | N/A | N/A | N/A |
| Projected total compensation | N/A | N/A | N/A |
| Projected average compensation | N/A | N/A | N/A |
| Account balances | N/A | N/A | N/A |
| Total active vested members | 0 | 0 | N/A |
| Vested terminated members:⁽²⁾ | 16 | 16 | 0.0% |
| Retired members: | | | |
| Number in pay status | 23 | 23 | 0.0% |
| Average age | 66.4 | 65.4 | N/A |
| Average monthly benefit | \$1,744 | \$1,710 | 2.0% |
| Disabled members: | | | |
| Number in pay status | 0 | 0 | N/A |
| Average age | N/A | N/A | N/A |
| Average monthly benefit ⁽³⁾ | N/A | N/A | N/A |
| Beneficiaries: | | | |
| Number in pay status | 1 | 1 | 0.0% |
| Average age | 60.6 | 59.6 | N/A |
| Average monthly benefit ⁽⁴⁾ | \$1,700 | \$1,666 | 2.0% |

⁽¹⁾ Includes Tier 1 members for San Bernardino International Airport Authority, Inland Valley Development Agency and Rim of the World Recreation & Park District.

⁽²⁾ Includes terminated members due a refund of member contributions plus accumulated interest.

⁽³⁾ Excludes Supplemental Disability Benefit amounts.

⁽⁴⁾ Excludes Survivor Benefit amounts.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2016

By Age and Years of Service

i. County General Tier 1

| Age | Total | Years of Service | | | | | | | | |
|-----------|----------|------------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| | | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & over |
| Under 25 | 10 | 9 | 1 | -- | -- | -- | -- | -- | -- | -- |
| | \$41,286 | \$36,960 | \$80,218 | -- | -- | -- | -- | -- | -- | -- |
| 25 - 29 | 307 | 185 | 121 | 1 | -- | -- | -- | -- | -- | -- |
| | 47,770 | 48,664 | 46,384 | \$50,065 | -- | -- | -- | -- | -- | -- |
| 30 - 34 | 1,091 | 299 | 610 | 182 | -- | -- | -- | -- | -- | -- |
| | 54,324 | 52,390 | 54,562 | 56,702 | -- | -- | -- | -- | -- | -- |
| 35 - 39 | 1,530 | 212 | 645 | 487 | 179 | 7 | -- | -- | -- | -- |
| | 60,037 | 54,273 | 59,792 | 62,104 | \$61,780 | \$68,766 | -- | -- | -- | -- |
| 40 - 44 | 1,830 | 194 | 548 | 508 | 496 | 79 | 5 | -- | -- | -- |
| | 62,821 | 53,906 | 58,597 | 65,530 | 67,120 | 68,719 | \$76,855 | -- | -- | -- |
| 45 - 49 | 1,864 | 140 | 399 | 471 | 504 | 255 | 88 | 7 | -- | -- |
| | 65,250 | 52,302 | 59,540 | 64,301 | 70,873 | 70,709 | 66,194 | \$97,872 | -- | -- |
| 50 - 54 | 1,787 | 91 | 317 | 380 | 418 | 238 | 258 | 81 | 4 | -- |
| | 66,748 | 57,106 | 57,889 | 62,166 | 70,701 | 69,521 | 76,089 | 75,659 | \$62,337 | -- |
| 55 - 59 | 1,650 | 76 | 257 | 323 | 357 | 222 | 222 | 121 | 69 | 3 |
| | 67,313 | 60,503 | 61,033 | 63,127 | 64,158 | 71,228 | 75,047 | 79,680 | 75,271 | \$60,232 |
| 60 - 64 | 1,092 | 29 | 196 | 217 | 254 | 153 | 145 | 71 | 23 | 4 |
| | 66,648 | 61,760 | 60,514 | 65,804 | 66,794 | 66,220 | 68,052 | 79,795 | 87,541 | 51,198 |
| 65 - 69 | 290 | 9 | 65 | 65 | 73 | 37 | 31 | 8 | 2 | -- |
| | 64,508 | 38,884 | 66,126 | 59,847 | 66,744 | 71,915 | 64,309 | 67,684 | 50,430 | -- |
| 70 & over | 79 | 1 | 14 | 25 | 20 | 10 | 6 | 3 | -- | -- |
| | 59,579 | 16,675 | 50,855 | 59,267 | 60,628 | 69,900 | 65,383 | 64,179 | -- | -- |
| Total | 11,530 | 1,245 | 3,173 | 2,659 | 2,301 | 1,001 | 755 | 291 | 98 | 7 |
| | \$63,255 | \$53,204 | \$58,089 | \$63,127 | \$67,613 | \$69,721 | \$72,522 | \$78,537 | \$77,116 | \$55,070 |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2016

By Age and Years of Service

ii. County General Tier 2

| Age | Total | Years of Service | | | | | | | | |
|-----------|----------|------------------|----------|----------|-------|-------|-------|-------|-------|-----------|
| | | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & over |
| Under 25 | 289 | 289 | -- | -- | -- | -- | -- | -- | -- | -- |
| | \$38,286 | \$38,286 | -- | -- | -- | -- | -- | -- | -- | -- |
| 25 - 29 | 1,099 | 1,099 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 43,325 | 43,325 | -- | -- | -- | -- | -- | -- | -- | -- |
| 30 - 34 | 947 | 946 | 1 | -- | -- | -- | -- | -- | -- | -- |
| | 44,897 | 44,866 | \$74,521 | -- | -- | -- | -- | -- | -- | -- |
| 35 - 39 | 679 | 679 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 47,812 | 47,812 | -- | -- | -- | -- | -- | -- | -- | -- |
| 40 - 44 | 506 | 503 | 3 | -- | -- | -- | -- | -- | -- | -- |
| | 46,042 | 45,937 | 63,618 | -- | -- | -- | -- | -- | -- | -- |
| 45 - 49 | 384 | 382 | -- | 2 | -- | -- | -- | -- | -- | -- |
| | 48,536 | 48,486 | -- | \$58,090 | -- | -- | -- | -- | -- | -- |
| 50 - 54 | 285 | 283 | 2 | -- | -- | -- | -- | -- | -- | -- |
| | 49,983 | 49,630 | 99,902 | -- | -- | -- | -- | -- | -- | -- |
| 55 - 59 | 208 | 208 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 52,691 | 52,691 | -- | -- | -- | -- | -- | -- | -- | -- |
| 60 - 64 | 106 | 106 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 54,220 | 54,220 | -- | -- | -- | -- | -- | -- | -- | -- |
| 65 - 69 | 20 | 19 | -- | 1 | -- | -- | -- | -- | -- | -- |
| | 66,068 | 66,936 | -- | 49,576 | -- | -- | -- | -- | -- | -- |
| 70 & over | 2 | 2 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 48,719 | 48,719 | -- | -- | -- | -- | -- | -- | -- | -- |
| Total | 4,525 | 4,516 | 6 | 3 | -- | -- | -- | -- | -- | -- |
| | \$45,960 | \$45,912 | \$77,530 | \$55,252 | -- | -- | -- | -- | -- | -- |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2016

By Age and Years of Service

iii. County Safety Tier 1

| Age | Total | Years of Service | | | | | | | | |
|----------|----------|------------------|----------|----------|-----------|-----------|-----------|-----------|----------|-----------|
| | | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & over |
| Under 25 | 8 | 8 | -- | -- | -- | -- | -- | -- | -- | -- |
| | \$67,035 | \$67,035 | -- | -- | -- | -- | -- | -- | -- | -- |
| 25 - 29 | 108 | 72 | 35 | 1 | -- | -- | -- | -- | -- | -- |
| | 72,445 | 67,892 | \$81,394 | \$87,047 | -- | -- | -- | -- | -- | -- |
| 30 - 34 | 286 | 31 | 149 | 104 | 2 | -- | -- | -- | -- | -- |
| | 87,189 | 69,476 | 86,157 | 93,912 | \$89,026 | -- | -- | -- | -- | -- |
| 35 - 39 | 361 | 19 | 89 | 185 | 67 | 1 | -- | -- | -- | -- |
| | 93,344 | 71,943 | 89,297 | 94,564 | 101,596 | \$81,686 | -- | -- | -- | -- |
| 40 - 44 | 342 | 3 | 49 | 115 | 133 | 38 | 4 | -- | -- | -- |
| | 99,814 | 75,175 | 89,266 | 95,800 | 104,533 | 111,324 | \$96,694 | -- | -- | -- |
| 45 - 49 | 344 | 4 | 27 | 74 | 106 | 66 | 63 | 4 | -- | -- |
| | 104,808 | 75,723 | 93,663 | 95,144 | 100,692 | 108,650 | 122,646 | \$152,629 | -- | -- |
| 50 - 54 | 233 | 2 | 17 | 28 | 34 | 42 | 77 | 33 | -- | -- |
| | 115,443 | 67,689 | 99,396 | 106,085 | 107,212 | 104,969 | 120,376 | 144,844 | -- | -- |
| 55 - 59 | 100 | 2 | 12 | 12 | 15 | 10 | 35 | 13 | 1 | -- |
| | 108,456 | 86,490 | 106,146 | 109,900 | 96,217 | 105,804 | 110,668 | 123,846 | \$95,454 | -- |
| 60 - 64 | 23 | -- | 3 | 3 | 3 | 3 | 10 | 1 | -- | -- |
| | 111,153 | -- | 101,825 | 108,439 | 131,252 | 106,077 | 109,828 | 115,451 | -- | -- |
| 65 - 69 | 7 | -- | 1 | 1 | 4 | -- | -- | 1 | -- | -- |
| | 123,166 | -- | 111,460 | 190,290 | 116,844 | -- | -- | 93,034 | -- | -- |
| Total | 1,812 | 141 | 382 | 523 | 364 | 160 | 189 | 52 | 1 | -- |
| | \$98,425 | \$69,376 | \$88,788 | \$96,005 | \$103,052 | \$107,924 | \$118,275 | \$138,632 | \$95,454 | -- |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2016

By Age and Years of Service

iv. County Safety Tier 2

| Age | Total | Years of Service | | | | | | | | |
|----------|----------|------------------|-----|-------|-------|-------|-------|-------|-------|-----------|
| | | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & over |
| Under 25 | 129 | 129 | -- | -- | -- | -- | -- | -- | -- | -- |
| | \$88,562 | \$88,562 | -- | -- | -- | -- | -- | -- | -- | -- |
| 25 - 29 | 186 | 186 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 79,638 | 79,638 | -- | -- | -- | -- | -- | -- | -- | -- |
| 30 - 34 | 84 | 84 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 74,983 | 74,983 | -- | -- | -- | -- | -- | -- | -- | -- |
| 35 - 39 | 37 | 37 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 81,083 | 81,083 | -- | -- | -- | -- | -- | -- | -- | -- |
| 40 - 44 | 23 | 23 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 86,128 | 86,128 | -- | -- | -- | -- | -- | -- | -- | -- |
| 45 - 49 | 28 | 28 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 91,977 | 91,977 | -- | -- | -- | -- | -- | -- | -- | -- |
| 50 - 54 | 28 | 28 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 96,437 | 96,437 | -- | -- | -- | -- | -- | -- | -- | -- |
| 55 - 59 | 12 | 12 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 96,162 | 96,162 | -- | -- | -- | -- | -- | -- | -- | -- |
| 60 - 64 | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 106,583 | 106,583 | -- | -- | -- | -- | -- | -- | -- | -- |
| 65 - 69 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total | 528 | 528 | -- | -- | -- | -- | -- | -- | -- | -- |
| | \$83,434 | \$83,434 | -- | -- | -- | -- | -- | -- | -- | -- |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

**Members in Active Service and Projected Average Compensation as of June 30, 2016
By Age and Years of Service
v. Superior Court 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 | 17 | 1 | 16 | -- | -- | -- | -- | -- | -- | -- | |
| 30 - 34 | \$53,474 | \$43,865 | \$54,075 | -- | -- | -- | -- | -- | -- | -- | |
| 35 - 39 | 72 | 2 | 36 | 34 | -- | -- | -- | -- | -- | -- | |
| 40 - 44 | 64,806 | 42,027 | 66,532 | \$64,318 | -- | -- | -- | -- | -- | -- | |
| 45 - 49 | 96 | 5 | 49 | 34 | 8 | -- | -- | -- | -- | -- | |
| 50 - 54 | 66,049 | 74,347 | 64,042 | 66,369 | \$71,803 | -- | -- | -- | -- | -- | |
| 55 - 59 | 117 | 5 | 32 | 42 | 32 | 6 | -- | -- | -- | -- | |
| 60 - 64 | 70,600 | 49,922 | 73,812 | 70,684 | 70,172 | \$72,402 | -- | -- | -- | -- | |
| 65 - 69 | 126 | 4 | 37 | 44 | 20 | 11 | 10 | -- | -- | -- | |
| 70 & over | 79,178 | 119,644 | 75,271 | 87,026 | 72,529 | 69,719 | \$66,619 | -- | -- | -- | |
| Total | 125 | 3 | 17 | 35 | 26 | 15 | 18 | 11 | -- | -- | |
| Under 25 | 78,334 | 86,371 | 91,996 | 73,174 | 78,062 | 72,072 | 78,877 | \$79,747 | -- | -- | |
| 25 - 29 | 112 | -- | 10 | 22 | 22 | 15 | 21 | 15 | 7 | -- | |
| 30 - 34 | 78,942 | -- | 88,078 | 81,601 | 74,394 | 66,366 | 76,303 | 92,463 | \$77,726 | -- | |
| 35 - 39 | 69 | 1 | 11 | 18 | 21 | 5 | 5 | 6 | 2 | -- | |
| 40 - 44 | 90,951 | 91,998 | 75,652 | 97,357 | 87,352 | 102,381 | 69,279 | 127,367 | 71,056 | -- | |
| 45 - 49 | 8 | 1 | 2 | 2 | 2 | -- | 1 | -- | -- | -- | |
| 50 - 54 | 85,095 | 85,711 | 73,910 | 94,833 | 101,094 | -- | 55,377 | -- | -- | -- | |
| 55 - 59 | 5 | -- | -- | 3 | 2 | -- | -- | -- | -- | -- | |
| 60 - 64 | 103,496 | -- | -- | 79,051 | 140,165 | -- | -- | -- | -- | -- | |
| 65 - 69 | Total | 747 | 22 | 210 | 234 | 133 | 52 | 55 | 32 | 9 | -- |
| 70 & over | \$75,314 | \$75,666 | \$71,286 | \$75,969 | \$77,095 | \$72,881 | \$74,366 | \$94,636 | \$76,244 | -- | |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2016

By Age and Years of Service

vi. Superior Court Tier 2

| Age | Total | Years of Service | | | | | | | | |
|--------------|-----------------|------------------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & over |
| Under 25 | 25 | 25 | -- | -- | -- | -- | -- | -- | -- | -- |
| | \$41,295 | \$41,295 | -- | -- | -- | -- | -- | -- | -- | -- |
| 25 - 29 | 54 | 54 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 40,630 | 40,630 | -- | -- | -- | -- | -- | -- | -- | -- |
| 30 - 34 | 36 | 36 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 55,477 | 55,477 | -- | -- | -- | -- | -- | -- | -- | -- |
| 35 - 39 | 26 | 26 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 64,315 | 64,316 | -- | -- | -- | -- | -- | -- | -- | -- |
| 40 - 44 | 23 | 23 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 55,470 | 55,470 | -- | -- | -- | -- | -- | -- | -- | -- |
| 45 - 49 | 15 | 15 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 80,334 | 80,334 | -- | -- | -- | -- | -- | -- | -- | -- |
| 50 - 54 | 16 | 15 | 1 | -- | -- | -- | -- | -- | -- | -- |
| | 71,271 | 70,473 | \$83,237 | -- | -- | -- | -- | -- | -- | -- |
| 55 - 59 | 4 | 4 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 82,876 | 82,876 | -- | -- | -- | -- | -- | -- | -- | -- |
| 60 - 64 | 3 | 2 | 1 | -- | -- | -- | -- | -- | -- | -- |
| | 111,907 | 115,638 | 104,445 | -- | -- | -- | -- | -- | -- | -- |
| 65 - 69 | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- |
| | 140,424 | 140,424 | -- | -- | -- | -- | -- | -- | -- | -- |
| 70 & over | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total | 203 | 201 | 2 | -- | -- | -- | -- | -- | -- | -- |
| | \$55,786 | \$55,408 | \$93,841 | -- | -- | -- | -- | -- | -- | -- |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2016

By Age and Years of Service

vii. SCAQMD Tier 1

| Age | Total | Years of Service | | | | | | | | |
|--------------|------------------|------------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------|
| | | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & over |
| Under 25 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25 - 29 | 3 | -- | 3 | -- | -- | -- | -- | -- | -- | -- |
| | \$87,814 | -- | \$87,814 | -- | -- | -- | -- | -- | -- | -- |
| 30 - 34 | 37 | -- | 33 | 4 | -- | -- | -- | -- | -- | -- |
| | 94,333 | -- | 94,273 | \$94,822 | -- | -- | -- | -- | -- | -- |
| 35 - 39 | 55 | 3 | 33 | 17 | 2 | -- | -- | -- | -- | -- |
| | 100,037 | \$138,040 | 95,590 | 102,685 | \$93,894 | -- | -- | -- | -- | -- |
| 40 - 44 | 58 | 1 | 25 | 15 | 15 | 1 | 1 | -- | -- | -- |
| | 110,241 | 62,125 | 108,120 | 102,338 | 121,123 | \$190,610 | \$86,320 | -- | -- | -- |
| 45 - 49 | 60 | 1 | 25 | 12 | 12 | 2 | 7 | 1 | -- | -- |
| | 107,501 | 111,150 | 102,082 | 115,921 | 117,678 | 97,886 | 92,967 | \$137,109 | -- | -- |
| 50 - 54 | 108 | 1 | 8 | 17 | 9 | 7 | 55 | 9 | 2 | -- |
| | 111,573 | 68,330 | 96,363 | 114,474 | 87,480 | 97,930 | 118,737 | 114,901 | \$113,563 | -- |
| 55 - 59 | 153 | 1 | 13 | 7 | 16 | 12 | 62 | 35 | 7 | -- |
| | 118,554 | 75,192 | 83,509 | 121,941 | 125,351 | 117,146 | 125,553 | 120,716 | 100,533 | -- |
| 60 - 64 | 89 | -- | 12 | 8 | 3 | 4 | 34 | 21 | 7 | -- |
| | 117,989 | -- | 88,641 | 100,895 | 99,726 | 104,780 | 129,556 | 127,042 | 119,873 | -- |
| 65 - 69 | 20 | -- | 2 | 3 | 3 | -- | 9 | 3 | -- | -- |
| | 98,982 | -- | 84,186 | 95,860 | 110,617 | -- | 97,144 | 105,849 | -- | -- |
| 70 & over | 7 | 1 | 1 | -- | -- | 2 | 2 | 1 | -- | -- |
| | 76,297 | 60,000 | 112,649 | -- | -- | 81,095 | 64,978 | 69,287 | -- | -- |
| Total | 590 | 8 | 155 | 83 | 60 | 28 | 170 | 70 | 16 | -- |
| | \$110,683 | \$98,865 | \$96,679 | \$107,777 | \$114,012 | \$109,248 | \$120,359 | \$120,728 | \$110,623 | -- |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2016

By Age and Years of Service

viii. SCAQMD Tier 2

| Age | Total | Years of Service | | | | | | | |
|--------------|-----------------|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 |
| Under 25 | 6 | 6 | -- | -- | -- | -- | -- | -- | -- |
| | \$60,621 | \$60,621 | -- | -- | -- | -- | -- | -- | -- |
| 25 - 29 | 24 | 24 | -- | -- | -- | -- | -- | -- | -- |
| | 58,887 | 58,887 | -- | -- | -- | -- | -- | -- | -- |
| 30 - 34 | 24 | 24 | -- | -- | -- | -- | -- | -- | -- |
| | 77,655 | 77,655 | -- | -- | -- | -- | -- | -- | -- |
| 35 - 39 | 20 | 20 | -- | -- | -- | -- | -- | -- | -- |
| | 72,483 | 72,483 | -- | -- | -- | -- | -- | -- | -- |
| 40 - 44 | 7 | 7 | -- | -- | -- | -- | -- | -- | -- |
| | 87,030 | 87,030 | -- | -- | -- | -- | -- | -- | -- |
| 45 - 49 | 2 | 2 | -- | -- | -- | -- | -- | -- | -- |
| | 49,381 | 49,381 | -- | -- | -- | -- | -- | -- | -- |
| 50 - 54 | 5 | 5 | -- | -- | -- | -- | -- | -- | -- |
| | 62,857 | 62,857 | -- | -- | -- | -- | -- | -- | -- |
| 55 - 59 | 3 | 3 | -- | -- | -- | -- | -- | -- | -- |
| | 67,135 | 67,135 | -- | -- | -- | -- | -- | -- | -- |
| 60 - 64 | 1 | 1 | -- | -- | -- | -- | -- | -- | -- |
| | 40,477 | 40,477 | -- | -- | -- | -- | -- | -- | -- |
| 65 - 69 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 70 & over | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Total | 92 | 92 | -- | -- | -- | -- | -- | -- | -- |
| | \$69,071 | \$69,071 | -- | -- | -- | -- | -- | -- | -- |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2016

By Age and Years of Service

ix. Other General Tier 1

| Age | Years of Service | | | | | | | |
|----------|------------------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| | Total | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 & over |
| Under 25 | -- | -- | -- | -- | -- | -- | -- | -- |
| 25 - 29 | 7 | 5 | 2 | -- | -- | -- | -- | -- |
| 30 - 34 | \$78,241 | \$71,605 | \$94,833 | -- | -- | -- | -- | -- |
| 35 - 39 | 43 | 19 | 17 | 7 | -- | -- | -- | -- |
| 40 - 44 | 87,756 | 87,167 | 88,521 | \$87,495 | -- | -- | -- | -- |
| 45 - 49 | 41 | 12 | 18 | 9 | 2 | -- | -- | -- |
| 50 - 54 | 93,424 | 109,768 | 85,664 | 88,172 | \$88,846 | -- | -- | -- |
| 55 - 59 | 51 | 10 | 17 | 17 | 6 | 1 | -- | -- |
| 60 - 64 | 106,762 | 133,325 | 78,386 | 109,459 | 136,616 | \$98,560 | -- | -- |
| 65 - 69 | 56 | 10 | 15 | 16 | 8 | 4 | 3 | -- |
| Total | 104,239 | 128,980 | 95,416 | 101,227 | 85,459 | 113,146 | \$120,151 | -- |
| Under 25 | 62 | 9 | 13 | 12 | 10 | 7 | 7 | 4 |
| 25 - 29 | 111,250 | 108,764 | 101,982 | 107,971 | 112,565 | 148,039 | 99,678 | \$109,391 |
| 30 - 34 | 61 | 2 | 11 | 9 | 15 | 5 | 18 | 1 |
| 35 - 39 | 115,163 | 173,395 | 111,946 | 98,103 | 124,923 | 104,308 | 118,165 | 41,468 |
| 40 - 44 | 35 | 4 | 10 | 7 | 6 | 5 | 1 | 2 |
| 45 - 49 | 102,284 | 133,094 | 75,373 | 125,588 | 83,576 | 111,207 | 106,320 | 125,457 |
| 50 - 54 | 13 | 1 | 5 | 4 | 2 | -- | 1 | -- |
| 55 - 59 | 111,987 | 264,444 | 82,640 | 100,140 | 155,167 | -- | 67,301 | -- |
| 60 - 64 | 369 | 72 | 108 | 81 | 49 | 22 | 30 | 7 |
| 65 - 69 | \$104,044 | \$112,180 | \$90,041 | \$103,021 | \$112,089 | \$121,136 | \$111,960 | \$104,278 |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2016

By Age and Years of Service

x. Other General Tier 2

| Age | Total | Years of Service | | | | | | |
|----------|----------|------------------|-----|-------|-------|-------|-------|-------|
| | | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 |
| Under 25 | 5 | 5 | -- | -- | -- | -- | -- | -- |
| | \$52,354 | \$52,354 | -- | -- | -- | -- | -- | -- |
| 25 - 29 | 19 | 19 | -- | -- | -- | -- | -- | -- |
| | 47,951 | 47,951 | -- | -- | -- | -- | -- | -- |
| 30 - 34 | 20 | 20 | -- | -- | -- | -- | -- | -- |
| | 51,741 | 51,741 | -- | -- | -- | -- | -- | -- |
| 35 - 39 | 22 | 22 | -- | -- | -- | -- | -- | -- |
| | 49,707 | 49,707 | -- | -- | -- | -- | -- | -- |
| 40 - 44 | 14 | 14 | -- | -- | -- | -- | -- | -- |
| | 53,556 | 53,556 | -- | -- | -- | -- | -- | -- |
| 45 - 49 | 13 | 13 | -- | -- | -- | -- | -- | -- |
| | 73,637 | 73,637 | -- | -- | -- | -- | -- | -- |
| 50 - 54 | 4 | 4 | -- | -- | -- | -- | -- | -- |
| | 68,407 | 68,407 | -- | -- | -- | -- | -- | -- |
| 55 - 59 | 10 | 10 | -- | -- | -- | -- | -- | -- |
| | 47,348 | 47,348 | -- | -- | -- | -- | -- | -- |
| 60 - 64 | 1 | 1 | -- | -- | -- | -- | -- | -- |
| | 34,448 | 34,448 | -- | -- | -- | -- | -- | -- |
| 65 - 69 | 1 | 1 | -- | -- | -- | -- | -- | -- |
| | 90,733 | 90,733 | -- | -- | -- | -- | -- | -- |
| Total | 109 | 109 | -- | -- | -- | -- | -- | -- |
| | \$53,950 | \$53,950 | -- | -- | -- | -- | -- | -- |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2016

By Age and Years of Service

xi. Other Safety Tier 1

| Age | Total | Years of Service | | | | | | |
|--------------|------------------|------------------|-----------------|------------------|-----------------|------------------|------------------|------------------|
| | | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 |
| Under 25 | -- | -- | -- | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- | -- |
| 25 - 29 | 2 | 2 | -- | -- | -- | -- | -- | -- |
| | \$75,791 | \$75,791 | -- | -- | -- | -- | -- | -- |
| 30 - 34 | 3 | 1 | 1 | 1 | -- | -- | -- | -- |
| | 95,855 | 75,062 | \$99,811 | \$112,692 | -- | -- | -- | -- |
| 35 - 39 | 5 | -- | 3 | 2 | -- | -- | -- | -- |
| | 105,104 | -- | 99,392 | 113,672 | -- | -- | -- | -- |
| 40 - 44 | 4 | -- | 2 | 1 | -- | 1 | -- | -- |
| | 105,613 | -- | 93,496 | 110,936 | -- | \$124,522 | -- | -- |
| 45 - 49 | 7 | -- | -- | 3 | 1 | 1 | 2 | -- |
| | 107,993 | -- | -- | 121,231 | \$91,592 | 101,261 | \$99,702 | -- |
| 50 - 54 | 5 | -- | -- | 1 | -- | 3 | -- | 1 |
| | 104,599 | -- | -- | 87,827 | -- | 111,581 | -- | \$100,421 |
| 55 - 59 | 1 | -- | -- | -- | -- | -- | 1 | -- |
| | 108,522 | -- | -- | -- | -- | -- | 108,522 | -- |
| 60 - 64 | -- | -- | -- | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- | -- |
| 65 - 69 | -- | -- | -- | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- | -- |
| Total | 27 | 3 | 6 | 8 | 1 | 5 | 3 | 1 |
| | \$102,762 | \$75,548 | \$97,496 | \$112,811 | \$91,592 | \$112,105 | \$102,642 | \$100,421 |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT B

Members in Active Service and Projected Average Compensation as of June 30, 2016

By Age and Years of Service

xii. Other Safety Tier 2

| Age | Total | Years of Service | | | | | |
|----------|---------------|------------------|-----|-------|-------|-------|-------|
| | | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 |
| Under 25 | 1 \$61,349 | 1 \$61,349 | -- | -- | -- | -- | -- |
| 25 - 29 | 4 71,534 | 4 71,534 | -- | -- | -- | -- | -- |
| 30 - 34 | -- | -- | -- | -- | -- | -- | -- |
| 35 - 39 | 1 75,292 | 1 75,292 | -- | -- | -- | -- | -- |
| 40 - 44 | -- | -- | -- | -- | -- | -- | -- |
| 45 - 49 | -- | -- | -- | -- | -- | -- | -- |
| 50 - 54 | -- | -- | -- | -- | -- | -- | -- |
| 55 - 59 | -- | -- | -- | -- | -- | -- | -- |
| 60 - 64 | -- | -- | -- | -- | -- | -- | -- |
| 65 - 69 | -- | -- | -- | -- | -- | -- | -- |
| Total | 6 \$70,463 | 6 \$70,463 | -- | -- | -- | -- | -- |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT C

Reconciliation of Member Data – June 30, 2015 to June 30, 2016

| | Active Members | Vested Terminated Members⁽¹⁾ | Pensioners | Disableds⁽²⁾ | Beneficiaries | Total |
|----------------------------------|---------------------------|--|-------------------|--------------------------------|----------------------|--------------|
| Number as of June 30, 2015 | 19,938 | 4,804 | 8,115 | 1,503 | 1,510 | 35,870 |
| New members | 2,153 | 160 | 0 | 0 | 141 | 2,454 |
| Terminations | -665 | 665 | 0 | 0 | 0 | 0 |
| Contribution refunds | -378 | -291 | 0 | 0 | 0 | -669 |
| Retirements | -510 | -126 | 636 | 0 | 0 | 0 |
| New disabilities | -24 | -1 | -22 | 47 | 0 | 0 |
| Return to work | 68 | -67 | -1 | 0 | 0 | 0 |
| Died with or without beneficiary | -38 | -8 | -186 | -31 | -82 | -345 |
| Data adjustments | <u>-6</u> | <u>0</u> | <u>0</u> | <u>1</u> | <u>-1</u> | <u>-6</u> |
| Number as of June 30, 2016 | 20,538 | 5,136 | 8,542 | 1,520 | 1,568 | 37,304 |

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

⁽²⁾ As of June 30, 2016 includes 352 members receiving an ordinary disability and 1,168 members receiving a duty disability.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT D

Summary Statement of Income and Expenses on Actuarial Value of Assets

| | Year Ended June 30, 2016 | Year Ended June 30, 2015 |
|---|--------------------------|--------------------------|
| Net Contribution income: | | |
| Employer contributions ⁽¹⁾ | \$340,511,616 | \$315,239,709 |
| Employee contributions ⁽¹⁾ | 139,132,004 | 117,899,734 |
| Less administrative expenses | <u>-10,233,264</u> | <u>-8,917,907</u> |
| Net contribution income | \$469,410,356 | \$424,221,536 |
| Investment income: | | |
| Interest, dividends and other income | \$78,775,704 | \$62,456,246 |
| Adjustment toward market value ⁽²⁾ | 489,572,517 | 539,192,377 |
| Less investment fees | <u>-92,083,927</u> | <u>-93,351,095</u> |
| Net investment income | \$476,264,294 | \$508,297,528 |
| Total income available for benefits | \$945,674,650 | \$932,519,064 |
| Less benefit payments | -\$464,068,036 | -\$428,474,844 |
| Change in reserve for future benefits | \$481,606,614 | \$504,044,220 |

⁽¹⁾ Starting with the year ended June 30, 2016, the employer contributions include member paid employer contributions and the member contributions include employer paid member contributions. The contributions shown for the year ended June 30, 2015 have not been restated for this change.

⁽²⁾ Equals the "non-cash" earnings on investments implicitly included in the Actuarial Value of Assets.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT E

Summary Statement of Net Assets ("Fiduciary Net Position")

| | Year Ended June 30, 2016 | Year Ended June 30, 2015 |
|---|--------------------------|--------------------------|
| Cash equivalents | \$924,133,647 | \$968,917,901 |
| Accounts receivable: | | |
| Securities sold | \$46,666,598 | \$564,202,460 |
| Accrued interest and dividends | 6,461,527 | 3,429,097 |
| Employee and employer contributions | 30,118,405 | 30,990,902 |
| Other | <u>5,892,994</u> | <u>3,008,901</u> |
| Total accounts receivable | \$89,139,524 | \$601,631,360 |
| Investments: | | |
| Equities | \$898,798,466 | \$869,410,585 |
| Fixed income | 976,559,331 | 930,231,795 |
| Real estate | 525,075,403 | 563,253,224 |
| Domestic alternatives | 3,490,829,076 | 3,710,058,537 |
| Foreign alternatives | 1,388,764,939 | 1,319,542,512 |
| Other | 7,304,457 | 4,200,347 |
| Investments received on securities lending | <u>95,460,275</u> | <u>123,777,080</u> |
| Total investments at market value | <u>\$7,382,791,947</u> | <u>\$7,520,474,080</u> |
| Total assets | \$8,396,065,118 | \$9,091,023,341 |
| Liabilities: | | |
| Securities lending | -\$95,438,277 | -\$123,777,857 |
| Payable for securities purchased | -50,513,909 | -568,641,786 |
| Securities options payable | -41,850,776 | -70,624,945 |
| Other liabilities | <u>-11,288,210</u> | <u>-56,319,615</u> |
| Total liabilities | -\$199,091,172 | -\$819,364,203 |
| Net assets at market value | <u>\$8,196,973,946</u> | <u>\$8,271,659,138</u> |
| Net assets at actuarial value | <u>\$8,736,959,429</u> | <u>\$8,255,352,815</u> |
| Net assets at valuation value ⁽¹⁾ | <u>\$8,742,113,023</u> | <u>\$8,260,476,955</u> |

⁽¹⁾ The June 30, 2016 and June 30, 2015 values include \$5.9 million and \$5.9 million, respectively. These amounts represent the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT F

Development of the Fund Through June 30, 2016

| Year Ended June 30 | Employer Contributions | Employee Contributions | Administrative and Other Expenses | Net Investment Return⁽¹⁾ | Benefit Payments | Actuarial Value of Assets at End of Year |
|-------------------------------|-----------------------------------|-----------------------------------|--|--|-----------------------------|---|
| 2007 | \$239,856,532 | \$47,004,698 | \$0 | \$560,254,777 | -\$225,483,274 | \$5,797,400,029 |
| 2008 | 241,721,392 | 49,480,584 | 0 | 497,334,680 | -244,405,820 | 6,341,530,865 |
| 2009 | 246,232,150 | 49,550,489 | 0 | 8,853,979 | -262,779,370 | 6,383,388,113 |
| 2010 | 243,772,596 | 56,985,679 | 0 | -24,237,257 | -292,676,769 | 6,367,232,362 |
| 2011 | 258,128,093 | 59,611,897 | 0 | 120,048,766 | -320,514,561 | 6,484,506,557 |
| 2012 | 278,090,808 | 68,630,635 | 0 | 299,992,593 | -341,728,255 | 6,789,492,338 |
| 2013 | 303,080,499 | 91,055,576 | 0 | 388,686,270 | -367,396,205 | 7,204,918,478 |
| 2014 | 330,330,400 | 89,860,998 | 0 | 524,022,197 | -397,823,478 | 7,751,308,595 |
| 2015 | 315,239,709 | 117,899,734 | -8,917,907 | 508,297,528 | -428,474,844 | 8,255,352,815 |
| 2016 | 340,511,616 | 139,132,004 | -10,233,264 | 476,264,294 | -464,068,036 | 8,736,959,429 |

⁽¹⁾ Net of investment fees and administrative expenses prior to 2015. Starting in 2015, administrative expenses are included in the previous column.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT G

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.

| | Total SBCERA (\$ in 000s)⁽¹⁾ | |
|--|--|----------------------------|
| | June 30, 2016 | June 30, 2015 |
| <u>Assets</u> | | |
| 1 Total valuation value of assets | \$8,680,756 ⁽²⁾ | \$8,203,210 ⁽³⁾ |
| 2 Present value of future contributions by members | 1,140,542 | 1,105,631 |
| 3 Present value of future employer contributions for: | | |
| a. entry age normal cost | 1,368,555 | 1,364,694 |
| b. unfunded actuarial accrued liability | 1,955,907 | 1,978,772 |
| 4 Total current and future assets | <u>\$13,145,760</u> | <u>\$12,652,307</u> |
| <u>Liabilities</u> | | |
| 5 Present value of benefits for retirees and beneficiaries | \$5,566,552 | \$5,189,834 |
| 6 Present value of benefits for active members | 7,176,958 | 7,088,621 |
| 7 Present value of benefits for vested terminated members ⁽⁴⁾ | 402,250 | 373,852 |
| 8 Total liabilities | <u>\$13,145,760</u> | <u>\$12,652,307</u> |

⁽¹⁾ Excludes assets and liabilities for Survivor Benefit, Burial Allowance and Excess Earnings reserves.

⁽²⁾ Includes \$5.9 million that represents the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer as of June 30, 2016.

⁽³⁾ Includes \$5.9 million that represents the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer as of June 30, 2015.

⁽⁴⁾ Includes terminated members due a refund of member contributions plus accumulated interest.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT H

Summary of Allocated Reserves

| Reserves | June 30, 2016 | June 30, 2015 |
|---|-----------------|-----------------|
| Member deposit reserve ⁽¹⁾ | \$1,288,669,307 | \$1,240,297,223 |
| Current service reserve ⁽¹⁾ | 2,265,675,916 | 2,105,742,561 |
| Contra account ⁽¹⁾ | (2,476,402,998) | (2,148,113,663) |
| Pension reserve ⁽¹⁾ | 4,022,988,406 | 3,766,862,941 |
| Cost-of-living reserve ⁽¹⁾ | 1,752,231,895 | 1,601,105,435 |
| Annuity reserve ⁽¹⁾ | 1,813,068,435 | 1,622,374,428 |
| Supplemental disability reserve ⁽¹⁾ | 8,639,457 | 9,037,636 |
| Survivor benefit reserve ⁽¹⁾ | 61,357,104 | 57,267,347 |
| Valuation reserves ⁽²⁾ | \$8,736,227,522 | \$8,254,573,908 |
| Burial allowance reserve ⁽³⁾ | \$731,907 | \$778,907 |
| Restricted balance reserved for deficiencies ⁽³⁾ | 0 | 0 |
| Additional contingency reserve ⁽³⁾ | 0 | 0 |
| Undesignated excess earnings ⁽³⁾ | 0 | 0 |
| Total reserves | \$8,736,959,429 | \$8,255,352,815 |
| Net unrecognized gains/(losses) | (539,985,483) | 16,306,323 |
| Net market value | \$8,196,973,946 | \$8,271,659,138 |

⁽¹⁾ Included in valuation value of assets.

⁽²⁾ The June 30, 2016 and June 30, 2015 values exclude \$5.9 million and \$5.9 million, respectively. These amounts represent the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer.

⁽³⁾ Not included in valuation value of assets.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT I

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2016

| | | | |
|----|--|-------------------|------------------------|
| 1. | Unfunded actuarial accrued liability at beginning of year ⁽¹⁾ | | \$1,978,772,000 |
| 2. | Total normal cost at middle of year ⁽²⁾ | | 304,401,000 |
| 3. | Expected administrative expenses | | 7,852,000 |
| 4. | Expected employer and member contributions ⁽³⁾ | | -501,565,000 |
| 5. | Interest for whole year on (1) and half year on (2) + (3) + (4) | | <u>142,448,000</u> |
| 6. | Expected unfunded actuarial accrued liability | | <u>\$1,931,908,000</u> |
| 7. | Actuarial (gain)/loss due to all changes | | |
| | (a) Investment return less than expected | \$143,031,000 | |
| | (b) Actual contributions less than expected ⁽⁴⁾ | 24,361,000 | |
| | (c) Lower than expected individual salary increases | -135,705,000 | |
| | (d) Other experience gains | <u>-7,688,000</u> | |
| | (e) Total changes | | <u>\$23,999,000</u> |
| 8. | Unfunded actuarial accrued liability at end of year ⁽¹⁾ | | <u>\$1,955,907,000</u> |

Note: The "Net gain/(loss) from other experience" of \$119,032,000 shown in Section 2, Chart 10 is equal to the sum of items 7(b) through 7(d).

(1) Beginning of the year and end of the year values are reduced by \$5,903,047 and \$5,885,501, respectively. These amounts represent the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District Transfer. Also excludes Survivor Benefit Reserve which had a surplus of assets over liabilities of \$25,555,000 at the beginning of the year and \$29,064,000 at the end of the year.

(2) Excludes administrative expense load.

(3) Excludes contributions made to the Survivor Benefit Reserve during the year ended June 30, 2016. Includes contributions towards administrative expenses.

(4) Including contribution loss from one-year delay in implementing higher contribution rates recommended in June 30, 2015 valuation.

Note: Results include three withdrawn employers as of June 30, 2016.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT J

Table of Amortization Bases

| | Date Established | Source | Initial Amount | Outstanding Balance | Years Remaining | Annual Payment⁽¹⁾ |
|-----------------------|-------------------------|--------------------------------|-----------------------|----------------------------|------------------------|-------------------------------------|
| County General | June 30, 2002 | Restart Amortization | \$59,439,000 | \$39,528,000 | 6 | \$7,473,000 |
| | June 30, 2003 | Actuarial (Gain)/Loss | 246,112,000 | 179,928,000 | 7 | 29,659,000 |
| | June 30, 2004 | Actuarial (Gain)/Loss | 132,439,000 | 104,046,000 | 8 | 15,264,000 |
| | June 30, 2004 | POB Credit | (306,658,000) | (240,906,000) | 8 | (35,341,000) |
| | June 30, 2005 | Actuarial (Gain)/Loss | 58,743,000 | 49,098,000 | 9 | 6,511,000 |
| | June 30, 2005 | Assumption Change | 55,627,000 | 46,493,000 | 9 | 6,166,000 |
| | June 30, 2006 | Actuarial (Gain)/Loss | (12,586,000) | (11,018,000) | 10 | (1,337,000) |
| | June 30, 2007 | Actuarial (Gain)/Loss | (32,324,000) | (29,379,000) | 11 | (3,296,000) |
| | June 30, 2008 | Actuarial (Gain)/Loss | (10,022,000) | (9,377,000) | 12 | (980,000) |
| | June 30, 2008 | Assumption Change | (9,277,000) | (8,682,000) | 12 | (908,000) |
| | June 30, 2009 | Actuarial (Gain)/Loss | 116,693,000 | 111,642,000 | 13 | 10,954,000 |
| | June 30, 2010 | Actuarial (Gain)/Loss | 283,409,000 | 275,559,000 | 14 | 25,519,000 |
| | June 30, 2011 | Actuarial (Gain)/Loss | 169,715,000 | 166,885,000 | 15 | 14,661,000 |
| | June 30, 2011 | Assumption Change | 199,335,000 | 196,008,000 | 15 | 17,219,000 |
| | June 30, 2012 | Actuarial (Gain)/Loss | 70,313,000 | 69,775,000 | 16 | 5,840,000 |
| | June 30, 2012 | Burial Allowance Method Change | 2,392,000 | 2,380,000 | 16 | 199,000 |
| | June 30, 2013 | Actuarial (Gain)/Loss | 36,166,000 | 36,096,000 | 17 | 2,889,000 |
| | June 30, 2014 | Actuarial (Gain)/Loss | (143,442,000) | (143,411,000) | 18 | (11,016,000) |
| | June 30, 2014 | Assumption Change | 186,163,000 | 186,132,000 | 18 | 14,298,000 |
| | June 30, 2015 | Actuarial (Gain)/Loss | (34,431,000) | (34,479,000) | 19 | (2,549,000) |
| | June 30, 2016 | Actuarial (Gain)/Loss | (19,728,000) | <u>(19,728,000)</u> | 20 | <u>(1,408,000)</u> |
| Subtotal | | | | \$966,590,000 | | \$99,817,000 |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT J

Table of Amortization Bases (continued)

| | Date Established | Source | Initial Amount | Outstanding Balance | Years Remaining | Annual Payment⁽¹⁾ |
|-----------------------|-------------------------|--------------------------------|-----------------------|----------------------------|------------------------|-------------------------------------|
| Superior Court | June 30, 2002 | Restart Amortization | \$3,493,000 | \$2,321,000 | 6 | \$439,000 |
| | June 30, 2003 | Actuarial (Gain)/Loss | 14,458,000 | 10,580,000 | 7 | 1,744,000 |
| | June 30, 2004 | Actuarial (Gain)/Loss | 6,840,000 | 5,375,000 | 8 | 789,000 |
| | June 30, 2005 | Actuarial (Gain)/Loss | 3,451,000 | 2,879,000 | 9 | 382,000 |
| | June 30, 2005 | Assumption Change | 3,269,000 | 2,730,000 | 9 | 362,000 |
| | June 30, 2006 | Actuarial (Gain)/Loss | 4,889,000 | 4,274,000 | 10 | 519,000 |
| | June 30, 2007 | Actuarial (Gain)/Loss | 4,076,000 | 3,699,000 | 11 | 415,000 |
| | June 30, 2008 | Actuarial (Gain)/Loss | 729,000 | 675,000 | 12 | 71,000 |
| | June 30, 2008 | Assumption Change | (1,520,000) | (1,439,000) | 12 | (150,000) |
| | June 30, 2009 | Actuarial (Gain)/Loss | 6,270,000 | 6,006,000 | 13 | 589,000 |
| | June 30, 2010 | Actuarial (Gain)/Loss | 10,935,000 | 10,643,000 | 14 | 986,000 |
| | June 30, 2011 | Actuarial (Gain)/Loss | 8,620,000 | 8,479,000 | 15 | 745,000 |
| | June 30, 2011 | Assumption Change | 10,323,000 | 10,145,000 | 15 | 891,000 |
| | June 30, 2012 | Actuarial (Gain)/Loss | 3,000 | 0 | 16 | 0 |
| | June 30, 2012 | Burial Allowance Method Change | 68,000 | 62,000 | 16 | 5,000 |
| | June 30, 2013 | Actuarial (Gain)/Loss | (2,565,000) | (2,553,000) | 17 | (204,000) |
| | June 30, 2014 | Actuarial (Gain)/Loss | (5,786,000) | (5,794,000) | 18 | (445,000) |
| | June 30, 2014 | Assumption Change | 10,501,000 | 10,495,000 | 18 | 806,000 |
| | June 30, 2015 | Actuarial (Gain)/Loss | (307,000) | (309,000) | 19 | (23,000) |
| | June 30, 2016 | Actuarial (Gain)/Loss | 11,583,000 | <u>11,583,000</u> | 20 | <u>826,000</u> |
| Subtotal | | | | \$79,851,000 | | \$8,747,000 |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT J

Table of Amortization Bases (continued)

| | Date Established | Source | Initial Amount | Outstanding Balance | Years Remaining | Annual Payment⁽¹⁾ |
|----------------------|-------------------------|--------------------------------|-----------------------|----------------------------|------------------------|-------------------------------------|
| Other General | June 30, 2002 | Restart Amortization | \$13,036,000 | \$8,654,000 | 6 | \$1,636,000 |
| | June 30, 2003 | Actuarial (Gain)/Loss | 9,507,000 | 6,942,000 | 7 | 1,144,000 |
| | June 30, 2004 | Actuarial (Gain)/Loss | 5,542,000 | 4,349,000 | 8 | 638,000 |
| | June 30, 2005 | Actuarial (Gain)/Loss | 6,630,000 | 5,547,000 | 9 | 736,000 |
| | June 30, 2005 | Assumption Change | (490,000) | (415,000) | 9 | (55,000) |
| | June 30, 2006 | Actuarial (Gain)/Loss | 2,390,000 | 2,077,000 | 10 | 252,000 |
| | June 30, 2007 | Actuarial (Gain)/Loss | 1,995,000 | 1,822,000 | 11 | 204,000 |
| | June 30, 2008 | Actuarial (Gain)/Loss | 4,106,000 | 3,830,000 | 12 | 400,000 |
| | June 30, 2008 | Assumption Change | (278,000) | (268,000) | 12 | (28,000) |
| | June 30, 2009 | Actuarial (Gain)/Loss | 5,568,000 | 5,319,000 | 13 | 522,000 |
| | June 30, 2010 | Actuarial (Gain)/Loss | 11,345,000 | 11,035,000 | 14 | 1,022,000 |
| | June 30, 2011 | Actuarial (Gain)/Loss | 9,098,000 | 8,940,000 | 15 | 785,000 |
| | June 30, 2011 | Assumption Change | 8,263,000 | 8,125,000 | 15 | 714,000 |
| | June 30, 2012 | Actuarial (Gain)/Loss | 2,766,000 | 2,739,000 | 16 | 229,000 |
| | June 30, 2012 | Burial Allowance Method Change | 71,000 | 62,000 | 16 | 5,000 |
| | June 30, 2013 | Actuarial (Gain)/Loss | 4,155,000 | 4,160,000 | 17 | 333,000 |
| | June 30, 2014 | Actuarial (Gain)/Loss | (6,086,000) | (6,078,000) | 18 | (467,000) |
| | June 30, 2014 | Assumption Change | 7,714,000 | 7,712,000 | 18 | 592,000 |
| | June 30, 2015 | Actuarial (Gain)/Loss | 2,754,000 | 2,750,000 | 19 | 203,000 |
| | June 30, 2016 | Actuarial (Gain)/Loss | 6,644,000 | <u>6,644,000</u> | 20 | <u>474,000</u> |
| Subtotal | | | | \$83,946,000 | | \$9,339,000 |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT J

Table of Amortization Bases (continued)

| | Date Established | Source | Initial Amount | Outstanding Balance | Years Remaining | Annual Payment⁽¹⁾ |
|-----------------|-------------------------|--------------------------------|-----------------------|----------------------------|------------------------|-------------------------------------|
| SCAQMD | June 30, 2002 | Restart Amortization | \$18,462,000 | \$12,282,000 | 6 | \$2,322,000 |
| | June 30, 2003 | Actuarial (Gain)/Loss | 27,792,000 | 20,323,000 | 7 | 3,350,000 |
| | June 30, 2004 | Actuarial (Gain)/Loss | 24,821,000 | 19,547,000 | 8 | 2,868,000 |
| | June 30, 2004 | POB Credit | (46,375,000) | (36,514,000) | 8 | (5,357,000) |
| | June 30, 2005 | Actuarial (Gain)/Loss | 11,432,000 | 9,576,000 | 9 | 1,270,000 |
| | June 30, 2005 | Assumption Change | (3,613,000) | (3,028,000) | 9 | (402,000) |
| | June 30, 2006 | Actuarial (Gain)/Loss | (1,328,000) | (1,171,000) | 10 | (142,000) |
| | December 31, 2006 | UAAL Prepayment | (10,000,000) | (8,928,000) | 10.5 | (1,041,000) |
| | June 30, 2007 | Actuarial (Gain)/Loss | 12,093,000 | 10,995,000 | 11 | 1,234,000 |
| | June 30, 2008 | Actuarial (Gain)/Loss | 16,095,000 | 15,053,000 | 12 | 1,574,000 |
| | June 30, 2008 | Assumption Change | 1,425,000 | 1,340,000 | 12 | 140,000 |
| | June 30, 2009 | Actuarial (Gain)/Loss | 8,947,000 | 8,554,000 | 13 | 839,000 |
| | June 30, 2010 | Actuarial (Gain)/Loss | 34,808,000 | 33,844,000 | 14 | 3,134,000 |
| | June 30, 2011 | Actuarial (Gain)/Loss | 26,766,000 | 26,301,000 | 15 | 2,311,000 |
| | June 30, 2011 | Assumption Change | 21,411,000 | 21,045,000 | 15 | 1,849,000 |
| | June 30, 2012 | Actuarial (Gain)/Loss | 6,060,000 | 6,024,000 | 16 | 504,000 |
| | June 30, 2012 | Burial Allowance Method Change | 131,000 | 112,000 | 16 | 9,000 |
| | June 30, 2013 | Actuarial (Gain)/Loss | 4,599,000 | 4,588,000 | 17 | 367,000 |
| | June 30, 2014 | Actuarial (Gain)/Loss | (39,137,000) | (39,128,000) | 18 | (3,006,000) |
| | June 30, 2014 | Assumption Change | 19,750,000 | 19,746,000 | 18 | 1,517,000 |
| | June 30, 2015 | Actuarial (Gain)/Loss | 29,235,000 | 29,273,000 | 19 | 2,164,000 |
| | June 30, 2016 | Actuarial (Gain)/Loss | 13,576,000 | <u>13,576,000</u> | 20 | <u>969,000</u> |
| Subtotal | | | | \$163,410,000 | | \$16,473,000 |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT J

Table of Amortization Bases (continued)

| | Date Established | Source | Initial Amount | Outstanding Balance | Years Remaining | Annual Payment⁽¹⁾ |
|----------------------|-------------------------|--------------------------------|-----------------------|----------------------------|------------------------|-------------------------------------|
| County Safety | June 30, 2002 | Restart Amortization | \$(60,995,000) | \$(40,555,000) | 6 | \$(7,667,000) |
| | June 30, 2003 | Actuarial (Gain)/Loss | 217,129,000 | 158,748,000 | 7 | 26,168,000 |
| | June 30, 2004 | Actuarial (Gain)/Loss | 79,018,000 | 62,200,000 | 8 | 9,125,000 |
| | June 30, 2004 | POB Credit | (152,154,000) | (119,746,000) | 8 | (17,567,000) |
| | June 30, 2005 | Actuarial (Gain)/Loss | 40,502,000 | 33,835,000 | 9 | 4,487,000 |
| | June 30, 2005 | Assumption Change | (13,211,000) | (11,038,000) | 9 | (1,464,000) |
| | June 30, 2006 | Actuarial (Gain)/Loss | (10,481,000) | (9,172,000) | 10 | (1,113,000) |
| | June 30, 2007 | Actuarial (Gain)/Loss | 6,795,000 | 6,177,000 | 11 | 693,000 |
| | June 30, 2008 | Actuarial (Gain)/Loss | 7,882,000 | 7,382,000 | 12 | 772,000 |
| | June 30, 2008 | Assumption Change | (932,000) | (873,000) | 12 | (91,000) |
| | June 30, 2009 | Actuarial (Gain)/Loss | 66,962,000 | 64,079,000 | 13 | 6,287,000 |
| | June 30, 2010 | Actuarial (Gain)/Loss | 112,338,000 | 109,229,000 | 14 | 10,116,000 |
| | June 30, 2011 | Actuarial (Gain)/Loss | 106,078,000 | 104,305,000 | 15 | 9,163,000 |
| | June 30, 2011 | Assumption Change | 71,626,000 | 70,434,000 | 15 | 6,188,000 |
| | June 30, 2012 | Actuarial (Gain)/Loss | 41,280,000 | 40,967,000 | 16 | 3,429,000 |
| | June 30, 2012 | Burial Allowance Method Change | 343,000 | 335,000 | 16 | 28,000 |
| | June 30, 2013 | Actuarial (Gain)/Loss | 37,563,000 | 37,496,000 | 17 | 3,002,000 |
| | June 30, 2014 | Actuarial (Gain)/Loss | (37,823,000) | (37,818,000) | 18 | (2,905,000) |
| | June 30, 2014 | Assumption Change | 105,421,000 | 105,404,000 | 18 | 8,097,000 |
| | June 30, 2015 | Actuarial (Gain)/Loss | 57,413,000 | 57,479,000 | 19 | 4,250,000 |
| | June 30, 2016 | Actuarial (Gain)/Loss | 11,632,000 | <u>11,632,000</u> | 20 | <u>830,000</u> |
| Subtotal | | | | \$650,500,000 | | \$61,828,000 |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT J

Table of Amortization Bases (continued)

| | Date Established | Source | Initial Amount | Outstanding Balance | Years Remaining | Annual Payment⁽¹⁾ |
|---------------------|-------------------------|--------------------------------|-----------------------|----------------------------|------------------------|-------------------------------------|
| Other Safety | June 30, 2002 | Restart Amortization | \$2,742,000 | \$1,822,000 | 6 | \$344,000 |
| | June 30, 2003 | Actuarial (Gain)/Loss | 949,000 | 680,000 | 7 | 112,000 |
| | June 30, 2004 | Actuarial (Gain)/Loss | 910,000 | 721,000 | 8 | 106,000 |
| | June 30, 2004 | Plan Change | 1,245,000 | 976,000 | 8 | 143,000 |
| | June 30, 2005 | Actuarial (Gain)/Loss | 50,000 | 39,000 | 9 | 5,000 |
| | June 30, 2005 | Assumption Change | (95,000) | (78,000) | 9 | (10,000) |
| | June 30, 2006 | Actuarial (Gain)/Loss | 187,000 | 171,000 | 10 | 21,000 |
| | June 30, 2007 | Actuarial (Gain)/Loss | 703,000 | 657,000 | 11 | 74,000 |
| | June 30, 2007 | Plan Change | 586,000 | 527,000 | 11 | 59,000 |
| | June 30, 2008 | Actuarial (Gain)/Loss | 663,000 | 615,000 | 12 | 64,000 |
| | June 30, 2008 | Assumption Change | (110,000) | (89,000) | 12 | (9,000) |
| | June 30, 2009 | Actuarial (Gain)/Loss | 1,703,000 | 1,628,000 | 13 | 160,000 |
| | June 30, 2010 | Actuarial (Gain)/Loss | 1,467,000 | 1,445,000 | 14 | 134,000 |
| | June 30, 2011 | Actuarial (Gain)/Loss | 596,000 | 602,000 | 15 | 53,000 |
| | June 30, 2011 | Assumption Change | 1,276,000 | 1,252,000 | 15 | 110,000 |
| | June 30, 2012 | Actuarial (Gain)/Loss | 1,587,000 | 1,587,000 | 16 | 133,000 |
| | June 30, 2012 | Burial Allowance Method Change | 5,000 | 12,000 | 16 | 1,000 |
| | June 30, 2013 | Actuarial (Gain)/Loss | (472,000) | (467,000) | 17 | (37,000) |
| | June 30, 2014 | Actuarial (Gain)/Loss | (386,000) | (392,000) | 18 | (30,000) |
| | June 30, 2014 | Assumption Change | 1,884,000 | 1,877,000 | 18 | 144,000 |
| | June 30, 2015 | Actuarial (Gain)/Loss | 4,378,000 | 4,378,000 | 19 | 324,000 |
| | June 30, 2016 | Actuarial (Gain)/Loss | 439,000 | <u>439,000</u> | 20 | <u>31,000</u> |
| Subtotal | | | | \$18,402,000 | | \$1,932,000 |

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT J

Table of Amortization Bases (continued)

| | Date Established | Source | Initial Amount | Outstanding Balance | Years Remaining | Annual Payment ⁽¹⁾ |
|----------------------------------|-----------------------|-----------------------|-------------------|---------------------|------------------|-------------------------------|
| Combined | June 30, 2002 | Restart Amortization | \$36,177,000 | \$24,052,000 | 6 | \$4,547,000 |
| | June 30, 2003 | Actuarial (Gain)/Loss | 515,947,000 | 377,201,000 | 7 | 62,177,000 |
| | June 30, 2004 | Actuarial (Gain)/Loss | 249,570,000 | 196,238,000 | 8 | 28,790,000 |
| | June 30, 2004 | POB Credit | (505,187,000) | (397,166,000) | 8 | (58,265,000) |
| | June 30, 2004 | Plan Change | 1,245,000 | 976,000 | 8 | 143,000 |
| | June 30, 2005 | Actuarial (Gain)/Loss | 120,808,000 | 100,974,000 | 9 | 13,391,000 |
| | June 30, 2005 | Assumption Change | 41,487,000 | 34,664,000 | 9 | 4,597,000 |
| | June 30, 2006 | Actuarial (Gain)/Loss | (16,929,000) | (14,839,000) | 10 | (1,800,000) |
| | December 31, 2006 | UAAL Prepayment | (10,000,000) | (8,928,000) | 10.5 | (1,041,000) |
| | June 30, 2007 | Actuarial (Gain)/Loss | (6,662,000) | (6,029,000) | 11 | (676,000) |
| | June 30, 2007 | Plan Change | 586,000 | 527,000 | 11 | 59,000 |
| | June 30, 2008 | Actuarial (Gain)/Loss | 19,453,000 | 18,178,000 | 12 | 1,901,000 |
| | June 30, 2008 | Assumption Change | (10,692,000) | (10,011,000) | 12 | (1,046,000) |
| | June 30, 2009 | Actuarial (Gain)/Loss | 206,143,000 | 197,228,000 | 13 | 19,351,000 |
| | June 30, 2010 | Actuarial (Gain)/Loss | 454,302,000 | 441,755,000 | 14 | 40,911,000 |
| | June 30, 2011 | Actuarial (Gain)/Loss | 320,873,000 | 315,512,000 | 15 | 27,718,000 |
| | June 30, 2011 | Assumption Change | 312,234,000 | 307,009,000 | 15 | 26,971,000 |
| | June 30, 2012 | Actuarial (Gain)/Loss | 122,009,000 | 121,092,000 | 16 | 10,135,000 |
| | June 30, 2012 | Burial Allowance | 3,010,000 | 2,963,000 | 16 | 247,000 |
| | June 30, 2013 | Actuarial (Gain)/Loss | 79,446,000 | 79,320,000 | 17 | 6,350,000 |
| | June 30, 2014 | Actuarial (Gain)/Loss | (232,660,000) | (232,621,000) | 18 | (17,869,000) |
| | June 30, 2014 | Assumption Change | 331,433,000 | 331,366,000 | 18 | 25,454,000 |
| | June 30, 2015 | Actuarial (Gain)/Loss | 59,042,000 | 59,092,000 | 19 | 4,369,000 |
| June 30, 2016 | Actuarial (Gain)/Loss | 24,146,000 | <u>24,146,000</u> | 20 | <u>1,722,000</u> | |
| Grand Total⁽²⁾ | | | | \$1,962,699,000 | | \$198,136,000 |

⁽¹⁾ As of beginning of year.

⁽²⁾ Excludes three withdrawn employers as of June 2016. Using ongoing valuation assumptions, their UAAL as of the June 30, 2016 was \$(6,792,000) with \$(147,000) due to an actuarial gain in their UAAL during 2015/2016. The present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District Transfer has been reflected in this Exhibit.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

EXHIBIT K

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 limit of \$160,000 indexed for inflation. That limit is \$210,000 for 2016 and \$215,000 for 2017. Normal Retirement Age is generally age 62 for these purposes. 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. Limits are also affected by the "grandfather" election under Section 415(b)(10).

For non-Tier 2 members, benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m) of the IRC and Section 7522.43 of PEPRA.

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

Contribution 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 San Bernardino County Employees' Retirement Association

EXHIBIT L

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 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.

SECTION 3: Supplemental Information for San Bernardino County Employees' Retirement Association

Unfunded Actuarial Accrued Liability:

The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan.

Amortization of the Unfunded Actuarial Accrued Liability:

Payments made over a period of years equal in value to the Plan's unfunded 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 market gains and losses to avoid significant swings in the value of assets from one year to the next.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

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 1,568 beneficiaries in pay status) | 11,630 |
| 2. Members inactive during year ended June 30, 2016 with vested rights | 5,136 |
| 3. Members active during the year ended June 30, 2016 | 20,538 |

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

| | |
|---|-------------|
| 1. Normal cost ⁽¹⁾ | \$314,459 |
| 2. Present value of future benefits | 13,145,760 |
| 3. Present value of future normal costs | 2,509,097 |
| 4. Actuarial accrued liability ⁽²⁾ | 10,636,663 |
| Retired members and beneficiaries | \$5,566,552 |
| Inactive members with vested rights | 402,250 |
| Active members | 4,667,861 |
| 5. Valuation value of assets ⁽³⁾ (\$8,196,974 at market value as reported by Retirement Association) | 8,680,756 |
| 6. Unfunded actuarial accrued liability | \$1,955,907 |

⁽¹⁾ Includes administrative expense load.

⁽²⁾ Excludes liabilities held for Survivor Benefit, Burial Allowance and Excess Earnings reserves.

⁽³⁾ Excludes assets held for Survivor Benefit, Burial Allowance and Excess Earnings reserves. Includes \$5.9 million that represents the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer.

Note: Results include three withdrawn employers as of June 30, 2016.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

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 | \$314,459 | 23.35% |
| 2. Expected employee contributions | <u>-145,058</u> | <u>-10.77%</u> |
| 3. Employer normal cost: (1) + (2) | \$169,401 | 12.58% |
| 4. Amortization of unfunded actuarial accrued liability | <u>201,635</u> | <u>14.97%</u> |
| 5. Total recommended average employer contribution: (3) + (4) | \$371,036 | 27.55% |
| 6. Projected compensation | \$1,346,408 | |

Note: Results exclude three withdrawn employers.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

EXHIBIT II

Actuarial Assumptions and 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, 2010 through June 30, 2013 Actuarial Experience Study dated May 30, 2014. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both Tier 1 and Tier 2 members.

Economic Assumptions

Net Investment Return: 7.50%, net of investment expenses.

Administrative Expenses: 0.60% of payroll allocated to both the employer and member based on the components of the total average contribution rate (before expenses) for the employer and member.

Employee Contribution Crediting Rate: 3.25% (Actual rate is based on six-month Treasury rate).

Consumer Price Index: Increase of 3.25% per year; retiree COLA increases due to CPI are limited to maximum of 2.00% per year.

Payroll Growth: Inflation of 3.25% per year plus "across the board" real salary increases of 0.50% per year.

Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit: Increase of 3.25% per year from the valuation date.

Increase in Section 7522.10 Compensation Limit: Increase of 3.25% per year from the valuation date.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Demographic Assumptions

Mortality Rates:

Healthy: For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set back two years for males and one year for females.

Disabled: For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set forward seven years for males and set forward eight years for females.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set forward two years.

Beneficiaries: Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who is receiving a service (non-disability) retirement.

The RP-2000 mortality tables projected with Scale BB to 2011 and adjusted as shown above reasonably reflects the projected future mortality experience as of the measurement date. The additional projection to 2020 is a provision for future mortality improvement.

Member Contribution Rates: For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 weighted 30% male and 70% female.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2020 with ages set back two years for males and set back one year for females weighted 85% male and 15% female.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Termination Rates Before Retirement:

| Age | Rate (%) Mortality | | | |
|-----|--------------------|--------|--------|--------|
| | General | | Safety | |
| | Male | Female | Male | Female |
| 25 | 0.04 | 0.02 | 0.04 | 0.02 |
| 30 | 0.04 | 0.02 | 0.04 | 0.02 |
| 35 | 0.07 | 0.04 | 0.06 | 0.04 |
| 40 | 0.10 | 0.07 | 0.09 | 0.06 |
| 45 | 0.14 | 0.11 | 0.12 | 0.10 |
| 50 | 0.20 | 0.16 | 0.18 | 0.15 |
| 55 | 0.34 | 0.25 | 0.27 | 0.22 |
| 60 | 0.59 | 0.41 | 0.48 | 0.37 |
| 65 | 1.00 | 0.76 | 0.82 | 0.68 |
| 70 | 1.64 | 1.32 | 1.32 | 1.17 |

All pre-retirement deaths are assumed to be non-service connected.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Termination Rates Before Retirement (continued):

| <u>Age</u> | <u>Rate (%)</u> <u>Disability</u> | |
|------------|--------------------------------------|-----------------------------|
| | <u>General⁽¹⁾</u> | <u>Safety⁽²⁾</u> |
| 25 | 0.03 | 0.26 |
| 30 | 0.04 | 0.30 |
| 35 | 0.07 | 0.48 |
| 40 | 0.09 | 0.72 |
| 45 | 0.19 | 0.98 |
| 50 | 0.31 | 2.09 |
| 55 | 0.44 | 4.70 |
| 60 | 0.65 | 6.60 |
| 65 | 1.02 | 0.00 |
| 70 | 1.26 | 0.00 |

⁽¹⁾ 50% of General disabilities are assumed to be service connected (duty) disabilities and the other 50% are assumed to be non-service connected (ordinary) disabilities.

⁽²⁾ 100% of Safety disabilities are assumed to be service connected (duty) disabilities.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Termination Rates Before Retirement (continued):

| Years of Service | Rate (%) | |
|------------------|---------------------------|--------|
| | Withdrawal ⁽¹⁾ | |
| | General | Safety |
| Less than 1 | 15.00 | 4.25 |
| 1 | 10.00 | 3.50 |
| 2 | 8.00 | 3.25 |
| 3 | 7.00 | 2.50 |
| 4 | 5.00 | 2.00 |
| 5 | 4.75 | 1.75 |
| 6 | 4.50 | 1.50 |
| 7 | 4.25 | 1.40 |
| 8 | 4.00 | 1.30 |
| 9 | 3.75 | 1.20 |
| 10 | 3.75 | 1.20 |
| 11 | 3.75 | 1.10 |
| 12 | 3.50 | 1.10 |
| 13 | 3.50 | 1.00 |
| 14 | 3.25 | 1.00 |
| 15 | 3.25 | 1.00 |
| 16 | 3.00 | 1.00 |
| 17 | 3.00 | 1.00 |
| 18 | 2.75 | 1.00 |
| 19 | 2.75 | 1.00 |
| 20 or more | 2.50 | 1.00 |

⁽¹⁾ Refer to the next table that contains rates for electing a refund of contributions upon withdrawal. No withdrawal is assumed after a member is first assumed to retire.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Termination Rates Before Retirement (continued):

| Rate (%) | | | | |
|---|--|--|--|--|
| Electing a Refund of Contributions upon Termination | | | | |
| Years of Service | General | | Safety | |
| | Rate if Elected Refundable Contributions | Rate if Elected Non-refundable Contributions | Rate if Elected Refundable Contributions | Rate if Elected Non-refundable Contributions |
| Less than 5 | 100.00 | 100.00 | 100.00 | 100.00 |
| 5 | 40.00 | 20.00 | 25.00 | 12.50 |
| 6 | 40.00 | 20.00 | 25.00 | 12.50 |
| 7 | 40.00 | 20.00 | 25.00 | 12.50 |
| 8 | 40.00 | 20.00 | 25.00 | 12.50 |
| 9 | 40.00 | 20.00 | 25.00 | 12.50 |
| 10 | 40.00 | 20.00 | 25.00 | 12.50 |
| 11 | 40.00 | 20.00 | 25.00 | 12.50 |
| 12 | 40.00 | 20.00 | 15.00 | 7.50 |
| 13 | 40.00 | 20.00 | 15.00 | 7.50 |
| 14 | 40.00 | 20.00 | 15.00 | 7.50 |
| 15 | 40.00 | 20.00 | 15.00 | 7.50 |
| 16 | 40.00 | 20.00 | 10.00 | 5.00 |
| 17 | 40.00 | 20.00 | 10.00 | 5.00 |
| 18 | 40.00 | 20.00 | 5.00 | 2.50 |
| 19 | 40.00 | 20.00 | 5.00 | 2.50 |
| 20 or more | 20.00 | 10.00 | 0.00 | 0.00 |

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Retirement Rates:

| Age | Rates (%) | | | |
|-----|--------------------------------|----------------------------------|------------------------------|---------------------------------|
| | General Tier 1 (\$31676.15) | General Tier 2 (\$7522.20(a)) | Safety Tier 1 (\$31664.1) | Safety Tier 2 (\$7522.25(d)) |
| 45 | 0.00 | 0.00 | 1.00 | 0.00 |
| 46 | 0.00 | 0.00 | 1.50 | 0.00 |
| 47 | 0.00 | 0.00 | 2.00 | 0.00 |
| 48 | 0.00 | 0.00 | 2.00 | 0.00 |
| 49 | 0.00 | 0.00 | 8.00 | 0.00 |
| 50 | 2.50 | 0.00 | 10.00 | 4.00 |
| 51 | 2.50 | 0.00 | 8.00 | 3.00 |
| 52 | 3.50 | 2.00 | 12.00 | 4.00 |
| 53 | 3.50 | 2.00 | 13.00 | 5.00 |
| 54 | 4.00 | 2.00 | 13.00 | 10.00 |
| 55 | 5.00 | 4.50 | 22.00 | 20.00 |
| 56 | 6.00 | 4.50 | 20.00 | 20.00 |
| 57 | 6.00 | 6.00 | 20.00 | 22.00 |
| 58 | 8.00 | 7.00 | 20.00 | 25.00 |
| 59 | 12.00 | 8.00 | 20.00 | 25.00 |
| 60 | 15.00 | 9.00 | 25.00 | 25.00 |
| 61 | 17.00 | 12.00 | 25.00 | 25.00 |
| 62 | 19.00 | 20.00 | 25.00 | 25.00 |
| 63 | 19.00 | 20.00 | 30.00 | 25.00 |
| 64 | 25.00 | 20.00 | 30.00 | 25.00 |
| 65 | 35.00 | 25.00 | 100.00 | 100.00 |
| 66 | 30.00 | 30.00 | 100.00 | 100.00 |
| 67 | 30.00 | 30.00 | 100.00 | 100.00 |
| 68 | 30.00 | 30.00 | 100.00 | 100.00 |
| 69 | 30.00 | 30.00 | 100.00 | 100.00 |
| 70 | 30.00 | 50.00 | 100.00 | 100.00 |
| 71 | 20.00 | 50.00 | 100.00 | 100.00 |
| 72 | 20.00 | 50.00 | 100.00 | 100.00 |
| 73 | 20.00 | 50.00 | 100.00 | 100.00 |
| 74 | 20.00 | 50.00 | 100.00 | 100.00 |
| 75 | 100.00 | 100.00 | 100.00 | 100.00 |

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

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

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

General Age: 58

Safety Age: 52

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

Future Benefit Accruals:

1.0 year of service per year.

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 SBCERA as of the valuation date.

Percent Married:

70% of male members and 55% of female members are assumed to be married at pre-retirement death or retirement.

Age of Spouse:

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

Supplemental Disability Benefit:

30% of future General service connected (duty) disableds are assumed to be eligible for this benefit; 75% of future General non-service connected (ordinary) disableds are assumed to be eligible for this benefit

Leave Cashouts:

No leave cashouts are assumed to occur during the member's final average earnings period above what the member cashes out on an annual basis.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Individual Salary Increases:

| Annual Rate of Compensation Increase | | |
|---|----------------|---------------|
| Inflation: 3.25% per year; plus "across the board" real salary increases of 0.50% per year; plus the following promotional and merit increases: | | |
| Years of Service | General | Safety |
| Less than 1 | 10.00% | 10.00% |
| 1 | 8.00 | 7.50 |
| 2 | 4.50 | 4.00 |
| 3 | 4.00 | 3.75 |
| 4 | 3.50 | 3.50 |
| 5 | 3.00 | 3.25 |
| 6 | 2.25 | 3.00 |
| 7 | 1.75 | 2.50 |
| 8 | 1.50 | 1.75 |
| 9 | 1.25 | 1.50 |
| 10 | 1.10 | 1.40 |
| 11 | 1.00 | 1.30 |
| 12 | 0.95 | 1.20 |
| 13 | 0.90 | 1.15 |
| 14 | 0.85 | 1.10 |
| 15 | 0.85 | 1.05 |
| 16 | 0.85 | 1.00 |
| 17 | 0.85 | 0.95 |
| 18 | 0.85 | 0.90 |
| 19 | 0.85 | 0.85 |
| 20 and Over | 0.85 | 0.80 |

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Actuarial Methods

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, as if the current benefit formulas have always been in effect (i.e., "replacement life").

Actuarial Value of Assets:

Market value of assets less unrecognized returns from each of the last five years. Unrecognized returns are equal to the difference between the actual market return and the expected return on the market value, and are recognized over a five-year period.

Valuation Value of Assets:

The Actuarial Value of Assets reduced by the value of the Burial Allowance Reserve, Undesignated Excess Earnings Reserve, Restricted Balance Reserved for Deficiencies, and Additional Contingency Reserve. It includes the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District Transfer.

Amortization Policy:

20 years for all UAAL prior to June 30, 2002. Any changes in UAAL after June 30, 2002 are amortized over a 20-year closed period effective with each valuation. The UAAL (i.e., the difference between the Actuarial Accrued Liability and the Valuation Value of Assets), as of June 30, 2011 shall continue to be amortized over separate 20-year period amortization layers based on the valuations during which each separate layer was previously established.

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.

Any new UAAL as a result of change in actuarial assumptions or methods will be amortized over a period of 20 years.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Unless an alternative amortization period is recommended by the Actuary and accepted by the Board based on the results of an actuarial analysis:

- a. With the exception noted in b., below, the increase in UAAL as a result of any plan amendments will be amortized over a period of 15 years;
- b. The increase in UAAL resulting from a temporary retirement incentive, including the impact of benefits resulting from additional service permitted in Section 31641.04 of the 1937 CERL (Golden Handshake), will be funded over a period of up to 5 years.

UAAL shall be amortized over “closed” amortization periods so that the amortization period for each layer decreases by one year with each actuarial valuation.

UAAL shall be amortized as a level percentage of payroll so that the amortization amount in each year during the amortization period shall be expected to be a level percentage of covered payroll, taking into consideration the current assumption for general payroll increase.

If an overfunding exists (i.e., the total of all UAAL becomes negative so that there is a surplus), such surplus and any subsequent surpluses will be amortized over an “open” amortization period of 30 years. Any prior UAAL amortization layers will be considered fully amortized, and any subsequent UAAL will be amortized over 20 years as the first of a new series of amortization layers.

These amortization policy components will apply separately to each of SBCERA’s UAAL cost sharing groups.

Changes in Actuarial Assumptions and Methods:

There have been no changes in actuarial assumptions or methods since the previous valuation.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

EXHIBIT III

Summary of Plan Provisions

This exhibit summarizes the major provisions of the SBCERA included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions. Unless otherwise noted, all plan provisions shown below apply to both Tier 1 and Tier 2 members.

| | |
|--------------------------------|---|
| Membership Eligibility: | All permanent employees of the County of San Bernardino or another participating employer working 20 hours per week or more must become a member of SBCERA subject to classification below: |
| <i>General</i> | All employees not eligible for Safety. |
| <i>Safety</i> | Employees in law enforcement and fire suppression. |
| <i>Tier 1</i> | All members with membership dates before January 1, 2013. |
| <i>Tier 2</i> | All members with membership dates on or after January 1, 2013. |

Final Compensation for Benefit Determination:

| | |
|---------------|---|
| <i>Tier 1</i> | Highest consecutive twelve months of compensation earnable (FAS1)(§31462.1). |
| <i>Tier 2</i> | Highest consecutive thirty-six months of pensionable compensation (FAS3)(§7522.32). |

Compensation Limit:

| | |
|---------------|---|
| <i>Tier 1</i> | For members with membership dates on or after July 1, 1996, Compensation Earnable is limited to Internal Revenue Code Section 401(a)(17). The limit as of July 1, 2016 is \$265,000. The limit is indexed for inflation on an annual basis. |
| <i>Tier 2</i> | Pensionable Compensation is limited to \$140,424 for 2016. The limit is indexed for inflation on an annual basis. |

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Service Requirement:

Eligibility:

| | |
|-----------------------|---|
| <i>General Tier 1</i> | Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years, regardless of age (§31672). |
| <i>General Tier 2</i> | Age 52 with 5 years of service (§7522.20(a)) or age 70 regardless of service (§31672.3). |
| <i>Safety Tier 1</i> | Age 50 with 10 years of service, or age 70 regardless of service, or after 20 years, regardless of age (§31663.25). |
| <i>Safety Tier 2</i> | Age 50 with 5 years of service (§7522.25(a)) or age 70 regardless of service (§31672.3). |

Benefit Formula:

| <i>General Tier 1 (§31676.15)</i> | <u>Retirement Age</u> | <u>Benefit Formula</u> |
|-------------------------------------|-----------------------|---------------------------------|
| | 50 | 1.49% x FAS1 x Years of Service |
| | 55 | 2.00% x FAS1 x Years of Service |
| | 60 | 2.62% x FAS1 x Years of Service |
| | 62 | 2.82% x FAS1 x Years of Service |
| | 65 | 3.13% x FAS1 x Years of Service |
| <i>General Tier 2 (§7522.20(a))</i> | 52 | 1.00% x FAS3 x Years of Service |
| | 55 | 1.30% x FAS3 x Years of Service |
| | 60 | 1.80% x FAS3 x Years of Service |
| | 62 | 2.00% x FAS3 x Years of Service |
| | 65 | 2.30% x FAS3 x Years of Service |
| | 67 | 2.50% x FAS3 x Years of Service |

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Benefit Formula:

| | <u>Retirement Age</u> | <u>Benefit Formula</u> |
|------------------------------------|-----------------------|---------------------------------|
| <i>Safety Tier 1 (§31664.1)</i> | 50 and later | 3.00% x FAS1 x Years of Service |
| <i>Safety Tier 2 (§7522.25(d))</i> | 50 | 2.00% x FAS3 x Years of Service |
| | 55 | 2.50% x FAS3 x Years of Service |
| | 57 and later | 2.70% x FAS3 x Years of Service |

Maximum Benefit:

| | |
|---------------|---|
| <i>Tier 1</i> | 100% of Final Compensation (§31676.15), (§31664.1) |
| <i>Tier 2</i> | There is no final compensation limit on the maximum retirement benefit. |

Ordinary Disability:

| | |
|------------------------|---|
| <i>Eligibility</i> | Five years of service (§31720). |
| <i>Benefit Formula</i> | For members entering before January 1, 1981, 1.8% per year of service (in most cases a minimum of 33% of compensation) (§31727.3, §31727, and §31727.2). For members entering on or after January 1, 1981, 20% of final compensation, plus 2% of final average compensation for each year of service in excess of five years, up to a maximum of 40%. Members can instead receive service retirement benefit, if greater. |

Line-of-Duty Disability:

| | |
|--------------------|---|
| <i>Eligibility</i> | No age or service requirements (§31720). |
| <i>Benefit</i> | 50% of Final Compensation or service retirement benefit, if greater (§31727.4). |

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Supplemental Disability:

| | |
|--------------------|---|
| <i>Eligibility</i> | Must be a General member and incapable of gainful employment. |
| <i>Benefit</i> | \$300 per month payable as long as the member is incapable of gainful employment. This benefit is not considered when calculating Cost-of-Living increases. |

Death Before Retirement:

| | |
|--|---|
| <i>Less than Five Years of Service</i> | Refund of employee contributions with interest, plus one month's compensation for each year of service to a maximum of six months' compensation (§31781); 50% of Final Compensation payable to spouse (or child) if service-connected death (§31787). |
| <i>Five or More Years of Service</i> | 60% of the greater of Service Retirement or Ordinary Disability retirement benefit payable to surviving eligible spouse (§31765.1, §31781.1), in lieu of above. An additional lump sum payment of one-year of compensation is paid if Line-of-Duty death for Safety member (§31787.6). |

Death After Retirement:

| | |
|---|--|
| <i>Service Retirement or Ordinary Disability Retirement</i> | 60% of member's unmodified allowance continued to eligible spouse (§31760.1). |
| <i>Line-of-Duty Disability</i> | 100% of member's allowance continued to eligible spouse (§31786). An additional lump sum benefit of \$750 is payable to the member's beneficiary for all post-retirement deaths (§31789.1). In addition, the Board of Retirement approved a discretionary \$250 post-retirement lump sum death benefit (i.e., burial allowance) pursuant to §31789.13. This benefit is funded from undesignated excess earnings and is subject at all times to the availability of funds in the Burial Allowance reserve. This benefit is not valued in the actuarial valuation. |

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Withdrawal Benefits:

| | |
|--|--|
| <i>Less than Five Years of Service</i> | Refund of accumulated employee contributions with interest (§31628) or entitled to earned benefits commencing anytime after eligible to retire (§31629.5) if eligible for benefits at a reciprocal system. |
| <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). Service for eligibility includes service credited as an employee of a reciprocal system. |

**Post-retirement
Cost-of-Living Benefits:**

Future changes based on the Consumer Price Index to a maximum of 2% per year, excess "banked." There is a one-time 7% increase at retirement for members hired before August 19, 1975.

Employer Contributions:

Determined based on the actuarial methods described in Exhibit II.

Member Contributions:

Please refer to page Appendix A for the specific rates.

General Tier 1:

| | |
|-----------------------|--|
| <i>Basic</i> | Entry age based rates that provide for an average annuity at age 55 equal to $\frac{1}{100}$ of FAS1 (§31621.6). |
| <i>Cost-of-Living</i> | Entry age based rates that provide for one-half of future Cost-of-Living costs. |

Safety Tier 1:

| | |
|-----------------------|---|
| <i>Basic</i> | Entry age based rates that provide for an average annuity at age 50 equal to $\frac{1}{100}$ of FAS1 (§31639.25). |
| <i>Cost-of-Living</i> | Entry age based rates that provide for one-half of future Cost-of-Living costs. |

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

General Tier 2: Non-entry age based rates that provide for 50% of total Normal Cost Rate.

Safety Tier 2: Non-entry age based rates that provide for 50% of total Normal Cost Rate.

Other Information: Tier 1 members with 30 or more years of service are exempt from paying member contributions (§31625.2, §31625.3).

Plan Changes: There have been no changes in plan provisions since the previous valuation.

NOTE: *The summary of major plan provisions is designed to outline principal plan benefits as interpreted for purposes of the actuarial valuations. If the Association should find the plan summary not in accordance with the actual provisions, the Association should alert the actuary to ensure the proper provisions are valued.*

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix A

Member Contribution Rates (Refundable Basis)

**General Tier 1 Members' Contribution Rates (Refundable Basis) from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>General Basic</u> | <u>General Total</u> | <u>Entry Age</u> | <u>General Basic</u> | <u>General Total</u> |
|------------------|----------------------|----------------------|------------------|----------------------|----------------------|
| 16 | 6.83% | 8.45% | 36 | 9.45% | 11.71% |
| 17 | 6.94% | 8.59% | 37 | 9.62% | 11.92% |
| 18 | 7.05% | 8.73% | 38 | 9.78% | 12.12% |
| 19 | 7.17% | 8.88% | 39 | 9.96% | 12.35% |
| 20 | 7.28% | 9.01% | 40 | 10.14% | 12.57% |
| 21 | 7.40% | 9.16% | 41 | 10.33% | 12.81% |
| 22 | 7.52% | 9.31% | 42 | 10.52% | 13.04% |
| 23 | 7.64% | 9.46% | 43 | 10.71% | 13.28% |
| 24 | 7.77% | 9.62% | 44 | 10.91% | 13.53% |
| 25 | 7.89% | 9.77% | 45 | 11.11% | 13.78% |
| 26 | 8.02% | 9.93% | 46 | 11.31% | 14.03% |
| 27 | 8.15% | 10.10% | 47 | 11.50% | 14.26% |
| 28 | 8.29% | 10.27% | 48 | 11.66% | 14.46% |
| 29 | 8.42% | 10.43% | 49 | 11.77% | 14.60% |
| 30 | 8.56% | 10.61% | 50 | 11.85% | 14.70% |
| 31 | 8.70% | 10.78% | 51 | 11.92% | 14.79% |
| 32 | 8.84% | 10.95% | 52 | 11.99% | 14.87% |
| 33 | 8.99% | 11.14% | 53 | 11.80% | 14.64% |
| 34 | 9.14% | 11.33% | 54 & Over | 11.48% | 14.24% |
| 35 | 9.29% | 11.51% | | | |

Interest: 7.50%
 COLA: 2.00%
 Administrative Expense: 0.17% of payroll added to Basic rates.
 COLA Loading Factor: 24.39% applied to Basic rates prior to adjustment for administrative expenses.
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2020 with Scale BB weighted 30% Male and 70% Female.
 Salary Increase: See Exhibit II.
 Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix A (continued)

Member Contribution Rates (Refundable Basis)

**Safety Tier 1 Members' Contribution Rates (Refundable Basis) from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Safety Basic</u> | <u>Safety Total</u> | <u>Entry Age</u> | <u>Safety Basic</u> | <u>Safety Total</u> |
|------------------|---------------------|---------------------|------------------|---------------------|---------------------|
| 16 | 7.83% | 10.97% | 36 | 11.02% | 15.46% |
| 17 | 7.96% | 11.15% | 37 | 11.21% | 15.73% |
| 18 | 8.10% | 11.35% | 38 | 11.40% | 16.00% |
| 19 | 8.23% | 11.53% | 39 | 11.59% | 16.26% |
| 20 | 8.37% | 11.73% | 40 | 11.79% | 16.55% |
| 21 | 8.51% | 11.92% | 41 | 11.98% | 16.81% |
| 22 | 8.66% | 12.13% | 42 | 12.11% | 17.00% |
| 23 | 8.81% | 12.35% | 43 | 12.20% | 17.12% |
| 24 | 8.96% | 12.56% | 44 | 12.28% | 17.24% |
| 25 | 9.11% | 12.77% | 45 | 12.36% | 17.35% |
| 26 | 9.27% | 12.99% | 46 | 12.44% | 17.46% |
| 27 | 9.44% | 13.23% | 47 | 12.55% | 17.62% |
| 28 | 9.60% | 13.46% | 48 | 12.39% | 17.39% |
| 29 | 9.77% | 13.70% | 49 & Over | 12.05% | 16.91% |
| 30 | 9.95% | 13.95% | | | |
| 31 | 10.12% | 14.19% | | | |
| 32 | 10.30% | 14.45% | | | |
| 33 | 10.47% | 14.69% | | | |
| 34 | 10.65% | 14.94% | | | |
| 35 | 10.83% | 15.19% | | | |

Interest: 7.50%
 COLA: 2.00%
 Administrative Expense: 0.17% of payroll added to Basic rates.
 COLA Loading Factor: 40.93% applied to Basic rates prior to adjustment for administrative expenses.
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2020 with Scale BB, set back two years for males and one year for females, weighted 85% Male and 15% Female.
 Salary Increase: See Exhibit II.
 Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix A (continued)

Member Contribution Rates (Refundable Basis)

**Tier 2 Members' Contribution Rates (Refundable Basis) from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| | Basic | COLA | Total |
|-----------------------------------|--------------|-------------|--------------|
| County General and Superior Court | 6.94% | 1.51% | 8.45% |
| County Safety | 12.10% | 3.05% | 15.15% |
| SCAQMD | 6.26% | 1.40% | 7.66% |
| Other General | 7.16% | 1.58% | 8.74% |
| Other Safety | 10.37% | 2.69% | 13.06% |

The Tier 2 member contribution rate is 50% of the Normal Cost rate. The Basic rates shown above also include an administrative expense load of 0.17% of payroll.

Note: It is our understanding that in the determination of pension benefits under the CalPEPRA formulas for Tier 2 members, the maximum compensation that can be taken into account for 2016 is \$140,424. (reference: Section 7522.10). This amount should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2016. (reference: Section 7522.10(d))

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix B

Member Contribution Rates (Nonrefundable Basis)

**General Tier 1 Members' Contribution Rates (Nonrefundable Basis) from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>General Basic</u> | <u>General Total</u> | <u>Entry Age</u> | <u>General Basic</u> | <u>General Total</u> |
|------------------|----------------------|----------------------|------------------|----------------------|----------------------|
| 16 | 6.38% | 7.90% | 36 | 8.83% | 10.94% |
| 17 | 6.49% | 8.03% | 37 | 8.99% | 11.14% |
| 18 | 6.59% | 8.16% | 38 | 9.14% | 11.33% |
| 19 | 6.70% | 8.30% | 39 | 9.31% | 11.54% |
| 20 | 6.80% | 8.42% | 40 | 9.48% | 11.75% |
| 21 | 6.92% | 8.56% | 41 | 9.65% | 11.97% |
| 22 | 7.03% | 8.70% | 42 | 9.83% | 12.19% |
| 23 | 7.14% | 8.84% | 43 | 10.01% | 12.41% |
| 24 | 7.26% | 8.99% | 44 | 10.20% | 12.64% |
| 25 | 7.37% | 9.13% | 45 | 10.38% | 12.88% |
| 26 | 7.50% | 9.28% | 46 | 10.57% | 13.11% |
| 27 | 7.62% | 9.44% | 47 | 10.75% | 13.33% |
| 28 | 7.75% | 9.60% | 48 | 10.90% | 13.51% |
| 29 | 7.87% | 9.75% | 49 | 11.00% | 13.64% |
| 30 | 8.00% | 9.92% | 50 | 11.07% | 13.74% |
| 31 | 8.13% | 10.07% | 51 | 11.14% | 13.82% |
| 32 | 8.26% | 10.23% | 52 | 11.21% | 13.90% |
| 33 | 8.40% | 10.41% | 53 | 11.03% | 13.68% |
| 34 | 8.54% | 10.59% | 54 & Over | 10.73% | 13.31% |
| 35 | 8.68% | 10.76% | | | |

Interest: 7.50%
 COLA: 2.00%
 Administrative Expense: 0.17% of payroll added to Basic rates.
 COLA Loading Factor: 24.39% applied to Basic rates prior to adjustment for administrative expenses.
 Refundability Factor: 1.07
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2020 with Scale BB weighted 30% Male and 70% Female.
 Salary Increase: See Exhibit II.
 Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix B (continued)

Member Contribution Rates (Nonrefundable Basis)

**Safety Tier 1 Members' Contribution Rates (Nonrefundable Basis) from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Safety Basic</u> | <u>Safety Total</u> | <u>Entry Age</u> | <u>Safety Basic</u> | <u>Safety Total</u> |
|------------------|---------------------|---------------------|------------------|---------------------|---------------------|
| 16 | 7.60% | 10.65% | 36 | 10.70% | 15.01% |
| 17 | 7.73% | 10.83% | 37 | 10.88% | 15.27% |
| 18 | 7.86% | 11.02% | 38 | 11.07% | 15.53% |
| 19 | 7.99% | 11.19% | 39 | 11.25% | 15.79% |
| 20 | 8.13% | 11.39% | 40 | 11.45% | 16.07% |
| 21 | 8.26% | 11.57% | 41 | 11.63% | 16.32% |
| 22 | 8.41% | 11.78% | 42 | 11.76% | 16.50% |
| 23 | 8.55% | 11.99% | 43 | 11.84% | 16.62% |
| 24 | 8.70% | 12.19% | 44 | 11.92% | 16.74% |
| 25 | 8.84% | 12.40% | 45 | 12.00% | 16.84% |
| 26 | 9.00% | 12.61% | 46 | 12.08% | 16.95% |
| 27 | 9.17% | 12.84% | 47 | 12.18% | 17.11% |
| 28 | 9.32% | 13.07% | 48 | 12.03% | 16.88% |
| 29 | 9.49% | 13.30% | 49 & Over | 11.70% | 16.42% |
| 30 | 9.66% | 13.54% | | | |
| 31 | 9.83% | 13.78% | | | |
| 32 | 10.00% | 14.03% | | | |
| 33 | 10.17% | 14.26% | | | |
| 34 | 10.34% | 14.50% | | | |
| 35 | 10.51% | 14.75% | | | |

Interest: 7.50%

COLA: 2.00%

Administrative Expense: 0.17% of payroll added to Basic rates.

COLA Loading Factor: 40.93% applied to Basic rates prior to adjustment for administrative expenses.

Refundability Factor: 1.03

Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2020 with Scale BB, set back two years for males and one year for females, weighted 85% Male and 15% Female.

Salary Increase: See Exhibit II.

Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix C

Recommended Employer Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1

| | June 30, 2016 Actuarial Valuation | | | | | |
|------------------------------|--|--|-------------|--|--------------|--|
| | Basic | | COLA | | Total | |
| | Rate | Estimated Annual Amount⁽¹⁾ | Rate | Estimated Annual Amount⁽¹⁾ | Rate | Estimated Annual Amount⁽¹⁾ |
| County General Tier 1 | | | | | | |
| Normal Cost | 9.77% | \$71,255 | 1.96% | \$14,295 | 11.73% | \$85,550 |
| UAAL | 6.21% | 45,291 | 4.70% | 34,278 | 10.91% | 79,569 |
| Total Contribution | 15.98% | \$116,546 | 6.66% | \$48,573 | 22.64% | \$165,119 |
| County General Tier 2 | | | | | | |
| Normal Cost | 6.94% | \$14,433 | 1.51% | \$3,140 | 8.45% | \$17,573 |
| UAAL | 6.21% | 12,915 | 4.70% | 9,774 | 10.91% | 22,689 |
| Total Contribution | 13.15% | \$27,348 | 6.21% | \$12,914 | 19.36% | \$40,262 |
| County Safety Tier 1 | | | | | | |
| Normal Cost | 14.60% | \$26,039 | 3.65% | \$6,510 | 18.25% | \$32,549 |
| UAAL | 13.28% | 23,684 | 14.78% | 26,360 | 28.06% | 50,044 |
| Total Contribution | 27.88% | \$49,723 | 18.43% | \$32,870 | 46.31% | \$82,593 |
| County Safety Tier 2 | | | | | | |
| Normal Cost | 12.10% | \$5,330 | 3.05% | \$1,344 | 15.15% | \$6,674 |
| UAAL | 13.28% | 5,850 | 14.78% | 6,511 | 28.06% | 12,361 |
| Total Contribution | 25.38% | \$11,180 | 17.83% | \$7,855 | 43.21% | \$19,035 |
| All County Members | | | | | | |
| Normal Cost | 10.09% | \$117,057 | 2.18% | \$25,289 | 12.27% | \$142,346 |
| UAAL | 7.57% | 87,740 | 6.63% | 76,923 | 14.20% | 164,663 |
| Total Contribution | 17.66% | \$204,797 | 8.81% | \$102,212 | 26.47% | \$307,009 |
| Superior Court Tier 1 | | | | | | |
| Normal Cost | 9.77% | \$5,497 | 1.96% | \$1,103 | 11.73% | \$6,600 |
| UAAL | 10.45% | 5,879 | 2.75% | 1,547 | 13.20% | 7,426 |
| Total Contribution | 20.22% | \$11,376 | 4.71% | \$2,650 | 24.93% | \$14,026 |
| Superior Court Tier 2 | | | | | | |
| Normal Cost | 6.94% | \$786 | 1.51% | \$171 | 8.45% | \$957 |
| UAAL | 10.45% | 1,183 | 2.75% | 311 | 13.20% | 1,494 |
| Total Contribution | 17.39% | \$1,969 | 4.26% | \$482 | 21.65% | \$2,451 |
| SCAQMD Tier 1 | | | | | | |
| Normal Cost | 10.19% | \$6,654 | 2.05% | \$1,339 | 12.24% | \$7,993 |
| UAAL | 17.41% | 11,369 | 5.84% | 3,814 | 23.25% | 15,183 |
| Total Contribution | 27.60% | \$18,023 | 7.89% | \$5,153 | 35.49% | \$23,176 |
| SCAQMD Tier 2 | | | | | | |
| Normal Cost | 6.26% | \$398 | 1.40% | \$89 | 7.66% | \$487 |
| UAAL | 17.41% | 1,106 | 5.84% | 371 | 23.25% | 1,477 |
| Total Contribution | 23.67% | \$1,504 | 7.24% | \$460 | 30.91% | \$1,964 |

⁽¹⁾ Amounts are in thousands and are based on June 30, 2016 projected compensation (also in thousands) as shown on page 94. The Basic Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.17% and 0.26% of payroll, respectively. 92

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix C (continued)

Recommended Employer Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1

| | June 30, 2016 Actuarial Valuation | | | | | |
|-------------------------------|-----------------------------------|--|--------|--|--------|--|
| | Basic | | COLA | | Total | |
| | Rate | Estimated Annual Amount ⁽¹⁾ | Rate | Estimated Annual Amount ⁽¹⁾ | Rate | Estimated Annual Amount ⁽¹⁾ |
| Other General Tier 1 | | | | | | |
| Normal Cost | 10.62% | \$4,077 | 2.11% | \$810 | 12.73% | \$4,887 |
| UAAL | 16.60% | 6,373 | 4.75% | 1,824 | 21.35% | 8,197 |
| Total Contribution | 27.22% | \$10,450 | 6.86% | \$2,634 | 34.08% | \$13,084 |
| Other General Tier 2 | | | | | | |
| Normal Cost | 7.16% | \$421 | 1.58% | \$93 | 8.74% | \$514 |
| UAAL | 16.60% | 976 | 4.75% | 279 | 21.35% | 1,255 |
| Total Contribution | 23.76% | \$1,397 | 6.33% | \$372 | 30.09% | \$1,769 |
| Other Safety Tier 1 | | | | | | |
| Normal Cost | 14.64% | \$406 | 3.66% | \$102 | 18.30% | \$508 |
| UAAL | 38.53% | 1,069 | 22.14% | 614 | 60.67% | 1,683 |
| Total Contribution | 53.17% | \$1,475 | 25.80% | \$716 | 78.97% | \$2,191 |
| Other Safety Tier 2 | | | | | | |
| Normal Cost | 10.37% | \$44 | 2.69% | \$11 | 13.06% | \$55 |
| UAAL | 38.53% | 163 | 22.14% | 94 | 60.67% | 257 |
| Total Contribution | 48.90% | \$207 | 24.83% | \$105 | 73.73% | \$312 |
| All Employers Combined | | | | | | |
| Normal Cost | 10.05% | \$135,340 | 2.16% | \$29,007 | 12.21% | \$164,347 |
| UAAL | 8.60% | 115,858 | 6.37% | 85,777 | 14.97% | 201,635 |
| Total Contribution | 18.65% | \$251,198 | 8.53% | \$114,784 | 27.18% | \$365,982 |

⁽¹⁾ Amounts are in thousands and are based on June 30, 2016 projected compensation (also in thousands) shown below. The Basic Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.17% and 0.26% of payroll, respectively.

| | |
|-----------------------|-------------|
| County General Tier 1 | \$729,329 |
| County General Tier 2 | 207,967 |
| County Safety Tier 1 | 178,346 |
| County Safety Tier 2 | 44,053 |
| Superior Court Tier 1 | 56,260 |
| Superior Court Tier 2 | 11,324 |
| SCAQMD Tier 1 | 65,303 |
| SCAQMD Tier 2 | 6,355 |
| Other General Tier 1 | 38,392 |
| Other General Tier 2 | 5,881 |
| Other Safety Tier 1 | 2,775 |
| Other Safety Tier 2 | 423 |
| Total | \$1,346,408 |

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix D

Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1 (Refundable Basis)

**County General and Superior Court Tier 1 Members' Contribution Rates (Refundable Basis)
from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> | <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> |
|------------------|--------------|--------------|------------------|--------------|--------------|
| 16 | 6.94% | 8.32% | 36 | 9.60% | 11.52% |
| 17 | 7.05% | 8.45% | 37 | 9.77% | 11.73% |
| 18 | 7.16% | 8.58% | 38 | 9.94% | 11.93% |
| 19 | 7.28% | 8.73% | 39 | 10.12% | 12.15% |
| 20 | 7.40% | 8.87% | 40 | 10.30% | 12.36% |
| 21 | 7.52% | 9.02% | 41 | 10.49% | 12.59% |
| 22 | 7.64% | 9.16% | 42 | 10.69% | 12.83% |
| 23 | 7.77% | 9.32% | 43 | 10.88% | 13.06% |
| 24 | 7.89% | 9.46% | 44 | 11.09% | 13.31% |
| 25 | 8.02% | 9.62% | 45 | 11.29% | 13.55% |
| 26 | 8.15% | 9.78% | 46 | 11.49% | 13.80% |
| 27 | 8.28% | 9.93% | 47 | 11.68% | 14.02% |
| 28 | 8.42% | 10.10% | 48 | 11.84% | 14.22% |
| 29 | 8.56% | 10.27% | 49 | 11.96% | 14.36% |
| 30 | 8.70% | 10.44% | 50 | 12.04% | 14.46% |
| 31 | 8.84% | 10.61% | 51 | 12.11% | 14.54% |
| 32 | 8.98% | 10.77% | 52 | 12.19% | 14.64% |
| 33 | 9.13% | 10.95% | 53 | 11.99% | 14.40% |
| 34 | 9.29% | 11.15% | 54 & Over | 11.67% | 14.01% |
| 35 | 9.44% | 11.33% | | | |

The Basic rates shown above also include an administrative expense load of 0.17% of payroll.

Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix D (continued)

Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1 (Refundable Basis)

**County Safety Tier 1 Members' Contribution Rates (Refundable Basis)
from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> | <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> |
|------------------|--------------|--------------|------------------|--------------|--------------|
| 16 | 11.53% | 14.40% | 36 | 16.26% | 20.33% |
| 17 | 11.73% | 14.65% | 37 | 16.54% | 20.68% |
| 18 | 11.93% | 14.90% | 38 | 16.83% | 21.04% |
| 19 | 12.13% | 15.15% | 39 | 17.11% | 21.39% |
| 20 | 12.34% | 15.42% | 40 | 17.41% | 21.77% |
| 21 | 12.55% | 15.68% | 41 | 17.69% | 22.12% |
| 22 | 12.77% | 15.96% | 42 | 17.89% | 22.37% |
| 23 | 12.99% | 16.23% | 43 | 18.02% | 22.53% |
| 24 | 13.21% | 16.51% | 44 | 18.15% | 22.70% |
| 25 | 13.44% | 16.80% | 45 | 18.26% | 22.83% |
| 26 | 13.68% | 17.10% | 46 | 18.38% | 22.98% |
| 27 | 13.92% | 17.40% | 47 | 18.54% | 23.18% |
| 28 | 14.17% | 17.71% | 48 | 18.30% | 22.88% |
| 29 | 14.42% | 18.02% | 49 & Over | 17.80% | 22.26% |
| 30 | 14.68% | 18.35% | | | |
| 31 | 14.93% | 18.66% | | | |
| 32 | 15.19% | 18.99% | | | |
| 33 | 15.45% | 19.31% | | | |
| 34 | 15.72% | 19.65% | | | |
| 35 | 15.99% | 19.99% | | | |

The Basic rates shown above also include an administrative expense load of 0.17% of payroll.

Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix D (continued)

Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1 (Refundable Basis)

**SCAQMD Tier 1 Members' Contribution Rates (Refundable Basis)
from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> | <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> |
|------------------|--------------|--------------|------------------|--------------|--------------|
| 16 | 6.69% | 8.02% | 36 | 9.27% | 11.13% |
| 17 | 6.80% | 8.16% | 37 | 9.43% | 11.33% |
| 18 | 6.91% | 8.29% | 38 | 9.59% | 11.52% |
| 19 | 7.03% | 8.43% | 39 | 9.76% | 11.72% |
| 20 | 7.14% | 8.57% | 40 | 9.94% | 11.94% |
| 21 | 7.26% | 8.71% | 41 | 10.12% | 12.16% |
| 22 | 7.37% | 8.84% | 42 | 10.31% | 12.39% |
| 23 | 7.49% | 8.99% | 43 | 10.50% | 12.61% |
| 24 | 7.61% | 9.13% | 44 | 10.70% | 12.86% |
| 25 | 7.74% | 9.29% | 45 | 10.89% | 13.08% |
| 26 | 7.86% | 9.43% | 46 | 11.08% | 13.31% |
| 27 | 7.99% | 9.59% | 47 | 11.27% | 13.54% |
| 28 | 8.12% | 9.75% | 48 | 11.43% | 13.73% |
| 29 | 8.25% | 9.90% | 49 | 11.53% | 13.86% |
| 30 | 8.39% | 10.07% | 50 | 11.62% | 13.96% |
| 31 | 8.53% | 10.24% | 51 | 11.68% | 14.04% |
| 32 | 8.67% | 10.41% | 52 | 11.75% | 14.12% |
| 33 | 8.81% | 10.58% | 53 | 11.57% | 13.90% |
| 34 | 8.96% | 10.76% | 54 & Over | 11.26% | 13.53% |
| 35 | 9.11% | 10.94% | | | |

The Basic rates shown above also include an administrative expense load of 0.17% of payroll.

Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix D (continued)

Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1 (Refundable Basis)

**Other General Tier 1 Members' Contribution Rates (Refundable Basis)
from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> | <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> |
|------------------|--------------|--------------|------------------|--------------|--------------|
| 16 | 7.42% | 8.89% | 36 | 10.27% | 12.31% |
| 17 | 7.54% | 9.03% | 37 | 10.45% | 12.53% |
| 18 | 7.66% | 9.17% | 38 | 10.63% | 12.74% |
| 19 | 7.78% | 9.32% | 39 | 10.82% | 12.97% |
| 20 | 7.91% | 9.47% | 40 | 11.02% | 13.21% |
| 21 | 8.04% | 9.63% | 41 | 11.22% | 13.45% |
| 22 | 8.17% | 9.79% | 42 | 11.43% | 13.71% |
| 23 | 8.30% | 9.94% | 43 | 11.64% | 13.96% |
| 24 | 8.44% | 10.11% | 44 | 11.86% | 14.22% |
| 25 | 8.58% | 10.28% | 45 | 12.08% | 14.49% |
| 26 | 8.72% | 10.45% | 46 | 12.29% | 14.74% |
| 27 | 8.86% | 10.62% | 47 | 12.50% | 14.99% |
| 28 | 9.00% | 10.79% | 48 | 12.67% | 15.20% |
| 29 | 9.15% | 10.97% | 49 | 12.79% | 15.34% |
| 30 | 9.30% | 11.15% | 50 | 12.88% | 15.45% |
| 31 | 9.45% | 11.33% | 51 | 12.96% | 15.55% |
| 32 | 9.61% | 11.52% | 52 | 13.04% | 15.64% |
| 33 | 9.77% | 11.71% | 53 | 12.83% | 15.39% |
| 34 | 9.93% | 11.90% | 54 & Over | 12.48% | 14.97% |
| 35 | 10.10% | 12.11% | | | |

The Basic rates shown above also include an administrative expense load of 0.17% of payroll.

Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix D (continued)

Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1 (Refundable Basis)

**Other Safety Tier 1 Members' Contribution Rates (Refundable Basis)
from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> | <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> |
|------------------|--------------|--------------|------------------|--------------|--------------|
| 16 | 11.50% | 14.35% | 36 | 16.21% | 20.25% |
| 17 | 11.69% | 14.59% | 37 | 16.49% | 20.60% |
| 18 | 11.89% | 14.84% | 38 | 16.77% | 20.95% |
| 19 | 12.09% | 15.09% | 39 | 17.06% | 21.31% |
| 20 | 12.30% | 15.36% | 40 | 17.35% | 21.68% |
| 21 | 12.51% | 15.62% | 41 | 17.64% | 22.04% |
| 22 | 12.73% | 15.89% | 42 | 17.83% | 22.28% |
| 23 | 12.95% | 16.17% | 43 | 17.97% | 22.45% |
| 24 | 13.17% | 16.44% | 44 | 18.09% | 22.60% |
| 25 | 13.40% | 16.73% | 45 | 18.20% | 22.74% |
| 26 | 13.63% | 17.02% | 46 | 18.32% | 22.89% |
| 27 | 13.87% | 17.32% | 47 | 18.48% | 23.09% |
| 28 | 14.12% | 17.63% | 48 | 18.24% | 22.79% |
| 29 | 14.37% | 17.95% | 49 & Over | 17.74% | 22.17% |
| 30 | 14.63% | 18.27% | | | |
| 31 | 14.89% | 18.60% | | | |
| 32 | 15.15% | 18.92% | | | |
| 33 | 15.41% | 19.25% | | | |
| 34 | 15.67% | 19.57% | | | |
| 35 | 15.94% | 19.91% | | | |

The Basic rates shown above also include an administrative expense load of 0.17% of payroll.

Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix E

Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1 (Nonrefundable Basis)

**County General and Superior Court Tier 1 Members' Contribution Rates (Nonrefundable Basis)
from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> | <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> |
|------------------|--------------|--------------|------------------|--------------|--------------|
| 16 | 6.72% | 8.05% | 36 | 9.29% | 11.15% |
| 17 | 6.82% | 8.18% | 37 | 9.46% | 11.35% |
| 18 | 6.93% | 8.31% | 38 | 9.62% | 11.55% |
| 19 | 7.05% | 8.45% | 39 | 9.79% | 11.76% |
| 20 | 7.16% | 8.59% | 40 | 9.97% | 11.96% |
| 21 | 7.28% | 8.73% | 41 | 10.15% | 12.19% |
| 22 | 7.40% | 8.87% | 42 | 10.35% | 12.42% |
| 23 | 7.52% | 9.02% | 43 | 10.53% | 12.64% |
| 24 | 7.64% | 9.16% | 44 | 10.73% | 12.88% |
| 25 | 7.76% | 9.31% | 45 | 10.93% | 13.11% |
| 26 | 7.89% | 9.47% | 46 | 11.12% | 13.36% |
| 27 | 8.01% | 9.61% | 47 | 11.30% | 13.57% |
| 28 | 8.15% | 9.78% | 48 | 11.46% | 13.76% |
| 29 | 8.29% | 9.94% | 49 | 11.57% | 13.90% |
| 30 | 8.42% | 10.11% | 50 | 11.65% | 13.99% |
| 31 | 8.56% | 10.27% | 51 | 11.72% | 14.07% |
| 32 | 8.69% | 10.42% | 52 | 11.80% | 14.17% |
| 33 | 8.84% | 10.60% | 53 | 11.60% | 13.94% |
| 34 | 8.99% | 10.79% | 54 & Over | 11.29% | 13.56% |
| 35 | 9.14% | 10.97% | | | |

The Basic rates shown above also include an administrative expense load of 0.17% of payroll.

Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix E (continued)

Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1 (Nonrefundable Basis)

**County Safety Tier 1 Members' Contribution Rates (Nonrefundable Basis)
from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> | <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> |
|------------------|--------------|--------------|------------------|--------------|--------------|
| 16 | 11.39% | 14.22% | 36 | 16.06% | 20.07% |
| 17 | 11.59% | 14.47% | 37 | 16.34% | 20.42% |
| 18 | 11.79% | 14.71% | 38 | 16.63% | 20.78% |
| 19 | 11.98% | 14.96% | 39 | 16.90% | 21.12% |
| 20 | 12.19% | 15.23% | 40 | 17.20% | 21.50% |
| 21 | 12.40% | 15.48% | 41 | 17.47% | 21.84% |
| 22 | 12.62% | 15.76% | 42 | 17.67% | 22.09% |
| 23 | 12.83% | 16.03% | 43 | 17.80% | 22.25% |
| 24 | 13.05% | 16.30% | 44 | 17.93% | 22.41% |
| 25 | 13.28% | 16.59% | 45 | 18.04% | 22.54% |
| 26 | 13.51% | 16.89% | 46 | 18.16% | 22.69% |
| 27 | 13.75% | 17.18% | 47 | 18.31% | 22.89% |
| 28 | 14.00% | 17.49% | 48 | 18.08% | 22.59% |
| 29 | 14.24% | 17.79% | 49 & Over | 17.58% | 21.98% |
| 30 | 14.50% | 18.12% | | | |
| 31 | 14.75% | 18.43% | | | |
| 32 | 15.01% | 18.75% | | | |
| 33 | 15.26% | 19.07% | | | |
| 34 | 15.53% | 19.40% | | | |
| 35 | 15.80% | 19.74% | | | |

The Basic rates shown above also include an administrative expense load of 0.17% of payroll.

Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix E (continued)

Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1 (Nonrefundable Basis)

**SCAQMD Tier 1 Members' Contribution Rates (Nonrefundable Basis)
from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> | <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> |
|------------------|--------------|--------------|------------------|--------------|--------------|
| 16 | 6.48% | 7.77% | 36 | 8.98% | 10.78% |
| 17 | 6.59% | 7.91% | 37 | 9.13% | 10.98% |
| 18 | 6.69% | 8.03% | 38 | 9.29% | 11.16% |
| 19 | 6.81% | 8.17% | 39 | 9.45% | 11.35% |
| 20 | 6.91% | 8.30% | 40 | 9.62% | 11.57% |
| 21 | 7.03% | 8.44% | 41 | 9.80% | 11.78% |
| 22 | 7.14% | 8.57% | 42 | 9.98% | 12.00% |
| 23 | 7.25% | 8.71% | 43 | 10.17% | 12.22% |
| 24 | 7.37% | 8.85% | 44 | 10.36% | 12.46% |
| 25 | 7.49% | 9.00% | 45 | 10.54% | 12.67% |
| 26 | 7.61% | 9.14% | 46 | 10.73% | 12.89% |
| 27 | 7.74% | 9.29% | 47 | 10.91% | 13.12% |
| 28 | 7.86% | 9.45% | 48 | 11.07% | 13.30% |
| 29 | 7.99% | 9.59% | 49 | 11.16% | 13.43% |
| 30 | 8.12% | 9.76% | 50 | 11.25% | 13.52% |
| 31 | 8.26% | 9.92% | 51 | 11.31% | 13.60% |
| 32 | 8.39% | 10.09% | 52 | 11.38% | 13.68% |
| 33 | 8.53% | 10.25% | 53 | 11.20% | 13.47% |
| 34 | 8.68% | 10.42% | 54 & Over | 10.90% | 13.11% |
| 35 | 8.82% | 10.60% | | | |

The Basic rates shown above also include an administrative expense load of 0.17% of payroll.

Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix E (continued)

Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1 (Nonrefundable Basis)

**Other General Tier 1 Members' Contribution Rates (Nonrefundable Basis)
from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> | <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> |
|------------------|--------------|--------------|------------------|--------------|--------------|
| 16 | 7.19% | 8.61% | 36 | 9.95% | 11.92% |
| 17 | 7.31% | 8.75% | 37 | 10.13% | 12.13% |
| 18 | 7.42% | 8.88% | 38 | 10.30% | 12.34% |
| 19 | 7.54% | 9.03% | 39 | 10.48% | 12.56% |
| 20 | 7.67% | 9.17% | 40 | 10.68% | 12.79% |
| 21 | 7.79% | 9.33% | 41 | 10.87% | 13.02% |
| 22 | 7.92% | 9.48% | 42 | 11.08% | 13.28% |
| 23 | 8.04% | 9.63% | 43 | 11.28% | 13.52% |
| 24 | 8.18% | 9.79% | 44 | 11.49% | 13.77% |
| 25 | 8.32% | 9.96% | 45 | 11.71% | 14.03% |
| 26 | 8.45% | 10.12% | 46 | 11.91% | 14.27% |
| 27 | 8.59% | 10.28% | 47 | 12.11% | 14.51% |
| 28 | 8.72% | 10.45% | 48 | 12.28% | 14.72% |
| 29 | 8.87% | 10.62% | 49 | 12.39% | 14.85% |
| 30 | 9.01% | 10.80% | 50 | 12.48% | 14.96% |
| 31 | 9.16% | 10.97% | 51 | 12.56% | 15.06% |
| 32 | 9.31% | 11.16% | 52 | 12.63% | 15.14% |
| 33 | 9.47% | 11.34% | 53 | 12.43% | 14.90% |
| 34 | 9.62% | 11.52% | 54 & Over | 12.09% | 14.50% |
| 35 | 9.79% | 11.73% | | | |

The Basic rates shown above also include an administrative expense load of 0.17% of payroll.

Note: These rates are determined before any pickups by the employer.

SECTION 4: Reporting Information for San Bernardino County Employees' Retirement Association

Appendix E (continued)

Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Tier 1 (Nonrefundable Basis)

**Other Safety Tier 1 Members' Contribution Rates (Nonrefundable Basis)
from the June 30, 2016 Actuarial Valuation
Expressed as a Percentage of Monthly Compensation**

| <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> | <u>Entry Age</u> | <u>Basic</u> | <u>Total</u> |
|------------------|--------------|--------------|------------------|--------------|--------------|
| 16 | 11.36% | 14.18% | 36 | 16.01% | 20.01% |
| 17 | 11.55% | 14.41% | 37 | 16.29% | 20.35% |
| 18 | 11.74% | 14.66% | 38 | 16.56% | 20.70% |
| 19 | 11.94% | 14.91% | 39 | 16.85% | 21.05% |
| 20 | 12.15% | 15.18% | 40 | 17.14% | 21.42% |
| 21 | 12.36% | 15.43% | 41 | 17.42% | 21.77% |
| 22 | 12.57% | 15.70% | 42 | 17.61% | 22.01% |
| 23 | 12.79% | 15.98% | 43 | 17.75% | 22.18% |
| 24 | 13.01% | 16.24% | 44 | 17.87% | 22.33% |
| 25 | 13.24% | 16.53% | 45 | 17.98% | 22.47% |
| 26 | 13.46% | 16.82% | 46 | 18.09% | 22.61% |
| 27 | 13.70% | 17.11% | 47 | 18.25% | 22.81% |
| 28 | 13.95% | 17.42% | 48 | 18.02% | 22.52% |
| 29 | 14.19% | 17.73% | 49 & Over | 17.52% | 21.90% |
| 30 | 14.45% | 18.05% | | | |
| 31 | 14.71% | 18.38% | | | |
| 32 | 14.96% | 18.69% | | | |
| 33 | 15.22% | 19.02% | | | |
| 34 | 15.48% | 19.33% | | | |
| 35 | 15.74% | 19.67% | | | |

The Basic rates shown above also include an administrative expense load of 0.17% of payroll.

Note: These rates are determined before any pickups by the employer.

**San Bernardino County Employees'
Retirement Association
Survivor Benefit Valuation**

**Review of Contribution Rate and Funded Status
as of June 30, 2016**



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 17, 2016

*Board of Retirement
San Bernardino County Employees' Retirement Association
348 West Hospitality Lane, 3rd Floor
San Bernardino, California 92415-0014*

Dear Members of the Board:

We are pleased to submit our Survivor Benefit Valuation as of June 30, 2016. It summarizes the actuarial data used in the valuation and establishes the funding requirements for fiscal 2017-2018.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Plan. The census information on which our calculations were based was prepared by SBCERA and the financial information was provided by the Retirement Association. 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; 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.

The actuarial calculations were completed under the supervision of John Monroe, 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 the expectations for the Plan.

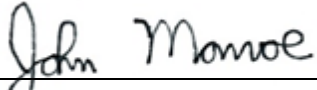
We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal Consulting, a Member of the Segal Group

By: 

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



*John Monroe, ASA, EA, MAAA
Vice President and Actuary*

EK/hy

SECTION 1

VALUATION SUMMARY

Contribution Recommendations and
Funded Status i

SECTION 2

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SBCERA Survivor Benefit 6

SECTION 1: Valuation Summary for SBCERA Survivor Benefit Valuation

CONTRIBUTION RECOMMENDATIONS AND FUNDED STATUS

- The following table summarizes the biweekly pay period contribution rate recommendations for the employers and the members:

| | General Employers | Estimated Annual Amount | General Members | Estimated Annual Amount |
|-------------------------------|----------------------|----------------------------|--------------------|----------------------------|
| Current Contribution Rate | \$1.72 | \$793,000 | \$1.72 | \$793,000 |
| Recommended Contribution Rate | \$1.72 | \$812,000 | \$1.72 | \$812,000 |

- The contribution rates remain unchanged from the prior year. As discussed on page 3, these contributions consist solely of the Normal Cost.
- We have continued to exclude any potential liabilities associated with current or future terminated vested members in the valuation. This change was made after discussions with SBCERA and is consistent with how these benefits have historically been administered.
- The Board has elected to include the Survivor Benefit Valuation in the regular valuation process. Therefore, the Actuarial Valuation and Review will include the Survivor Benefit liabilities and Normal Cost and the valuation assets will include the Survivor Benefit Reserve. We will continue to issue this separate report for the Survivor Benefit as the contribution rate structure is different and there are special assumptions used only for this valuation.
- The following table compares the reserves and liabilities for the Survivor Benefit as of June 30, 2016:

| | |
|---|---------------|
| 1. June 30, 2016 Reserves | \$61,357,000 |
| 2. June 30, 2016 Actuarial Accrued Liabilities: | |
| Current Recipients | 23,238,000 |
| Future Recipients | 9,055,000 |
| Total | 32,293,000 |
| 3. Liabilities minus Reserves (2) – (1) | -\$29,064,000 |
| 4. Funded Ratio (1) ÷ (2) | 190.0% |

SECTION 2: Review of Actuarial Assumptions for SBCERA Survivor Benefit Valuation

A. INTRODUCTION

The Survivor Benefit program was adopted by the County (in January 1976) and South Coast Air Quality District (in February 1977) to replace similar benefits once provided by Social Security. These benefits are provided only to eligible beneficiaries of members who are General active employees. The cost of the program is equally shared between the employers and the active employee members.

The contribution rates are calculated to provide for the ongoing cost of benefits, plus any amounts necessary to recognize any shortfall of reserves relative to the actuarial accrued liabilities.

A summary of the Survivor Benefit provisions is displayed in Exhibit I.

SECTION 2: Review of Actuarial Assumptions for SBCERA Survivor Benefit Valuation

B. REVIEW OF EXPERIENCE AND RECOMMENDATIONS

Exhibit II provides a summary of the actuarial assumptions used in this actuarial valuation. The Board adopted these assumptions as part of the 2014 Actuarial Experience Study and Review of Economic Assumptions. Additional assumptions are necessary for this valuation because the benefit amount varies depending upon the number and type of survivors receiving it.

Assumptions regarding the number and type of beneficiaries for future deaths were derived from 2013 U.S. Census data. Separate assumptions were developed for married versus non-married members. Those assumptions can be found in Exhibit II.

The following table provides a summary of the number and type of beneficiaries as of June 30, 2016.

CHART 1
Table of Coverage

| SBCERA Survivor Benefit Recipients as of June 30, 2016 | Death Before 4/2/1994 | Death 4/2/1994 or Later |
|---|------------------------------|--------------------------------|
| 1. Surviving spouse caring for one child OR two children only | 0 | 17 |
| 2. Surviving spouse caring for two or more children OR three or more children | 0 | 15 |
| 3. One child only OR each of two dependent parents age 62 | 0 | 12 |
| 4. Widow or widower age 62 (no child) or in deferred status | 69 | 168 |
| 5. Widow or widower age 60 (no child) | 0 | 79 |
| 6. Total | 69 | 291 |

| SBCERA Covered Members as of June 30, 2016 | As of June 30, 2016 |
|---|----------------------------|
| 1. Active members | 18,165 |

SECTION 3: Valuation Results for SBCERA Survivor Benefit Valuation

A. INTRODUCTION

The funding of the Survivor Benefit comes from the following sources:

1. The Survivor Benefit Reserve, which equals \$61,357,000 as of June 30, 2016; and
2. Equal contributions from employers and members.

The following table provides the funded status of the Survivor Benefit as of June 30, 2016:

| | |
|---|---------------|
| 1. June 30, 2016 Reserves | \$61,357,000 |
| 2. June 30, 2016 Actuarial Accrued Liabilities: | |
| Current Recipients | 23,238,000 |
| Future Recipients | 9,055,000 |
| Total | 32,293,000 |
| 3. Liabilities minus Reserves | -\$29,064,000 |
| 4. Funded Ratio (1./2.) | 190.0% |

The contribution requirements are determined based on the Entry Age Actuarial Cost Method. Based on advice received from SBCERA's legal counsel, the Excess of Assets over the Actuarial Accrued Liability (Item 3 in the above table) can no longer be used to reduce the contribution rates. This is because CalPEPRA requires contributions be at least equal to the Normal Cost unless the provisions of Section 7522.52 are met. It is our understanding that those provisions are currently not met and it is not anticipated they will be met in the future. The employer and member contribution rates are derived on the following page.

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.

SECTION 3: Valuation Results for SBCERA Survivor Benefit Valuation

B. CONTRIBUTION REQUIREMENTS

| | |
|---|-----------|
| 1. Biweekly Entry Age Normal Cost per Active Member | \$3.43 |
| 2. Employer Portion (50% of (1)) | \$1.72 |
| 3. Member Portion (50% of (1)) | \$1.72 |
| 4. Estimated Annual Employer Contribution | \$812,000 |
| 5. Estimated Annual Member Contribution | \$812,000 |

Note: Contributions include an adjustment to account for contributions being made throughout the year.

SECTION 4: Supporting Exhibits for SBCERA Survivor Benefit Valuation

EXHIBIT I

Plan Summary for SBCERA Survivor Benefit

| | |
|------------------------------------|--|
| Covered Members: | This Plan provides a survivor benefit for active general members who die prior to retirement or disability and have been a member continuously for not less than 18 months immediately prior to death. All General active employees at SBCERA are eligible for this benefit. |
| Member Contribution Rate: | 50% of benefit cost, charged to all active General members |
| Employer Contribution Rate: | 50% of benefit cost |

Table of Benefits for Members with Death Date on or After 4/1/1994

| <u>Member's Survivor(s)</u> | <u>Monthly Allowance</u> |
|--|---------------------------------|
| Surviving spouse caring for one child | \$1,390 |
| Surviving spouse caring for two or more children | \$1,622 |
| One child only | \$ 695 |
| Two children only (divided between children) | \$1,390 |
| Three children only (divided between children) | \$1,622 |
| Widow or widower age 60 (no children) | \$ 663 |
| Widow or widower age 62 or older (no children) | \$ 768 |
| Each of two dependent parents age 62 or older | \$ 695 |
| One dependent parent only, age 62 or older | \$ 795 |
| One-time burial allowance | \$ 255 |

SECTION 4: Support Exhibits for SBCERA Survivor Benefit Valuation

EXHIBIT II

Actuarial Assumptions/Methods for SBCERA Survivor Benefit

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, 2010 through June 30, 2013 Actuarial Experience Study dated May 30, 2014.

Actuarial Assumptions

The actuarial assumptions used in this valuation are:

- Those used in the SBCERA June 30, 2016 actuarial valuation report; and
- The following assumptions derived from 2013 U.S. Census data.

| Member's Age at Death | Percent Married | Not Married No Child | Not Married One Child | Not Married 2+ Child | Married No Child | Married One Child | Married 2+ Child | Children's Age | |
|-----------------------------|--------------------|-------------------------|--------------------------|-------------------------|---------------------|----------------------|---------------------|----------------|---------|
| | | | | | | | | Child 1 | Child 2 |
| Under 25 | 18% | 65% | 11% | 6% | 8% | 6% | 4% | 3 | 1 |
| 25-34 | 49% | 34% | 7% | 10% | 15% | 12% | 22% | 6 | 4 |
| 35-44 | 65% | 21% | 6% | 8% | 12% | 15% | 38% | 10 | 8 |
| 45-54 | 64% | 30% | 4% | 2% | 34% | 15% | 15% | 14 | 12 |
| 55-59 | 61% | 38% | 1% | 0% | 55% | 4% | 2% | 18 | 16 |
| 60-64 | 61% | 38% | 1% | 0% | 55% | 4% | 2% | 21 | 19 |
| 65-74 | 61% | 40% | 0% | 0% | 59% | 1% | 0% | N/A | N/A |
| 75+ | 40% | 60% | 0% | 0% | 40% | 0% | 0% | N/A | N/A |
| Total | 56% | 26% | 4% | 4% | 33% | 9% | 14% | N/A | N/A |

Child payments are assumed to end when the child reaches age 22.

Widows or widowers are assumed to start payment at age 62 (or later if they are caring for an eligible child).

SECTION 4: Support Exhibits for SBCERA Survivor Benefit Valuation

Actuarial Methods

| | |
|-----------------------------------|---|
| 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 allocated by service, with Normal Cost determined as though the current benefit accrual rate had always been in effect, (i.e., "replacement life"). |
| Actuarial Value of Assets: | Survivor Benefit Reserve value as of valuation date. |
| Amortization Policy: | If an overfunding exists (i.e., the total of all UAAL becomes negative so that there is a surplus), such surplus and any subsequent surpluses will be amortized over an "open" amortization period of 30 years. However, since the provisions of Section 7522.52 have not been met, the surplus has not been amortized. Any prior UAAL amortization layers will be considered fully amortized, and any subsequent UAAL will be amortized over 20 years as the first of a new series of amortization layers. Other parameters of the amortization policy follow those established for SBCERA's other retirement benefits, with the exception that a level dollar methodology will be used instead of level percent of payroll. |

Changes in Actuarial Assumptions and Methods:

None.

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San Bernardino County Employees' Retirement Association

**Governmental Accounting Standards Board
Statement No. 67 (GASB 67)**

Actuarial Valuation as of June 30, 2016

This report has been prepared at the request of the Board of Retirement to assist SBCERA in preparing items related to the pension plan in their financial report. 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 17, 2016

*Board of Retirement
San Bernardino County Employees' Retirement Association
348 West Hospitality Lane, Third Floor
San Bernardino, CA 92415-0014*

Dear Board Members:

We are pleased to submit this Governmental Accounting Board Standards No. 67 (GASB 67) Actuarial Valuation as of June 30, 2016. It contains various information that will need to be disclosed in order to comply with GASB 67.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist SBCERA in preparing items related to the pension plan in their financial report. The census and financial information on which our calculations were based was prepared by SBCERA. 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 John Monroe, ASA, MAAA, EA. 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 Association.


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, MAAA, FCA, EA
Senior Vice President and Actuary*



*John Monroe, ASA, MAAA, EA
Vice President and Actuary*

JZM/gxk

SECTION 1

VALUATION SUMMARY

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SECTION 1: Valuation Summary for San Bernardino County Employees' Retirement Association

Purpose

This report has been prepared by Segal Consulting to present certain disclosure information required by Governmental Accounting Standards Board Statement No. 67 (GASB 67) as of June 30, 2016. This valuation is based on:

- The benefit provisions of SBCERA, as administered by the Board;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2016, provided by SBCERA;
- The assets of the Plan as of June 30, 2016, provided by SBCERA;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

General Observations on GASB 67 Actuarial Valuation

The following points should be considered when reviewing this GASB 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 can 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 SBCERA 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 SBCERA's 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 TPL and the Plan's Fiduciary Net Position include liabilities and assets held for Survivor Benefit and Burial Allowance reserves. In the case of the Burial Allowance, the TPL only includes a liability up to the amount in the Burial Allowance Reserve. This is because we understand that the \$250 portion of the Burial Allowance is a nonvested benefit and once the reserve is depleted no further benefits would need to be paid.

SECTION 1: Valuation Summary for San Bernardino County Employees' Retirement Association

- The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan's Fiduciary Net Position. The Plan's 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) calculated on a market value basis.
- For this report, the reporting dates for the Plan are June 30, 2016 and 2015, respectively. The NPLs measured as of June 30, 2016 and 2015 have been determined from the actuarial valuations as of June 30, 2016 and June 30, 2015, respectively.

Significant Issues in Valuation Year

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

- The NPL increased from \$1.94 billion as of June 30, 2015 to \$2.47 billion as of June 30, 2016 primarily due to the -0.97% return on the market value of assets during 2015/2016 (that was less than the assumed return of 7.50%). This increase is offset to some extent by lower than expected salary increases for active members and other experience gains. Changes in these values during the last two fiscal years ending June 30, 2016 and June 30, 2015 can be found in Exhibit 3.
- The discount rate used to determine the TPL and NPL as of June 30, 2016 and 2015 was 7.50%, following the same assumption used by the Association in the funding valuations as of the same dates. Details on the derivation of the discount rates can be found in Exhibits 5 and 6 of Section 2. Various other information that is required to be disclosed can be found throughout Exhibits 1 through 4 in Section 2.
- Based on discussions with SBCERA and their auditors, starting with the June 30, 2015 measurement date for the plan, member paid employer contributions are now included as part of the Actuarially Determined Contribution (ADC). Previously these amounts were classified as member contributions and excluded from the ADC. The information shown in Exhibit 4 for the year ending June 30, 2015 has been restated to be consistent with the above.

SECTION 1: Valuation Summary for San Bernardino County Employees' Retirement Association

Summary of Key Valuation Results

| | 2016 | 2015 |
|--|---|---|
| Disclosure elements for fiscal year ending June 30: | | |
| Service Cost ⁽¹⁾⁽²⁾ | \$295,457,529 | \$290,641,705 |
| Total Pension Liability | 10,665,211,907 | 10,214,472,907 |
| Plan's Fiduciary Net Position | 8,196,973,946 | 8,271,659,138 |
| Net Pension Liability | 2,468,237,961 | 1,942,813,769 |
| Schedule of contributions for fiscal year ending June 30: | | |
| Actuarially determined contributions ⁽³⁾ | \$340,511,616 | \$303,243,387 |
| Actual employer contributions | 340,511,616 | 303,243,387 |
| Contribution deficiency (excess) | 0 | 0 |
| Demographic data for plan year ending June 30: | | |
| Number of retired members and beneficiaries | 11,630 | 11,128 |
| Number of vested terminated members ⁽⁴⁾ | 5,136 | 4,804 |
| Number of active members | 20,538 | 19,938 |
| Key assumptions as of June 30: | | |
| Investment rate of return | 7.50% | 7.50% |
| Inflation rate | 3.25% | 3.25% |
| Projected salary increases ⁽⁵⁾ | General: 4.60% to 13.75% and Safety: 4.55% to 13.75% | General: 4.60% to 13.75% and Safety: 4.55% to 13.75% |

⁽¹⁾ Please note that service cost is always based on the previous year's assumptions, meaning each of these values is based on the assumptions as of the preceding June 30.

⁽²⁾ Excludes administrative expense load.

⁽³⁾ See footnote (1) under Exhibit 4 on page 9.

⁽⁴⁾ Includes terminated members due a refund of member contributions plus accumulated interest.

⁽⁵⁾ Includes inflation at 3.25% plus real across-the-board salary increase of 0.50% plus merit and promotional increases vary by service.

SECTION 1: Valuation Summary for San Bernardino County Employees' Retirement Association

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 provisions.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by SBCERA. 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 SBCERA.
- **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 SBCERA 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 San Bernardino County Employees' Retirement Association

- 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 SBCERA 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 SBCERA, it is not a fiduciary in its capacity as actuaries and consultants with respect to SBCERA.

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

EXHIBIT 1

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

Plan Description

Plan administration. The San Bernardino County Employees' Retirement Association (SBCERA) was established by the County of San Bernardino in 1945. SBCERA is governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et. seq), the California Public Employees' Pension Reform Act of 2013 (CalPEPRA), and the regulations, procedures, and policies adopted by SBCERA's Board of Retirement. SBCERA is a cost-sharing multiple employer defined benefit public employee Retirement Association whose main function is to provide service retirement, disability, death and survivor benefits to the General and Safety members employed by the County of San Bernardino. SBCERA also provides retirement benefits to the employee members for 16 other employers which are members of SBCERA.

The management of SBCERA is vested with the SBCERA Board of Retirement. The Board consists of twelve trustees. Of the twelve members, three are alternates. Four trustees are appointed by the San Bernardino County Board of Supervisors; two General member trustees are elected by the General members; two Safety member trustees (including one alternate) are elected by the Safety members; two Retired member trustees (including one alternate) are elected by the Retired members; and the San Bernardino County Treasurer serves as an ex-officio member who has designated an alternate. Board members serve three-year terms, with the exception of the County Treasurer, who serves during his tenure in office.

Plan membership. At June 30, 2016, pension plan membership consisted of the following:

San Bernardino County Employees' Retirement Association

June 30, 2016

| | Tier 1 | | | Tier 2 | | | Total |
|---|---------------|--------------|---------------|--------------|------------|--------------|---------------|
| | General | Safety | Sub-Total | General | Safety | Sub-Total | |
| Active employees - vested | 12,057 | 1,704 | 13,761 | 25 | 0 | 25 | 13,786 |
| Active employees - nonvested | 1,179 | 135 | 1,314 | 4,904 | 534 | 5,438 | 6,752 |
| Inactive plan members or beneficiaries currently receiving benefits | | | | | | | |
| Retirees currently receiving benefits | 8,466 | 1,596 | 10,062 | 0 | 0 | 0 | 10,062 |
| Beneficiaries and dependents currently receiving benefits | 1,243 | 323 | 1,566 | 2 | 0 | 2 | 1,568 |
| Inactive plan members entitled to but not yet receiving benefits | | | | | | | |
| Inactive members eligible for, but not yet receiving benefits | 2,166 | 148 | 2,314 | 22 | 5 | 27 | 2,341 |
| Inactive members eligible for refund value of account only ¹ | 1,998 | 62 | 2,060 | 686 | 49 | 735 | 2,795 |
| Total | 27,109 | 3,968 | 31,077 | 5,639 | 588 | 6,227 | 37,304 |

¹ Inactive members with less than 5 years of service are entitled to withdraw their refundable contributions made, together with accumulated interest only.

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

Benefits provided. SBCERA provides service retirement, disability, death and survivor benefits to eligible employees. Generally, any employee of the County of San Bernardino or participating employers who is appointed to a regular position whose service is greater than fifty percent of the full standard of hours required by a participating SBCERA employer (e.g. 20 hours per week or more) must become a member of SBCERA effective on the first day of employment. There are separate retirement benefits for General and Safety member employees. Safety membership is extended to those involved in active law enforcement and fire suppression. All other members are classified as General Members.

There are currently two tiers applicable to both General and Safety members. Members with membership dates before January 1, 2013 are included in General Tier 1 or Safety Tier 1. Any new member who becomes a member on or after January 1, 2013 is designated as General Tier 2 or Safety Tier 2 and is subject to the provisions of California Public Employees' Pension Reform Act of 2013 (CalPEPRA) and California Government Code 7522 et seq.

General Tier 1 members are eligible for Early Retirement once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit or with 30 years of service regardless of age. General Tier 2 members are eligible for Early Retirement once they attain the age of 70 regardless of service or at age 52 and have acquired five or more years of retirement service credit.

Safety Tier 1 members are eligible for Early Retirement once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit or with 20 years of service. Safety Tier 2 members are eligible to retire once they attain the age of 70 regardless of service or at age 50 and have acquired five or more 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.

General Tier 1 benefit is calculated pursuant to the provisions of California Government Code of Section 31676.15. The monthly allowance is equal to 2% of final compensation times years of accrued retirement service credit times age factor from Section 31676.15. General Tier 2 benefit is calculated pursuant to the provisions found in 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).

Safety Tier 1 benefit is calculated pursuant to the provisions of California Government Code Section 31664.1. The monthly allowance is equal to 3% of final compensation times years of accrued retirement service credit times age factor from Section 31664.1. Safety Tier 2 benefit is calculated pursuant to the provisions found in 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).

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

For Tier 1 members, the maximum monthly retirement allowance is 100% of final compensation. There is no final compensation limit on the maximum retirement benefit for Tier 2 members. However, the maximum amount of compensation earnable that can be taken into account for 2016 for Tier 1 members with membership dates on or after July 1, 1996 is \$265,000. The maximum amount of pensionable compensation for Tier 2 members that can be taken into account for 2016 is equal to \$140,424. These limits are adjusted on an annual basis. Tier 1 members and employers are exempt from paying contributions on compensation earnable paid in excess of the annual cap. In addition, Tier 1 members are exempt from paying member contributions once they have reached 30 or more years of service. Tier 2 members and employers are exempt from paying contributions on pensionable compensation paid in excess of the annual cap.

Final average compensation consists of the highest 12 consecutive months for Tier 1 members and the highest 36 consecutive months for Tier 2 members

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 or domestic partner. An eligible surviving spouse or domestic partner is one married to or registered with the member one year prior to the effective retirement date or at least two years prior to the date of death and has attained age 55 on or prior to the date of death. 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, domestic partner, or named beneficiary having an insurable interest in the life of the member.

SBCERA provides an annual cost-of-living benefit to all retirees. The cost-of-living adjustment, based upon the Consumer Price Index for All Urban Consumers for the Los Angeles-Riverside-Orange County Area, is capped at 2.0%.

The County of San Bernardino and 16 other participating employers 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 SBCERA's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2016 for 2015-2016 (based on the June 30, 2014 valuation) was 27.27% of compensation.

All members are required to make contributions to SBCERA regardless of the retirement plan or tier in which they are included. The average member contribution rate as of June 30, 2016 for 2015-2016 (based on the June 30, 2014 valuation) was 11.06% of compensation.

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

EXHIBIT 2

Net Pension Liability

The components of the Net Pension Liability are as follows:

| | June 30, 2016 | June 30, 2015 |
|--|------------------------|------------------------|
| Total Pension Liability | \$10,665,211,907 | \$10,214,472,907 |
| Plan's Fiduciary Net Position | <u>(8,196,973,946)</u> | <u>(8,271,659,138)</u> |
| Net Pension Liability | \$2,468,237,961 | \$1,942,813,769 |
| Plan's Fiduciary Net Position as a percentage of the Total Pension Liability | 76.86% | 80.98% |

The Net Pension Liability (NPL) for the plan was measured as of June 30, 2016 and 2015. The Plan's Fiduciary Net Position (plan assets) and Total Pension Liability (TPL) were valued as of the measurement date and are from actuarial valuations as of June 30, 2016 and 2015, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL are the same as those used in the SBCERA actuarial valuations as of June 30, 2016 and 2015, respectively. The TPL and the Plan's Fiduciary Net Position include liabilities and assets held for Survivor Benefit and Burial Allowance Reserve.

Actuarial assumptions and actuarial cost method. The TPLs as of June 30, 2016 and 2015 that were measured by actuarial valuations as of June 30, 2016 and 2015, respectively, used the same actuarial assumptions and actuarial cost method as the June 30, 2016 and 2015 funding valuations. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

| | |
|---------------------------|---|
| Inflation | 3.25% |
| Salary increases | General: 4.60% to 13.75% and Safety: 4.55% to 13.75%, varying by service, including inflation |
| Investment rate of return | 7.50%, net of pension plan investment expense, including inflation |
| Administrative expenses | 0.60% of payroll allocated to both the employer and member based on components of the total contribution rate (before expenses) for the employer and member |

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

| | |
|-------------------|---|
| Mortality | Mortality rates are based on the RP-2000 Combined Healthy mortality table projected to 2020 using Projection Scale BB. For healthy General members, no adjustments are made. For healthy Safety members, ages are set back two years for males and one year for females. For disabled General members, ages are set forward seven years for males and set forward eight years for females. For disabled Safety members, ages are set forward two years for males and females. Beneficiaries are assumed to have the same mortality as a General member of the opposite sex who is receiving a service retirement. |
| Other assumptions | Same as those used in the June 30, 2016 and 2015 funding valuations. These assumptions were developed in the analysis of actuarial experience study for the period July 1, 2010 through June 30, 2013. |

The Entry Age Actuarial Cost Method used in SBCERA's annual actuarial valuations for funding purposes has also been applied in measuring the Service Cost and TPL with one exception. For purposes of measuring the Service Cost and TPL, we have applied the Entry Age method with costs allocated as a level percent of compensation. This is different from the version of this method applied in SBCERA's annual funding valuation for the Survivor Benefit, where costs are allocated as a level dollar amount based on service.

The long-term expected rate of return on pension plan investments was determined in 2014 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 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 as of June 30, 2016 and 2015 are summarized in the following table. This information will change every three years based on the actuarial experience study.

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

| Asset Class | Target Allocation | Long-Term Expected Real Rate of Return |
|--------------------------------|--------------------------|---|
| Large Cap U.S. Equity | 5.00% | 5.94% |
| Small Cap U.S. Equity | 2.00% | 6.50% |
| Developed International Equity | 6.00% | 6.87% |
| Emerging Market Equity | 6.00% | 8.06% |
| U.S. Core Fixed Income | 2.00% | 0.69% |
| High Yield/Credit Strategies | 13.00% | 3.10% |
| Global Core Fixed Income | 1.00% | 0.30% |
| Emerging Market Debt | 6.00% | 4.16% |
| Real Estate | 9.00% | 4.96% |
| Cash & Equivalents | 2.00% | -0.03% |
| International Credit | 10.00% | 6.76% |
| Absolute Return | 13.00% | 2.88% |
| Real Assets | 6.00% | 6.85% |
| Long/Short Equity | 3.00% | 4.86% |
| Private Equity | <u>16.00%</u> | 9.64% |
| Total | 100.00% | |

Discount rate: The discount rate used to measure the TPL was 7.50% for both June 30, 2016 and June 30, 2015. The projection of cash flows used to determine the discount rate assumed employer and member contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employee and 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's 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 of 7.50% was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2016 and June 30, 2015.

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

Sensitivity of the June 30, 2016 Net Pension Liability to changes in the discount rate. The following presents the NPL as of June 30, 2016, calculated using the discount rate of 7.50%, as well as what the 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:

| | 1.00% Decrease (6.50%) | Current Discount Rate (7.50%) | 1.00% Increase (8.50%) |
|---|-----------------------------------|--|-----------------------------------|
| Net Pension Liability as of June 30, 2016 | \$3,871,170,289 | \$2,468,237,961 | \$1,305,691,776 |

Sensitivity of the June 30, 2015 Net Pension Liability to changes in the discount rate. The following presents the NPL as of June 30, 2015, calculated using the discount rate of 7.50%, as well as what the 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:

| | 1.00% Decrease (6.50%) | Current Discount Rate (7.50%) | 1.00% Increase (8.50%) |
|---|-----------------------------------|--|-----------------------------------|
| Net pension liability as of June 30, 2015 | \$3,305,296,986 | \$1,942,813,769 | \$815,239,552 |

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

EXHIBIT 3

Schedules of Changes in Net Pension Liability – Last Two Fiscal Years

| | 2016 | 2015 |
|--|-------------------------|------------------------------|
| Total Pension Liability | | |
| 1. Service Cost | \$295,457,529 | \$290,641,705 |
| 2. Interest | 770,842,231 | 732,842,227 |
| 3. Change of benefit terms | 0 | 0 |
| 4. Differences between expected and actual experience | (151,492,724) | (75,361,588) |
| 5. Changes of assumptions | 0 | 0 |
| 6. Benefit payments, including refunds of member contributions | <u>(464,068,036)</u> | <u>(428,474,844)</u> |
| 7. Net change in Total Pension Liability | \$450,739,000 | \$519,647,500 |
| 8. Total Pension Liability – beginning | <u>10,214,472,907</u> | <u>9,694,825,407</u> |
| 9. Total Pension Liability – ending | <u>\$10,665,211,907</u> | <u>\$10,214,472,907</u> |
| Plan's Fiduciary Net Position | | |
| 10. Contributions – employer | \$340,511,616 | \$303,243,387 ⁽¹⁾ |
| 11. Contributions – plan members | 139,132,004 | 129,896,056 ⁽¹⁾ |
| 12. Net investment income | (80,027,512) | 280,841,907 |
| 13. Benefit payments, including refunds of member contributions | (464,068,036) | (428,474,844) |
| 14. Administrative expense | (7,569,141) | (6,709,766) |
| 15. Other expenses | <u>(2,664,123)</u> | <u>(2,208,141)</u> |
| 16. Net change in Plan's Fiduciary Net Position | \$(74,685,192) | \$276,588,599 |
| 17. Plan's Fiduciary Net Position – beginning | <u>8,271,659,138</u> | <u>7,995,070,539</u> |
| 18. Plan's Fiduciary Net Position – ending | \$8,196,973,946 | \$8,271,659,138 |
| 19. Net Pension Liability – ending (9) – (18) | <u>\$2,468,237,961</u> | <u>\$1,942,813,769</u> |
| 20. Plan's Fiduciary Net Position as a percentage of the Total Pension Liability | 76.86% | 80.98% |
| 21. Covered payroll ⁽²⁾ | \$1,309,095,254 | \$1,267,666,810 |
| 22. Plan's Net Pension Liability as percentage of covered payroll | 188.55% | 153.26% |

⁽¹⁾ See footnote (1) under Exhibit 4 on page 9.

⁽²⁾ Covered payroll represents the collective total of the SBCERA eligible wages of all SBCERA participating employers.

Notes to Schedule:

Benefit changes: None

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

EXHIBIT 4

Schedule of Employer's Contributions – Last Ten Fiscal Years

| Year Ended June 30 | Actuarially Determined Contributions⁽¹⁾ | Contributions in Relation to the Actuarially Determined Contributions⁽¹⁾ | Contribution Deficiency (Excess) | Covered Payroll⁽²⁾ | Contributions as a Percentage of Covered Payroll |
|-------------------------------|---|--|---|--|---|
| 2007 | \$164,992,436 | \$164,992,436 | \$0 | \$1,028,730,826 | 16.04% |
| 2008 | 162,619,197 | 162,619,197 | 0 | 1,102,150,627 | 14.75% |
| 2009 | 166,081,964 | 166,081,964 | 0 | 1,219,561,653 | 13.62% |
| 2010 | 163,959,509 | 163,959,509 | 0 | 1,226,431,276 | 13.37% |
| 2011 | 180,755,714 | 180,755,714 | 0 | 1,250,192,961 | 14.46% |
| 2012 | 210,000,343 | 210,000,343 | 0 | 1,244,554,740 | 16.87% |
| 2013 | 248,840,990 | 248,840,990 | 0 | 1,260,309,037 | 19.74% |
| 2014 | 278,352,174 | 278,352,174 | 0 | 1,262,751,964 | 22.04% |
| 2015 | 303,243,387 | 303,243,387 | 0 | 1,267,666,810 | 23.92% |
| 2016 | 340,511,616 | 340,511,616 | 0 | 1,309,095,254 | 26.01% |

See accompanying notes to this schedule on next page.

⁽¹⁾ The Board has approved all contribution rates recommended by the actuary. Actuarially determined contributions include contributions required for the survivor benefit, and exclude employer paid member contributions, UAAL prepayments, golden handshake payments, funds deposited for purchase of service credit, payments made by withdrawn employers, member paid employer contributions and member contributions. Starting from 2015, actuarially determined contributions include member paid employer contributions.

⁽²⁾ Covered payroll represents the collective total of the SBCERA eligible wages of all SBCERA participating employers.

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

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 |
| Remaining amortization period | 20 years for all UAAL prior to June 30, 2002. Any changes in UAAL after June 30, 2002 are amortized over a 20-year closed period effective with each valuation. Effective June 30, 2012, 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 unfunded actuarial accrued liability that arises due to plan amendments is amortized over its own declining 15-year period (with exception of a change due to retirement incentives, which is amortized over a declining period of up to 5 years). |
| Asset valuation method | Market value of assets less unrecognized returns from each of the last five years. Unrecognized returns are equal to the difference between the actual market return and the expected return on a market value basis and are recognized over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves. |

| Actuarial assumptions: | <u>June 30, 2016 Valuation Date</u> | <u>June 30, 2015 Valuation Date</u> |
|---------------------------------------|--|--|
| Investment rate of return | 7.50%, net of pension plan investment expenses, including inflation | 7.50%, net of pension plan investment expenses, including inflation |
| Inflation rate | 3.25% | 3.25% |
| Real across-the-board salary increase | 0.50% | 0.50% |
| Projected salary increases* | General: 4.60% to 13.75% and Safety: 4.55% to 13.75% | General: 4.60% to 13.75% and Safety: 4.55% to 13.75% |
| Administrative Expenses | 0.60% of payroll allocated to both the employer and member based on the components of the total contribution rate (before expenses) for the employer and member. | 0.60% of payroll allocated to both the employer and member based on the components of the total contribution rate (before expenses) for the employer and member. |
| Cost of living adjustments | 2.00% (actual increases contingent upon CPI increases with a 2% maximum) | 2.00% (actual increases contingent upon CPI increases with a 2% maximum) |
| Other assumptions | Same as those used in the June 30, 2016 funding actuarial valuation | Same as those used in the June 30, 2015 funding actuarial valuation |

**Includes inflation at 3.25% plus real across-the-board salary increase of 0.50% plus merit and promotional increases.*

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

EXHIBIT 5

**Projection of the Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2016
(\$ in millions)**

| Year Beginning July 1 | Projected Beginning Plan's Fiduciary Net Position (a) | Projected Total Contributions (b) | Projected Benefit Payments (c) | Projected Administrative Expenses (d) | Projected Investment Earnings (e) | Projected Ending Plan's Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e) |
|--------------------------------------|--|--|---|--|--|---|
| 2016 | \$8,197 | \$491 | \$538 | \$7 | \$613 | \$8,756 |
| 2017 | 8,756 | 496 | 556 | 7 | 654 | 9,342 |
| 2018 | 9,342 | 508 | 594 | 7 | 697 | 9,946 |
| 2019 | 9,946 | 526 | 634 | 7 | 742 | 10,574 |
| 2020 | 10,574 | 540 | 674 | 7 | 788 | 11,221 |
| 2021 | 11,221 | 541 | 715 | 7 | 835 | 11,875 |
| 2022 | 11,875 | 537 | 759 | 6 | 882 | 12,528 |
| 2023 | 12,528 | 458 | 804 | 6 | 927 | 13,103 |
| 2024 | 13,103 | 496 | 848 | 6 | 970 | 13,714 |
| 2025 | 13,714 | 472 | 893 | 6 | 1,013 | 14,300 |
| 2041 | 18,767 | 71 | 1,550 | 2 | 1,353 | 18,639 |
| 2042 | 18,639 | 63 | 1,575 | 2 | 1,342 | 18,467 |
| 2043 | 18,467 | 55 | 1,598 | 2 | 1,328 | 18,250 |
| 2044 | 18,250 | 48 | 1,617 | 2 | 1,311 | 17,991 |
| 2045 | 17,991 | 42 | 1,631 | 1 | 1,291 | 17,691 |
| 2055 | 13,573 | 4 | 1,516 | 0 | 962 | 13,024 |
| 2065 | 8,219 | 0 | 1,041 | 0 | 578 | 7,756 |
| 2075 | 4,911 | 0 | 486 | 0 | 350 | 4,776 |
| 2085 | 5,452 | 0 | 116 | 0 | 405 | 5,741 |
| 2095 | 10,360 | 0 | 11 | 0 | 777 | 11,126 |
| 2105 | 21,287 | 0 | 0 * | 0 | 1,597 | 22,883 |
| 2115 | 43,871 | 0 | 0 * | 0 | 3,290 | 47,161 |
| 2125 | 90,419 | 0 | 0 * | 0 | 6,781 | 97,200 |
| 2128 | 112,327 | 0 | 0 * | 0 | 8,425 | 120,751 |
| 2129 | 120,751 | 0 | 0 * | 0 | 9,056 | 129,808 |
| 2129 Discounted Value: | 34 ** | | | | | |

* Less than \$1 million, when rounded.

** \$120,751 million when discounted with interest at the rate of 7.50% per annum has a value of \$34 million as of June 30, 2016.

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

EXHIBIT 5

Projection of the Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2016

(\$ in millions) - continued

Notes:

- (1) Amounts may not total exactly due to rounding.
- (2) Certain years have been omitted from the table.
- (3) Column (a): Except for the "discounted value" shown for 2129, none of the projected beginning Plan's Fiduciary Net Position amounts shown have been adjusted for the time value of money.
- (4) Column (b): Projected total contributions include employee and employer normal cost rates applied to closed group projected payroll (based on covered active members as of June 30, 2016), plus employer contributions to the unfunded actuarial accrued liability, plus employee and employer contributions to fund each year's annual administrative expenses. 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, 2016. The projected benefit payments are assumed to occur halfway through the year, on average and reflect the cost of living increase assumptions used in the June 30, 2016 valuation report.
- (6) Column (d): Projected administrative expenses are assumed to be 0.6% of closed group projected payroll and 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 7.50% per annum.
- (8) As illustrated in this Exhibit, the Plan's 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 7.50% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2016 shown earlier in this report, pursuant to Paragraph 44 of GASB Statement No. 67.

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

EXHIBIT 6

Projection of the Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2015

(\$ in millions)

| Year Beginning July 1 | Projected Beginning Plan's Fiduciary Net Position (a) | Projected Total Contributions (b) | Projected Benefit Payments (c) | Projected Administrative Expenses (d) | Projected Investment Earnings (e) | Projected Ending Plan's Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e) |
|-----------------------------|--|--|---|--|--|---|
| 2015 | \$8,272 | \$477 | \$500 | \$7 | \$619 | \$8,861 |
| 2016 | 8,861 | 478 | 518 | 7 | 663 | 9,477 |
| 2017 | 9,477 | 471 | 555 | 7 | 707 | 10,094 |
| 2018 | 10,094 | 470 | 593 | 7 | 752 | 10,717 |
| 2019 | 10,717 | 475 | 633 | 7 | 798 | 11,351 |
| 2020 | 11,351 | 474 | 673 | 6 | 844 | 11,990 |
| 2021 | 11,990 | 474 | 717 | 6 | 890 | 12,631 |
| 2022 | 12,631 | 467 | 761 | 6 | 936 | 13,268 |
| 2023 | 13,268 | 386 | 806 | 6 | 979 | 13,822 |
| 2024 | 13,822 | 422 | 851 | 6 | 1,021 | 14,409 |
| 2040 | 18,497 | 68 | 1,525 | 2 | 1,334 | 18,372 |
| 2041 | 18,372 | 60 | 1,553 | 2 | 1,323 | 18,200 |
| 2042 | 18,200 | 53 | 1,576 | 2 | 1,309 | 17,983 |
| 2043 | 17,983 | 46 | 1,597 | 1 | 1,292 | 17,723 |
| 2044 | 17,723 | 39 | 1,612 | 1 | 1,271 | 17,420 |
| 2054 | 13,256 | 4 | 1,500 | 0 | 939 | 12,700 |
| 2064 | 7,801 | 0 | 1,027 | 0 | 547 | 7,321 |
| 2074 | 4,242 | 0 | 474 | 0 | 301 | 4,069 |
| 2084 | 4,222 | 0 | 110 | 0 | 313 | 4,425 |
| 2094 | 7,880 | 0 | 10 | 0 | 591 | 8,461 |
| 2104 | 16,179 | 0 | 0 * | 0 | 1,213 | 17,392 |
| 2114 | 33,343 | 0 | 0 * | 0 | 2,501 | 35,844 |
| 2124 | 68,721 | 0 | 0 * | 0 | 5,154 | 73,876 |
| 2130 | 106,058 | 0 | 0 * | 0 | 7,954 | 114,012 |
| 2131 | 114,012 | | | | | |
| 2131 Discounted Value: | 26 ** | | | | | |

* Less than \$1 million, when rounded.

** \$114,012 million when discounted with interest at the rate of 7.50% per annum has a value of \$26 million as of June 30, 2015.

SECTION 2: GASB 67 Information for San Bernardino County Employees' Retirement Association

EXHIBIT 6

**Projection of the Pension Plan's Fiduciary Net Position for Use in Calculation of Discount Rate as of June 30, 2015
(\$ in millions) - continued**

Notes:

- (1) Amounts may not total exactly due to rounding.
- (2) Certain years have been omitted from the table.
- (3) Column (a): Except for the "discounted value" shown for 2131, none of the projected beginning Plan's Fiduciary Net Position amounts shown have been adjusted for the time value of money.
- (4) Column (b): Projected total contributions include employee and employer normal cost rates applied to closed group projected payroll (based on covered active members as of June 30, 2015), plus employer contributions to the unfunded actuarial accrued liability, plus employee and employer contributions to fund each year's annual administrative expenses. 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, 2015. The projected benefit payments are assumed to occur halfway through the year, on average and reflect the cost of living increase assumptions used in the June 30, 2015 valuation report.
- (6) Column (d): Projected administrative expenses are assumed to be 0.6% of closed group projected payroll and 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 7.50% per annum.
- (8) As illustrated in this Exhibit, the Plan's 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 7.50% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2015 shown earlier in this report, pursuant to Paragraph 44 of GASB Statement No. 67.

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