San Bernardino County Employees' Retirement Association

Actuarial Valuation and Review

As of June 30, 2021

Segal

Segal

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October 18, 2021

Board of Retirement
San Bernardino County Employees' Retirement Association
348 West Hospitality Lane, Suite 100
San Bernardino, CA 92408

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2021. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for July 1, 2022 to June 30, 2023.

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

The actuarial calculations were directed under the supervision of Molly Calcagno, ASA, Enrolled Actuary, MAAA. 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 this 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 Association.

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

Sincerely,

Segal

Paul Angelo, FSA, EA, MAAA, FCA Senior Vice President and Actuary	Molly Calcagno, ASA, EA, MAAA Actuary

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the San Bernardino County Employees' Retirement Association ("SBCERA" or "the Association") as of June 30, 2021. The valuation was performed to determine whether the assets and contribution rates are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of current Plan assets to cover the estimated cost of settling the Plan's accrued benefit obligations.

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; and changes in plan provisions or applicable law.

The contribution requirements presented in this report are based on:

- The benefit provisions of the pension plan, as administered by SBCERA;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2021, provided by SBCERA;
- The assets of the Plan as of June 30, 2021, provided by SBCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board of Retirement for the June 30, 2021 valuation;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Board of Retirement for the June 30, 2021 valuation; and
- The funding policy adopted by the Board of Retirement.

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

Section 1: Actuarial Valuation Summary

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the Association's 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.

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 this valuation, we have applied the funding policy last reviewed with the Board of Retirement in 2014. Details of the funding policy are provided in *Section 4, Exhibit I* on pages 94 and 95.

A schedule of current amortization balances and payments may be found in *Section 3, Exhibit H* starting on page 73. A graphical projection of the Unfunded Actuarial Accrued Liability (UAAL) amortization balances and payments has been included in *Section 3, Exhibit I* on pages 80 and 81.

The Actuarial Standards Board Actuarial Standard of Practice (ASOP) No. 4 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 $3.8 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 rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2022 through June 30, 2023.

Section 1: Actuarial Valuation Summary

Valuation Highlights

1. On July 30, 2020, the California Supreme Court issued a decision in the Alameda County Deputy Sheriffs' Assn. et al. v. Alameda County Employees' Retirement Assn. litigation that clarified what should be considered compensation earnable for Tier 1 members and pensionable compensation for Tier 2 members. In response, the Board adopted Resolution 2020-5, which detailed the implementation of the Alameda decision including reclassifying certain pay items for inclusion in compensation earnable. The results in this valuation reflect the reclassification of those pay codes, which reduced the UAAL by $132.8 million and decreased the average employer contribution rate by 0.56% of payroll. However, it should be noted that any additional impact on the UAAL related to recovery of benefits and/or refunds of member contributions previously paid in conjunction with these pay items has not been reflected in this valuation but will be reflected in future valuations once it is known.

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2. The ratio of the Actuarial Value of Assets to Actuarial Accrued Liabilities increased from 77.9% to 82.0%. This ratio is one measure of funding status, and its history is a measure of funding progress. The ratio of the Market Value of Assets to the Actuarial Accrued Liability increased from 71.9% to 91.2%. These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.

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3. The Association's UAAL (which is based on the Actuarial Value of Assets) decreased from $3.17 billion to $2.70 billion. The decrease in UAAL is primarily due to the investment return (after "smoothing") more than the 7.25% return assumption and the implementation of the Alameda decision described above. A complete reconciliation of the Association's UAAL is provided in *Section 2, Subsection E*.

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4. The net actuarial gain from investment and contribution experience is $268.1 million, or 1.8% of Actuarial Accrued Liability. The net experience loss from sources other than investment and contribution experience was 0.3% of the Actuarial Accrued Liability. This loss was primarily due to individual salary increases higher than expected.

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5. The average employer contribution rate calculated in this valuation decreased from 34.33% of payroll to 32.63% of payroll. This decrease is primarily due to the investment return (after "smoothing") more than the 7.25% return assumption and the implementation of the Alameda decision described above. A complete reconciliation of the Association's average employer contribution rate is provided in *Section 2, Subsection F.*

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Based on the Association's UAAL amortization schedule, the average employer UAAL contribution rate (excluding Safety) in the June 30, 2022 valuation will reflect a decrease as the June 30, 2002 restart layer is fully amortized during the 2021-2022 plan year. The only exception is for the Safety cost group where the June 30, 2002 restart layer was a credit layer. As a result, the employer UAAL contribution rate for the Safety cost group will reflect an increase of about 3% of payroll when that layer is fully amortized during the 2021-2022 plan year.

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6. The average member rate calculated in this valuation has decreased from 11.12% of payroll to 10.96% of payroll. This change is due to changes in member demographics amongst the tiers. A complete reconciliation of the Association's average member rate is provided in *Section 2, Subsection F*.

Section 1: Actuarial Valuation Summary

7. The Market Value of Assets as of June 30, 2021 reflected in this funding valuation report is based on the preliminary Market Value of Assets provided in the unaudited financial statement. The final Market Value of Assets provided in the June 30, 2021 financial statement was lower than the preliminary Market Value of assets provided in the unaudited financial statement by $640,000. The updated Market Value of Assets has been reflected only in the June 30, 2021 financial reporting valuation report.

8. This report reflects the $43,852 additional contribution made by LAFCO towards their UAAL on June 24, 2021. This amount will be amortized as a level percent of pay over a period twenty years and be credited with earnings based on the Plan's market value investment return every year. LAFCO has a separate recommended employer UAAL contribution rate that is different from the rest of the Other General cost group as shown in *Section 2, Subsection F*.

Pg. 26 9. The rate of return on the Market Value of Assets was 32.61% for the 2020-2021 plan year. The return on the Actuarial Value of Assets was 10.15% for the same period after considering the recognition of prior years' investment gains and losses. This resulted in an actuarial gain when measured against the assumed rate of return of 7.25%. This actuarial investment gain decreased the average employer contribution rate by 1.43% of payroll. As part of the review of the assumed long-term rate of return on investments and other assumptions in the next triennial experience study scheduled for 2023, we would examine the low fixed income interest rate environment, and evolving expectations of future investment returns for various asset classes. This will allow us to assist the Board as they continue to monitor anticipated investment returns relative to the assumed long-term rate of return on investment of 7.25%

Pg. 21 10. The total unrecognized net investment <u>gain</u> as of June 30, 2021 is about $1.379 billion as compared to an unrecognized net investment <u>loss</u> of $846 million in the previous valuation. This deferred investment gain of $1.379 billion will be recognized in the determination of the Actuarial Value of Assets for funding purposes in the next few years as shown in *Section 2, Subsection B.*

    The net deferred gains of $1.379 billion represent about 10.1% of the Market Value of Assets. Unless offset by future investment losses or other unfavorable experience, the recognition of the $1.379 billion market gains is expected to have an impact on the Association's future funded ratio and contribution rate requirements. This potential impact may be illustrated as follows:

    a. If the net deferred <u>gains</u> in this year's valuation were recognized immediately and entirely in the Actuarial Value of Assets, the funded ratio would increase from 82.0% to 91.2%

       For comparison purposes, if all the net deferred <u>losses</u> in the June 30, 2020 valuation had been recognized immediately in the June 30, 2020 valuation, the funded ratio in last year's valuation would have decreased from 77.9% to 71.9%.

    b. If the net deferred <u>gains</u> in this year's valuation were recognized immediately and entirely in the Actuarial Value of Assets, the average employer contribution rate would decrease from 32.63% to 26.46% of payroll.

       For comparison purposes, if all the net deferred <u>losses</u> in the June 30, 2020 valuation had been recognized immediately in the June 30, 2020 valuation, the average employer contribution rate in last year's valuation would have increased from 34.33% to 38.21% of payroll.

Section 1: Actuarial Valuation Summary

11. CERTNA terminated from SBCERA on June 30, 2021. The assets and liabilities (valued using ongoing assumptions) associated with this employer have been transferred from the County General cost group to the Withdrawn Employers cost group. In addition, the assets and liabilities associated with the CERTNA member who had service as a County General member have been transferred from the County General cost group to the Withdrawn Employers cost group assuming the liability related to the County General service was fully funded.

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12. The Actuarial Standards Board approved Actuarial Standard of Practice No. 51 (ASOP 51) regarding risk assessment, which was first effective with SBCERA's June 30, 2019 actuarial valuation. ASOP 51 requires actuaries to identify and assess risks that "may reasonably be anticipated to significantly affect the plan's future financial condition". Examples of key risks listed that are particularly relevant to SBCERA are asset/liability mismatch risk, investment risk, and longevity risk. The standard also requires an actuary to consider if there is any ongoing contribution risk to the plan, however it does not require the actuary to evaluate the particular ability or willingness of contributing entities to make contributions when due, nor does it require the actuary to assess the likelihood or consequences of future changes in applicable law.

    The actuary's initial assessment can be strictly a qualitative discussion about potential adverse experience and the possible effect on future results, but it may also include quantitative numerical demonstrations where informative. The actuary is also encouraged to consider a recommendation as to whether a more detailed assessment or risk report would be significantly beneficial for the intended user in order to examine particular financial risks. When making that recommendation, the actuary will take into account such factors as the plan's design, risk profile, maturity, size, funded status, asset allocation, cash flow, possible insolvency and current market conditions.

    Because the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan. We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Association's future financial condition, but have included a brief discussion of key risks that may affect the Association in *Section 2, Subsection J*. A more detailed assessment of the risks tailored to specific interests or concerns of the Board would provide the Board with a better understanding of the inherent risks. This assessment would further discuss and highlight information and risks particular to SBCERA such as detailed historical experience and key events, growing plan maturity, heightened contribution sensitivity to asset and liability changes, and projected sensitivity to potential future investment returns through selected scenario or stress test projections.

13. Segal strongly recommends an actuarial funding policy that targets 100% funding of the Actuarial Accrued Liability. Generally, this implies payments that are ultimately at least enough to cover Normal Cost, interest on the UAAL and the principal balance. The funding policy adopted by the Board meets this standard.

14. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution (ADC) under the Plan's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under

Section 1: Actuarial Valuation Summary

Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of June 30, 2021, will be provided separately. The accounting disclosures will utilize different methodologies from those employed in the funding valuation, as required by the GASB. However, the ADC in this valuation is expected to be used as the ADC for GASB financial reporting.

15. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2021. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2021. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.

Summary of Key Valuation Results

		June 30, 2021		June 30, 2020	
		Total Rate	Estimated Annual Dollar Amount[1] ($ in '000s)	Total Rate	Estimated Annual Dollar Amount[1] ($ in '000s)
Employer Contribution Rates:	• County General Tier 1	27.17%	$168,809	28.49%	$182,033
	• County General Tier 2	24.03%	122,689	25.34%	115,801
	• Safety Tier 1	59.75%	107,471	61.66%	111,348
	• Safety Tier 2	51.21%	53,114	53.34%	50,430
	• County General and Safety Combined	31.94%	452,083	33.52%	459,612
	• Superior Court Tier 1	29.67%	13,887	31.18%	15,503
	• Superior Court Tier 2	26.53%	8,463	28.03%	8,785
	• South Coast Air Quality Management District Tier 1	47.44%	23,522	49.56%	26,595
	• South Coast Air Quality Management District Tier 2	41.36%	13,376	43.20%	13,187
	• Other General Tier 1 (Non-LAFCO)	40.48%	12,773	43.07%	14,961
	• Other General Tier 2 (Non-LAFCO)	35.48%	6,513	38.14%	6,013
	• Other General Tier 1 (LAFCO)	35.30%	134	39.92%	177
	• Other General Tier 2 (LAFCO)	30.30%	20	34.99%	24
	All Categories Combined	**32.63%**	**$530,771**	**34.33%**	**$544,857**
Average Member Contribution Rates:[2]	• County General Tier 1	11.36%	$70,581	11.54%	$73,734
	• County General Tier 2	9.04%	46,155	9.09%	41,541
	• Safety Tier 1	13.89%	24,983	13.94%	25,174
	• Safety Tier 2	15.84%	16,429	16.06%	15,184
	• County General and Safety Combined	11.17%	158,148	11.35%	155,633
	• Superior Court Tier 1	11.01%	5,153	11.29%	5,614
	• Superior Court Tier 2	9.04%	2,884	9.09%	2,849
	• South Coast Air Quality Management District Tier 1	8.63%	4,279	8.52%	4,572
	• South Coast Air Quality Management District Tier 2	8.12%	2,626	7.98%	2,436
	• Other General Tier 1	10.92%	3,486	11.21%	3,943
	• Other General Tier 2	9.12%	1,681	9.10%	1,442
	All Categories Combined	**10.96%**	**$178,257**	**11.12%**	**$176,489**

1 Based on projected annual compensation for each valuation date.

2 The refundability factors are 1.04 for General Tier 1 and 1.02 for Safety Tier 1 as of June 30, 2021 and 1.05 for General Tier 1 and 1.02 for Safety Tier 1 as of June 30, 2020. See *Section 4, Exhibit III* for the individual member contribution rates.

Section 1: Actuarial Valuation Summary

Summary of Key Valuation Results (continued)

		June 30, 2021 ($ in '000s)	June 30, 2020 ($ in '000s)
Actuarial Accrued Liability as of June 30:	• Retired members and beneficiaries	$8,125,345	$7,701,229
	• Inactive vested members[1]	600,124	554,246
	• Active members	6,205,311	6,016,424
	• Survivor Benefit & Burial Allowance	26,655	26,297
	• Total Actuarial Accrued Liability	14,957,435	14,298,196
	• Normal Cost for plan year beginning June 30	384,809	380,888
Assets as of June 30:[4]	• Market Value of Assets (MVA)[2,3]	$13,637,493	$10,287,334
	• Actuarial Value of Assets (AVA)[2,5]	12,258,925	11,133,173
Funded status as of June 30:	• Unfunded Actuarial Accrued Liability on Market Value of Assets basis	$1,319,942	$4,010,862
	• Funded percentage on MVA basis	91.18%	71.95%
	• Unfunded Actuarial Accrued Liability on Actuarial Value of Assets basis	$2,698,510	$3,165,023
	• Funded percentage on AVA basis	81.96%	77.86%
Key assumptions:	• Net investment return	7.25%	7.25%
	• Price inflation	2.75%	2.75%
	• Payroll growth	3.25%	3.25%

1 Includes inactive members with member contributions on deposit.
2 The June 30, 2021 and June 30, 2020 values exclude $14.9 million and $15.3 million, respectively. These amounts represent the associated present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers.
3 Based on the preliminary unaudited financial statement provided by SBCERA for the June 30, 2021 funding valuation.
4 See *Section 2, Subsection B* on page 23 for the development of the Valuation Value of Assets (VVA) by cost group.
5 Includes assets held for Survivor Benefit and Burial Allowance reserves. For June 30, 2021, those amounts are $83,927 and $462, respectively. The AVA for retirement plan benefits is $12,174,535 as of June 30, 2021.

Summary of Key Valuation Results (continued)

		June 30, 2021	June 30, 2020	Change From Prior Year
Demographic data as of June 30:	**Active Members:**			
	• Number of members	21,500	21,814	-1.4%
	• Average age	44.1	43.9	0.2
	• Average service	10.8	10.6	0.2
	• Total projected compensation	$1,626,448,779	$1,587,324,431	2.5%
	• Average projected compensation	$75,649	$72,766	4.0%
	Retired Members and Beneficiaries:			
	• Number of members:			
	– Service retired	10,639	10,308	3.2%
	– Disability retired	1,687	1,684	0.2%
	– Beneficiaries[1]	1,966	1,841	6.8%
	– Total	14,292	13,833	3.3%
	• Average age	69.8	69.5	0.3
	• Average monthly benefit	$3,896	$3,790	2.8%
	Inactive Vested Members:			
	• Number of members[2]	8,197	7,494	9.4%
	• Average Age	44.1	44.2	-0.1
	Total Members:	43,989	43,141	2.0%

[1] Excludes beneficiaries that are only receiving Survivor Benefit amounts.
[2] Includes inactive members with member contributions on deposit.

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 a valuation, 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. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our 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 the Association. 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	The valuation is based on the Market Value of Assets as of the valuation date, as provided by the Association. The Association uses a “Valuation Value of Assets” that differs from market value to gradually reflect year-to-year changes in the Market Value of Assets in determining the contribution requirements.
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.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

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

The actuarial valuation is prepared at the request of the Association. 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 cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan. Future contribution requirements may differ from those determined in the valuation because of:

- Differences between actual experience and anticipated experience;
- Changes in actuarial assumptions or methods;
- Changes in statutory provisions; and
- Differences between the contribution rates determined by the valuation and those adopted by the Board of Retirement.[1]

Some actuarial results in this report are not rounded, but that does not imply precision.

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 Association should look to their other advisors for expertise in these areas.

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

[1] SBCERA has a proven track record of adopting the Actuarial Determined Contributions as determined by the valuation and based on the Board's Actuarial Funding Policy.

Section 2: Actuarial Valuation Results

A. Member Data

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

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

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

Member Population: 2012 – 2021

Year Ended June 30	Active Members	Inactive Vested Members[1]	Retired Members and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Retired Members and Beneficiaries to Actives
2012	19,306	3,782	9,736	13,518	0.70	0.50
2013	19,401	3,921	10,173	14,094	0.73	0.52
2014	19,497	4,356	10,618	14,974	0.77	0.54
2015	19,938	4,804	11,128	15,932	0.80	0.56
2016	20,538	5,136	11,630	16,766	0.82	0.57
2017	21,110	5,547	12,179	17,726	0.84	0.58
2018	21,465	6,211	12,716	18,927	0.88	0.59
2019	21,823	6,726	13,244	19,970	0.92	0.61
2020	21,814	7,494	13,833	21,327	0.98	0.63
2021	21,500	8,197	14,292	22,489	1.05	0.66

[1] Includes inactive members with member contributions on deposit.

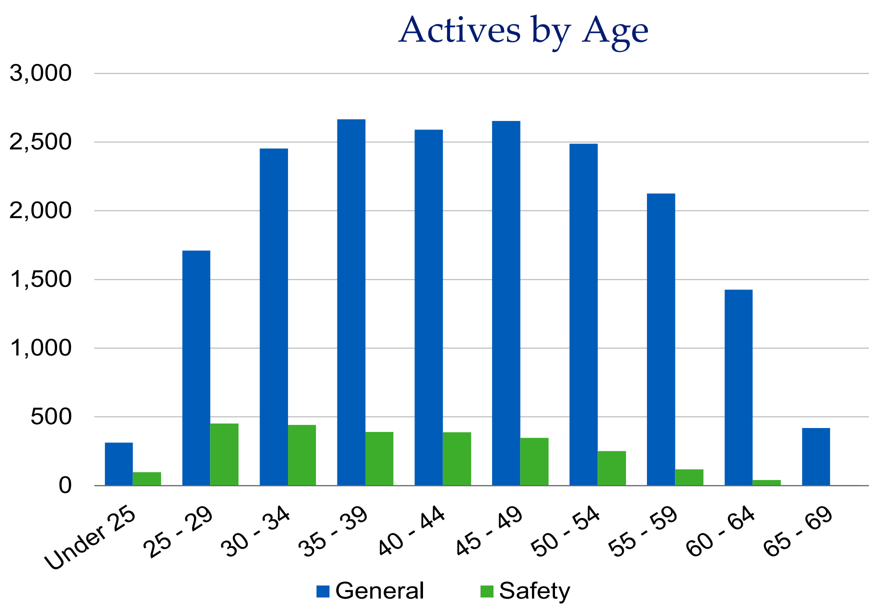
Section 2: Actuarial Valuation Results

Active Members

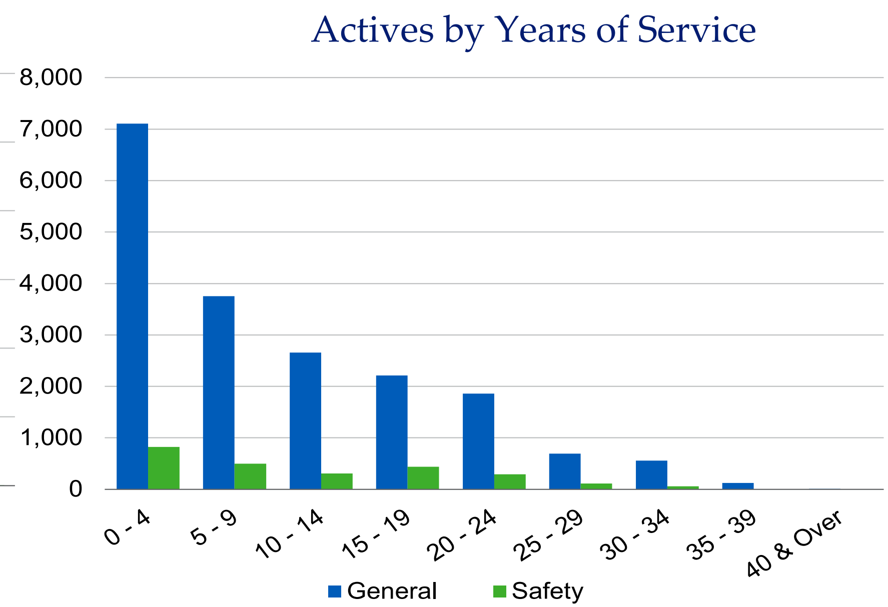
Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 21,500 active members with an average age of 44.1, average years of service of 10.8 years and average compensation of $75,649. The 21,814 active members in the prior valuation had an average age of 43.9, average service of 10.6 years and average compensation of $72,766.

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

Distribution of Active Members as of June 30, 2021



Average age	44.1
Prior year average age	43.9
Difference	0.2



Average years of service	10.8
Prior year average years of service	10.6
Difference	0.2

Inactive Members

In this year's valuation, there were 8,197 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 7,494 in the prior valuation.

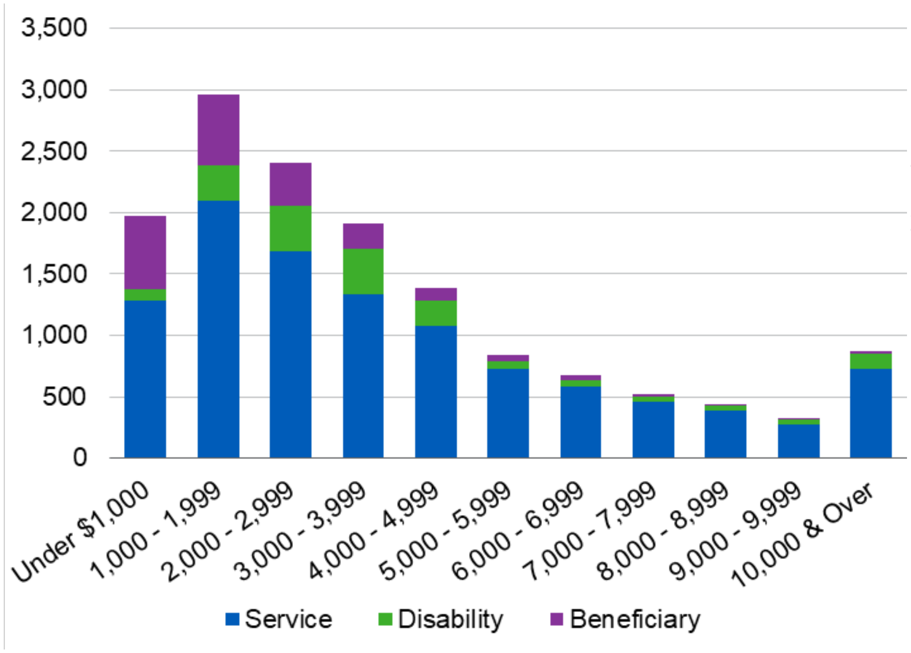
Retired Members and Beneficiaries

As of June 30, 2021, 12,326 retired members and 1,966 beneficiaries were receiving total monthly benefits of $55,687,770. For comparison, in the previous valuation, there were 11,992 retired members and 1,841 beneficiaries receiving total monthly benefits of $52,429,803.

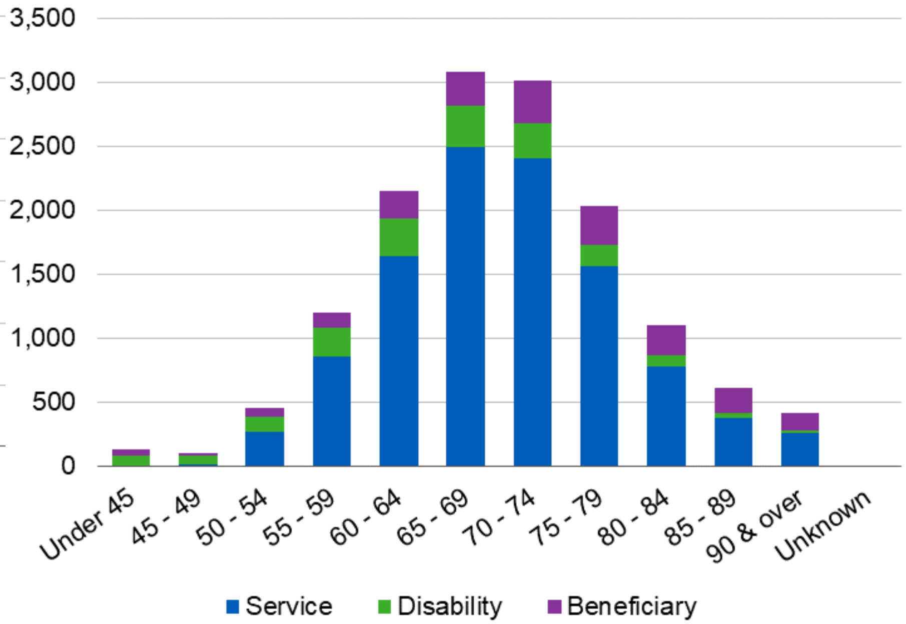
As of June 30, 2021, the average monthly benefit for retired members and beneficiaries is $3,896, compared to $3,790 in the previous valuation. The average age for retired members and beneficiaries is 69.8 in the current valuation, compared with 69.5 in the prior valuation.

Distribution of Retired Members and Beneficiaries as of June 30, 2021

Retired Members and Beneficiaries by Type and Monthly Amount



Retired Members and Beneficiaries by Type and Age



Historical Plan Population

The chart below demonstrates the progression of the active population over the last ten years. The chart also shows the growth among the retired population over the same time period.

Member Data Statistics: 2012 – 2021

	Active Members			Retired Members and Beneficiaries		
Year Ended June 30	**Count**	**Average Age**	**Average Service**	**Count**	**Average Age**	**Average Monthly Amount**
2012	19,306	44.7	11.1	9,736	68.5	$2,909
2013	19,401	44.8	11.3	10,173	68.5	3,037
2014	19,497	44.7	11.3	10,618	68.6	3,128
2015	19,938	44.5	11.1	11,128	68.8	3,228
2016	20,538	44.4	10.9	11,630	68.9	3,331
2017	21,110	44.2	10.7	12,179	69.0	3,459
2018	21,465	44.0	10.7	12,716	69.2	3,571
2019	21,823	44.0	10.6	13,244	69.4	3,679
2020	21,814	43.9	10.6	13,833	69.5	3,790
2021	21,500	44.1	10.8	14,292	69.8	3,896

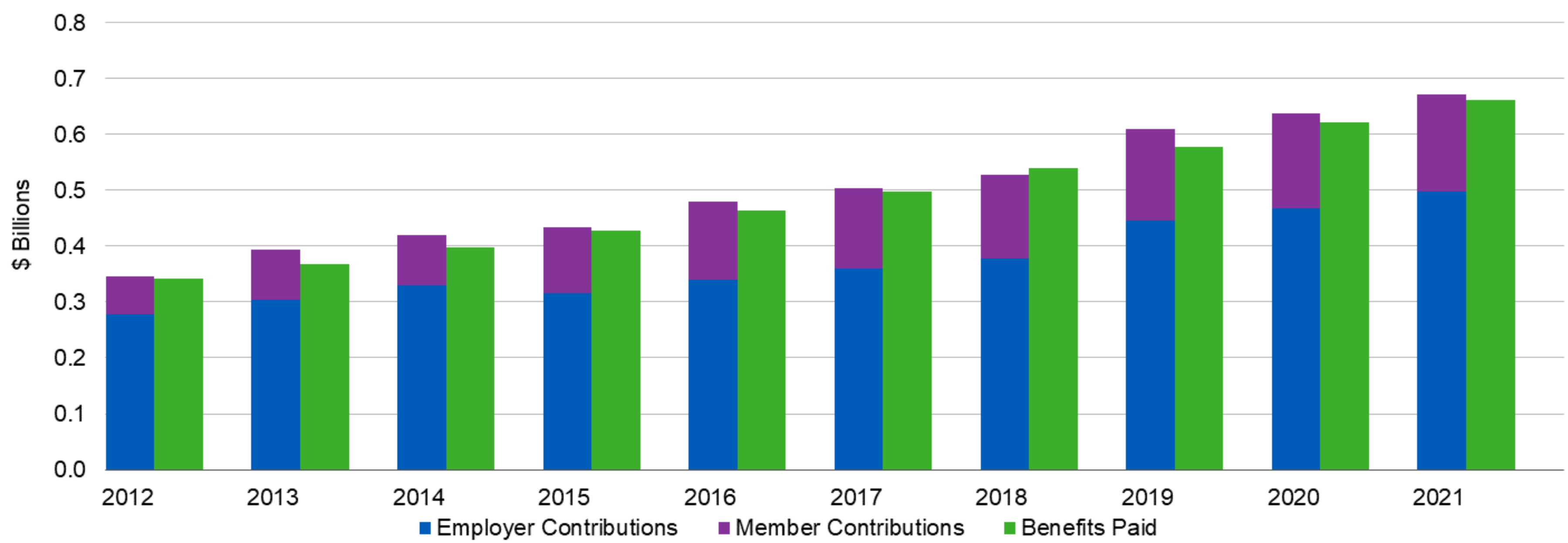
B. Financial Information

Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and investment earnings (less investment fees) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits D, E, F and G*.

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board 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 valuation 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.

Comparison of Contributions Made with Benefits for Years Ended June 30, 2012 – 2021



Section 2: Actuarial Valuation Results

Determination of Actuarial Value of Assets for Year Ended June 30, 2021

		Actual Return	Expected Return	Investment Gain/(Loss)	Percent Deferred	Unrecognized Amount
1	**Market Value of Assets**[1]					**$13,637,492,762**
2	Calculation of unrecognized return[2]					
	a. Year ended June 30, 2017	$1,098,198,034	$614,520,648	$483,677,386	0%	$0
	b. Year ended June 30, 2018	797,480,630	672,621,127	124,859,503	20%	24,971,901
	c. Year ended June 30, 2019	502,752,677	730,578,345	(227,825,668)	40%	(91,130,267)
	d. Year ended June 30, 2020	(302,050,888)	767,727,375	(1,069,778,263)	60%	(641,866,958)
	e. Year ended June 30, 2021	3,353,791,858	745,550,010	2,608,241,848	80%	2,086,593,478
	f. Total unrecognized return[3]					$1,378,568,154
3	**Actuarial Value of Assets 1 - 2f**					**$12,258,924,608**
4	Actuarial Value of Assets as a percentage of Market Value of Assets 3 / 1					89.9%
5	Non-valuation reserves:					
	a. Burial Allowance Reserve					$462,405
6	**Preliminary Valuation Value of Assets 3 - 5a**					**$12,258,462,203**
7	**Valuation Value of Assets**[4]					**$12,273,329,497**

[1] Based on the preliminary unaudited financial statement provided by SBCERA for this funding valuation.
[2] Recognition at 20% per year over five years.
[3] Deferred return as of June 30, 2021 recognized in each of the next four years:

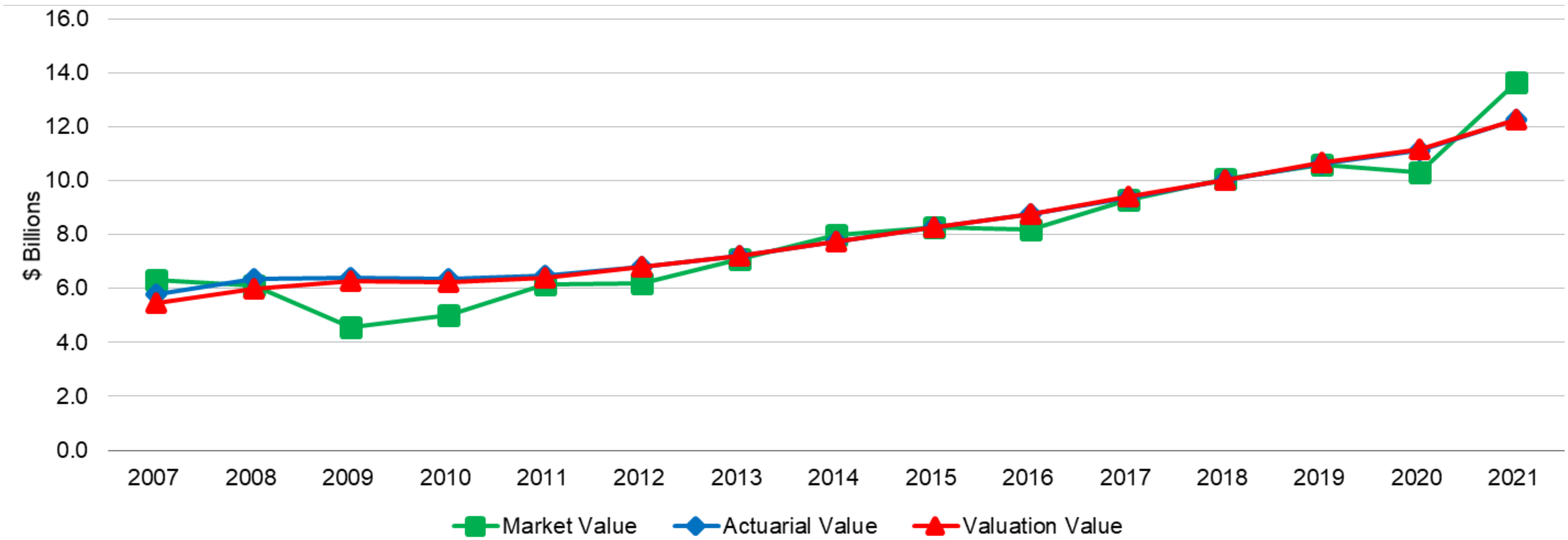
a.	Amount recognized on June 30, 2022	$287,099,484
b.	Amount recognized on June 30, 2023	262,127,583
c.	Amount recognized on June 30, 2024	307,692,717
d.	Amount recognized on June 30, 2025	521,648,370
e.	Subtotal	$1,378,568,154

[4] Includes $14.9 million that represents the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers.

Section 2: Actuarial Valuation Results

The Market Value, Actuarial Value and Valuation Value of Assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the Actuarial Value of Assets tracks the Market Value of Assets. The Valuation Value of Assets is the actuarial value, excluding any non-valuation reserves. The Valuation Value of Assets is significant because the Plan'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.

Market Value, Actuarial Value, and Valuation Value of Assets as of June 30, 2007 – 2021



Section 2: Actuarial Valuation Results

Allocation of Valuation Value of Assets as of June 30, 2021

		General			
		County	Superior Court	SCAQMD	Others
1	**Allocated Valuation Value of Assets as of Beginning of Plan Year**	**$6,929,867,691**	**$441,775,045**	**$729,312,335**	**$296,849,330**
2	Allocated Valuation Value of Assets as of Beginning of Plan Year Including Future Safety Contributions	6,929,867,691	441,775,045	729,312,335	296,849,330
3	Member Contributions	112,848,648	7,763,446	6,607,121	4,919,447
4	Employer Contributions	269,370,689	20,854,807	33,575,734	18,096,027
5	Allocated Administrative Expenses	10,019,088	741,073	769,651	466,346
6	Benefit Payments Excluding Burial Allowance Payments ($250)	396,145,856	21,380,772	52,337,116	17,825,725
7	**Subtotal (Item 1+3+4-5-6)**	**$6,905,922,084**	**$448,271,453**	**$716,388,423**	**$301,572,733**
8	Weighted Average Fund Balance	6,916,632,327	445,023,249	722,850,379	299,189,106
9	Earnings Allocated in Proportion to Item 8	703,271,300	45,249,200	73,498,185	30,421,035
10	Withdrawn Employer Asset Transfer	(4,416,529)[1]	0	0	0
11	**Allocated Valuation Value of Assets as of End of Plan Year (Item 7+9+10)**	**$7,604,776,855**	**$493,520,653**	**$789,886,608**	**$331,993,768**
12	**Allocated Valuation Value of Assets as of End of Plan Year Including Future Safety Contributions**	**$7,604,776,855**	**$493,520,653**	**$789,886,608**	**$331,993,768**

Note: Results may be slightly off due to rounding.

[1] Asset transfer to Withdrawn Employers cost group with respect to the CERTNA termination.

Section 2: Actuarial Valuation Results

Allocation of Valuation Value of Assets as of June 30, 2021 (continued)

		Safety	Withdrawn Employers[1]	Survivor Benefit Reserve	Total
1	**Allocated Valuation Value of Assets as of Beginning of Plan Year**	**$2,635,224,083**	**$20,616,457**	**$78,997,934**	**$11,132,642,875**
2	Allocated Valuation Value of Assets as of Beginning of Plan Year Including Future Safety Contributions	2,650,545,188[2]	20,616,457	78,997,934	11,147,963,980
3	Member Contributions	40,165,667	0	649,128	172,953,457
4	Employer Contributions	153,694,677	2,506,253	648,942	498,747,129
5	Allocated Administrative Expenses	2,515,253	0	0	14,511,411
6	Benefit Payments Excluding Burial Allowance Payments ($250)	169,970,076	910,392	2,184,880	660,754,817
7	**Subtotal (Item 1+3+4-5-6)**	**$2,656,599,098**	**$22,212,318**	**$78,111,124**	**$11,129,077,233**
8	Weighted Average Fund Balance	2,646,380,238	20,161,261	78,554,529	11,128,791,089
9	Earnings Allocated in Proportion to Item 8	269,079,399	2,049,962	5,815,889	1,129,384,970
10	Withdrawn Employer Asset Transfer	0	4,416,529[3]	0	0
11	**Allocated Valuation Value of Assets as of End of Plan Year (Item 7+9+10)**	**$2,925,678,497**	**$28,678,809**	**$83,927,013**	**$12,258,462,203**
12	**Allocated Valuation Value of Assets as of End of Plan Year Including Future Safety Contributions**	**$2,940,545,791[4]**	**$28,678,809**	**$83,927,013**	**$12,273,329,497**

Note: Results may be slightly off due to rounding.

[1] Withdrawn employers include San Bernardino International Airport Authority, Inland Valley Development Agency, Rim of the World Recreation & Park District, Inland Library System and CERTNA. In particular, CERTNA withdrew from SBCERA on June 30, 2021 and the associated assets were transferred as of the end of the plan year.

[2] Includes $15.3 million that represents the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers.

[3] Asset transfer to Withdrawn Employers cost group with respect to the CERTNA termination.

[4] Includes $14.9 million that represents the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers.

C. Actuarial Experience

To calculate any actuarially determined 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 actuarially determined contribution will decrease from the previous year. On the other hand, the actuarially determined contribution 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.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years. The changes in actuarial assumptions based on the experience study performed earlier this year are reflected in this valuation.

The net total gain is $216.6 million, which includes $322.5 million from investment gains, a loss of $54.5 million from contribution experience and $51.5 in losses from all other sources. The net experience variation from individual sources other than investments and contributions was 0.3% of the Actuarial Accrued Liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended June 30, 2021

1	Net gain from investments[1]	$322,548,000
2	Net loss from contribution experience	(54,470,000)
3	Net loss from other experience[2]	(51,521,000)
4	**Net experience gain: 1 + 2 + 3**	**$216,557,000**

[1] Details on next page.
[2] See *Section 2, Subsection E* for further details. Does not include the effect of plan or assumption changes, if any.

Investment Experience

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 Plan’s investment policy. The rate of return on the Market Value of Assets was 32.61% for the year ended June 30, 2021.

For valuation purposes, the assumed rate of return on the Valuation Value of Assets is 7.25%. The actual rate of return on a valuation basis for the 2020-2021 plan year was 10.15%. Because the actual return for the year was more than the assumed return, the Plan experienced an actuarial gain during the year ended June 30, 2021 with regard to its investments.

Investment Experience for Year Ended June 30, 2021

		Market Value	Actuarial Value	Valuation Value
1	Net investment income	$3,353,791,858	$1,129,384,971	$1,129,384,970
2	Average value of assets	10,283,448,417	11,129,287,150	11,128,791,089
3	Rate of return: **1 ÷ 2**	32.61%	10.15%	10.15%
4	Assumed rate of return	7.25%	7.25%	7.25%
5	Expected investment income: **2 x 4**	$745,550,010	$806,873,318	$806,837,354
6	**Actuarial gain/(loss): 1 - 5**	**$2,608,241,848**	**$322,511,653**	**$322,547,616**

Section 2: Actuarial Valuation Results

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 and valuation basis compared to the actual market value investment return for the last ten years, including averages over select time periods.

Investment Return – Market Value, Actuarial Value and Valuation Value: 2012 – 2021

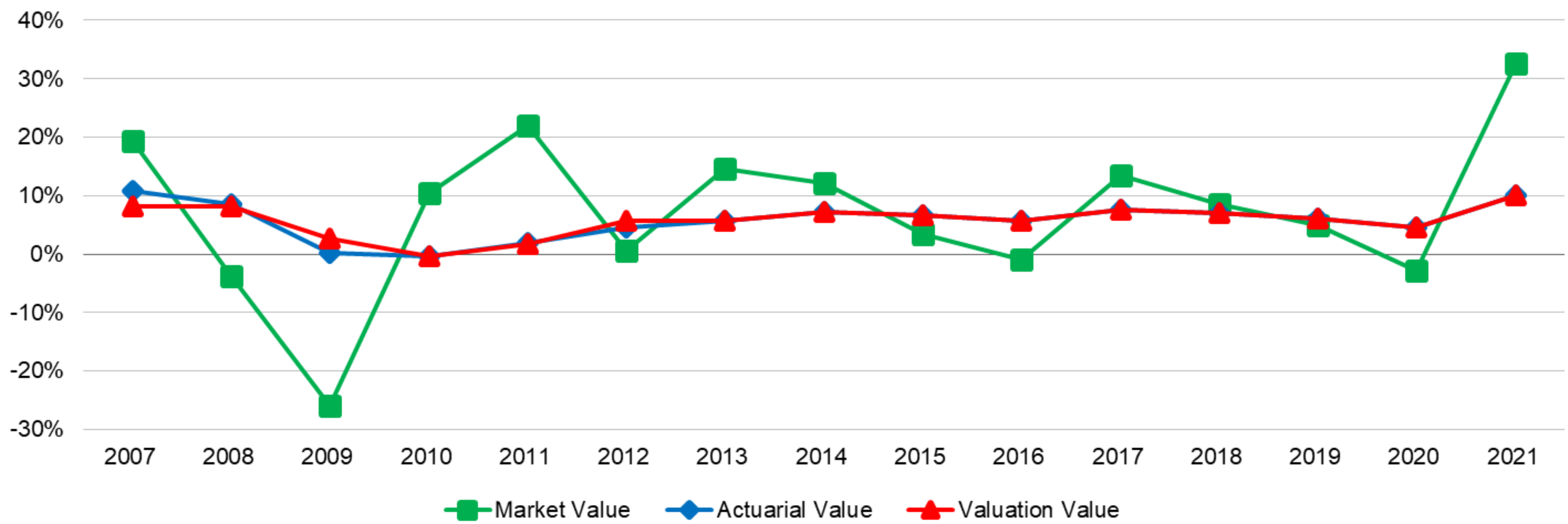
	Market Value Investment Return		Actuarial Value Investment Return		Valuation Value Investment Return	
Year Ended June 30	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**
2012	$31,767,425	0.52%	$299,992,593	4.62%	$365,138,308	5.69%
2013	904,479,788	14.62%	388,686,270	5.71%	388,686,270	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%
2017	1,098,198,034	13.40%	655,747,751	7.51%	655,747,751	7.51%
2018	797,480,630	8.60%	653,818,087	6.97%	653,818,087	6.97%
2019	502,752,677	4.99%	602,874,355	6.01%	602,874,355	6.01%
2020	(302,050,888)	(2.85%)	489,793,510	4.60%	489,793,510	4.60%
2021	3,353,791,858	32.61%	1,129,384,971	10.15%	1,129,384,970	10.15%
Most recent five-year geometric average return		**11.25%**		**7.07%**		**7.07%**
Most recent ten-year geometric average return		**8.87%**		**6.63%**		**6.71%**

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

Section 2: Actuarial Valuation Results

Section 2, Subsection B described the actuarial asset valuation method that gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Market, Actuarial and Valuation Rates of Return for Years Ended June 30, 2007 – 2021



Contributions

Contributions for the year ended June 30, 2021 totaled $668.9 million, compared to the projected amount of $721.3 million. This resulted in a loss of $54.5 million from contribution experience for the year, when adjusted for timing.

Non-Investment 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 participants,
- retirement experience (earlier or later than projected),
- mortality (more or fewer deaths than projected),
- the number of disability retirements (more or fewer than projected),
- salary increases (greater or smaller than projected), and
- cost-of-living adjustments (COLAs) higher or lower than anticipated.

The net loss from this other experience for the year ended June 30, 2021 amounted to $51.5 million, which is 0.3% of the Actuarial Accrued Liability. See *Section 2, Subsection E* for a detailed development of the Unfunded Actuarial Accrued Liability.

D. Other Changes in the Actuarial Accrued Liability

The Actuarial Accrued Liability as of June 30, 2021 is $15.0 billion, an increase of $0.7 billion, or 4.6%, from the Actuarial Accrued Liability as of the prior valuation date. The liability is expected to grow each year with Normal Cost and interest, and to decline due to benefit payments made. Additional fluctuations can occur due to actual experience that differs from expected (as discussed in the previous subsection).

Actuarial Assumptions and Methods

There were no changes in actuarial assumptions or methods since the prior valuation.

Details on actuarial assumptions and methods are in *Section 4, Exhibit I*.

Plan Provisions

On July 30, 2020, the California Supreme Court issued a decision in the Alameda County Deputy Sheriff's Assn. et al., v. Alameda County Employees' Retirement Assn. litigation that clarified what should be considered compensation earnable for Tier 1 members and pensionable compensation for Tier 2 members for that and other similarly situated 1937 Act county employees retirement systems. See Item (1) on page 7 of this report for a discussion of the action taken by SBCERA.

- The change in plan provisions resulted in a decrease of $132.8 million in the Actuarial Accrued Liability and a decrease of $4.0 million in the Normal Cost.

A summary of plan provisions is in *Section 4, Exhibit II*.

E. Development of Unfunded Actuarial Accrued Liability

Development for Year Ended June 30, 2021 ($ in '000s)

1	**Unfunded Actuarial Accrued Liability at beginning of year[1]**		**$3,202,933**
2	Total Normal Cost at middle of year[2]		374,218
3	Expected administrative expenses		13,492
4	Expected employer and member contributions[3]		(721,346)
5	Interest		221,448
6	Expected Unfunded Actuarial Accrued Liability		$3,090,745
7	Changes due to:		
	a. Investment return more than expected (after "smoothing")	$(322,548)	
	b. Actual contributions less than expected[4]	59,545	
	c. Additional UAAL contributions	(44)	
	d. Withdrawn employer contributions[5]	(5,031)	
	e. Individual salary increases higher than expected	61,104	
	f. Other experience gain	(9,583)	
	g. Implementation of Alameda decision[6]	(132,810)	
	Total changes		$(349,367)
8	**Unfunded Actuarial Accrued Liability at end of year[1]**		**$2,741,378**

Note: The sum of items 7e through 7f equals the "Net loss from other experience" shown in *Section 2, Subsection C.* Results include five withdrawn employers.

[1] Beginning of the year and end of the year values are reduced by $15.3 million and $14.9 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 and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers. These values also exclude the Survivor Benefit Reserve, which had a surplus of assets over liabilities of $53.2 million at the beginning of the year and $57.7 million at the end of the year.

[2] Excludes administrative expense load.

[3] Excludes contributions made to Survivor Benefit Reserve during the year ended June 30, 2021. Includes contributions towards administrative expenses.

[4] Includes contribution loss from one-year delay in implementing higher contribution rates recommended in June 30, 2020 valuation.

[5] Withdrawn employers outstanding receivable payments for the Inland Library and CERTNA terminations have been included in the assets for this valuation.

[6] On July 30, 2020, the California Supreme Court issued a decision in the Alameda County Deputy Sheriff's Assn. et al., v. Alameda County Employees' Retirement Assn. litigation that clarified what should be considered compensation earnable for Tier 1 members and pensionable compensation for Tier 2 members for that and other similarly situated 1937 Act county employees retirement systems. See Item (1) on page 7 of this report for a discussion of the action taken by SBCERA.

F. Recommended Contribution

The recommended contribution is equal to the employer Normal Cost payment and a payment on the Unfunded Actuarial Accrued Liability. As of June 30, 2021, the average recommended employer contribution is 32.63% of compensation.

The Board sets the funding policy used to calculate the recommended contribution based on layered amortization periods. See *Section 4, Exhibit I* for further details on the funding policy.

The contribution requirement as of June 30, 2021 is based on the data previously described, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

Average Recommended Employer Contribution for Year Ended June 30

		2021		2020	
		Amount ($ in '000s)	% of Projected Compensation[1]	Amount ($ in '000s)	% of Projected Compensation[1]
1	Total Normal Cost[2]	$384,809	23.66%	$380,888	24.00%
2	Expected member contributions	178,257	10.96%	176,489	11.12%
3	Employer Normal Cost: 1 - 2	$206,552	12.70%	$204,399	12.88%
4	Actuarial Accrued Liability[3]	14,915,765		14,259,322	
5	Valuation Value of Assets[4]	12,160,723		11,048,349	
6	Unfunded Actuarial Accrued Liability (UAAL): 4 - 5	2,755,042		3,210,973	
7	Payment on UAAL	$324,219	19.93%	$340,458	21.45%
8	Total average recommended employer contribution: 3 + 7	$530,771	32.63%	$544,857	34.33%
9	**Projected compensation**	**$1,626,449**		**$1,587,325**	

Note: Results exclude withdrawn employers.

[1] Contributions are assumed to be paid at the middle of the year.
[2] Includes administrative expense load.
[3] Excludes liabilities held for Survivor Benefit, Burial Allowance and Excess Earnings reserves, as well as liabilities for Withdrawn Employers.
[4] Excludes assets held for Survivor Benefit, Burial Allowance and Excess Earnings reserves, as well as assets for Withdrawn Employers. The June 30, 2021 and June 30, 2020 values include $14.9 million and $15.3 million, respectively. These amounts represent the associated present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers.

Reconciliation of Average Recommended Employer Contribution Rate

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

Reconciliation of Average Recommended Employer Contribution Rate from June 30, 2020 to June 30, 2021

		Contribution Rate	Estimated Annual Dollar Amount[1] ($ in '000s)
1	**Average Recommended Employer Contribution as of June 30, 2020**	**34.33%**	**$544,857**
2	Effect of investment return more than expected (after "smoothing")	(1.43%)	(23,258)
3	Effect of actual contributions less than expected[2]	0.26%	4,229
4	Effect of individual salary increases higher than expected	0.27%	4,391
5	Effect of amortizing prior year's UAAL over a larger than expected projected total payroll	(0.06%)	(976)
6	Effect of changes in demographics of members amongst tiers on Normal Cost	(0.16%)	(2,602)
7	Effect of other experience gain[3]	(0.02%)	13,238
8	Effect of implementation of Alameda decision[4]	(0.56%)	(9,108)
9	Total change	(1.70%)	$(14,086)
10	**Average Recommended Employer Contribution as of June 30, 2021**	**32.63%**	**$530,771**

[1] Based on projected compensation for each valuation date shown.
[2] Includes contribution loss from one-year delay in implementing higher contribution rates recommended in June 30, 2021 valuation.
[3] Other differences in actual versus expected experience. Estimated annual dollar cost also reflects change in payroll from prior valuation.
[4] On July 30, 2020, the California Supreme Court issued a decision in the Alameda County Deputy Sheriff's Assn. et al., v. Alameda County Employees' Retirement Assn. litigation that clarified what should be considered compensation earnable for Tier 1 members and pensionable compensation for Tier 2 members for that and other similarly situated 1937 Act county employees retirement systems. See Item (1) on page 7 of this report for a discussion of the action taken by SBCERA.

Reconciliation of Average Recommended Member Contribution Rate

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

Reconciliation of Average Recommended Member Contribution Rate from June 30, 2020 to June 30, 2021

		Contribution Rate	Estimated Annual Dollar Amount[1] ($ in '000s)
1	**Average Recommended Member Contribution as of June 30, 2020**	**11.12%**	**$176,489**
2	Effect of changes in member demographics amongst tiers[2]	(0.16%)	$1,768
3	Effect of implementation of Alameda decision[3]	0.00%	0
4	Total change	(0.16%)	$1,768
5	**Average Recommended Member Contribution as of June 30, 2021**	**10.96%**	**$178,257**

[1] Based on projected compensation for each valuation date shown.
[2] Includes changes in demographic profile of the active membership. Estimated annual dollar cost also reflects change in payroll from prior valuation.
[3] On July 30, 2020, the California Supreme Court issued a decision in the Alameda County Deputy Sheriff's Assn. et al., v. Alameda County Employees' Retirement Assn. litigation that clarified what should be considered compensation earnable for Tier 1 members and pensionable compensation for Tier 2 members for that and other similarly situated 1937 Act county employees retirement systems. See Item (1) on page 7 of this report for a discussion of the action taken by SBCERA.

Section 2: Actuarial Valuation Results

Recommended Employer Contribution Rates

	June 30, 2021 Actuarial Valuation Recommended Rates for FY 2022-23[1]				June 30, 2020 Actuarial Valuation Recommended Rates for FY 2021-22[2]			
	Basic	**COLA**	**Total**	**Estimated Annual Dollar Amount[3] ($ in '000s)**	**Basic**	**COLA**	**Total**	**Estimated Annual Dollar Amount[3] ($ in '000s)**
County General Tier 1								
Normal Cost	10.33%	1.85%	12.18%	$75,675	10.38%	1.86%	12.24%	$78,206
UAAL	8.69%	6.30%	14.99%	93,134	10.07%	6.18%	16.25%	103,827
Total Contributions	**19.02%**	**8.15%**	**27.17%**	**$168,809**	**20.45%**	**8.04%**	**28.49%**	**$182,033**
County General Tier 2								
Normal Cost	7.43%	1.61%	9.04%	$46,155	7.47%	1.62%	9.09%	$41,540
UAAL	8.69%	6.30%	14.99%	76,534	10.07%	6.18%	16.25%	74,261
Total Contributions	**16.12%**	**7.91%**	**24.03%**	**$122,689**	**17.54%**	**7.80%**	**25.34%**	**$115,801**
Safety Tier 1								
Normal Cost	20.39%	3.99%	24.38%	$43,852	20.39%	3.99%	24.38%	$44,026
UAAL	15.78%	19.59%	35.37%	63,619	18.34%	18.94%	37.28%	67,322
Total Contributions	**36.17%**	**23.58%**	**59.75%**	**$107,471**	**38.73%**	**22.93%**	**61.66%**	**$111,348**
Safety Tier 2								
Normal Cost	12.54%	3.30%	15.84%	$16,429	12.72%	3.34%	16.06%	$15,184
UAAL	15.78%	19.59%	35.37%	36,685	18.34%	18.94%	37.28%	35,246
Total Contributions	**28.32%**	**22.89%**	**51.21%**	**$53,114**	**31.06%**	**22.28%**	**53.34%**	**$50,430**
All County Members								
Normal Cost	10.72%	2.15%	12.87%	$182,111	10.89%	2.16%	13.05%	$178,956
UAAL	10.11%	8.96%	19.07%	269,972	11.73%	8.74%	20.47%	280,656
Total Contributions	**20.83%**	**11.11%**	**31.94%**	**$452,083**	**22.62%**	**10.90%**	**33.52%**	**$459,612**
Superior Court Tier 1								
Normal Cost	10.33%	1.85%	12.18%	$5,701	10.38%	1.86%	12.24%	$6,086
UAAL	13.49%	4.00%	17.49%	8,186	14.94%	4.00%	18.94%	9,417
Total Contributions	**23.82%**	**5.85%**	**29.67%**	**$13,887**	**25.32%**	**5.86%**	**31.18%**	**$15,503**
Superior Court Tier 2								
Normal Cost	7.43%	1.61%	9.04%	$2,884	7.47%	1.62%	9.09%	$2,849
UAAL	13.49%	4.00%	17.49%	5,579	14.94%	4.00%	18.94%	5,936
Total Contributions	**20.92%**	**5.61%**	**26.53%**	**$8,463**	**22.41%**	**5.62%**	**28.03%**	**$8,785**

Note: Applicable footnotes are shown on page 37.

Recommended Employer Contribution Rates (continued)

	June 30, 2021 Actuarial Valuation Recommended Rates for FY 2022-23[1]				June 30, 2020 Actuarial Valuation Recommended Rates for FY 2021-22[2]			
	Basic	COLA	Total	Estimated Annual Dollar Amount[3] ($ in '000s)	Basic	COLA	Total	Estimated Annual Dollar Amount[3] ($ in '000s)
SCAQMD Tier 1								
Normal Cost	11.91%	2.29%	14.20%	$7,040	12.01%	2.33%	14.34%	$7,695
UAAL	23.38%	9.86%	33.24%	16,482	25.83%	9.39%	35.22%	18,900
Total Contributions	**35.29%**	**12.15%**	**47.44%**	**$23,522**	**37.84%**	**11.72%**	**49.56%**	**$26,595**
SCAQMD Tier 2								
Normal Cost	6.66%	1.46%	8.12%	$2,626	6.54%	1.44%	7.98%	$2,436
UAAL	23.38%	9.86%	33.24%	10,750	25.83%	9.39%	35.22%	10,751
Total Contributions	**30.04%**	**11.32%**	**41.36%**	**$13,376**	**32.37%**	**10.83%**	**43.20%**	**$13,187**
Other General Tier 1 (Non-LAFCO)								
Normal Cost	11.85%	2.27%	14.12%	$4,454	11.79%	2.24%	14.03%	$4,873
UAAL	19.75%	6.61%	26.36%	8,319	22.30%	6.74%	29.04%	10,088
Total Contributions	**31.60%**	**8.88%**	**40.48%**	**$12,773**	**34.09%**	**8.98%**	**43.07%**	**$14,961**
Other General Tier 2 (Non-LAFCO)								
Normal Cost	7.50%	1.62%	9.12%	$1,676	7.48%	1.62%	9.10%	$1,436
UAAL	19.75%	6.61%	26.36%	4,837	22.30%	6.74%	29.04%	4,577
Total Contributions	**27.25%**	**8.23%**	**35.48%**	**$6,513**	**29.78%**	**8.36%**	**38.14%**	**$6,013**
Other General Tier 1 (LAFCO)								
Normal Cost	11.85%	2.27%	14.12%	$54	11.79%	2.24%	14.03%	$62
UAAL[4]	15.69%	5.49%	21.18%	80	19.94%	5.95%	25.89%	115
Total Contributions	**27.54%**	**7.76%**	**35.30%**	**$134**	**31.73%**	**8.19%**	**39.92%**	**$177**
Other General Tier 2 (LAFCO)								
Normal Cost	7.50%	1.62%	9.12%	$6	7.48%	1.62%	9.10%	$6
UAAL[4]	15.69%	5.49%	21.18%	14	19.94%	5.95%	25.89%	18
Total Contributions	**23.19%**	**7.11%**	**30.30%**	**$20**	**27.42%**	**7.57%**	**34.99%**	**$24**
All Employers Combined								
Normal Cost	10.59%	2.11%	12.70%	$206,552	10.75%	2.13%	12.88%	$204,399
UAAL	11.24%	8.69%	19.93%	324,219	12.98%	8.47%	21.45%	340,458
Total Contributions	**21.83%**	**10.80%**	**32.63%**	**$530,771**	**23.73%**	**10.60%**	**34.33%**	**$544,857**

Note: Applicable footnotes are shown on page 37.

Recommended Employer Contribution Rates (continued)

[1] The June 30, 2021 Basic Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.21% and 0.43% of payroll, respectively.
[2] The June 30, 2020 Basic Normal Cost and UAAL rates shown for each cost group include an explicit administrative expense of 0.21% and 0.43% of payroll, respectively.
[3] The projected compensation that is used to estimate the annual dollar amount shown on the prior pages as of June 30, 2021 and June 30, 2020 are as follows:

	June 30, 2021 Projected Compensation ($ in '000s)	June 30, 2020 Projected Compensation ($ in '000s)
County General Tier 1	$621,308	$638,940
County General Tier 2	510,566	456,994
Safety Tier 1	179,866	180,586
Safety Tier 2	103,718	94,544
Superior Court Tier 1	46,807	49,721
Superior Court Tier 2	31,900	31,341
SCAQMD Tier 1	49,584	53,661
SCAQMD Tier 2	32,339	30,527
Other General Tier 1 (Non-LAFCO)	31,545	34,726
Other General Tier 2 (Non-LAFCO)	18,368	15,772
Other General Tier 1 (LAFCO)	380	444
Other General Tier 2 (LAFCO)	68	69
Total	**$1,626,449**	**$1,587,325**

[4] LAFCO made additional contributions towards their UAAL during 2018-2019, 2019-2020, and 2020-2021.

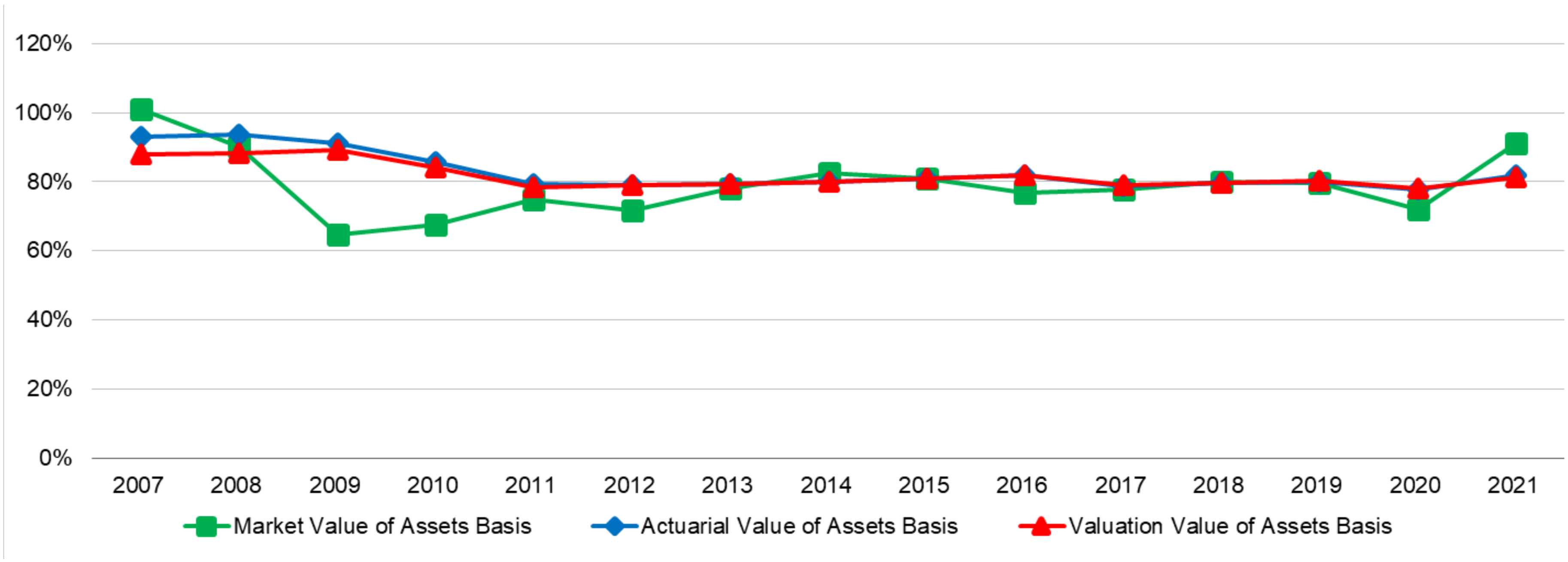
G. Funded Status

A commonly reported piece of information regarding the Plan's financial status is the funded ratio. These ratios compare the Market, Actuarial and Valuation Value of Assets to the Actuarial Accrued Liability of the Plan. Higher ratios indicate a relatively well-funded plan while lower ratios may indicate recent changes to actuarial assumptions, funding of the plan below actuarial requirements, poor asset performance, or a variety of other causes.

The chart below depicts a history of the funded ratio for the Plan. The chart 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 Market, Actuarial or Valuation Value of Assets is used.

Funded Ratio for Years Ended June 30, 2007 – 2021



Section 2: Actuarial Valuation Results

Schedule of Funding Progress for Years Ended June 30, 2012 – 2021

Actuarial Valuation Date as of June 30	Valuation Value of Assets[1,2] (a)	Actuarial Accrued Liability (AAL)[3] (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Projected Covered Payroll (c)	UAAL as a Percentage of Projected Covered Payroll [(b) - (a)] / (c)
2012	$6,789,492,338	$8,606,576,657	$1,817,084,319	78.89%	$1,260,309,037	144.18%
2013	7,204,918,478	9,088,635,907	1,883,717,429	79.27%	1,262,751,964	149.18%
2014	7,751,308,595	9,694,825,407	1,943,516,812	79.95%	1,267,666,810	153.31%
2015	8,255,352,815	10,214,472,907	1,959,120,092	80.82%	1,309,095,254	149.65%
2016	8,736,959,429	10,669,687,907	1,932,728,478	81.89%	1,346,408,201	143.55%
2017	9,385,976,561	11,928,309,718	2,542,333,157	78.69%	1,406,470,110	180.76%
2018	10,020,862,873	12,604,942,218	2,584,079,345	79.50%	1,477,131,264	174.94%
2019	10,642,400,992	13,304,683,218	2,662,282,226	79.99%	1,542,495,237	172.60%
2020	11,133,172,593	14,298,195,718	3,165,023,125	77.86%	1,587,324,431	199.39%
2021	12,258,924,608	14,957,435,405	2,698,510,797	81.96%	1,626,448,779	165.91%

[1] Includes assets for Survivor Benefit, Burial Allowance, General Retiree Subsidy, and Excess Earnings reserves.
[2] Excludes present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers, if any.
[3] Includes liabilities held for Survivor Benefit, Burial Allowance, General Retiree Subsidy, and Excess Earnings reserves.

H. Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Plan for current participants is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the Actuarial Present Value of Future Benefits of the Plan.

Second, this Actuarial Present Value of Future Benefits is compared to the assets. The "assets" for this purpose 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 for the Unfunded Actuarial Accrued Liability.

Actuarial Balance Sheet

	Year Ended	
	June 30, 2021 ($ in '000s)	**June 30, 2020 ($ in '000s)**
Actuarial Present Value of Future Benefits		
• Present value of benefits for retired members and beneficiaries	$8,125,345	$7,701,229
• Present value of benefits for inactive vested members[1]	600,124	554,246
• Present value of benefits for active members	9,216,973	9,006,755
Total Actuarial Present Value of Future Benefits	**$17,942,442**	**$17,262,230**
Current and future assets		
• Total Valuation Value of Assets[2]	$12,189,402	$11,068,966
• Present value of future contributions by members	1,441,143	1,421,180
• Present value of future employer contributions for:		
– Entry age Normal Cost	1,570,519	1,569,151
– Unfunded Actuarial Accrued Liability	2,741,378	3,202,933
Total of current and future assets	**$17,942,442**	**$17,262,230**

Note: Excludes assets and liabilities for Survivor Benefit, Burial Allowance and Excess Earnings reserves.

[1] Includes inactive members with member contributions on deposit.

[2] Includes $14.9 million and $15.3 million for June 30, 2021 and June 30, 2020 valuations, respectively, that represents the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers.

I. 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 measurement because it is based on the current level of assets.

The current AVR is about 8.4. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 8.4% of one year's payroll. Because actuarial gains and losses are amortized over 20 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the Actuarial Accrued Liability divided by payroll, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities.

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. The current total plan LVR is about 9.2, but is 8.3 for General compared to 13.6 for Safety. This means, for example, that assumption changes will have a greater impact on employer contribution rates for Safety than for General.

Volatility Ratios for Years Ended 2012 – 2021

Year Ended	Asset Volatility Ratio			Liability Volatility Ratio		
June 30	General	Safety	Total	General	Safety	Total
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
2017	6.1	9.2	6.6	7.6	12.8	8.5
2018	6.3	9.1	6.8	7.7	12.4	8.5
2019	6.3	9.5	6.9	7.7	12.9	8.6
2020	6.0	8.9	6.5	8.1	13.4	9.0
2021	7.7	11.5	8.4	8.3	13.6	9.2

J. Risk Assessment

Because the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan.

This report does not contain a detailed analysis of the potential range of future measurements, but does include a concise discussion of some of the primary risks that may affect the plan's future financial condition. A more detailed assessment of the risks tailored to specific interests or concerns of the Board would provide the Board with a better understanding of the inherent risks in the plan that can inform both financial preparation and future decision-making. This assessment would enable us to work with the Board to highlight and illustrate particular risks or potential future outcomes they may be interested in discussing and could include scenario testing, sensitivity testing, stress testing and stochastic modeling.

This section provides descriptions and basic assessments of the primary risks that are likely to have an ongoing influence on the Plan's financial condition, as well as a discussion of historical trends and maturity measures.

Risk Assessments

- Asset/Liability Mismatch Risk (the potential that future plan experience does not affect asset and liability values in the same way, causing them to diverge)

  The most significant asset/liability mismatch risk to the Plan is investment risk, as discussed below. In fact, investment risk has the potential to impact asset/liability mismatch in two ways. The first mismatch is evident in annual valuations: when asset values deviate from assumptions, they are typically independent from liability changes. The second mismatch can be caused when systemic asset deviations from assumptions may signal the need for an assumption change, which causes liability values and contribution rates to move in the opposite direction from any change in the expected experience of asset growth rates.

  Asset/liability mismatch can also be caused by demographic assumption risk such as longevity, which affects liabilities but have no impact on asset levels. This risk is also discussed below.

- Investment Risk (the risk that investment returns will be different than expected)

  The investment return assumption is a long-term, static assumption for valuation purposes even though in reality market experience can be quite volatile in any given year. That volatility can cause significant changes in the financial condition of the plan, affecting both funded status and contribution rates. The inherent year-to-year volatility is reduced by smoothing through the Actuarial Value of Assets; however, investment experience can still have a sizable impact. As discussed in *Section 2, Subsection I, Volatility Ratios*, on page 41, a 1% asset gain or loss (relative to the assumed investment return) translates to about 8.4% of one-year's payroll. Because actuarial gains and losses are amortized over 20 years, there would be a 0.6% of payroll decrease (or increase) in the required contribution for each 1% asset gain or loss.

The single year market value rate of return over the last 10 years has ranged from a low of -2.85% to a high of 32.61%.

- Longevity Risk (the risk that mortality experience will be different than expected)

  The actuarial valuation includes current life expectancy assumptions and an expectation of future improvement in life expectancy, which are significant assumptions given the relatively long duration of liabilities for pension plans. Emerging plan experience that does not match these expectations will result in increases or decreases in the actuarially determined contribution over time. This risk can be reduced by using tables appropriate for the Plan (public experience tables) that are weighted by benefit levels, and by using generational mortality projections.

- Other Risks

  In addition to longevity, the valuation includes a variety of other assumptions that are unlikely to match future experience exactly. One example is projected salary scales over time. As salary is central to the determination of benefits paid in retirement, deviations from the projected salary scales could have a material impact on the benefits anticipated for each member. Examples of demographic assumptions include retirement, termination and disability assumptions, and will likely vary in significance for different groups (for example, disability assumptions are typically more significant for safety groups).

Some plans also carry significant contribution risk, defined as the potential for actual future contributions deviating from expected future contributions. However, the employers have a proven track record of making the Actuarially Determined Contributions based on the Board's Actuarial Funding Policy, so contribution risk is minimal.

Evaluation of Historical Trends

Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience. Over the past ten years:

- The funded percentage on the Actuarial Value of Assets basis has increased from 78.9% to 82.0%. This is primarily due to the investment gain during the past year offsetting the adoption of more conservative investment, mortality, and retirement assumptions throughout this time period. For a more detailed history, see *Section 2, Subsection G, Funded Status* starting on page 38.
- The geometric average investment return on the Valuation Value of Assets over the last 10 years was 6.71%. This includes a high of a 10.15% return in 2021 and a low of 4.60% in 2020. The average over the last 5 years was 7.07%. For more details, see the Investment Return table in *Section 2, Subsection C* on page 27.
- The primary source of the increase in UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in 2014 reduced the discount rate from 7.75% to 7.50% and updated mortality tables, adding $331 million in

unfunded liability. The assumption changes in 2017 reduced the discount rate from 7.50% to 7.25% and again updated mortality tables, adding $663 million in unfunded liability. The assumption changes in 2020 again updated the mortality tables, updated the retirement rates, and also introduced a terminal pay cashout assumption, adding $313 million in unfunded liability. For more details on the unfunded liability, changes see *Section 3, Exhibit H, Table of Amortization Bases* starting on page 73.

- The plan's funding policy effectively deals with these unfunded liabilities over time. This can be seen most clearly in *Section 3, Exhibit I, Projection of UAAL Balances and Payments* provided on pages 80 and 81.

Maturity Measures

In the last 10 years, the ratio of members in pay status to active participants has increased from 0.50 to 0.66. An increased ratio indicates that the plan has grown in maturity over time. This is to be expected, but is also informative for understanding plan sensitivity to particular risks. For more details, see *Section 2, Subsection A, Member Data* on page 16.

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities. For the prior year, contributions received (net of administrative expenses) were about $3.6 million less than benefits paid. Note that Plans with high levels of negative cash flows may have a need for a larger allocation to income generating assets, which can create a drag on investment return. For more details on historical cash flows, see the Comparison of Contributions with Benefits in *Section 2, Subsection B, Financial Information* on page 20.

A further discussion of plan maturity measures and how they relate to changes in assets and liabilities is included in *Section 2, Subsection I, Volatility Ratios* on page 41.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage

Total Plan

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active members in valuation:			
• Number	21,500	21,814	-1.4%
• Average age	44.1	43.9	0.2
• Average years of service	10.8	10.6	0.2
• Total projected compensation	$1,626,448,779	$1,587,324,431	2.5%
• Average projected compensation	$75,649	$72,766	4.0%
• Account balances	$1,301,480,769	$1,262,325,184	3.1%
• Total active vested members	13,861	13,519	2.5%
Inactive vested members:[1]			
• Number	8,197	7,494	9.4%
• Average Age	44.1	44.2	-0.1
Retired members:			
• Number in pay status	10,639	10,308	3.2%
• Average age	70.1	69.8	0.3
• Average monthly benefit	$4,172	$4,066	2.6%
Disabled members:			
• Number in pay status	1,687	1,684	0.2%
• Average age	64.9	64.7	0.2
• Average monthly benefit[2]	$4,165	$4,002	4.1%
Beneficiaries:			
• Number in pay status	1,966	1,841	6.8%
• Average age	72.3	72.3	0.0
• Average monthly benefit[3]	$2,173	$2,054	5.8%

1 Includes inactive members with member contributions on deposit.
2 Excludes Supplemental Disability Benefit amounts.
3 Excludes Survivor Benefit amounts.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

County General Tier 1

Category	Year Ended June 30 2021[1]	Year Ended June 30 2020	Change From Prior Year
Active members in valuation:			
• Number	8,008	8,622	-7.1%
• Average age	50.8	50.3	0.5
• Average years of service	18.0	17.2	0.8
• Total projected compensation	$621,307,665	$638,939,923	-2.8%
• Average projected compensation	$77,586	$74,106	4.7%
• Account balances	$740,497,899	$752,721,295	-1.6%
• Total active vested members	7,981	8,590	-7.1%
Inactive vested members:[2]			
• Number	3,853	3,859	-0.2%
• Average age	49.3	48.6	0.7
Retired members:[3]			
• Number in pay status	8,117	7,885	2.9%
• Average age	70.9	70.7	0.2
• Average monthly benefit	$3,559	$3,455	3.0%
Disabled members:[3]			
• Number in pay status	772	779	-0.9%
• Average age	67.0	66.8	0.2
• Average monthly benefit[4]	$2,513	$2,422	3.8%
Beneficiaries:[3]			
• Number in pay status	1,374	1,291	6.4%
• Average age	74.0	74.0	0.0
• Average monthly benefit[5]	$1,849	$1,771	4.4%

[1] Starting in 2021, CERTNA's members have been transferred to the Withdrawn Employers cost group.
[2] Includes inactive members with member contributions on deposit.
[3] Includes all General pre-January 1, 1996 retirees and beneficiaries.
[4] Excludes Supplemental Disability Benefit amounts.
[5] Excludes Survivor Benefit amounts.

Exhibit A: Table of Plan Coverage (continued)

County General Tier 2

Category	Year Ended June 30: 2021[1]	Year Ended June 30: 2020	Change From Prior Year
Active members in valuation:			
• Number	8,672	8,230	5.4%
• Average age	39.2	38.7	0.5
• Average years of service	3.5	3.0	0.5
• Total projected compensation	$510,566,107	$456,993,977	11.7%
• Average projected compensation	$58,875	$55,528	6.0%
• Account balances	$138,711,733	$107,419,565	29.1%
• Total active vested members	2,563	1,704	50.4%
Inactive vested members:[2]			
• Number	3,156	2,519	25.3%
• Average age	38.4	38.2	0.2
Retired members:			
• Number in pay status	45	30	50.0%
• Average age	66.4	66.2	0.2
• Average monthly benefit	$826	$666	24.0%
Disabled members:			
• Number in pay status	15	12	25.0%
• Average age	46.3	46.5	-0.2
• Average monthly benefit[3]	$2,068	$2,131	-3.0%
Beneficiaries:			
• Number in pay status	7	5	40.0%
• Average age	42.3	33.4	8.9
• Average monthly benefit[4]	$1,223	$1,414	-13.5%

[1] Starting in 2021, CERTNA's members have been transferred to the Withdrawn Employers cost group.
[2] Includes inactive members with member contributions on deposit.
[3] Excludes Supplemental Disability Benefit amounts.
[4] Excludes Survivor Benefit amounts.

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 1

Category	Year Ended June 30		Change From Prior Year
	2021	2020	
Active members in valuation:			
• Number	1,388	1,477	-6.0%
• Average age	45.0	44.5	0.5
• Average years of service	18.3	17.7	0.6
• Total projected compensation	$179,866,004	$180,585,956	-0.4%
• Average projected compensation	$129,586	$122,265	6.0%
• Account balances	$203,551,846	$203,957,013	-0.2%
• Total active vested members	1,384	1,474	-6.1%
Inactive vested members:[1]			
• Number	230	223	3.1%
• Average age	42.5	41.8	0.7
Retired members:			
• Number in pay status	1,108	1,080	2.6%
• Average age	65.2	64.8	0.4
• Average monthly benefit	$7,410	$7,285	1.7%
Disabled members:			
• Number in pay status	833	828	0.6%
• Average age	63.6	63.3	0.3
• Average monthly benefit	$5,800	$5,571	4.1%
Beneficiaries:			
• Number in pay status	428	398	7.5%
• Average age	67.8	67.6	0.2
• Average monthly benefit	$3,200	$2,957	8.2%

[1] Includes inactive members with member contributions on deposit.

Exhibit A: Table of Plan Coverage (continued)

Safety Tier 2

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active members in valuation:			
• Number	1,141	1,134	0.6%
• Average age	32.5	31.7	0.8
• Average years of service	4.4	3.5	0.9
• Total projected compensation	$103,718,000	$94,543,658	9.7%
• Average projected compensation	$90,901	$83,372	9.0%
• Account balances	$55,895,150	$42,015,875	33.0%
• Total active vested members	406	265	53.2%
Inactive vested members:[1]			
• Number	258	233	10.7%
• Average age	32.1	31.5	0.6
Retired members:			
• Number in pay status	3	3	0.0%
• Average age	58.4	57.4	1.0
• Average monthly benefit	$1,038	$1,018	2.0%
Disabled members:			
• Number in pay status	8	6	33.3%
• Average age	46.7	49.5	-2.8
• Average monthly benefit	$3,821	$4,258	-10.3%
Beneficiaries:			
• Number in pay status	1	1	0.0%
• Average age	38.3	37.3	1.0
• Average monthly benefit	$2,992	$2,889	3.6%

[1] Includes inactive members with member contributions on deposit.

Exhibit A: Table of Plan Coverage (continued)

Superior Court Tier 1

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active members in valuation:			
• Number	550	580	-5.2%
• Average age	50.4	50.0	0.4
• Average years of service	18.6	17.9	0.7
• Total projected compensation	$46,807,325	$49,721,302	-5.9%
• Average projected compensation	$85,104	$85,726	-0.7%
• Account balances	$60,943,184	$61,298,369	-0.6%
• Total active vested members	550	579	-5.0%
Inactive vested members:[1]			
• Number	173	174	-0.6%
• Average age	49.0	48.2	0.8
Retired members:[2]			
• Number in pay status	391	367	6.5%
• Average age	67.6	67.2	0.4
• Average monthly benefit	$4,369	$4,266	2.4%
Disabled members:[2]			
• Number in pay status	27	26	3.8%
• Average age	60.3	59.7	0.6
• Average monthly benefit[3]	$3,006	$2,888	4.1%
Beneficiaries:[2]			
• Number in pay status	19	20	-5.0%
• Average age	65.5	64.6	0.9
• Average monthly benefit[4]	$1,925	$1,752	9.9%

[1] Includes inactive members with member contributions on deposit.
[2] Excludes pre-January 1, 1996 retirees and beneficiaries.
[3] Excludes Supplemental Disability Benefit amounts.
[4] Excludes Survivor Benefit amounts.

Section 3: Supplemental Information

Exhibit A: Table of Plan Coverage (continued)

Superior Court Tier 2

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active members in valuation:			
• Number	460	480	-4.2%
• Average age	38.3	37.3	1.0
• Average years of service	4.3	3.3	1.0
• Total projected compensation	$31,900,445	$31,340,874	1.8%
• Average projected compensation	$69,349	$65,293	6.2%
• Account balances	$10,115,608	$7,689,638	31.5%
• Total active vested members	170	109	56.0%
Inactive vested members:[1]			
• Number	84	68	23.5%
• Average age	38.6	37.3	1.3
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 inactive members with member contributions on deposit.
[2] Excludes Supplemental Disability Benefit amounts.
[3] Excludes Survivor Benefit amounts.

Exhibit A: Table of Plan Coverage (continued)

SCAQMD Tier 1

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active members in valuation:			
• Number	394	418	-5.7%
• Average age	53.0	52.4	0.6
• Average years of service	21.4	20.8	0.6
• Total projected compensation	$49,583,762	$53,660,820	-7.6%
• Average projected compensation	$125,847	$128,375	-2.0%
• Account balances	$50,393,979	$48,867,706	3.1%
• Total active vested members	394	417	-5.5%
Inactive vested members:[1]			
• Number	98	99	-1.0%
• Average age	51.3	50.6	0.7
Retired members:[2]			
• Number in pay status	602	586	2.7%
• Average age	70.2	69.6	0.6
• Average monthly benefit	$6,749	$6,578	2.6%
Disabled members:[2]			
• Number in pay status	16	16	0.0%
• Average age	69.5	68.5	1.0
• Average monthly benefit[3]	$4,182	$4,111	1.7%
Beneficiaries:[2]			
• Number in pay status	96	89	7.9%
• Average age	73.8	74.2	-0.4
• Average monthly benefit[4]	$2,500	$2,395	4.4%

[1] Includes inactive members with member contributions on deposit.
[2] Excludes pre-January 1, 1996 retirees and beneficiaries.
[3] Excludes Supplemental Disability Benefit amounts.
[4] Excludes Survivor Benefit amounts.

Exhibit A: Table of Plan Coverage (continued)

SCAQMD Tier 2

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active members in valuation:			
• Number	381	377	1.1%
• Average age	36.7	35.3	1.4
• Average years of service	3.6	2.7	0.9
• Total projected compensation	$32,338,804	$30,527,106	5.9%
• Average projected compensation	$84,879	$80,974	4.8%
• Account balances	$7,880,863	$5,698,696	38.3%
• Total active vested members	84	55	52.7%
Inactive vested members:[1]			
• Number	44	31	41.9%
• Average age	36.7	37.9	-1.2
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 inactive members with member contributions on deposit.
[2] Excludes Supplemental Disability Benefit amounts.
[3] Excludes Survivor Benefit amounts.

Exhibit A: Table of Plan Coverage (continued)

Other General Tier 1

Category	Year Ended June 30		Change From Prior Year
	2021	2020	
Active members in valuation:			
• Number	265	285	-7.0%
• Average age	50.3	49.9	0.4
• Average years of service	17.8	17.2	0.6
• Total projected compensation	$31,924,535	$35,170,202	-9.2%
• Average projected compensation	$120,470	$123,404	-2.4%
• Account balances	$28,877,603	$29,118,252	-0.8%
• Total active vested members	264	284	-7.0%
Inactive vested members:[1]			
• Number	206	204	1.0%
• Average age	49.1	48.5	0.6
Retired members:[2]			
• Number in pay status	343	329	4.3%
• Average age	68.9	68.6	0.3
• Average monthly benefit	$4,064	$3,886	4.6%
Disabled members:[2]			
• Number in pay status	15	16	-6.3%
• Average age	63.2	62.4	0.8
• Average monthly benefit[3]	$2,933	$2,860	2.6%
Beneficiaries:[2]			
• Number in pay status	39	36	8.3%
• Average age	70.1	69.3	0.8
• Average monthly benefit[4]	$1,814	$1,650	9.9%

[1] Includes inactive members with member contributions on deposit.
[2] Excludes pre-January 1, 1996 retirees and beneficiaries.
[3] Excludes Supplemental Disability Benefit amounts.
[4] Excludes Survivor Benefit amounts.

Exhibit A: Table of Plan Coverage (continued)

Other General Tier 2

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active members in valuation:			
• Number	241	211	14.2%
• Average age	39.0	38.9	0.1
• Average years of service	3.5	3.1	0.4
• Total projected compensation	$18,436,130	$15,840,611	16.4%
• Average projected compensation	$76,498	$75,074	1.9%
• Account balances	$4,612,903	$3,538,775	30.4%
• Total active vested members	65	42	54.8%
Inactive vested members:[1]			
• Number	82	70	17.1%
• Average age	39.4	39.0	0.4
Retired members:			
• Number in pay status	1	1	0.0%
• Average age	59.6	58.6	1.0
• Average monthly benefit	$941	$922	2.0%
Disabled members:			
• Number in pay status	1	1	0.0%
• Average age	46.9	45.9	1.0
• Average monthly benefit[2]	$2,113	$2,072	2.0%
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 inactive members with member contributions on deposit
[2] Excludes Supplemental Disability Benefit amounts.
[3] Excludes Survivor Benefit amounts.

Exhibit A: Table of Plan Coverage (continued)

Withdrawn Employers

Category	Year Ended June 30: 2021[1]	2020	Change From Prior Year
Active members in valuation:			
• Number	0	0	N/A
• Average age	N/A	N/A	N/A
• Average years of service	N/A	N/A	N/A
• Total projected compensation	N/A	N/A	N/A
• Average projected compensation	N/A	N/A	N/A
• Account balances	N/A	N/A	N/A
• Total active vested members	0	0	N/A
Inactive vested members:[2]			
• Number	13	14	-7.1%
• Average age	52.6	51.6	1.0
Retired members:			
• Number in pay status	29	27	7.4%
• Average age	69.3	69.4	-0.1
• Average monthly benefit	$3,017	$2,632	14.6%
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	2	1	100.0%
• Average age	66.7	64.6	2.1
• Average monthly benefit[4]	$1,205	$1,840	-34.5%

[1] Starting in 2021, CERTNA's members have been transferred to the Withdrawn Employers cost group.
[2] Includes inactive members with member contributions on deposit.
[3] Excludes Supplemental Disability Benefit amounts.
[4] Excludes Survivor Benefit amounts.

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation

Total Plan

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	410	409	1	—	—	—	—	—	—	—
	$57,053	$57,094	$40,354	—	—	—	—	—	—	—
25 - 29	2,162	1,911	251	—	—	—	—	—	—	—
	$62,700	$61,003	$75,618	—	—	—	—	—	—	—
30 - 34	2,896	1,808	955	132	1	—	—	—	—	—
	$65,395	$61,892	$70,110	$78,859	$119,019	—	—	—	—	—
35 - 39	3,056	1,243	885	659	265	4	—	—	—	—
	$72,618	$62,973	$70,130	$84,570	$95,715	$120,891	—	—	—	—
40 - 44	2,979	817	645	673	608	230	6	—	—	—
	$78,507	$65,815	$69,116	$83,883	$92,789	$96,009	$95,169	—	—	—
45 - 49	3,000	612	514	555	600	584	125	10	—	—
	$82,470	$67,696	$66,409	$80,692	$91,480	$97,109	$114,868	$110,223	—	—
50 - 54	2,739	515	410	384	481	555	266	121	7	—
	$83,767	$72,385	$67,584	$80,924	$88,066	$93,992	$97,792	$98,980	$122,955	—
55 - 59	2,244	368	291	279	357	381	233	270	64	1
	$82,568	$69,895	$68,877	$80,025	$81,498	$88,081	$90,583	$100,884	$95,441	$85,644
60 - 64	1,466	192	212	187	239	277	141	169	42	7
	$80,211	$66,470	$70,129	$79,576	$77,549	$81,453	$84,650	$103,108	$99,004	$66,212
65 - 69	423	43	70	74	75	84	31	34	9	3
	$78,659	$76,225	$70,791	$82,597	$81,749	$72,227	$86,799	$79,955	$120,829	$77,530
70 & over	125	12	16	27	21	32	5	10	1	1
	$74,663	$61,477	$77,749	$71,007	$77,224	$77,824	$71,127	$76,847	$142,532	$55,268
Total	**21,500**	**7,930**	**4,250**	**2,970**	**2,647**	**2,147**	**807**	**614**	**123**	**12**
	$75,649	**$63,692**	**$69,547**	**$82,050**	**$88,602**	**$91,347**	**$95,452**	**$99,722**	**$100,464**	**$69,749**

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

County General Tier 1

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	9	2	7	—	—	—	—	—	—	—
	$66,907	$107,931	$55,186	—	—	—	—	—	—	—
30 – 34	206	7	117	82	—	—	—	—	—	—
	$64,843	$78,639	$66,154	$61,796	—	—	—	—	—	—
35 – 39	811	21	198	454	138	—	—	—	—	—
	$72,869	$79,172	$71,725	$72,531	$74,661	—	—	—	—	—
40 – 44	1,225	22	154	501	392	153	3	—	—	—
	$76,349	$107,687	$67,562	$76,217	$77,320	$78,487	$83,643	—	—	—
45 – 49	1,547	17	156	441	429	424	75	5	—	—
	$78,816	$83,145	$71,682	$72,560	$81,264	$82,785	$91,588	$100,171	—	—
50 – 54	1,537	13	115	303	370	443	207	80	6	—
	$80,505	$106,050	$62,673	$75,190	$79,254	$85,994	$86,033	$80,456	$117,081	—
55 – 59	1,370	6	83	241	295	320	190	184	50	1
	$80,511	$107,822	$67,153	$75,222	$74,960	$84,395	$83,606	$88,169	$92,760	$85,644
60 – 64	922	4	59	159	210	235	119	101	28	7
	$76,364	$60,550	$64,980	$75,069	$73,727	$75,305	$82,127	$85,054	$85,322	$66,212
65 – 69	290	—	24	60	66	76	27	29	6	2
	$75,623	—	$74,540	$79,503	$79,314	$70,036	$79,256	$69,794	$88,394	$59,887
70 & over	91	—	6	25	17	28	5	9	—	1
	$70,564	—	$83,906	$72,729	$65,280	$67,359	$71,127	$76,998	—	$55,268
Total	**8,008**	**92**	**919**	**2,266**	**1,917**	**1,679**	**626**	**408**	**90**	**11**
	$77,586	**$92,166**	**$68,359**	**$73,970**	**$77,590**	**$81,666**	**$84,796**	**$84,480**	**$91,776**	**$65,833**

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

County General Tier 2

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	289	288	1	—	—	—	—	—	—	—
	$48,340	$48,368	$40,354	—	—	—	—	—	—	—
25 – 29	1,477	1,379	98	—	—	—	—	—	—	—
	$54,703	$54,673	$55,120	—	—	—	—	—	—	—
30 – 34	1,933	1,386	546	1	—	—	—	—	—	—
	$57,806	$56,698	$60,567	$86,600	—	—	—	—	—	—
35 – 39	1,542	1,016	525	1	—	—	—	—	—	—
	$59,836	$58,281	$62,750	$109,166	—	—	—	—	—	—
40 – 44	1,056	660	394	2	—	—	—	—	—	—
	$60,684	$59,104	$63,224	$82,106	—	—	—	—	—	—
45 – 49	825	513	307	3	1	1	—	—	—	—
	$60,800	$61,916	$58,508	$80,920	$153,671	$38,601	—	—	—	—
50 – 54	671	418	250	1	1	1	—	—	—	—
	$62,453	$62,852	$61,587	$43,495	$111,022	$82,244	—	—	—	—
55 – 59	480	308	169	3	—	—	—	—	—	—
	$61,916	$62,995	$59,498	$87,314	—	—	—	—	—	—
60 – 64	298	163	134	1	—	—	—	—	—	—
	$63,478	$60,524	$67,219	$43,701	—	—	—	—	—	—
65 – 69	80	38	41	1	—	—	—	—	—	—
	$69,214	$75,846	$63,295	$59,868	—	—	—	—	—	—
70 & over	21	12	7	—	2	—	—	—	—	—
	$70,102	$61,477	$61,010	—	$153,671	—	—	—	—	—
Total	**8,672**	**6,181**	**2,472**	**13**	**4**	**2**	**—**	**—**	**—**	**—**
	$58,875	**$57,766**	**$61,411**	**$77,826**	**$143,009**	**$60,423**	**—**	**—**	**—**	**—**

Exhibit B: Members in Active Service as of June 30, 2021
by Age, Years of Service, and Average Projected Compensation (continued)

Safety Tier 1

		Years of Service								
Age	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	5	—	5	—	—	—	—	—	—	—
	$105,627	—	$105,627	—	—	—	—	—	—	—
30 – 34	95	4	60	30	1	—	—	—	—	—
	$111,301	$96,339	$106,831	$121,980	$119,019	—	—	—	—	—
35 – 39	271	19	27	123	98	4	—	—	—	—
	$121,289	$115,708	$105,157	$119,966	$128,493	$120,891	—	—	—	—
40 – 44	353	22	15	82	168	64	2	—	—	—
	$125,346	$117,250	$110,548	$115,642	$127,315	$138,629	$132,827	—	—	—
45 – 49	329	14	4	42	102	120	43	4	—	—
	$135,413	$122,896	$123,333	$123,559	$125,769	$141,988	$157,401	$128,050	—	—
50 – 54	221	8	3	18	49	75	44	24	—	—
	$138,980	$134,759	$110,816	$118,068	$129,797	$135,668	$151,405	$165,915	—	—
55 – 59	84	—	—	7	14	19	21	22	1	—
	$143,563	—	—	$114,637	$145,789	$138,525	$143,578	$148,972	$291,313	—
60 – 64	28	—	1	3	4	7	3	9	1	—
	$145,072	—	$161,803	$128,919	$133,877	$123,181	$118,843	$169,075	$237,480	—
65 – 69	2	—	—	2	—	—	—	—	—	—
	$130,405	—	—	$130,405	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**1,388**	**67**	**115**	**307**	**436**	**289**	**113**	**59**	**2**	—
	$129,586	**$118,835**	**$108,026**	**$119,422**	**$128,131**	**$138,629**	**$151,039**	**$157,512**	**$264,396**	—

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Safety Tier 2

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	98	98	—	—	—	—	—	—	—	—
	$83,337	$83,337	—	—	—	—	—	—	—	—
25 – 29	446	327	119	—	—	—	—	—	—	—
	$87,858	$85,808	$93,491	—	—	—	—	—	—	—
30 – 34	347	196	151	—	—	—	—	—	—	—
	$89,414	$86,372	$93,361	—	—	—	—	—	—	—
35 – 39	119	57	61	1	—	—	—	—	—	—
	$89,347	$85,443	$92,866	$97,234	—	—	—	—	—	—
40 – 44	35	13	22	—	—	—	—	—	—	—
	$93,851	$94,081	$93,715	—	—	—	—	—	—	—
45 – 49	18	9	9	—	—	—	—	—	—	—
	$99,422	$104,626	$94,218	—	—	—	—	—	—	—
50 – 54	31	23	6	2	—	—	—	—	—	—
	$119,580	$124,930	$109,075	$89,571	—	—	—	—	—	—
55 – 59	34	23	11	—	—	—	—	—	—	—
	$124,423	$120,713	$132,180	—	—	—	—	—	—	—
60 – 64	12	8	4	—	—	—	—	—	—	—
	$129,454	$122,284	$143,795	—	—	—	—	—	—	—
65 – 69	1	—	1	—	—	—	—	—	—	—
	$142,295	—	$142,295	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**1,141**	**754**	**384**	**3**	—	—	—	—	—	—
	$90,901	**$88,618**	**$95,373**	**$92,125**	—	—	—	—	—	—

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Superior Court Tier 1

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	14	—	—	14	—	—	—	—	—	—
	$70,476	—	—	$70,476	—	—	—	—	—	—
35 – 39	63	—	2	38	23	—	—	—	—	—
	$76,073	—	$56,168	$76,131	$77,708	—	—	—	—	—
40 – 44	87	5	3	46	24	8	1	—	—	—
	$83,381	$136,092	$75,863	$82,724	$74,595	$87,015	$54,431	—	—	—
45 – 49	99	2	3	32	36	21	5	—	—	—
	$84,876	$149,444	$57,733	$91,562	$78,979	$82,328	$85,715	—	—	—
50 – 54	107	—	4	31	36	18	9	9	—	—
	$89,718	—	$155,337	$85,752	$93,727	$82,477	$86,438	$75,944	—	—
55 – 59	98	1	2	11	26	25	11	14	8	—
	$84,011	$90,766	$75,115	$102,428	$78,230	$80,958	$82,535	$90,076	$79,810	—
60 – 64	62	—	—	6	13	15	11	13	4	—
	$86,592	—	—	$101,303	$90,986	$78,041	$77,308	$81,718	$123,682	—
65 – 69	17	—	2	5	5	2	2	—	1	—
	$105,837	—	$108,470	$70,404	$89,103	$91,412	$159,979	—	$281,973	—
70 & over	3	—	—	—	2	1	—	—	—	—
	$123,433	—	—	—	$102,304	$165,692	—	—	—	—
Total	**550**	**8**	**16**	**183**	**165**	**90**	**39**	**36**	**13**	—
	$85,104	**$133,764**	**$93,853**	**$83,933**	**$82,799**	**$82,807**	**$85,620**	**$83,524**	**$108,860**	—

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Superior Court Tier 2

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	8	8	—	—	—	—	—	—	—	—
	$45,029	$45,029	—	—	—	—	—	—	—	—
25 – 29	92	76	16	—	—	—	—	—	—	—
	$53,758	$51,348	$65,203	—	—	—	—	—	—	—
30 – 34	119	75	44	—	—	—	—	—	—	—
	$59,096	$59,217	$58,889	—	—	—	—	—	—	—
35 – 39	75	46	29	—	—	—	—	—	—	—
	$70,581	$67,739	$75,089	—	—	—	—	—	—	—
40 – 44	59	37	21	1	—	—	—	—	—	—
	$74,565	$69,781	$81,793	$99,751	—	—	—	—	—	—
45 – 49	44	28	16	—	—	—	—	—	—	—
	$86,580	$93,571	$74,345	—	—	—	—	—	—	—
50 – 54	27	16	11	—	—	—	—	—	—	—
	$93,224	$95,891	$89,346	—	—	—	—	—	—	—
55 – 59	22	9	13	—	—	—	—	—	—	—
	$92,079	$91,786	$92,282	—	—	—	—	—	—	—
60 – 64	9	5	4	—	—	—	—	—	—	—
	$104,716	$103,060	$106,785	—	—	—	—	—	—	—
65 – 69	3	2	1	—	—	—	—	—	—	—
	$120,720	$104,245	$153,671	—	—	—	—	—	—	—
70 & over	2	—	2	—	—	—	—	—	—	—
	$106,155	—	$106,155	—	—	—	—	—	—	—
Total	**460**	**302**	**157**	**1**	—	—	—	—	—	—
	$69,349	**$66,576**	**$74,488**	**$99,751**	—	—	—	—	—	—

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

SCAQMD Tier 1

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	1	1	—	—	—	—	—	—	—	—
	$55,908	$55,908	—	—	—	—	—	—	—	—
30 – 34	3	—	—	3	—	—	—	—	—	—
	$133,087	—	—	$133,087	—	—	—	—	—	—
35 – 39	33	1	1	28	3	—	—	—	—	—
	$120,878	$125,502	$79,730	$121,831	$124,158	—	—	—	—	—
40 – 44	53	—	3	31	18	1	—	—	—	—
	$123,981	—	$137,885	$121,405	$126,133	$123,367	—	—	—	—
45 – 49	57	2	—	24	15	15	—	1	—	—
	$131,737	$73,145	—	$132,088	$122,319	$151,243	—	$89,173	—	—
50 – 54	55	1	1	20	13	11	2	6	1	—
	$125,496	$210,734	$173,280	$114,940	$125,851	$138,907	$124,258	$108,116	$158,198	—
55 – 59	88	1	1	7	14	11	7	44	3	—
	$126,503	$175,983	$108,440	$101,965	$146,755	$102,587	$119,059	$130,581	$124,031	—
60 – 64	82	—	1	11	5	12	7	37	9	—
	$127,395	—	$90,289	$87,088	$134,306	$141,916	$123,613	$138,417	$115,213	—
65 – 69	18	—	—	4	3	1	2	5	2	1
	$119,520	—	—	$110,144	$106,144	$79,058	$115,456	$138,890	$137,562	$112,815
70 & over	4	—	—	1	—	2	—	—	1	—
	$106,832	—	—	$66,230	—	$109,283	—	—	$142,532	—
Total	**394**	**6**	**7**	**129**	**71**	**53**	**18**	**93**	**16**	**1**
	$125,847	**$119,070**	**$123,627**	**$117,996**	**$128,989**	**$133,001**	**$121,007**	**$132,251**	**$124,054**	**$112,815**

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

SCAQMD Tier 2

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	8	8	—	—	—	—	—	—	—	—
	$64,032	$64,032	—	—	—	—	—	—	—	—
25 – 29	86	81	5	—	—	—	—	—	—	—
	$77,388	$76,576	$90,540	—	—	—	—	—	—	—
30 – 34	117	95	22	—	—	—	—	—	—	—
	$83,914	$82,358	$90,631	—	—	—	—	—	—	—
35 – 39	64	47	17	—	—	—	—	—	—	—
	$88,750	$82,248	$106,724	—	—	—	—	—	—	—
40 – 44	41	25	16	—	—	—	—	—	—	—
	$96,292	$94,541	$99,028	—	—	—	—	—	—	—
45 – 49	21	15	6	—	—	—	—	—	—	—
	$94,050	$86,109	$113,903	—	—	—	—	—	—	—
50 – 54	19	17	2	—	—	—	—	—	—	—
	$85,200	$86,981	$70,064	—	—	—	—	—	—	—
55 – 59	13	10	3	—	—	—	—	—	—	—
	$84,823	$81,963	$94,356	—	—	—	—	—	—	—
60 – 64	9	5	4	—	—	—	—	—	—	—
	$93,095	$81,319	$107,815	—	—	—	—	—	—	—
65 – 69	3	2	1	—	—	—	—	—	—	—
	$63,639	$66,275	$58,368	—	—	—	—	—	—	—
70 & over	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
Total	**381**	**305**	**76**	—	—	—	—	—	—	—
	$84,879	**$81,630**	**$97,916**	—	—	—	—	—	—	—

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Other General Tier 1

		Years of Service								
Age	Total	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39	40 & over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25 – 29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30 – 34	10	4	5	1	—	—	—	—	—	—
	$93,463	$98,005	$81,835	$133,438	—	—	—	—	—	—
35 – 39	38	6	15	14	3	—	—	—	—	—
	$108,402	$116,072	$105,196	$109,696	$103,052	—	—	—	—	—
40 – 44	36	8	9	9	6	4	—	—	—	—
	$112,218	$131,557	$116,222	$100,317	$109,462	$95,440	—	—	—	—
45 – 49	45	3	7	13	17	3	2	—	—	—
	$133,748	$123,157	$171,712	$96,383	$139,146	$178,735	$146,262	—	—	—
50 – 54	47	4	9	9	12	7	4	2	—	—
	$130,569	$202,477	$138,145	$109,697	$129,547	$114,311	$128,889	$112,972	—	—
55 – 59	47	3	8	10	8	6	4	6	2	—
	$118,835	$72,830	$136,121	$129,346	$106,514	$128,006	$116,109	$121,905	$84,163	—
60 – 64	31	—	—	6	7	8	1	9	—	—
	$126,392	—	—	$151,139	$94,512	$141,263	$90,379	$125,472	—	—
65 – 69	8	—	—	2	1	5	—	—	—	—
	$105,472	—	—	$114,367	$132,552	$96,498	—	—	—	—
70 & over	3	—	—	1	—	1	—	1	—	—
	$109,421	—	—	$32,738	—	$220,036	—	$75,491	—	—
Total	**265**	**28**	**53**	**65**	**54**	**34**	**11**	**18**	**2**	—
	$120,470	**$126,385**	**$123,912**	**$111,908**	**$120,967**	**$127,024**	**$123,899**	**$120,117**	**$84,163**	—

Exhibit B: Members in Active Service as of June 30, 2021 by Age, Years of Service, and Average Projected Compensation (continued)

Other General Tier 2

		Years of Service								
Age	**Total**	**0 – 4**	**5 – 9**	**10 – 14**	**15 – 19**	**20 – 24**	**25 – 29**	**30 – 34**	**35 – 39**	**40 & over**
Under 25	7	7	—	—	—	—	—	—	—	—
	$54,594	$54,594	—	—	—	—	—	—	—	—
25 – 29	46	45	1	—	—	—	—	—	—	—
	$60,621	$61,022	$42,537	—	—	—	—	—	—	—
30 – 34	52	41	10	1	—	—	—	—	—	—
	$67,613	$68,171	$64,418	$76,704	—	—	—	—	—	—
35 – 39	40	30	10	—	—	—	—	—	—	—
	$79,487	$84,199	$65,354	—	—	—	—	—	—	—
40 – 44	34	25	8	1	—	—	—	—	—	—
	$74,057	$76,493	$69,463	$49,911	—	—	—	—	—	—
45 – 49	15	9	6	—	—	—	—	—	—	—
	$84,376	$96,121	$66,759	—	—	—	—	—	—	—
50 – 54	24	15	9	—	—	—	—	—	—	—
	$108,319	$109,480	$106,384	—	—	—	—	—	—	—
55 – 59	8	7	1	—	—	—	—	—	—	—
	$111,795	$109,214	$129,866	—	—	—	—	—	—	—
60 – 64	13	7	5	1	—	—	—	—	—	—
	$87,448	$107,784	$68,131	$41,681	—	—	—	—	—	—
65 – 69	1	1	—	—	—	—	—	—	—	—
	$54,458	$54,458	—	—	—	—	—	—	—	—
70 & over	1	—	1	—	—	—	—	—	—	—
	$101,171	—	$101,171	—	—	—	—	—	—	—
Total	**241**	**187**	**51**	**3**	—	—	—	—	—	—
	$76,498	**$77,231**	**$75,013**	**$56,099**	—	—	—	—	—	—

Exhibit C: Reconciliation of Member Data

	Active Members	Inactive Vested Members[1]	Retired Members	Disabled Members[2]	Beneficiaries	Total
Number as of June 30, 2020	**21,814**	**7,494**	**10,308**	**1,684**	**1,841**	**43,141**
• New members	1,366	191	N/A	N/A	203	1,760
• Terminations	(911)	911	N/A	N/A	N/A	0
• Contribution refunds	(229)	(181)	N/A	N/A	N/A	(410)
• Retirements	(527)	(119)	646	N/A	N/A	0
• New disabilities	(27)	(8)	(27)	62	N/A	0
• Return to work	68	(68)	0	0	N/A	0
• Died with or without beneficiary	(54)	(23)	(288)	(59)	(75)	(499)
• Data adjustments	0	0	0	0	(3)	(3)
Number as of June 30, 2021	**21,500**	**8,197**	**10,639**	**1,687**	**1,966**	**43,989**

[1] Includes inactive members with member contributions on deposit.
[2] As of June 30, 2021 includes 325 members receiving a non-service connected disability and 1,362 members receiving a service connected disability.

Exhibit D: Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended June 30, 2021		Year Ended June 30, 2020	
Net assets at market value at the beginning of the year		**$10,287,333,860**		**$10,588,406,657**
Contribution income:				
• Employer contributions	$498,747,129		$467,985,568	
• Member contributions	172,953,457		169,182,925	
• Less administrative expenses	(14,511,411)		(14,626,796)	
Net contribution income		$657,189,175		$622,541,697
Investment income:				
• Interest, dividends, asset appreciation and other income	$3,491,571,531		$(162,630,871)	
• Less investment expenses	(137,779,673)		(139,420,018)	
Net investment income		$3,353,791,858		$(302,050,888)
Total income available for benefits		**$4,010,981,033**		**$320,490,809**
Less benefit payments		$(660,822,131)		$(621,563,606)
Change in net assets at market value		**$3,350,158,902**		**$(301,072,797)**
Net assets at market value at the end of the year[1]		**$13,637,492,762**		**$10,287,333,860**

Note: Results may be slightly off due to rounding.

[1] Based on the preliminary unaudited financial statement provided by SBCERA for the June 30, 2021 funding valuation.

Section 3: Supplemental Information

Exhibit E: Summary Statement of Plan Assets

	June 30, 2021		June 30, 2020	
Cash equivalents		$2,084,449,434		$1,069,148,644
Accounts receivable:				
• Securities sold	$72,365,014		$76,895,154	
• Accrued interest and dividends	15,315,839		27,234,798	
• Employer contributions	44,683,398		43,422,883	
• Other receivable	28,821,294		1,440,495	
Total accounts receivable		$161,185,545		$148,993,331
Investments:				
• Equities	$2,680,174,605		$1,950,167,144	
• Fixed income	1,505,205,135		1,188,041,731	
• Real estate	513,393,073		458,280,815	
• Domestic alternatives	4,858,455,491		4,098,126,799	
• Foreign alternatives	1,934,033,781		1,664,944,838	
• Other	6,335,980		5,267,793	
• Investments received on securities lending	102,597,032		6,607,002	
Total investments at market value		$11,600,195,097		$9,371,436,121
Total assets		$13,845,830,076		$10,589,578,096
Liabilities:				
• Securities lending	$(102,596,998)		$(6,607,002)	
• Payable for securities purchased	(82,436,106)		(76,984,316)	
• Securities options payable	(128,719)		(199,074,999)	
• Other liabilities	(23,175,491)		(19,577,919)	
Total liabilities		$(208,337,314)		$(302,244,236)
Net assets at market value[1]		**$13,637,492,762**		**$10,287,333,860**
Net assets at actuarial value		**$12,258,924,608**		**$11,133,172,593**
Net assets at valuation value[2]		**$12,273,329,497**		**$11,147,963,980**

Note: Results may be slightly off due to rounding.

[1] Based on the preliminary unaudited financial statement provided by SBCERA for the June 30, 2021 funding valuation.

[2] The June 30, 2021 and June 30, 2020 values include $14.9 million and $15.3 million, respectively. These amounts represent the associated present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers.

Exhibit F: Summary of Reported Reserve Information

	June 30, 2021	June 30, 2020
Used in Development of Valuation Value of Assets:		
• Member Deposit Reserve	$1,740,041,098	$1,609,792,501
• Current Service Reserve	3,223,885,663	2,972,557,666
• Contra Account	(3,848,494,023)	(3,857,260,971)
• Pension Reserve	5,481,662,411	5,190,498,700
• Cost-of-Living Reserve	2,698,300,715	2,477,843,602
• Annuity Reserve	2,873,163,279	2,653,420,924
• Supplemental Disability Reserve	5,976,047	6,792,519
• Survivor Benefit Reserve	83,927,013	78,997,934
• Subtotal: Valuation Value of Assets[1]	$12,258,462,203	$11,132,642,875
Not Used in Development of Valuation Value of Assets:		
• Burial Allowance Reserve	$462,405	$529,718
• Restricted Balance Reserved for Deficiencies	0	0
• Additional Contingency Reserve	0	0
• Undesignated Excess Earnings	0	0
Subtotal	$462,405	$529,718
Subtotal: Actuarial Value of Assets	$12,258,924,608	$11,133,172,593
• Net Unrecognized Gains/(Losses)	1,378,568,154	(845,838,733)
Net assets at market value[2]	**$13,637,492,762**	**$10,287,333,860**

Note: Results may be slightly off due to rounding.

[1] The June 30, 2021 and June 30, 2020 values exclude $14.9 million and $15.3 million, respectively. These amounts represent the associated present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers.

[2] Based on the preliminary unaudited financial statement provided by SBCERA for the June 30, 2021 funding valuation.

Exhibit G: Development of the Fund through June 30, 2021

Year Ended June 30	Employer Contributions	Member Contributions	Other[1]	Administrative and Other Expenses	Net Investment Return[2]	Benefit Payments	Actuarial Value of Assets at Year-End
2012	$278,090,808	$68,630,635	$0	$0	$299,992,593	$(341,728,255)	$6,789,492,338
2013	303,080,499	91,055,576	0	0	388,686,270	(367,396,205)	7,204,918,478
2014	330,330,400	89,860,998	0	0	524,022,197	(397,823,478)	7,751,308,595
2015	315,239,709	117,899,734	0	(8,917,907)	508,297,528	(428,474,844)	8,255,352,815
2016	340,511,616	139,132,004	0	(10,233,264)	476,264,294	(464,068,036)	8,736,959,429
2017	360,477,890	143,858,526	0	(13,163,171)	655,747,751	(497,903,864)	9,385,976,561
2018	378,667,309	149,478,284	4,311,546	(12,092,067)	653,818,087	(539,296,847)	10,020,862,873
2019	446,294,977	163,551,784	0	(12,675,054)	602,874,355	(578,507,943)	10,642,400,992
2020	467,985,568	169,182,925	0	(14,626,796)	489,793,510	(621,563,606)	11,133,172,593
2021	498,747,129	172,953,457	0	(14,511,411)	1,129,384,971	(660,822,131)	12,258,924,608

Note: Results may be slightly off due to rounding.

[1] Represents asset transfer from CalPERS related to the transfer of Big Bear Fire Authority employees.
[2] Net of investment fees and administrative expenses prior to 2015. Starting in 2015, administrative expenses are included in the previous column.

Exhibit H: Table of Amortization Bases

County General[1]

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Amortization Amount ($ in '000s)
Restart Amortization	June 30, 2002	$59,418	20	$8,545	1	$8,875
Actuarial Loss	June 30, 2003	246,030	20	74,955	3[2]	26,941
Actuarial Loss	June 30, 2004	132,394	20	50,546	3	18,168
POB Credit	June 30, 2004	(306,553)	20	(117,030)	3	(42,064)
Actuarial Loss	June 30, 2005	58,722	20	28,251	4	7,759
Assumption Change	June 30, 2005	55,608	20	26,759	4	7,349
Actuarial Gain	June 30, 2006	(12,582)	20	(7,131)	5	(1,596)
Actuarial Gain	June 30, 2007	(32,313)	20	(20,724)	6	(3,937)
Actuarial Gain	June 30, 2008	(10,019)	20	(7,072)	7	(1,173)
Assumption Change	June 30, 2008	(9,274)	20	(6,549)	7	(1,086)
Actuarial Loss	June 30, 2009	116,654	20	88,757	8	13,112
Actuarial Loss	June 30, 2010	283,312	20	228,737	9	30,582
Actuarial Loss	June 30, 2011	169,657	20	143,590	10	17,590
Assumption Change	June 30, 2011	199,268	20	168,641	10	20,659
Actuarial Loss	June 30, 2012	70,289	20	61,879	11	7,014
Burial Allowance Method Change	June 30, 2012	2,391	20	2,103	11	238
Actuarial Loss	June 30, 2013	36,154	20	32,851	12	3,474
Actuarial Gain	June 30, 2014	(143,394)	20	(133,461)	13	(13,259)
Assumption Change	June 30, 2014	186,100	20	173,210	13	17,208
Actuarial Gain	June 30, 2015	(34,419)	20	(32,723)	14	(3,072)
Actuarial Gain	June 30, 2016	(19,721)	20	(19,047)	15	(1,698)
Actuarial Gain	June 30, 2017	(23,495)	20	(22,959)	16	(1,952)
Assumption Change	June 30, 2017	391,172	20	382,159	16	32,488
Actuarial Loss	June 30, 2018	36,456	20	35,980	17	2,928
Actuarial Loss	June 30, 2019	94,317	20	93,715	18	7,326
Actuarial Loss	June 30, 2020	171,584	20	171,128	19	12,888
Entry Age Method Change	June 30, 2020	(12,138)	20	(12,101)	19	(911)
Assumption Change	June 30, 2020	200,613	20	200,085	19	15,069
Actuarial Gain	June 30, 2021	(162,927)	20	(162,927)	20	(11,853)
Implementation of Alameda Decision	June 30, 2021	(25,254)	15	(25,254)	15	(2,251)
County General Subtotal				**$1,404,913**		**$164,816**

[1] Reflects the adjustment to prior UAAL layers as a result of CERTNA termination as of June 30, 2021.
[2] Reflects the adjustment to UAAL amortization periods made in 2020.

Exhibit H: Table of Amortization Bases (continued)

Superior Court

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Amortization Amount ($ in '000s)
Restart Amortization	June 30, 2002	$3,493	20	$502	1	$521
Actuarial Loss	June 30, 2003	14,458	20	4,409	3[1]	1,585
Actuarial Loss	June 30, 2004	6,840	20	2,617	3	941
Actuarial Loss	June 30, 2005	3,451	20	1,658	4	455
Assumption Change	June 30, 2005	3,269	20	1,572	4	432
Actuarial Loss	June 30, 2006	4,889	20	2,773	5	621
Actuarial Loss	June 30, 2007	4,076	20	2,615	6	497
Actuarial Loss	June 30, 2008	729	20	517	7	86
Assumption Change	June 30, 2008	(1,520)	20	(1,077)	7	(179)
Actuarial Loss	June 30, 2009	6,270	20	4,773	8	705
Actuarial Loss	June 30, 2010	10,935	20	8,842	9	1,182
Actuarial Loss	June 30, 2011	8,620	20	7,299	10	894
Assumption Change	June 30, 2011	10,323	20	8,724	10	1,069
Actuarial Loss	June 30, 2012	3	20	0	11	0
Burial Allowance Method Change	June 30, 2012	68	20	46	11	5
Actuarial Gain	June 30, 2013	(2,565)	20	(2,324)	12	(246)
Actuarial Gain	June 30, 2014	(5,786)	20	(5,394)	13	(536)
Assumption Change	June 30, 2014	10,501	20	9,769	13	971
Actuarial Gain	June 30, 2015	(307)	20	(297)	14	(28)
Actuarial Loss	June 30, 2016	11,583	20	11,178	15	996
Actuarial Gain	June 30, 2017	(1,529)	20	(1,494)	16	(127)
Assumption Change	June 30, 2017	37,250	20	36,388	16	3,093
Actuarial Loss	June 30, 2018	3,765	20	3,704	17	301
Actuarial Loss	June 30, 2019	2,285	20	2,272	18	178
Actuarial Loss	June 30, 2020	14,836	20	14,792	19	1,114
Entry Age Method Change	June 30, 2020	(1,751)	20	(1,741)	19	(131)
Assumption Change	June 30, 2020	14,594	20	14,559	19	1,097
Actuarial Gain	June 30, 2021	(4,639)	20	(4,639)	20	(337)
Implementation of Alameda Decision	June 30, 2021	(19,413)	15	(19,413)	15	(1,730)
Superior Court Subtotal				**$102,630**		**$13,429**

[1] Reflects the adjustment to UAAL amortization periods made in 2020.

Exhibit H: Table of Amortization Bases (continued)

Other General

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Amortization Amount ($ in '000s)
Restart Amortization	June 30, 2002	$13,036	20	$1,871	1	$1,943
Actuarial Loss	June 30, 2003	9,507	20	2,893	3[1]	1,040
Actuarial Loss	June 30, 2004	5,542	20	2,111	3	759
Actuarial Loss	June 30, 2005	6,630	20	3,199	4	879
Assumption Change	June 30, 2005	(490)	20	(237)	4	(65)
Actuarial Loss	June 30, 2006	2,390	20	1,338	5	299
Actuarial Loss	June 30, 2007	1,995	20	1,277	6	243
Actuarial Loss	June 30, 2008	4,106	20	2,889	7	479
Assumption Change	June 30, 2008	(278)	20	(199)	7	(33)
Actuarial Loss	June 30, 2009	5,568	20	4,235	8	626
Actuarial Loss	June 30, 2010	11,345	20	9,167	9	1,226
Actuarial Loss	June 30, 2011	9,098	20	7,695	10	943
Assumption Change	June 30, 2011	8,263	20	6,996	10	857
Actuarial Loss	June 30, 2012	2,766	20	2,423	11	275
Burial Allowance Method Change	June 30, 2012	71	20	46	11	5
Actuarial Loss	June 30, 2013	4,155	20	3,788	12	401
Actuarial Gain	June 30, 2014	(6,086)	20	(5,664)	13	(563)
Assumption Change	June 30, 2014	7,714	20	7,181	13	713
Actuarial Loss	June 30, 2015	2,754	20	2,596	14	244
Actuarial Loss	June 30, 2016	6,644	20	6,417	15	572
Actuarial Loss	June 30, 2017	1,676	20	1,640	16	139
Assumption Change	June 30, 2017	22,659	20	22,153	16	1,883
Actuarial Loss	June 30, 2018	9,110	20	8,995	17	732
Actuarial Loss	June 30, 2019	8,108	20	8,057	18	630
Actuarial Loss	June 30, 2020	6,666	20	6,649	19	501
Entry Age Method Change	June 30, 2020	(5,451)	20	(5,443)	19	(410)
Assumption Change	June 30, 2020	9,798	20	9,775	19	736
Actuarial Loss	June 30, 2021	3,481	20	3,481	20	253
Implementation of Alameda Decision	June 30, 2021	(25,526)	15	(25,526)	15	(2,275)
Other General Subtotal				**$89,803**		**$13,032**

[1] Reflects the adjustment to UAAL amortization periods made in 2020.

Exhibit H: Table of Amortization Bases (continued)

SCAQMD

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Amortization Amount ($ in '000s)
Restart Amortization	June 30, 2002	$18,462	20	$2,654	1	$2,756
Actuarial Loss	June 30, 2003	27,792	20	8,471	3[1]	3,045
Actuarial Loss	June 30, 2004	24,821	20	9,500	3	3,415
POB Credit	June 30, 2004	(46,375)	20	(17,744)	3	(6,378)
Actuarial Loss	June 30, 2005	11,432	20	5,512	4	1,514
Assumption Change	June 30, 2005	(3,613)	20	(1,748)	4	(480)
Actuarial Gain	June 30, 2006	(1,328)	20	(752)	5	(168)
UAAL Prepayment	December 31, 2006	(10,000)	20	(6,054)	5.5	(1,243)
Actuarial Loss	June 30, 2007	12,093	20	7,762	6	1,474
Actuarial Loss	June 30, 2008	16,095	20	11,358	7	1,883
Assumption Change	June 30, 2008	1,425	20	1,009	7	167
Actuarial Loss	June 30, 2009	8,947	20	6,800	8	1,005
Actuarial Loss	June 30, 2010	34,808	20	28,110	9	3,758
Actuarial Loss	June 30, 2011	26,766	20	22,648	10	2,774
Assumption Change	June 30, 2011	21,411	20	18,113	10	2,219
Actuarial Loss	June 30, 2012	6,060	20	5,347	11	606
Burial Allowance Method Change	June 30, 2012	131	20	82	11	9
Actuarial Loss	June 30, 2013	4,599	20	4,169	12	441
Actuarial Gain	June 30, 2014	(39,137)	20	(36,437)	13	(3,620)
Assumption Change	June 30, 2014	19,750	20	18,385	13	1,827
Actuarial Loss	June 30, 2015	29,235	20	27,784	14	2,608
Actuarial Loss	June 30, 2016	13,576	20	13,112	15	1,169
Actuarial Loss	June 30, 2017	11,818	20	11,550	16	982
Assumption Change	June 30, 2017	38,515	20	37,614	16	3,198
Actuarial Loss	June 30, 2018	20,453	20	20,172	17	1,642
Actuarial Loss	June 30, 2019	16,556	20	16,457	18	1,287
Actuarial Loss	June 30, 2020	27,368	20	27,295	19	2,056
Entry Age Method Change	June 30, 2020	(1,218)	20	(1,220)	19	(92)
Assumption Change	June 30, 2020	31,848	20	31,764	19	2,392
Actuarial Gain	June 30, 2021	(9,845)	20	(9,845)	20	(716)
Implementation of Alameda Decision	June 30, 2021	(29,772)	15	(29,772)	15	(2,654)
SCAQMD Subtotal				**$232,096**		**$26,876**

[1] Reflects the adjustment to UAAL amortization periods made in 2020.

Exhibit H: Table of Amortization Bases (continued)

Safety

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Amortization Amount ($ in '000s)
Restart Amortization	June 30, 2002	$(58,253)	20	$(8,376)	1	$(8,699)
Actuarial Loss	June 30, 2003	218,078	20	66,437	3[1]	23,880
Actuarial Loss	June 30, 2004	79,928	20	30,576	3	10,990
POB Credit	June 30, 2004	(152,154)	20	(58,187)	3	(20,914)
Plan Change	June 30, 2004	1,245	20	471	3	169
Actuarial Loss	June 30, 2005	40,552	20	19,501	4	5,356
Assumption Change	June 30, 2005	(13,306)	20	(6,395)	4	(1,756)
Actuarial Gain	June 30, 2006	(10,294)	20	(5,827)	5	(1,304)
Actuarial Loss	June 30, 2007	7,498	20	4,827	6	917
Plan Change	June 30, 2007	586	20	370	6	70
Actuarial Loss	June 30, 2008	8,545	20	6,028	7	999
Assumption Change	June 30, 2008	(1,042)	20	(729)	7	(121)
Actuarial Loss	June 30, 2009	68,665	20	52,256	8	7,720
Actuarial Loss	June 30, 2010	113,805	20	91,912	9	12,289
Actuarial Loss	June 30, 2011	106,674	20	90,278	10	11,059
Assumption Change	June 30, 2011	72,902	20	61,705	10	7,559
Actuarial Loss	June 30, 2012	42,867	20	37,754	11	4,280
Burial Allowance Method Change	June 30, 2012	348	20	310	11	35
Actuarial Loss	June 30, 2013	37,091	20	33,721	12	3,566
Actuarial Gain	June 30, 2014	(38,209)	20	(35,575)	13	(3,534)
Assumption Change	June 30, 2014	107,305	20	99,875	13	9,922
Actuarial Loss	June 30, 2015	61,791	20	58,737	14	5,514
Actuarial Loss	June 30, 2016	12,071	20	11,653	15	1,039
Actuarial Loss	June 30, 2017	8,617	20	8,417	16	716
Assumption Change	June 30, 2017	172,986	20	169,003	16	14,367
Actuarial Loss	June 30, 2018	57,238	20	56,493	17	4,598
Actuarial Loss	June 30, 2019	50,950	20	50,625	18	3,958
Actuarial Loss	June 30, 2020	112,650	20	112,360	19	8,462
Entry Age Method Change	June 30, 2020	(9,077)	20	(9,048)	19	(681)
Assumption Change	June 30, 2020	56,421	20	56,276	19	4,238
Actuarial Gain	June 30, 2021	(37,003)	20	(37,003)	20	(2,692)
Implementation of Alameda Decision	June 30, 2021	(32,845)	15	(32,845)	15	(2,928)
Safety Subtotal				**$925,600**		**$99,074**

[1] Reflects the adjustment to UAAL amortization periods made in 2020.

Exhibit H: Table of Amortization Bases (continued)

Combined[1]

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Amortization Amount ($in '000s)
Restart Amortization	June 30, 2002	$36,156	20	$5,196	1	$5,396
Actuarial Loss	June 30, 2003	515,865	20	157,165	3[2]	56,491
Actuarial Loss	June 30, 2004	249,525	20	95,350	3	34,273
POB Credit	June 30, 2004	(505,082)	20	(192,961)	3	(69,356)
Plan Change	June 30, 2004	1,245	20	471	3	169
Actuarial Loss	June 30, 2005	120,787	20	58,121	4	15,963
Assumption Change	June 30, 2005	41,468	20	19,951	4	5,480
Actuarial Gain	June 30, 2006	(16,925)	20	(9,599)	5	(2,148)
UAAL Prepayment	December 31, 2006	(10,000)	20	(6,054)	6	(1,243)
Actuarial Gain	June 30, 2007	(6,651)	20	(4,243)	6	(806)
Plan Change	June 30, 2007	586	20	370	6	70
Actuarial Loss	June 30, 2008	19,456	20	13,720	7	2,274
Assumption Change	June 30, 2008	(10,689)	20	(7,545)	7	(1,252)
Actuarial Loss	June 30, 2009	206,104	20	156,821	8	23,168
Actuarial Loss	June 30, 2010	454,205	20	366,768	9	49,037
Actuarial Loss	June 30, 2011	320,815	20	271,510	10	33,260
Assumption Change	June 30, 2011	312,167	20	264,179	10	32,363
Actuarial Loss	June 30, 2012	121,985	20	107,403	11	12,175
Burial Allowance Method Change	June 30, 2012	3,009	20	2,587	11	292
Actuarial Loss	June 30, 2013	79,434	20	72,205	12	7,636
Actuarial Gain	June 30, 2014	(232,612)	20	(216,531)	13	(21,512)
Assumption Change	June 30, 2014	331,370	20	308,420	13	30,641
Actuarial Loss	June 30, 2015	59,054	20	56,097	14	5,266
Actuarial Loss	June 30, 2016	24,153	20	23,313	15	2,078
Actuarial Gain	June 30, 2017	(2,913)	20	(2,846)	16	(242)
Assumption Change	June 30, 2017	662,582	20	647,317	16	55,029
Actuarial Loss	June 30, 2018	127,022	20	125,344	17	10,201
Actuarial Loss	June 30, 2019	172,248	20	171,126	18	13,379

[1] Reflects the adjustment to prior UAAL layers as a result of CERTNA termination as of June 30, 2021.
[2] Reflects the adjustment to UAAL amortization periods made in 2020.

Exhibit H: Table of Amortization Bases (continued)

Combined[1] (continued)

Type	Date Established	Initial Amount ($ in '000s)	Initial Period	Outstanding Balance ($ in '000s)	Years Remaining	Amortization Amount ($in '000s)
Actuarial Loss	June 30, 2020	$333,104	20	$332,224	19	$25,021
Entry Age Method Change	June 30, 2020	(29,639)	20	(29,553)	19	(2,225)
Assumption Change	June 30, 2020	313,274	20	312,459	19	23,532
Actuarial Gain	June 30, 2021	(210,933)	20	(210,933)	20	(15,345)
Implementation of Alameda Decision	June 30, 2021	(132,810)	15	(132,810)	15	(11,838)
Grand Total[2]				**$2,755,042**		**$317,227**

[1] Reflects the adjustment to prior UAAL layers as a result of CERTNA termination as of June 30, 2021.

[2] Excludes five withdrawn employers as of June 2021. Using ongoing valuation assumptions, their UAAL as of June 30, 2021 was $(13,664,000). The present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers has been reflected in this Exhibit.

Exhibit I: Projection of UAAL Balances and Payments

Outstanding Balance of $2,755 Million in Net UAAL as of June 30, 2021

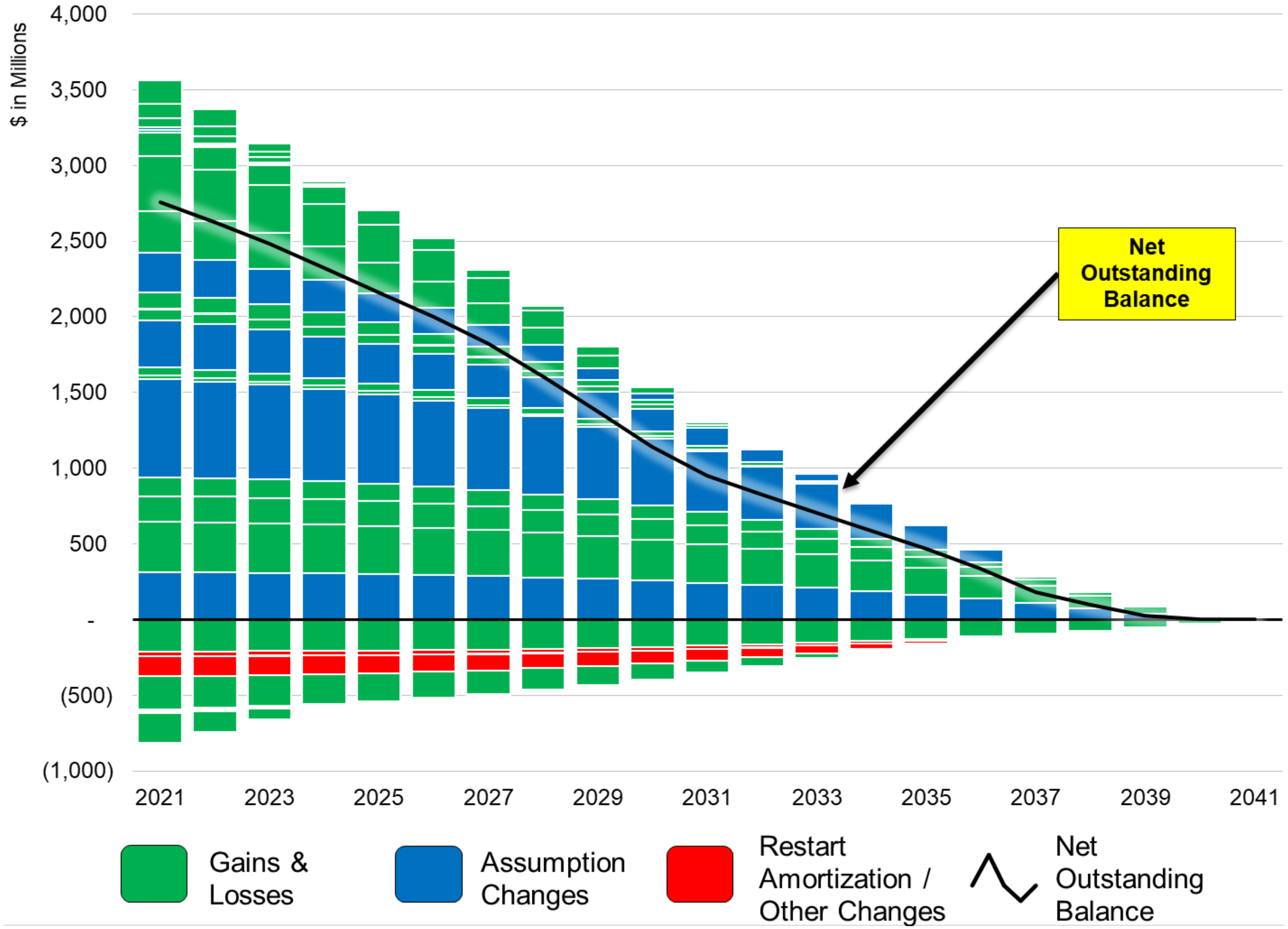


Exhibit I: Projection of UAAL Balances and Payments (continued)

Annual Payments Required to Amortize $2,755 Million in Net UAAL as of June 30, 2021

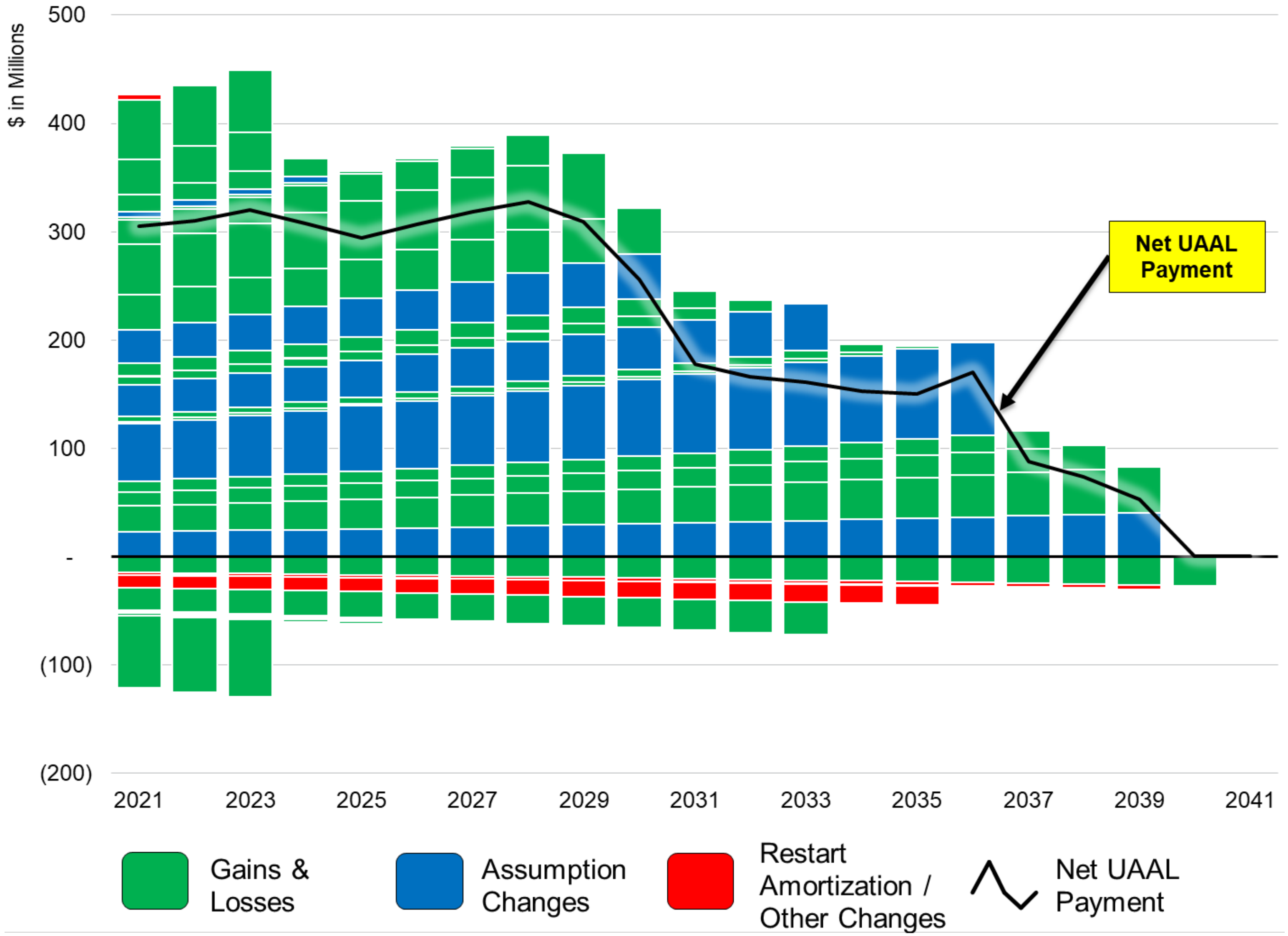


Exhibit J: Definition of Pension Terms

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

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 and Beneficiaries:	The single-sum value of lifetime benefits to existing pensioners and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield in actuarial liabilities that are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
Actuarially Equivalent:	Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Section 3: Supplemental Information

Actuarial Present Value of Future Plan Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution (ADC) and the Net Pension Liability (NPL).
Actuarial Value of Assets (AVA):	The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ADC.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the Plan.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Section 3: Supplemental Information

Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Fund is calculated, including: Investment return - the rate of investment yield that the Fund will earn over the long-term future; Mortality rates - the death rates of employees and pensioners; life expectancy is based on these rates; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates - the probability of disability retirement at a given age; Termination rates - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; Salary increase rates - the rates of salary increase due to inflation and productivity growth.
Closed Amortization Period:	A specific number of years that is counted down by one each year and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio:	The ratio of the Valuation Value of Assets (VVA) to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the VVA.
Investment Return:	The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

Section 3: Supplemental Information

Normal Cost:	That portion of the Actuarial Present Value of pension plan benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the Amortization Period.
Payroll or Compensation:	Compensation Earnable and Pensionable Compensation expected to be paid to active members during the twelve months following the valuation date. Only Compensation Earnable and Pensionable Compensation that would possibly go into the determination of retirement benefits are included.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Valuation Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of non-valuation reserves. It includes the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers.

Section 4: Actuarial Valuation Basis

Exhibit I: 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, 2016 through June 30, 2019 Actuarial Experience Study dated April 23, 2020. Unless otherwise noted, all actuarial assumptions and methods shown below apply to members for all tiers. These assumptions were adopted by the Board.
Economic Assumptions	
Net Investment Return:	7.25%; net of investment expenses. Based on the Actuarial Experience Study reference above, expected investment expenses represent about 1.35% of the Actuarial Value of Assets.
Administrative Expenses:	0.85% 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. This results in an administrative expense load as shown below:

	Average Contribution Rate Before Administrative Expense	Weighting	Total Loading
Employer	31.99%	74.85%	0.64%
Member	10.75%	25.15%	0.21%
Total		100.00%	0.85%

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.

Allocation of Administrative Expense Load as a % of Payroll	
Addition to Employer Basic Normal Cost Rate	0.21%
Addition to Employer Basic UAAL Rate	0.43%
Addition to Member Basic Rate	0.21%
Total Addition to Contribution Rates	0.85%

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

Section 4: Actuarial Valuation Basis

Member Contribution Crediting Rate:	2.75% (Actual rate is based on six-month Treasury rate).
Consumer Price Index:	Increase of 2.75% per year; retiree COLA increases due to CPI are limited to maximum of 2.00% per year.
Payroll Growth:	Inflation of 2.75% 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 2.75% per year from the valuation date.
Increase in Section 7522.10 Compensation Limit:	Increase of 2.75% per year from the valuation date.
Salary Increases:	The annual rate of compensation increase includes: inflation at 2.75%, plus “across the board” salary increases of 0.50% per year, plus the following merit and promotion increases:

Merit and Promotion Increases

	Rate (%)	
Years of Service	**General**	**Safety**
Less than 1	9.50	9.00
1 – 2	7.00	5.50
2 – 3	4.75	4.00
3 – 4	4.25	3.80
4 – 5	4.00	3.70
5 – 6	3.50	3.60
6 – 7	3.25	3.50
7 – 8	3.00	3.25
8 – 9	2.50	3.00
9 – 10	2.00	2.75
10 – 11	1.75	2.25
11 – 12	1.50	2.00
12 – 13	1.45	1.90
13 – 14	1.40	1.85
14 – 15	1.35	1.80
15 – 16	1.30	1.75
16 – 17	1.30	1.70
17 – 18	1.30	1.65
18 – 19	1.30	1.60
19 – 20	1.30	1.55
20 & Over	1.30	1.50

Section 4: Actuarial Valuation Basis

Demographic Assumptions	
Post-Retirement Mortality Rates:	*Healthy* • **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019 • **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019 *Disabled* • **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019 • **Safety Members:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019 • **Beneficiaries:** Pub-2010 General Contingent Survivor Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10%, projected generationally with the two-dimensional mortality improvement scale MP-2019 The Pub-2010 mortality tables and adjustments as shown above reflect the mortality experience as of the measurement date. The generational projection is a provision for future mortality improvement.

Section 4: Actuarial Valuation Basis

Pre-Retirement Mortality Rates:

- **General Members:** Pub-2010 General Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019
- **Safety Members:** Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019

	Rate (%)			
	General[1]		Safety[1]	
Age	Male	Female	Male	Female
25	0.02	0.01	0.03	0.02
30	0.03	0.01	0.04	0.02
35	0.04	0.02	0.04	0.03
40	0.06	0.03	0.05	0.04
45	0.09	0.05	0.07	0.06
50	0.13	0.08	0.10	0.08
55	0.19	0.11	0.15	0.11
60	0.28	0.17	0.23	0.14
65	0.41	0.27	0.35	0.20
70	0.61	0.44	0.66	0.39

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

[1] Generational projections beyond the base year (2010) are not reflected in the above mortality rates.

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females) with rates increased by 10%, projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 30% male and 70% female
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 90% male and 10% female

Section 4: Actuarial Valuation Basis

Disability Incidence:

	Rate (%)	
Age	**General**	**Safety**
20	0.02	0.20
25	0.02	0.23
30	0.03	0.34
35	0.06	0.52
40	0.09	0.66
45	0.16	1.00
50	0.26	2.28
55	0.36	5.10
60	0.58	7.10
65	0.88	7.50
70	1.12	0.00

55% of General disabilities are assumed to be service connected (duty) disabilities and the other 45% are assumed to be non-service connected (ordinary) disabilities.

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

Section 4: Actuarial Valuation Basis

Termination:

	Rate (%)	
Years of Service	**General**	**Safety**
Less than 1	15.00	7.00
1 – 2	11.00	6.50
2 – 3	10.00	5.50
3 – 4	8.00	5.00
4 – 5	7.00	4.50
5 – 6	6.50	3.00
6 – 7	6.00	2.50
7 – 8	4.75	2.00
8 – 9	4.50	1.80
9 – 10	4.50	1.60
10 – 11	4.50	1.40
11 – 12	4.50	1.30
12 – 13	4.25	1.20
13 – 14	4.25	1.10
14 – 15	4.00	1.10
15 – 16	3.75	1.10
16 – 17	3.50	1.10
17 – 18	3.25	1.10
18 – 19	3.00	1.10
19 – 20	3.00	1.10
20 & Over	3.00	1.10

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

Section 4: Actuarial Valuation Basis

Termination (continued):

Rate (%) of Electing a Refund of Contributions upon Termination

	General		Safety	
Years of Service	**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	100.0	100.0	100.0	100.0
5 – 6	40.0	20.0	20.0	10.0
6 – 7	40.0	20.0	20.0	10.0
7 – 8	40.0	20.0	20.0	10.0
8 – 9	40.0	20.0	20.0	10.0
9 – 10	40.0	20.0	20.0	10.0
10 – 11	35.0	17.5	20.0	10.0
11 – 12	35.0	17.5	20.0	10.0
12 – 13	35.0	17.5	15.0	7.5
13 – 14	35.0	17.5	15.0	7.5
14 – 15	35.0	17.5	15.0	7.5
15 – 16	20.0	10.0	15.0	7.5
16 – 17	20.0	10.0	10.0	5.0
17 – 18	20.0	10.0	10.0	5.0
18 – 19	20.0	10.0	5.0	2.5
19 – 20	20.0	10.0	5.0	2.5
20 & Over	20.0	10.0	0.0	0.0

Section 4: Actuarial Valuation Basis

Retirement Rates:

	Retirement Rates (%)					
	General Tier 1 (§31676.15)		General Tier 2 (§7522.20(a))	Safety Tier 1 (§31664.1)		Safety Tier 2 (§7522.25(d))
Age	Less than 30 Years of Service	Greater than 30 Years of Service		Less than 30 Years of Service	Greater than 30 Years of Service	
45	0.00	0.00	0.00	1.00	1.00	0.00
46	0.00	0.00	0.00	2.00	2.00	0.00
47	0.00	0.00	0.00	2.50	2.50	0.00
48	0.00	0.00	0.00	2.00	2.00	0.00
49	0.00	50.00	0.00	10.00	10.00	0.00
50	2.75	2.75	0.00	15.00	37.50	5.00
51	2.25	2.25	0.00	10.00	25.00	4.00
52	3.00	3.00	1.75	12.00	30.00	5.00
53	3.00	3.00	1.75	12.00	30.00	6.00
54	3.00	3.00	1.75	14.00	35.00	12.00
55	4.50	4.50	4.00	15.00	37.50	18.00
56	5.00	5.00	4.00	15.00	37.50	20.00
57	6.00	6.00	6.00	15.00	37.50	22.00
58	6.50	16.25	7.00	15.00	37.50	25.00
59	8.50	21.25	8.00	15.00	37.50	25.00
60	12.00	30.00	9.00	25.00	37.50	25.00
61	12.00	30.00	11.00	25.00	37.50	25.00
62	16.00	40.00	20.00	25.00	37.50	25.00
63	16.00	40.00	20.00	25.00	37.50	25.00
64	23.00	46.00	20.00	25.00	37.50	25.00
65	37.00	55.50	25.00	100.00	100.00	100.00
66	30.00	45.00	30.00	100.00	100.00	100.00
67	25.00	37.50	30.00	100.00	100.00	100.00
68	25.00	37.50	25.00	100.00	100.00	100.00
69	25.00	37.50	25.00	100.00	100.00	100.00
70	25.00	37.50	40.00	100.00	100.00	100.00
71	20.00	30.00	40.00	100.00	100.00	100.00
72	20.00	30.00	40.00	100.00	100.00	100.00
73	20.00	30.00	40.00	100.00	100.00	100.00
74	20.00	30.00	40.00	100.00	100.00	100.00
75	100.00	100.00	100.00	100.00	100.00	100.00

Section 4: Actuarial Valuation Basis

Retirement Age and Benefit for Deferred Vested Members:	For current and future deferred vested members, retirement age assumptions are as follows: • General Retirement Age: 59 • Safety Retirement Age: 53 40% of future General and 65% of future Safety deferred vested members are assumed to continue to work for a reciprocal employer. For reciprocals, 4.55% and 4.75% compensation increases are assumed per annum for General and Safety, respectively.
Future Benefit Accruals:	1.0 year of service per year of employment.
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.
Form of Payment:	All active and inactive members are assumed to elect the unmodified option at retirement.
Percent Married:	For all active and inactive members, 65% of male members and 55% of female members are assumed to be married at pre-retirement death or retirement.
Age and Gender of Spouse:	For all active and inactive members, male members are assumed to have a female spouse who is 3 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.
Supplemental Disability Benefit:	45% of future General service connected (duty) disabled members are assumed to be eligible for this benefit; 70% of future General non-service connected (ordinary) disabled members are assumed to be eligible for this benefit.
Leave Cashouts:	Additional compensation amounts are expected to be received during a member’s final average earnings period. The percentages are as follows: • General Tier 1: 1.00% • Safety Tier 1: 2.00% • Tier 2: None
Actuarial Funding Policy	
Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the age on the valuation date minus the lesser of years of employment or years of benefit service. 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 formula for each individual has always been in effect (i.e., “replacement life within a tier”).
Actuarial Value of Assets:	Market Value of Assets (MVA) less unrecognized returns in each of the last five annual accounting periods. Unrecognized returns are equal to the difference between the actual market return and the expected return on the market value, and are recognized annually over a five-year period.

Section 4: Actuarial Valuation Basis

Valuation Value of Assets:	The Actuarial Value of Assets reduced by the following non-valuation reserves and designations: (1) Burial Allowance Reserve; (2) Restricted Balance Reserved for Deficiencies; (3) Additional Contingency Reserve; and (4) Undesignated Excess Earnings Reserve. It includes the present value of additional future contributions payable from the County to SBCERA related to the Crest Forest Fire District transfer and from the Barstow Fire Protection District and the City of Big Bear Lake (including the Big Bear Fire Authority) to SBCERA for their transfers.
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. Unless an alternative amortization period is recommended by the Actuary and accepted by the Board based on the results of an actuarial analysis: • With the exception noted in the bullet below, the increase in UAAL as a result of any plan amendments will be amortized over a period of 15 years; • 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 (i.e., wage inflation). 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.

Section 4: Actuarial Valuation Basis

Other Actuarial Methods	
Employer 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 determined as a level percentage of the member's compensation. 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 UAAL) 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 annual rate of 3.25% (i.e., 2.75% inflation plus 0.50% "across the board" salary increase). Note that all pre-January 1, 1996 retirees and beneficiaries are included as County members for purposes of this calculation and all information shown throughout this report. The amortization policy is described on the previous page. Note that the employer rates provided in this report exclude any debt payments associated with any pension obligation bonds. The recommended employer contributions are provided in *Section 2, Subsection F*.

Section 4: Actuarial Valuation Basis

Member Contributions:	The member contribution rates for all members are provided in *Section 4, Exhibit III*. Note that the member rates provided in the report are the full rate before reflecting any employer pickup. **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. **Tier 2 Members** Pursuant to Section 7522.30(a) of the Government Code, 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 taken into account in this valuation only the requirements of Section 7522.30(c), but not the requirements of Section 7522.30(e).
Internal Revenue Code Section 415:	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 $230,000 for 2021. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions. Tier 1 benefits in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m). Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard. Contribution rates determined in this valuation have not been reduced for the Section 415 limitations. However, it is anticipated that Tier 2 members will not be limited in the future due to the PEPRA compensation limit applied in the determination of their benefit. Actual limitations will result in actuarial gains as they occur.

Section 4: Actuarial Valuation Basis

Changed Actuarial Assumptions and Methods:	There have been no changes in actuarial assumptions or methods since the last valuation.

Exhibit II: Summary of Plan Provisions

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

Plan Year:	July 1 through June 30
Membership Eligibility:	All permanent employees of the County of San Bernardino or contracting district, scheduled to work 20 or more hours weekly, are eligible, subject to classification below:
General	All employees not eligible for Safety.
Safety	Employees in law enforcement and fire suppression.
Tier 1	All members with membership dates before January 1, 2013.
Tier 2	All members with membership dates on or after January 1, 2013.
Final Compensation for Benefit Determination:	
Tier 1	Highest consecutive twelve months of compensation earnable (§31462.1) (FAS1).
Tier 2	Highest consecutive thirty-six months of pensionable compensation (§7522.10(c), §7522.32 and §7522.34) (FAS3).
Compensation Limit:	
Tier 1	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, 2021 is $290,000. The limit is indexed for inflation on an annual basis.
Tier 2	Pensionable Compensation is limited to $153,671 for 2021. The limit is indexed for inflation on an annual basis.
Service:	Years of service (Yrs) are generally based on a member's employment during a period of time for which deductions are made from their compensation.

Section 4: Actuarial Valuation Basis

Service Retirement Eligibility:		
General Tier 1	Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years regardless of age (§31672).	
General Tier 2	Age 52 with 5 years of service (§7522.20(a)) or age 70 regardless of service (§31672.3).	
Safety Tier 1	Age 50 with 10 years of service, or age 70 regardless of service, or after 20 years regardless of age (§31663.25).	
Safety Tier 2	Age 50 with 5 years of service (§7522.25(d)) or age 70 regardless of service (§31672.3).	
Benefit Formula:		
General Tier 1 (§31676.15)	**Retirement Age**	**Benefit Formula**
	50	1.49% x FAS1 x Yrs
	55	2.00% x FAS1 x Yrs
	60	2.62% x FAS1 x Yrs
	62	2.82% x FAS1 x Yrs
	65 and over	3.13% x FAS1 x Yrs
General Tier 2 (§7522.20(a))	**Retirement Age**	**Benefit Formula**
	52	1.00% x FAS3 x Yrs
	55	1.30% x FAS3 x Yrs
	60	1.80% x FAS3 x Yrs
	62	2.00% x FAS3 x Yrs
	65	2.30% x FAS3 x Yrs
	67 and over	2.50% x FAS3 x Yrs
Safety Tier 1 (§31664.1)	**Retirement Age**	**Benefit Formula**
	50 and over	3.00% x FAS1 x Yrs
Safety Tier 2 (§7522.25(d))	**Retirement Age**	**Benefit Formula**
	50	2.00% x FAS3 x Yrs
	55	2.50% x FAS3 x Yrs
	57 and over	2.70% x FAS3 x Yrs

Section 4: Actuarial Valuation Basis

Maximum Benefit:	
Tier 1	100% of Highest Average Compensation (§31676.15, §31664.1).
Tier 2	There is no final compensation limit on the maximum retirement benefit.
Ordinary Disability:	
Eligibility	Five years of service (§31720).
Benefit	For members entering before January 1, 1981, 1.8% per year of service (in most cases a minimum of 33% of Final Compensation) (§31727.3, §31727, and §31727.2). For members entering on or after January 1, 1981, 20% of Final Compensation, plus 2% of Final Compensation for each year of service in excess of five years, up to a maximum of 40%. For all members, 100% of the Service Retirement benefit will be paid, if greater.
Line-of-Duty Disability:	
Eligibility	No age or service requirements (§31720).
Benefit	50% of the Final Compensation or 100% of Service Retirement benefit, if greater (§31727.4).
Supplemental Disability:	
Eligibility	Must be a General member and incapable of gainful employment.
Benefit	$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.
Pre-Retirement Death:	
All Members	
Eligibility	None.
Basic lump sum benefit	Refund of member contributions with interest, plus one month's compensation for each year of service, to a maximum of six months' compensation (§31781).
Line-of-Duty Death	50% of Final Compensation payable to spouse or minor children (§31787).
Vested Members	
Eligibility	Five years of service.
Basic benefit	60% of the greater of Service Retirement or Ordinary Disability Retirement benefit payable to surviving eligible spouse or eligible children (§31765.1, §31781.1), in lieu of the basic lump sum benefit above. An additional lump sum payment of one-year of compensation is paid if Line-of-Duty death for Safety member (§31787.6).

Section 4: Actuarial Valuation Basis

Death After Retirement:	
All Members	
Service Retirement or Ordinary Disability Retirement	Unless another option was selected at retirement, 60% of member's unmodified allowance continued to eligible spouse (§31760.1).
Line-of-Duty Disability	Unless another option was selected at retirement, 100% of member's unmodified allowance continued to eligible spouse (§31786).
Additional Death Benefit	A 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) (§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.
Withdrawal Benefits:	
Less than Five Years of Service	Refund of accumulated employee contributions with interest (§31628) or entitled to earned benefits commencing any time after eligible to retire (§31629.5) if eligible for benefits at a reciprocal system.
Five or More Years of Service	If contributions left on deposit, a member is 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:	Annual adjustment based on 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.
Member Contributions:	Refer to *Section 4, Exhibit III* for specific rates.
General Tier 1	
Basic	Entry-age based rates that provide for an annuity at age 55 equal to 1/100 of FAS1 (§31621.6).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
Safety Tier 1	
Basic	Entry-age based rates that provide for an annuity at age 50 equal to 1/100 of FAS1 (§31639.25).
Cost-of-Living	Entry-age based rates that provide for one-half of future Cost-of-Living costs.
General and Safety Tier 2	A flat rate 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).

Section 4: Actuarial Valuation Basis

Changed Plan Provisions:	On July 30, 2020, the California Supreme Court issued a decision in the Alameda County Deputy Sheriff's Assn. et al., v. Alameda County Employees' Retirement Assn. litigation that clarified what should be considered compensation earnable for Tier 1 members and pensionable compensation for Tier 2 members for that and other similarly situated 1937 Act county employees retirement systems. See Item (1) on page 7 of this report for a discussion of the action taken by SBCERA.

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

Exhibit III: Member Contribution Rates

General Tier 1 Members' Contribution Rates (Refundable Basis) Based on the June 30, 2021 Actuarial Valuation (as a % of monthly payroll)

Entry Age	Basic	Total	Entry Age	Basic	Total
16	7.58%	9.51%	36	10.29%	12.93%
17	7.69%	9.65%	37	10.46%	13.15%
18	7.81%	9.80%	38	10.64%	13.37%
19	7.93%	9.95%	39	10.82%	13.60%
20	8.05%	10.10%	40	11.01%	13.84%
21	8.17%	10.26%	41	11.20%	14.08%
22	8.29%	10.41%	42	11.40%	14.33%
23	8.42%	10.57%	43	11.60%	14.58%
24	8.55%	10.74%	44	11.80%	14.84%
25	8.68%	10.90%	45	11.98%	15.06%
26	8.81%	11.06%	46	12.13%	15.25%
27	8.94%	11.23%	47	12.24%	15.39%
28	9.08%	11.40%	48	12.33%	15.51%
29	9.22%	11.58%	49	12.41%	15.61%
30	9.36%	11.76%	50	12.47%	15.68%
31	9.51%	11.95%	51	12.51%	15.73%
32	9.66%	12.14%	52	12.55%	15.78%
33	9.81%	12.33%	53	12.41%	15.61%
34	9.96%	12.51%	54 & Over	12.05%	15.15%
35	10.12%	12.72%			

Interest:	7.25% per annum
COLA:	2.00%
Administrative Expense	0.21% of payroll added to Basic rates.
Mortality:	See *Section 4, Exhibit I*
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit I*)
COLA Loading Factor:	26.20%, applied to Basic rates prior to adjustment for administrative expenses.

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

Exhibit III: Member Contribution Rates (continued)

General Tier 1 Members' Contribution Rates (Nonrefundable Basis) Based on the June 30, 2021 Actuarial Valuation (as a % of monthly payroll)

Entry Age	Basic	Total	Entry Age	Basic	Total
16	7.29%	9.14%	36	9.89%	12.43%
17	7.39%	9.28%	37	10.06%	12.64%
18	7.51%	9.42%	38	10.23%	12.86%
19	7.63%	9.57%	39	10.40%	13.08%
20	7.74%	9.71%	40	10.59%	13.31%
21	7.86%	9.87%	41	10.77%	13.54%
22	7.97%	10.01%	42	10.96%	13.78%
23	8.10%	10.16%	43	11.15%	14.02%
24	8.22%	10.33%	44	11.35%	14.27%
25	8.35%	10.48%	45	11.52%	14.48%
26	8.47%	10.63%	46	11.66%	14.66%
27	8.60%	10.80%	47	11.77%	14.80%
28	8.73%	10.96%	48	11.86%	14.91%
29	8.87%	11.13%	49	11.93%	15.01%
30	9.00%	11.31%	50	11.99%	15.08%
31	9.14%	11.49%	51	12.03%	15.13%
32	9.29%	11.67%	52	12.07%	15.17%
33	9.43%	11.86%	53	11.93%	15.01%
34	9.58%	12.03%	54 & Over	11.59%	14.57%
35	9.73%	12.23%			

Interest:	7.25% per annum
COLA:	2.00%
Administrative Expense	0.21% of payroll added to Basic rates.
Mortality:	See *Section 4, Exhibit I*
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit I*)
COLA Loading Factor:	26.20%, applied to Basic rates prior to adjustment for administrative expenses.
Refundability Factor:	1.04

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

Exhibit III: Member Contribution Rates (continued)

Safety Tier 1 Members' Contribution Rates (Refundable Basis) Based on the June 30, 2021 Actuarial Valuation
(as a % of monthly payroll)

Entry Age	Basic	Total	Entry Age	Basic	Total
16	8.96%	12.70%	36	11.97%	17.00%
17	9.09%	12.89%	37	12.15%	17.26%
18	9.22%	13.08%	38	12.32%	17.50%
19	9.35%	13.26%	39	12.48%	17.73%
20	9.48%	13.45%	40	12.59%	17.89%
21	9.62%	13.65%	41	12.69%	18.03%
22	9.76%	13.85%	42	12.76%	18.13%
23	9.90%	14.05%	43	12.81%	18.20%
24	10.04%	14.25%	44	12.86%	18.27%
25	10.19%	14.46%	45	12.91%	18.34%
26	10.34%	14.67%	46	12.96%	18.42%
27	10.49%	14.89%	47	13.02%	18.50%
28	10.65%	15.12%	48	12.96%	18.42%
29	10.82%	15.36%	49 & Over	12.55%	17.83%
30	10.98%	15.59%			
31	11.14%	15.82%			
32	11.31%	16.06%			
33	11.47%	16.29%			
34	11.64%	16.53%			
35	11.80%	16.76%			

Interest:	7.25% per annum
COLA:	2.00%
Administrative Expense	0.21% of payroll added to Basic rates.
Mortality:	See *Section 4, Exhibit I*
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit I*)
COLA Loading Factor:	42.79%, applied to Basic rates prior to adjustment for administrative expenses

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

Exhibit III: Member Contribution Rates (continued)

Safety Tier 1 Members' Contribution Rates (Nonrefundable Basis) Based on the June 30, 2021 Actuarial Valuation
(as a % of monthly payroll)

Entry Age	Basic	Total	Entry Age	Basic	Total
16	8.78%	12.45%	36	11.74%	16.67%
17	8.91%	12.64%	37	11.91%	16.92%
18	9.04%	12.82%	38	12.08%	17.16%
19	9.17%	13.00%	39	12.24%	17.38%
20	9.29%	13.19%	40	12.34%	17.54%
21	9.43%	13.38%	41	12.44%	17.68%
22	9.57%	13.58%	42	12.51%	17.77%
23	9.71%	13.77%	43	12.56%	17.84%
24	9.84%	13.97%	44	12.61%	17.91%
25	9.99%	14.18%	45	12.66%	17.98%
26	10.14%	14.38%	46	12.71%	18.06%
27	10.28%	14.60%	47	12.76%	18.14%
28	10.44%	14.82%	48	12.71%	18.06%
29	10.61%	15.06%	49 & Over	12.30%	17.48%
30	10.76%	15.28%			
31	10.92%	15.51%			
32	11.09%	15.75%			
33	11.25%	15.97%			
34	11.41%	16.21%			
35	11.57%	16.43%			

Interest:	7.25% per annum
COLA:	2.00%
Administrative Expense	0.21% of payroll added to Basic rates.
Mortality:	See *Section 4, Exhibit I*
Salary Increase:	Inflation (2.75%) + Across-the-Board Increase (0.50%) + Merit (See *Section 4, Exhibit I*)
COLA Loading Factor:	42.79%, applied to Basic rates prior to adjustment for administrative expenses.
Refundability Factor:	1.02

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

Exhibit III: Member Contribution Rates (continued)

Tier 2 Members' Contribution Rates (Refundable Basis) Based on the June 30, 2021 Actuarial Valuation (as a % of monthly payroll)

All Entry Ages	Basic	COLA	Total
County General and Superior Court	7.43%	1.61%	9.04%
Safety	12.54%	3.30%	15.84%
SCAQMD	6.66%	1.46%	8.12%
Other General	7.50%	1.62%	9.12%

Note: 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 0.21% of payroll.

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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, 2021

Segal

Segal

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October 18, 2021

Board of Retirement
San Bernardino County Employees' Retirement Association
348 West Hospitality Lane, Suite 100
San Bernardino, CA 92408

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board Statement No. 67 (GASB 67) Actuarial Valuation as of June 30, 2021. 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; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

The actuarial calculations were directed under the supervision of Molly Calcagno, ASA, Enrolled Actuary, MAAA. 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 Plan.

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

Sincerely,

Segal

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

Molly Calcagno, ASA, EA, MAAA
Actuary

Table of Contents

Section 1: Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board Statement No. 67 (GASB 67) as of June 30, 2021. 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, 2021, provided by SBCERA;
- The assets of the Plan as of June 30, 2021, provided by SBCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the June 30, 2021 valuation; and
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Board for the June 30, 2021 valuation.

General observations on GASB 67 actuarial valuation

1. It is important to note that 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 should develop and adopt funding policies under current practices.
2. 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.
3. The TPL and the Plan's Fiduciary Net Position include liabilities and assets held for Survivor Benefit and Burial Allowance Plans. In the case of the Burial Allowance, the TPL only includes a liability up to the amount in the Burial Allowance Reserve 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: Actuarial Valuation Summary

4. 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. The NPL reflects all investment gains and losses as of the measurement date. This is different from the UAAL on an actuarial value of assets basis in the funding valuation that reflects investment gains and losses over five-year periods.
5. For this report, the reporting dates for the Plan are June 30, 2021 and June 30, 2020. The NPLs measured as of June 30, 2021 and June 30, 2020 have been determined from the actuarial valuations as of June 30, 2021 and June 30, 2020, respectively.
6. Based on discussions with SBCERA and their auditors, starting with the June 30, 2015 measurement date for the Plan, member paid employer contributions are included as part of the Actuarially Determined Contribution (ADC). Previously these amounts were classified as member contributions and excluded from the ADC.

Highlights of the valuation

1. The NPL decreased from $4.01 billion as of June 30, 2020 to $1.32 billion as of June 30, 2021 primarily due to the 32.61% return on the market value of assets during 2020-2021 (that was higher than the assumed return of 7.25%) and the changes in benefit terms (a decrease of $132.8 million) described below. Changes in these values during the last two fiscal years ending June 30, 2021 and June 30, 2020 can be found in *Section 2, Schedules of changes in Net Pension Liability* on page 18.
2. The discount rate used to determine the TPL and NPL as of June 30, 2021 and June 30, 2020 was 7.25%, following the same assumptions 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 *Section 3, Appendices A and B*. Various other information that is required to be disclosed can be found throughout *Section 2*.
3. The Plan's Fiduciary Net Position of $13,636,852,762 as of June 30, 2021 is equal to the Plan's final market value of assets as of June 30, 2021. This differs from the $13,637,492,762 market value of assets used in our June 30, 2021 funding valuation because the funding valuation was based on the preliminary market value of assets provided in the unaudited financial statement. The final market value of assets provided in the June 30, 2021 financial statement was lower than the preliminary market value of assets provided in the unaudited financial statement by $640,000.
4. On July 30, 2020, the California Supreme Court issued a decision in the Alameda County Deputy Sheriffs' Assn. et al. v. Alameda County Employees' Retirement Assn. litigation that clarified what should be considered compensation earnable for Tier 1 members and pensionable compensation for Tier 2 members. In response, the Board adopted Resolution 2020-5, which detailed the implementation of the Alameda decision including reclassifying certain pay items for inclusion in compensation earnable. The results in this valuation reflect the reclassification of those pay codes, which reduced the NPL by $132.8 million as

Section 1: Actuarial Valuation Summary

described in (1) above. However, it should be noted that any additional impact on the NPL related to recovery of benefits and/or refunds of member contributions previously paid in conjunction with these pay items has not been reflected in this valuation but will be reflected in future valuations once it is known.

5. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2021. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2021. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.

Section 1: Actuarial Valuation Summary

Summary of key valuation results

Measurement Date		June 30, 2021	June 30, 2020
Disclosure elements for fiscal year ending June 30:	• Service cost[1,2]	$362,444,679	$343,547,062
	• Total Pension Liability	14,954,950,405	14,295,741,718
	• Plan's Fiduciary Net Position	13,636,852,762	10,287,333,860
	• Net Pension Liability	1,318,097,643	4,008,407,858
Schedule of contributions for fiscal year ending June 30:	• Actuarially determined contributions[3]	$493,671,903	$467,943,068
	• Actual employer contributions	493,715,755	467,985,568
	• Contribution deficiency / (excess)[4]	(43,852)	(42,500)
Demographic data for plan year ending June 30:	• Number of retired members and beneficiaries	14,292	13,833
	• Number of inactive vested members[5]	8,197	7,494
	• Number of active members	21,500	21,814
Key assumptions as of June 30:	• Investment rate of return	7.25%	7.25%
	• Inflation rate	2.75%	2.75%
	• Projected salary increases[6]	General: 4.55% to 12.75% and Safety: 4.75% to 12.25%	General: 4.55% to 12.75% and Safety: 4.75% to 12.25%

1 The service cost is based on the previous year's valuation, meaning the 2021 and 2020 values are based on the valuations as of June 30, 2020 and June 30, 2019, respectively. The 2021 service cost has been calculated using the assumptions shown in the 2020 column and the 2020 service cost has been calculated using the assumptions used in the June 30, 2019 valuation. The key assumptions as of June 30, 2019 are as follows:

Key assumptions as of June 30, 2019:

Investment rate of return	7.25%
Inflation rate	3.00%
Projected salary increases*	General: 4.50% to 14.50% and Safety: 4.70% to 14.50%

* Includes inflation at 3.00% plus real across-the-board salary increases of 0.50% plus merit and promotion increases.

2 Excludes administrative expense load.

3 See footnote (1) under *Section 2, Schedule of contributions* on page 19.

4 Includes additional contributions made by LAFCO towards the reduction of their UAAL.

5 Includes terminated members due a refund of member contributions plus accumulated interest.

6 Includes inflation at 2.75% plus real across-the-board salary increase of 0.50% plus merit and promotion increases

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 a valuation, 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 measurement 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.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

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.
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 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

General information about the 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 15 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, 2021, pension plan membership consisted of the following:

San Bernardino County Employees' Retirement Association
June 30, 2021

	Tier 1			Tier 2			
	General	Safety	Sub-Total	General	Safety	Sub-Total	Total
Active members - vested	9,189	1,384	10,573	2,882	406	3,288	13,861
Active members - nonvested	28	4	32	6,872	735	7,607	7,639
Inactive plan members or beneficiaries currently receiving benefits							
Retirees currently receiving benefits	10,312	1,941	12,253	62	11	73	12,326
Beneficiaries and dependents currently receiving benefits	1,530	428	1,958	7	1	8	1,966
Inactive plan members entitled to but not yet receiving benefits							
Inactive members eligible for, but not yet receiving benefits	2,569	173	2,742	388	87	475	3,217
Inactive members eligible for refund value of account only[1]	1,773	57	1,830	2,979	171	3,150	4,980
Total	25,401	3,987	29,388	13,190	1,411	14,601	43,989

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

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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 at least 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 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 regardless of age. Safety Tier 2 members are eligible for Early Retirement 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).

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 2021 for Tier 1 members with membership dates on or after July 1, 1996 is $290,000. The maximum amount of pensionable compensation for Tier 2 members that can be taken into account for 2021 is equal to $153,671. These limits are

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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 Riverside-San Bernardino-Ontario Area, is capped at 2.0%.

The County of San Bernardino and 15 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, 2021 for 2020-2021 (based on the June 30, 2019 valuation) was 31.60% of compensation.

Members are required to make contributions to SBCERA regardless of the retirement plan or tier in which they are included. Tier 1 members with 30 or more years of service are exempt from paying member contributions. The average member contribution rate as of June 30, 2021 for 2020-2021 (based on the June 30, 2019 valuation) was 10.99% of compensation.

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Net Pension Liability

Measurement Date	June 30, 2021	June 30, 2020
Components of the Net Pension Liability		
Total Pension Liability	$14,954,950,405	$14,295,741,718
Plan's Fiduciary Net Position	(13,636,852,762)	(10,287,333,860)
Net Pension Liability	**$1,318,097,643**	**$4,008,407,858**
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	91.19%	71.96%

The Net Pension Liability (NPL) for the Plan was measured as of June 30, 2021 and June 30, 2020. 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, 2021 and June 30, 2020, 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, 2021 and June 30, 2020, respectively. In particular, in developing the NPL as of June 30, 2021, we have reflected the reclassification of certain pay items for inclusion in compensation earnable for Tier 1 members. The TPL and the Plan's Fiduciary Net Position include liabilities and assets held for Survivor Benefit and Burial Allowance Plans.

Actuarial assumptions and actuarial cost method. The TPLs as of June 30, 2021 and June 30, 2020 that were measured by actuarial valuations as of June 30, 2021 and June 30, 2020, respectively, used the same actuarial assumptions and actuarial cost method as the June 30, 2021 and June 30, 2020 funding valuations. The actuarial assumptions used in the June 30, 2021 and June 30, 2020 valuations were based on the results of an experience study for the period from July 1, 2016 through June 30, 2019. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

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Inflation:	2.75%
Salary increases:	General: 4.55% to 12.75% and Safety: 4.75% to 12.25%, varying by service, including inflation
Investment rate of return:	7.25%, net of pension plan investment expense, including inflation
Administrative expenses	0.85% of payroll allocated to both the employer and member based on components of the total contribution rate (before expenses) for the employer and member
Mortality	Mortality rates are based on the Pub-2010 Amount-Weighted Above-Median Mortality Table projected generationally with the two-dimensional MP-2019 projection scale. For healthy General members, the General Healthy Retiree rates increased by 10% were used. For healthy Safety members, the Safety Healthy Retiree rates were used. For disabled General members, the Non-Safety Disabled Retiree rates were used. For disabled Safety members, the Safety Disabled Retiree rates were used. For beneficiaries, the General Contingent Survivor rates increased by 10% were used.
Other assumptions	Same as those used in the June 30, 2021 funding valuation. These assumptions were developed in the actuarial experience study for the period July 1, 2016 through June 30, 2019.

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 Service Cost associated with the Survivor Benefit as of June 30, 2021 was $1,096,000 while the TPL was $23,708,000.

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation but before deducting investment expenses, are shown in the following tables. This information was used in the derivation of the long-term expected investment rate of return assumption in the June 30, 2021 and June 30, 2020 actuarial valuations. This information will change every three years based on the actuarial experience study.

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Large Cap Equity	11.00%	5.42%
Small Cap Equity	2.00%	6.21%
International Developed Equity	9.00%	6.50%
Emerging Markets Equity	6.00%	8.80%
Core Bonds	2.00%	1.13%
High Yield Bonds	13.00%	3.40%
Global Bonds	1.00%	-0.04%
Emerging Market Debt	8.00%	3.44%
Real Estate	3.50%	4.57%
Cash	2.00%	-0.03%
Value Added Real Estate	3.50%	6.53%
Real Assets	5.00%	10.64%
Absolute Return	7.00%	3.69%
International Credit	11.00%	5.89%
Private Equity	16.00%	10.70%
Total	**100.00%**	

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Discount rate. The discount rate used to measure the TPL was 7.25% for both June 30, 2021 and June 30, 2020. 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 returns on pension plan investments of 7.25% was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2021 and June 30, 2020.

Discount rate sensitivity

Sensitivity of the June 30, 2021 Net Pension Liability to changes in the discount rate. The following presents the NPL as of June 30, 2021, calculated using the discount rate of 7.25%, as well as what the NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate:

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Net Pension Liability as of June 30, 2021	$3,340,099,668	$1,318,097,643	$(336,154,957)

Sensitivity of the June 30, 2020 Net Pension Liability to changes in the discount rate. The following presents the NPL as of June 30, 2020, calculated using the discount rate of 7.25%, as well as what the NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate:

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Net Pension Liability as of June 30, 2020	$5,949,945,095	$4,008,407,858	$2,418,610,002

Schedule of changes in Net Pension Liability – Last two fiscal years

Measurement Date	June 30, 2021	June 30, 2020
Total Pension Liability		
• Service cost	$362,444,679	$343,547,062
• Interest	1,038,763,712	966,647,465
• Differences between expected and actual experience	51,632,427	24,947,579
• Changes of assumptions	0	281,860,000
• Changes in benefit terms[1]	(132,810,000)	0
• Benefit payments, including refunds of member contributions	(660,822,131)	(621,563,606)
Net change in Total Pension Liability	**$659,208,687**	**$995,438,500**
Total Pension Liability – beginning	**14,295,741,718**	**13,300,303,218**
Total Pension Liability – ending	**$14,954,950,405**	**$14,295,741,718**
Plan's Fiduciary Net Position		
• Contributions – employer	$498,747,129[2]	$467,985,568
• Contributions – plan member	172,953,457	169,182,925
• Net investment income	3,353,151,858	(302,050,889)
• Benefit payments, including refunds of member contributions	(660,822,131)	(621,563,606)
• Administrative expense	(9,719,922)	(9,019,194)
• Other expenses	(4,791,489)	(5,607,601)
Net change in Plan's Fiduciary Net Position	**$3,349,518,902**	**$(301,072,797)**
Plan's Fiduciary Net Position – beginning	**10,287,333,860**	**10,588,406,657**
Plan's Fiduciary Net Position – ending	**$13,636,852,762**	**$10,287,333,860**
Net Pension Liability – ending	**$1,318,097,643**	**$4,008,407,858**
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	**91.19%**	**71.96%**
Covered payroll[3]	**$1,587,324,431**	**$1,542,495,237**
Net Pension Liability as percentage of covered payroll	**83.04%**	**259.87%**

1 On July 30, 2020, the California Supreme Court issued a decision in the Alameda County Deputy Sheriff's Assn. et al., v. Alameda County Employees' Retirement Assn. litigation that clarified what should be considered compensation earnable for Tier 1 members and pensionable compensation for Tier 2 members for that and other similarly situated 1937 Act county employees retirement systems. See Item (3) on page 5 of this report for a discussion of the action taken by SBCERA.

2 Includes $5,031,374 in contributions for withdrawn employers.

3 Covered payroll represents payroll on which contributions to the pension plan are based. The covered payroll shown is an estimate based on the prior year's valuation for each date shown.

Note to Schedule: Results include Survivor Benefit and Burial Allowance. In the case of the Burial Allowance, the TPL only includes a liability up to the amount in the Burial Allowance Reserve 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.

Schedule of 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
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%
2017	360,477,890	360,477,890	0	1,346,408,201	26.77%
2018	378,667,309	378,667,309	0	1,406,470,110	26.92%
2019	446,110,014	446,294,977	(184,963)[3]	1,477,131,264	30.21%
2020	467,943,068	467,985,568	(42,500)[3]	1,542,495,237	30.34%
2021	493,671,903	493,715,755	(43,852)[3]	1,587,324,431	31.10%

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 payroll on which contributions to the pension plan are based. The covered payroll shown is an estimate based on the prior year's valuation for each date shown.

3 Includes additional contributions made by LAFCO towards the reduction of their UAAL.

See accompanying notes to this schedule on the next page.

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Notes to Schedule:

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.

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Actuarial assumptions:

Valuation Date:	**June 30, 2019 Valuation Date (for year ended 2021 ADC)**
Investment rate of return:	7.25%, net of pension plan investment expenses, including inflation
Inflation rate:	3.00%
Real across-the-board salary increase:	0.50%
Projected salary increases:[1]	General: 4.50% to 14.50% and Safety: 4.70% to 14.50%
Administrative expenses:	0.70% 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)
Other assumptions:	Same as those used in the June 30, 2019 funding actuarial valuation

[1] Includes inflation at 3.00% plus real across-the-board salary increases of 0.50% plus merit and promotion increases that vary by service.

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Appendix A: Projection of Plan's Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2021 ($ 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)
2021	$13,637	$673	$777	$13	$985	$14,504
2022	14,504	638	790	12	1,046	15,385
2023	15,385	611	836	12	1,107	16,255
2024	16,255	559	881	12	1,167	17,088
2025	17,088	492	926	11	1,223	17,865
2026	17,865	490	973	11	1,278	18,648
2027	18,648	487	1,022	11	1,333	19,435
2028	19,435	291	1,071	11	1,381	20,025
2029	20,025	269	1,124	10	1,421	20,582
2030	20,582	257	1,176	10	1,459	21,112
2046	24,395	78	1,913	4	1,703	24,259
2047	24,259	70	1,938	3	1,692	24,080
2048	24,080	62	1,959	3	1,678	23,858
2049	23,858	54	1,977	3	1,661	23,593
2050	23,593	47	1,991	2	1,641	23,287
2060	18,976	5	1,912	0 *	1,308	18,377
2070	12,894	0 *	1,444	0 *	883	12,334
2080	8,544	0	823	0	590	8,311
2090	8,581	0	284	0	612	8,909
2100	14,967	0	33	0	1,084	16,018
2110	29,949	0	1	0	2,171	32,120
2120	60,303	0	0 *	0	4,372	64,675
2130	121,425	0	0 *	0	8,803	130,229
2134	160,656	0	0 *	0	11,648	172,304
2135	172,304					
2135 Discounted Value:	59 **					

* Less than $1 million, when rounded.

** $172,304 million when discounted with interest at the rate of 7.25% per annum has a value of $59 million as of June 30, 2021.

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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 2135, 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, 2021), 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, 2021. 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, 2021 valuation report.

(6) Column (d): Projected administrative expenses are assumed to be 0.85% 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 7.25% per annum.

(8) As illustrated in this appendix, 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 7.25% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2021 shown earlier in this report, pursuant to Paragraph 44 of GASB Statement No. 67.

(9) This projection is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.

Appendix B: Projection of Plan's Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2020 ($ 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)
2020	$10,287	$686	$727	$12	$744	$10,977
2021	10,977	700	744	12	794	11,715
2022	11,715	715	790	12	846	12,474
2023	12,474	738	837	11	900	13,264
2024	13,264	734	882	11	956	14,061
2025	14,061	713	927	11	1,011	14,847
2026	14,847	719	975	11	1,067	15,647
2027	15,647	724	1,024	10	1,123	16,461
2028	16,461	727	1,073	10	1,181	17,286
2029	17,286	701	1,125	10	1,238	18,089
2045	23,778	79	1,865	4	1,660	23,648
2046	23,648	70	1,889	3	1,650	23,475
2047	23,475	62	1,911	3	1,636	23,259
2048	23,259	54	1,929	3	1,619	23,002
2049	23,002	47	1,944	2	1,600	22,703
2059	18,480	5	1,868	0 *	1,273	17,890
2069	12,434	0 *	1,417	0 *	851	11,868
2079	7,894	0	816	0	543	7,622
2089	7,298	0	289	0	519	7,527
2099	12,304	0	36	0	891	13,158
2109	24,564	0	1	0	1,781	26,345
2119	49,460	0	0 *	0	3,586	53,045
2129	99,592	0	0 *	0	7,220	106,812
2134	141,322	0	0 *	0	10,246	151,568
2135	151,568					
2135 Discounted Value:	48 **					

* Less than $1 million, when rounded.

** $151,568 million when discounted with interest at the rate of 7.25% per annum has a value of $48 million as of June 30, 2020.

Section 3: Appendices

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 2135, 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, 2020), 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, 2020. 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, 2020 valuation report.

(6) Column (d): Projected administrative expenses are assumed to be 0.85% 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 7.25% per annum.

(8) As illustrated in this appendix, 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 7.25% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2020 shown earlier in this report, pursuant to Paragraph 44 of GASB Statement No. 67.

(9) This projection is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.

Appendix C: Definition of Terms

Definitions of certain terms as they are used in Statement 67. The terms may have different meanings in other contexts.

Actuarial Present Value of Projected Benefit Payments:	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial Valuation:	The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarial Valuation Date:	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution:	A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
Ad Hoc Cost-of-Living Adjustments (Ad Hoc COLAs):	Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.
Ad Hoc Postemployment Benefit Changes:	Postemployment benefit changes that require a decision to grant by the authority responsible for making such decisions.
Automatic Cost-of-Living Adjustments (Automatic COLAs):	Cost-of-living adjustments that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Automatic Postemployment Benefit Changes:	Postemployment benefit changes that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Cost-of-Living Adjustments:	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (Cost-Sharing Pension Plan):	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered Payroll:	Payroll on which contributions to the pension plan are based.
Defined Benefit Pension Plans:	Pension plans that are used to provide defined benefit pensions.

Section 3: Appendices

Defined Benefit Pensions:	Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of Statement 67.)
Defined Contribution Pension Plans:	Pension plans that are used to provide defined contribution pensions.
Defined Contribution Pensions:	Pensions having terms that (1) provide an individual account for each employee; (2) define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (3) provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.
Discount Rate:	The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following: 1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension Plan's Fiduciary Net Position is projected (under the requirements of Statement 67) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments. 2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.
Entry Age Actuarial Cost Method:	A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability.
Inactive Employees:	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
Multiple-Employer Defined Benefit Pension Plan:	A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Net Pension Liability (NPL):	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan.

Section 3: Appendices

Other Postemployment Benefits:	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
Pension Plans:	Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed and benefits are paid as they come due.
Pensions:	Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.
Plan Members:	Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).
Postemployment:	The period after employment.
Postemployment Benefit Changes:	Adjustments to the pension of an inactive employee.
Postemployment Healthcare Benefits:	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
Projected Benefit Payments:	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.
Public Employee Retirement System:	A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.
Real Rate of Return:	The rate of return on an investment after adjustment to eliminate inflation.
Service Costs:	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Single-Employer Defined Benefit Pension Plan (Single-Employer Pension Plan):	A defined benefit pension plan that is used to provide pensions to employees of only one employer.
Termination Benefits:	Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.
Total Pension Liability (TPL):	The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement 67.

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San Bernardino County Employees' Retirement Association

Survivor Benefit Valuation

Review of Contribution Rate and Funded Status as of June 30, 2021

Segal

Segal

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October 18, 2021

Board of Retirement
San Bernardino County Employees' Retirement Association
348 West Hospitality Lane, Suite 100
San Bernardino, CA 92408

Dear Board Members:

We are pleased to submit this Survivor Benefit Valuation as of June 30, 2021. It summarizes the actuarial data used in the valuation and establishes the funding requirements for July 1, 2022 to June 30, 2023.

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

The actuarial calculations were directed under the supervision of Molly Calcagno, ASA, Enrolled Actuary, MAAA. 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 this 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 Association.

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

Sincerely,

Segal

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

Molly Calcagno, ASA, EA, MAAA
Actuary

JY/jl

Table of Contents

Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a survivor benefit valuation of the San Bernardino County Employees' Retirement Association ("SBCERA" or "the Association") as of June 30, 2021. The valuation was performed to determine whether the assets and contribution rates are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of current Plan assets to cover the estimated cost of settling the Plan's accrued benefit obligations.

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; and changes in plan provisions or applicable law.

The contribution requirements presented in this report are based on:

- The benefit provisions for the survivor benefits, as administered by the Board of Retirement;
- The characteristics of covered active members and beneficiaries as of June 30, 2021, provided by SBCERA;
- The assets of the Plan as of June 30, 2021, provided by SBCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board of Retirement for the June 30, 2021 valuation;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Board of Retirement for the June 30, 2021 valuation; and
- The funding policy adopted by the Board of Retirement.

One of the general goals of an actuarial valuation is to establish contributions, which fully fund the Association's liabilities. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

Contribution Recommendations and Funded Status

1. 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	$0.91	$454,000	$0.91	$454,000
Recommended Contribution Rate	$0.91	$449,000	$0.91	$449,000

2. 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.
3. The Board has elected to include the Survivor Benefit Valuation in the regular valuation process. Therefore, the Actuarial Valuation and Review includes 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.
4. The following table compares the reserves and liabilities for the Survivor Benefit as of June 30, 2021:

1	June 30, 2021 Reserves	$83,927,000
2	June 30, 2021 Actuarial Accrued Liabilities:	
	Current Recipients	$21,795,000
	Future Recipients	4,398,000
	Total	$26,193,000
3	Liabilities minus Reserves (2) – (1)	$(57,734,000)
4	Funded Ratio (1) ÷ (2)	320.4%

Section 1: Actuarial Valuation Summary

5. The Actuarial Standards Board approved Actuarial Standard of Practice No. 51 (ASOP 51) regarding risk assessment, which was first effective with SBCERA's June 30, 2019 Survivor Benefit Valuation. ASOP 51 requires actuaries to identify and assess risks that "may reasonably be anticipated to significantly affect the plan's future financial condition". The key risk that is particularly relevant to the survivor benefit is longevity risk.

   The actuary's initial assessment can be strictly a qualitative discussion about potential adverse experience and the possible effect on future results, but it may also include quantitative numerical demonstrations where informative.

   Because the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan. We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the future financial condition of the plan, but have included a brief discussion of key risks that may affect the Association in *Section 2, Subsection D*.

6. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2021. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2021. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.

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 a valuation, 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. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our 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 the Association. 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	The valuation is based on the Market Value of Assets as of the valuation date, as provided by the Association. The Association uses a "Valuation Value of Assets" that differs from market value to gradually reflect year-to-year changes in the Market Value of Assets in determining the contribution requirements.
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. 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.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

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

The actuarial valuation is prepared at the request of the Association. 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 cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan. Future contribution requirements may differ from those determined in the valuation because of:

- Differences between actual experience and anticipated experience;
- Changes in actuarial assumptions or methods;
- Changes in statutory provisions; and
- Differences between the contribution rates determined by the valuation and those adopted by the Board of Retirement.[1]

Some actuarial results in this report are not rounded, but that does not imply precision.

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 Association should look to their other advisors for expertise in these areas.

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

[1] SBCERA has a proven track record of adopting the Actuarial Determined Contributions as determined by the valuation and based on the Board's Actuarial Funding Policy.

Section 2: Actuarial Valuation Results

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 formerly 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 *Section 3, Exhibit II.*

Section 2: Actuarial Valuation Results

B. Review of Experience and Recommendations

Section 3, Exhibit I provides a summary of the actuarial assumptions used in this actuarial valuation. Assumptions regarding the number and type of beneficiaries for future deaths were derived from 2019 U.S. Census data. The Board adopted these assumptions as part of the 2020 Actuarial Experience Study. Additional assumptions are necessary for this valuation because the benefit amount varies depending upon the number and type of survivors receiving it.

The following table provides a summary of the number and type of beneficiaries as of June 30, 2021.

	SBCERA Survivor Benefit Recipients as of June 30, 2021	Death Before 4/1/1994	Death 4/1/1994 or Later
1	Surviving spouse caring for one child OR two children only	0	22
2	Surviving spouse caring for two or more children OR three or more children	0	10
3	One child only OR each of two dependent parents age 62 or older	0	14
4	Widow or widower age 62 or older (no children) or in deferred status	52	136
5	Widow or widower age 60 or older (no children)	0	86
6	Total	52	268

	SBCERA Covered Members as of June 30, 2021	
1	Active members	18,971

C. Valuation Results and Contribution Requirements

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

1. The Survivor Benefit Reserve, which equals $83,927,000 as of June 30, 2021; and
2. Projected contributions shared 50-50 by employers and members.

1	June 30, 2021 Reserves	$83,927,000
2	June 30, 2021 Actuarial Accrued Liabilities:	
	Current Recipients	$21,795,000
	Future Recipients	4,398,000
	Total	$26,193,000
3	Liabilities minus Reserves (2) – (1)	$(57,734,000)
4	Funded Ratio (1) ÷ (2)	320.4%

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 are not anticipated to be met in the future. The employer and member contribution rates are derived below.

1	Biweekly Entry Age Normal Cost per Active Member	$1.82
2	Employer Portion (50% of (1))	$0.91
3	Member Portion (50% of (1))	$0.91
4	Estimated Annual Employer Contributions	$449,000
5	Estimated Annual Member Contributions	$449,000

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

D. Risk Assessment

Because the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan.

This section does not contain a detailed analysis of the potential range of future measurements, but does include a concise discussion of some of the primary risks that may affect the future financial condition of the survivor benefits. We do not recommend that a more detailed assessment of the risks be performed due to the relatively small liabilities of the survivor benefits as compared to the main retirement benefits paid by SBCERA.

This section provides descriptions and basic assessments of the primary risks that are likely to have an ongoing influence on the Plan's financial condition. Historical trends and maturity measures are shown in *Section 2, Subsection J* of the June 30, 2021 Actuarial Valuation Report for SBCERA.

Risk Assessments

- Longevity Risk (the risk that mortality experience will be different than expected)

  The actuarial valuation includes current life expectancy assumptions and an expectation of future improvement in life expectancy, which are significant assumptions given the relatively long duration of liabilities for pension plans. Emerging plan experience that does not match these expectations will result in increases or decreases in the actuarially determined contribution over time. Because the survivor benefit provides for death benefits payable to surviving spouses and children rather than a retirement annuity such as that paid by the main SBCERA plan, members living longer than expected generally results in a decrease in liabilities and contribution rates.

- Other Risks

  In addition to longevity, the valuation includes a variety of other assumptions that are unlikely to match future experience exactly. Examples of other demographic assumptions include retirement, termination and disability assumptions.

Section 3: Actuarial Valuation Basis

Exhibit I: 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, 2016 through June 30, 2019 Actuarial Experience Study dated April 23, 2020. These assumptions were adopted by the Board.

Actuarial Assumptions

Those described in the SBCERA June 30, 2021 actuarial valuation report; and

The following assumptions derived from 2019 U.S. Census data.

Member's Age at Death	Percent Married	Not Married No Children	Not Married One Child	Not Married Two Children	Married No Children	Married One Child	Married Two Children	1st Child's Age	2nd Child's Age
Under 25	19%	71%	6%	4%	9%	6%	4%	3	1
25-34	55%	33%	5%	7%	19%	13%	23%	6	4
35-44	76%	15%	4%	5%	15%	16%	45%	10	8
45-54	74%	20%	3%	2%	37%	18%	20%	14	12
55-59	70%	28%	1%	0%	63%	5%	3%	18	16
60-64	70%	28%	1%	0%	63%	5%	3%	21	19
65-74	68%	31%	0%	0%	67%	1%	1%	N/A	N/A
75+	47%	54%	0%	0%	46%	0%	0%	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 3: Actuarial Valuation Basis

Actuarial Funding Policy	
Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the age on the valuation date minus the lesser of years of employment of years of benefit service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated by service, as if the current benefit formula for each individual has always been in effect (i.e., “replacement life within a tier”).
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. 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. However, because the provisions of Section 7522.52 have not been met, the surplus has not been amortized. 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.
Changed Actuarial Assumptions and Methods:	There have been no changes in actuarial assumptions or methods since the last valuation.

Exhibit II: Summary of Plan Provisions

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

Plan Year:	July 1 through June 30
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:	

	Monthly Allowance	
Member's Survivor	**Death Before 4/1/1994**	**Death 4/1/1994 or Later**
Surviving spouse caring for one child	$591.80	$1,390.00
Surviving spouse caring for two or more children	$690.40	$1,622.00
One child only	$295.90	$695.00
Two children only (divided between children)	$581.80	$1,390.00
Three children only (divided between children)	$690.40	$1,622.00
Widow or widower age 60 (no children)	$0.00	$663.00
Widow or widower age 62 or older (no children)	$327.10	$768.00
Each of two dependent parents age 62 or older	$295.90	$695.00
One dependent parent only, age 62 or older	$325.50	$795.00
One–time burial allowance	$255.00	$255.00

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