Kern County Employees' Retirement Association

Actuarial Valuation and Review as of June 30, 2017

Segal Consulting

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

Segal Consulting

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November 30, 2017

Board of Retirement
Kern County Employees' Retirement Association
11125 River Run Blvd.
Bakersfield, CA 93311

Dear Board Members:

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

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

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

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

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

Sincerely,

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

By: ______________________	*By:* ______________________
Paul Angelo, FSA, EA, MAAA, FCA	*John Monroe, ASA, EA, MAAA*
Senior Vice President and Actuary	*Vice President and Actuary*

JAC/gxk

SECTION 1

VALUATION SUMMARY

SECTION 2

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SECTION 4

REPORTING INFORMATION

Segal Consulting

Purpose

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

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

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

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

Reference: Pgs. 64, 65

Reference: Pgs. 66, 67

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. Effective with the June 30, 2012 valuation, the Board of Retirement's funding policy is to amortize the Association's unfunded actuarial accrued liability as of June 30, 2011 over a declining 24.5-year period (18.5 years as of June 30, 2017). Any change in unfunded actuarial accrued liability that arises due to actuarial gains or losses or due to changes in actuarial assumptions or methods at each valuation after June 30, 2011 is amortized over its own declining 18-year period. Any change in unfunded actuarial accrued liability that arises due to plan amendments is amortized over its own declining 15-year period (with the exception of a change due to retirement incentives, which is amortized over its own declining period of up to 5 years). A schedule of current amortization amounts may be found in Section 3, Exhibit I. Note that a graphical projection of the UAAL amortization bases and payments has been included in Exhibit J.

The rates calculated in this report may be adopted by the Board for the fiscal year that extends from July 1, 2018 through June 30, 2019.

Effect of Gain Sharing Provisions

The 7.25% investment return assumption used in this valuation has been developed without taking into consideration any impact of the 50/50 excess earnings allocation between the retirement and Supplemental Retiree Benefits (SRBR) Reserve asset pools. This is based on our understanding that Article 5.5 of the Statute, which authorizes the allocation of 50% allocation of excess earnings to the SRBR, does not allow for the use of a different investment return for funding than is used for interest crediting. This would appear in effect to preclude the prefunding of the SRBR through the use of an assumption lower than the market earnings assumption of 7.25%.

Actuarial Standard of Practice (ASOP) No. 4 ("*Measuring Pension Obligations and Determining Pension Plan Costs or Contributions"*) was revised and adopted in December 2013. The revised ASOP states that some plan provisions, including gain sharing provisions, "may create pension obligations that are difficult to appropriately measure using traditional valuation procedures." ASOP No. 4 now mentions that "for such plan provisions, the actuary should consider using alternative valuation procedures, such as stochastic modeling….to reflect the impact of variations in experience from year to year."

Accordingly, we performed stochastic modeling to estimate the impact of the 50% allocation of future excess earnings to the SRBR. The results of our model indicated that the 50/50 allocation of future excess earnings would have about the same impact as an "outflow" (i.e., assets not available to fund the benefits included in this valuation) that would average approximately 0.3% of assets over time.

For informational purposes only, when we applied the results of our stochastic model to this valuation we have estimated that such an annual outflow would increase the Actuarial Accrued Liability measured in this valuation using a 7.25% investment return assumption from $6.19 billion to $6.42 billion (for a difference of about $232 million) and would increase the employer's contribution rate by about 4.2% of payroll.

Significant Issues in This Valuation

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

Reference: Pg. 73

- The results of this valuation reflect changes in the economic and demographic assumptions as recommended by Segal and adopted by the Retirement Board for the June 30, 2017 valuation. These changes were documented in our Actuarial Experience Study and are also outlined in Section 4, Exhibit II of this report. These assumption changes resulted in an increase in the average employer rate of 3.88% of payroll and an increase in the aggregate member rate of 0.16% of payroll. Out of the 3.88% of payroll increase in average employer rate, 0.66% is an increase in the Normal Cost rate and 3.22% is an increase in the UAAL rate.

Reference: Pgs. 11, 12

- The market value of assets earned a return of 12.00% for the July 1, 2016 to June 30, 2017 plan year. The valuation value of assets earned a return of 7.02% for the same period due to the deferral of most of the current year investment gains and the recognition of prior investment gains and losses. This resulted in an actuarial loss when measured against the assumed rate of return of 7.50% for the 2016/2017 year. This actuarial investment loss increased the average employer contribution rate by 0.23% of payroll.

Reference: Pg. 36
Reference: Pg. 63

- The ratio of the valuation value of assets to actuarial accrued liabilities decreased from 63.4% to 63.2%. The Association's Unfunded Actuarial Accrued Liability (UAAL) increased from $2.13 billion as of June 30, 2016 to $2.28 billion as of June 30, 2017, mainly due to the adoption of new actuarial assumptions, the investment loss on a valuation value of assets basis, and actual contributions less than expected, offset to some extent by the lower than expected salary increases, lower than expected COLA increases and other actuarial gains. A reconciliation of the Association's UAAL is provided in Section 3, Exhibit H.

Reference: Pg. 33

- The average recommended employer contribution rate increased from 44.78% of payroll as of June 30, 2016 to 47.69% of payroll in the June 30, 2017 valuation. This increase was mainly the result of the adoption of new actuarial assumptions, lower than expected total payroll growth, the investment loss on a valuation value of assets basis, and actual contributions less than expected, offset to some extent by changes in demographics amongst tiers, lower than expected individual salary increases, lower than expected COLA increases and other actuarial gains. A reconciliation of the average recommended employer contribution rate is provided in Section 2, Subsection D (see Chart 16).

Reference: Pg. 34

- The average recommended member contribution rate increased from 6.22% of payroll in the June 30, 2016 valuation to 6.46% of payroll in the June 30, 2017 valuation. This increase was mainly the result of the adoption of new actuarial assumptions and other demographic changes. A reconciliation of the average recommended member contribution rate is provided in Section 2, Subsection D (see Chart 17).

Reference: Pgs. 22, 26

- This valuation reflects that members of the San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) in Tier I and Tier IIA now pay 50% of the total Normal Cost rate for 2018/2019. There are different District Category III Tier I and Tier IIA employer contribution rates shown in this report for SJVAPCD and also for the Buttonwillow Recreation & Park District. Those employers should not use the combined District Category III employer contribution rate and should use their own Tier I and Tier IIA specific employer rate shown in the report along with the Tier IIB employer rate.
- The Retirement Board elected to phase-in the impact of new actuarial assumptions adopted for the June 30, 2017 valuation on the UAAL contribution rate over a three-year period, beginning with the 2018-2019 fiscal year for the County General,

Courts, and County Safety groups. The recommended pre-phase in contribution rates for 2018-2019 are contained in this report. The aggregate required contribution rate after reflecting the phase-in is 45.66% of compensation and is shown in a separate letter that follows this report. All other results shown in this valuation report exclude the effect of the phase-in.

Reference: Pg. 6

- As indicated in Section 2, Subsection B (see Chart 7) of this report, the total unrecognized investment loss as of June 30, 2017 is $74 million (as compared to an unrecognized loss of $235 million in the June 30, 2016 valuation). This deferred investment loss will be recognized in the determination of the actuarial value of assets for funding purposes over the next few years. This means that even if the plan earns the assumed rate of investment return of 7.25% per year (net of investment expense) on a **market value** basis then the deferred losses will be recognized over the next few years as shown in the footnote on Chart 7.
- The unrecognized investment losses represent about 2% of the market value of assets. Unless offset by future investment gains or other favorable experience, the recognition of the $74 million market losses is expected to have an impact on the Association's future funded ratio and the aggregate employer contribution rate. This potential impact may be illustrated as follows:
  - If the deferred losses were recognized immediately in the valuation value of assets, the funded ratio would decrease from 63.2% to 62.0%.

    For comparison purposes, if all the deferred losses in the June 30, 2016 valuation had been recognized immediately in the June 30, 2016 valuation, the funded percentage would have decreased from 63.4% to 59.4%.
  - If the deferred losses were recognized immediately in the valuation value of assets, the aggregate employer contribution rate would increase from 47.69% to 48.76%.

    For comparison purposes, if all of the deferred losses in the June 30, 2016 valuation had been recognized immediately in the June 30, 2016 valuation, the aggregate employer contribution rate would have increased from 44.78% to 48.21%.

Reference: Pg. 62

- During 2016/2017 there were no "excess earnings" credited to the valuation reserves or the SRBR. Also, at June 30, 2017, the COLA Contribution Reserve was zero and therefore not available to offset the 2% COLA contribution rate. Since the Contingency Reserve is still negative as of June 30, 2017, it is not excluded from the valuation value of assets per the Board's Interest Crediting Policy. A complete presentation of the Association's reserves is in Section 3, Exhibit G.
- The actuarial valuation report as of June 30, 2017 is based on financial information as of that date. Changes in the value of assets subsequent to that date, to the extent that they exist, are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.

Impact of Future Experience on Contribution Rates

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

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

Summary of Key Valuation Results (Dollar amounts in thousands)

	June 30, 2017		June 30, 2016	
Funded Status:				
Actuarial accrued liability (AAL)	$6,191,433		$5,813,092	
Valuation value of assets (VVA)	$3,913,073		$3,685,447	
Market value of assets (MVA)(1)	$3,838,666		$3,450,117	
Funded ratio on VVA basis (VVA/AAL)	63.20%		63.40%	
Funded ratio on MVA basis (MVA/AAL)	62.00%		59.35%	
Unfunded Actuarial Accrued Liability (UAAL) on VVA basis	$2,278,360		$2,127,645	
Unfunded Actuarial Accrued Liability (UAAL) on MVA basis	$2,352,767		$2,362,975	
Employer Contribution Rates:(3)	Total Rate	Estimated Annual Amount(2)	Total Rate	Estimated Annual Amount(2)
County General without Courts	39.96%	$147,122	38.29%	$138,122
Courts	39.51	11,350	37.38	9,936
County Safety	70.59	99,214	63.48	92,815
District Category I	49.78	3,136	44.70	2,762
District Category II	48.51	1,153	43.61	1,071
District Category III	41.64	10,137	36.91	8,668
District Category IV	49.38	151	44.42	161
District Category V	38.91	358	34.12	304
District Category VI	54.95	213	49.58	192
All employers combined	47.69	272,834	44.78	254,031

(1) *Excludes non-valuation reserves.*

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

(3) *In practice, these blended employer contribution rates for combined Tier I, Tier IIA, Tier IIB and Tier III (as applicable) are used for each category (with the exception of District Category III). Charts 14 and 15 show the employer contribution rates for each tier separately for these categories. The June 30, 2017 contribution rates are before adjustments to phase-in over three years the UAAL contribution rate impact of new assumptions adopted for the June 30, 2017 valuation.*

Summary of Key Valuation Results (Dollar amounts in thousands) - continued

	June 30, 2017		June 30, 2016	
Average Member Contribution Rates:	Total Rate	Estimated Annual Amount[1]	Total Rate	Estimated Annual Amount[1]
County General Tier I without Courts	5.05%	$9,311	4.92%	$10,000
County General Tier IIA without Courts	6.54	4,791	6.36	4,815
County General Tier IIB without Courts	6.16	6,809	5.83	4,766
Courts Tier I	8.11	1,426	8.13	1,428
Courts Tier IIA	6.20	135	6.06	109
Courts Tier IIB	6.16	552	5.83	421
County Safety Tier I	6.62	7,661	6.48	7,978
County Safety Tier IIA	9.25	693	9.10	699
County Safety Tier IIB	14.28	2,475	13.61	2,098
District Category I Tier I	2.99	159	2.83	149
District Category I Tier IIA	6.11	42	5.97	39
District Category I Tier IIB	6.16	19	5.83	16
District Category II Tier I	4.23	84	3.94	81
District Category II Tier IIB	6.16	24	5.83	21
District Category II Tier III	8.56	0	12.26	4
District Category III Tier I (Buttonwillow)	8.40	7	8.34	9
District Category III Tier I (SJVAPCD)	12.34	2,426	11.96	2,377
District Category III Tier IIA (Buttonwillow)	6.16	0	5.83	0
District Category III Tier IIA (SJVAPCD)	6.73	65	6.42	56
District Category III Tier IIB	6.16	224	5.83	153
District Category IV Tier I	2.74	8	2.33	8
District Category IV Tier IIB	6.16	0	5.83	0
District Category V Tier I	5.49	7	5.67	7
District Category V Tier IIA	5.91	21	5.78	23
District Category V Tier IIB	6.16	26	5.83	21
District Category VI Tier I	0.00	0	0.00	0
District Category VI Tier IIB	6.16	0	5.83	0
All employers combined	6.46	36,965	6.22	35,278

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

Summary of Key Valuation Demographic and Financial Data

	June 30, 2017	June 30, 2016	Change From Prior Year
Active Members:			
Number of members	8,728	8,627	1.2%
Average age	42.3	42.6	-0.3
Average service	10.0	10.2	-0.2
Projected total compensation	$572,081,586	$567,261,139	0.8%
Average projected compensation	$65,546	$65,754	-0.3%
Retired Members and Beneficiaries:			
Number of members:			
Service retired	5,993	5,767	3.9%
Disability retired	924	938	-1.5%
Beneficiaries	1,176	1,142	3.0%
Total	8,093	7,847	3.1%
Average age	68.6	68.4	0.2
Average monthly benefit(1)	$3,157	$3,065	3.0%
Vested Terminated Members:			
Number of vested terminated members(2)	2,363	2,218	6.5%
Average age	42.8	43.1	-0.3
Summary of Financial Data (dollar amounts in thousands)**:**			
Market value of assets(3)	$3,962,895	$3,571,588	11.0%
Return on market value of assets	12.00%	-0.76%	N/A
Actuarial value of assets(3)	$4,037,302	$3,806,918	6.1%
Return on actuarial value of assets	7.01%	5.00%	N/A
Valuation value of assets	$3,913,073	$3,685,447	6.2%
Return on valuation value of assets	7.02%	5.00%	N/A

(1) *Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.*

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

(3) *Includes non-valuation reserves.*

Important Information about Actuarial Valuations

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

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

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

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

- The valuation is prepared at the request of KCERA. 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 KCERA is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

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

A. MEMBER DATA

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

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

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

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

CHART 1

Member Population: 2008 – 2017

Year Ended June 30	Active Members	Vested Terminated Members[1]	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2008	9,057	1,747	5,651	0.82
2009	9,020	1,775	5,927	0.85
2010	8,567	1,839	6,170	0.93
2011	8,187	1,700	6,570	1.01
2012	8,253	1,748	6,890	1.05
2013	8,485	1,855	7,171	1.06
2014	8,512	1,949	7,397	1.10
2015	8,481	2,053	7,599	1.14
2016	8,627	2,218	7,847	1.17
2017	8,728	2,363	8,093	1.20

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

Active Members
Plan costs are affected by the age, years of service and compensation of active members. In this year's valuation, there were 8,728 active members with an average age of 42.3, average years of service of 10.0 years and average projected compensation of $65,546. The 8,627 active members in the prior valuation had an average age of 42.6, average service of 10.2 years and average projected compensation of $65,754.

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

Vested Terminated Members
In this year's valuation, there were 2,363 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their member contributions versus 2,218 in the prior valuation.

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

CHART 2

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

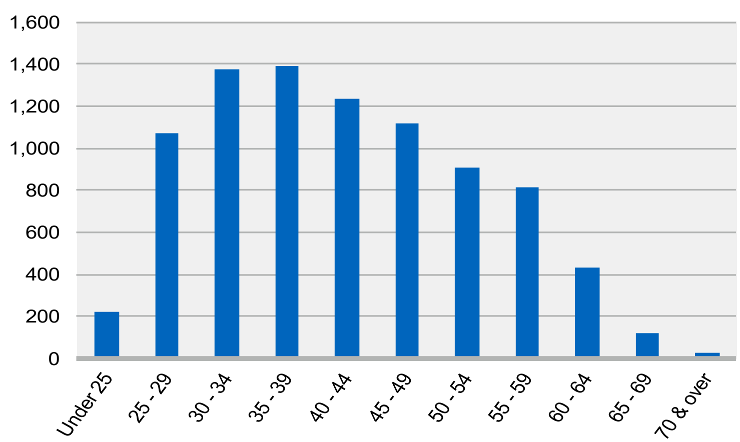
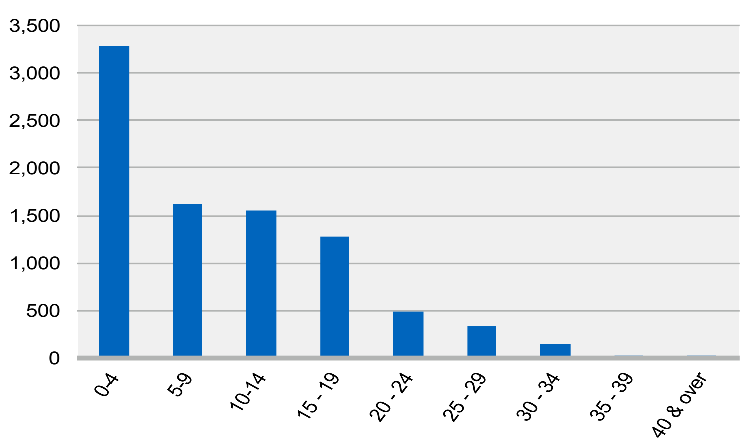


CHART 3

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



Retired Members and Beneficiaries
As of June 30, 2017, 6,917 retired members and 1,176 beneficiaries were receiving total monthly benefits of $25,553,274. For comparison, in the previous valuation, there were 6,705 retired members and 1,142 beneficiaries receiving monthly benefits of $24,052,287. These monthly benefits exclude benefits paid from the Supplemental Retiree Benefit Reserve.

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

CHART 4

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

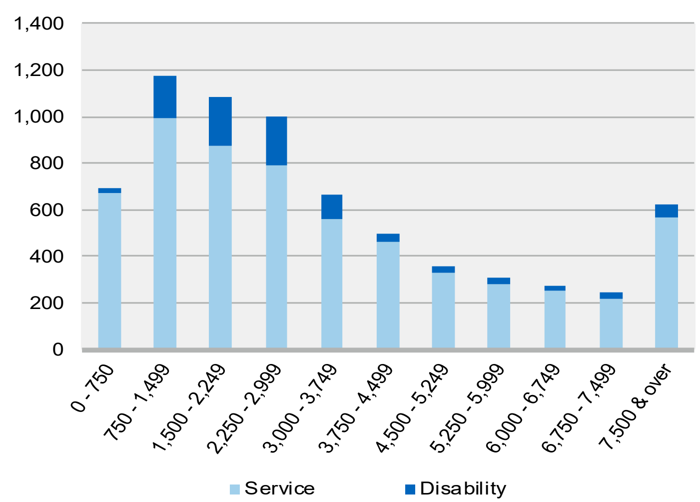
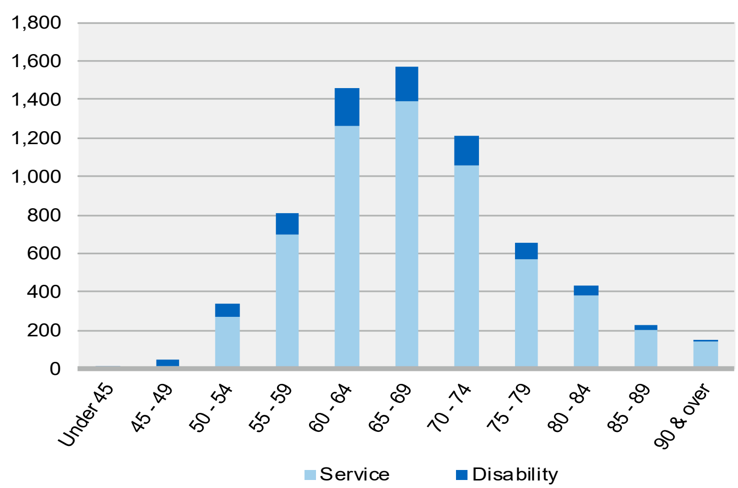


CHART 5

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



B. FINANCIAL INFORMATION

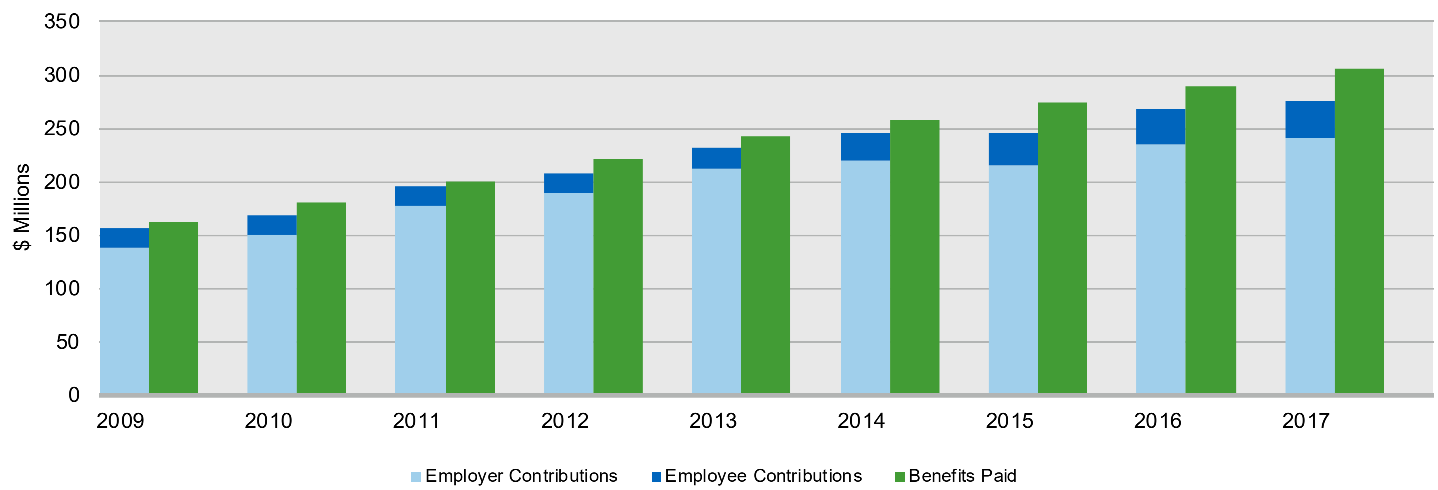
Retirement plan funding anticipates that, over the long term, both contributions and investment earnings (less investment fees) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

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

The chart depicts two components of changes in the actuarial value of assets over the last nine years. The first bar represents increases in assets due to contributions during each year while the second bar details the decreases due to benefit payments.

CHART 6

Comparison of Contributions with Benefits for Years Ended June 30, 2009 – 2017



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

The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

The determination of the actuarial and valuation value of assets is provided on the following page.

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

CHART 7

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

Six Month Period		Total Actual Market Return (net)	Expected Market Return (net)	Investment Gain (Loss)	Deferred Factor	Deferred Return
From	To					
1/2012	6/2012	$159,330,623	$104,159,050	$55,171,573	0.0	$0
7/2012	12/2012	202,039,690	110,423,036	91,616,654	0.0	0
1/2013	6/2013	113,375,851	118,045,356	(4,669,505)	0.1	(466,951)
7/2013	12/2013	275,580,944	122,272,452	153,308,491	0.2	30,661,698
1/2014	6/2014	207,051,913	132,732,440	74,319,473	0.3	22,295,842
7/2014	12/2014	(31,552,640)	135,927,248	(167,479,888)	0.4	(66,991,955)
1/2015	6/2015	113,483,725	134,126,222	(20,642,498)	0.5	(10,321,249)
7/2015	12/2015	(130,277,891)	137,880,456	(268,158,347)	0.6	(160,895,008)
1/2016	6/2016	102,742,734	132,508,089	(29,765,355)	0.7	(20,835,748)
7/2016	12/2016	160,552,179	135,836,079	24,716,100	0.8	19,772,880
1/2017	6/2017	266,054,594	141,194,926	124,859,668	0.9	112,373,701

1.	Total Deferred Return*	$(74,406,789)
2.	Market Value of Assets	3,962,895,176
3.	Preliminary Actuarial Value of Assets (Item 2 – Item 1)	4,037,301,965
4.	Corridor Around Market Value	
	a. Minimum – 50% of Market Value	1,981,447,588
	b. Maximum – 150% of Market Value	5,944,342,763
5.	a. Final Actuarial Value of Assets	$4,037,301,965
	b. Ratio of Actuarial Value of Assets to Market Value of Assets (Item 5a / Item 2)	101.88%
6.	Non-valuation reserves**	
	a. Supplemental Retiree Benefit Reserve (SRBR) Unallocated to 0.5% COLA benefits	$124,229,329
	b. COLA Contribution Reserve	0
	c. Subtotal	$124,229,329
7.	Valuation Value of Assets (Item 5a – Item 6c)	$3,913,072,636

* *Deferred returns as of June 30, 2017 to be recognized in each of the next five years:*

(a)	*Amount Recognized during 2017/2018*	$(22,235,421)
(b)	*Amount Recognized during 2018/2019*	(59,862,116)
(c)	*Amount Recognized during 2019/2020*	(31,733,836)
(d)	*Amount Recognized during 2020/2021*	26,938,618
(e)	*Amount Recognized during 2021/2022*	12,485,967
		$(74,406,789)

** *Because the Contingency Reserve is negative as of June 30, 2017, it is not excluded from the valuation value of assets per the Board's Interest Crediting Policy.*

Note: Results may not add due to rounding.

CHART 8

Allocation of Valuation Value of Assets as of June 30, 2017

The allocation of the valuation reserves among General, District and Safety is provided below:

	County General	District	County Safety	Total
Member Deposit Reserves	$225,694,947	$22,672,624	$103,224,061	$351,591,632
Employer Advance Reserves	359,448,526	38,472,411	388,433,921	786,354,858
Cost-of-Living Reserves – 2%	661,092,336	48,047,077	469,812,839	1,178,952,253
Cost-of-Living Reserves – 0.5%[1]	30,196,211	2,194,610	21,459,283	53,850,104
Retired Member Reserves	1,021,377,801[2]	68,044,317[2]	469,256,406	1,558,678,523
Contingency Reserve[3]	(9,569,211)	(747,928)	(6,037,594)	(16,354,734)
Total Valuation Value of Assets	$2,288,240,611	$178,683,110	$1,446,148,915	$3,913,072,636

(1) *Allocated in proportion to the 2% Cost-of-Living Reserve.*

(2) *Allocated in proportion to the retired member and beneficiary Actuarial Accrued Liability for these groups.*

(3) *Allocated in proportion to the above valuation reserves (excluding Cost-of-Living Reserves – 0.5%).*

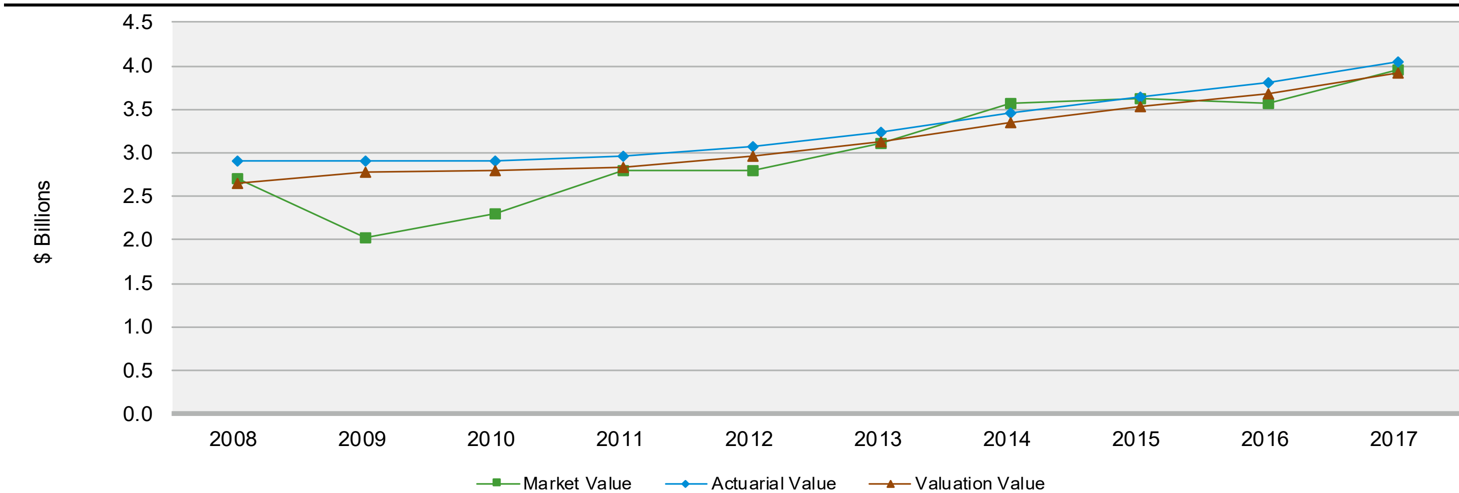
Note: Results may not add due to rounding.

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

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

CHART 9

Market Value, Actuarial Value and Valuation Value of Assets as of June 30, 2008 – 2017



C. ACTUARIAL EXPERIENCE

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

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

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

The total experience gain was $59.2 million, a loss of $17.7 million from investments and a gain of $76.9 million from all other sources. The gain from all other sources was 1.2% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

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

CHART 10

Actuarial Experience for Year Ended June 30, 2017

1.	Net gain/(loss) from investments on valuation value of assets(1)	$(17,692,000)
2.	Net gain/(loss) from other experience(2)	76,851,000
3.	Net experience gain/(loss): (1) + (2)	$59,159,000

(1) *Details in Chart 11*

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

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on KCERA's investment policy. For valuation purposes, the assumed rate of return on the valuation value of assets was 7.50%. The actual rate of return on the valuation value of assets for the 2016/2017 plan year was 7.02%.

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

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

CHART 11

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

	Market Value	Actuarial Value	Valuation Value
1. Actual return	$426,606,857	$265,683,238	$257,592,581
2. Average value of assets	3,553,937,957	3,789,268,365	3,670,463,584
3. Actual rate of return: (1) ÷ (2)	12.00%	7.01%	7.02%
4. Assumed rate of return	7.50%	7.50%	7.50%
5. Expected return: (2) x (4)	$266,545,347	$284,195,127	$275,284,769
6. Actuarial gain/(loss): (1) – (5)	$160,061,510	$(18,511,889)	$(17,692,188)

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

CHART 12

Investment Return – Market Value, Actuarial Value and Valuation Value: 2009 – 2017

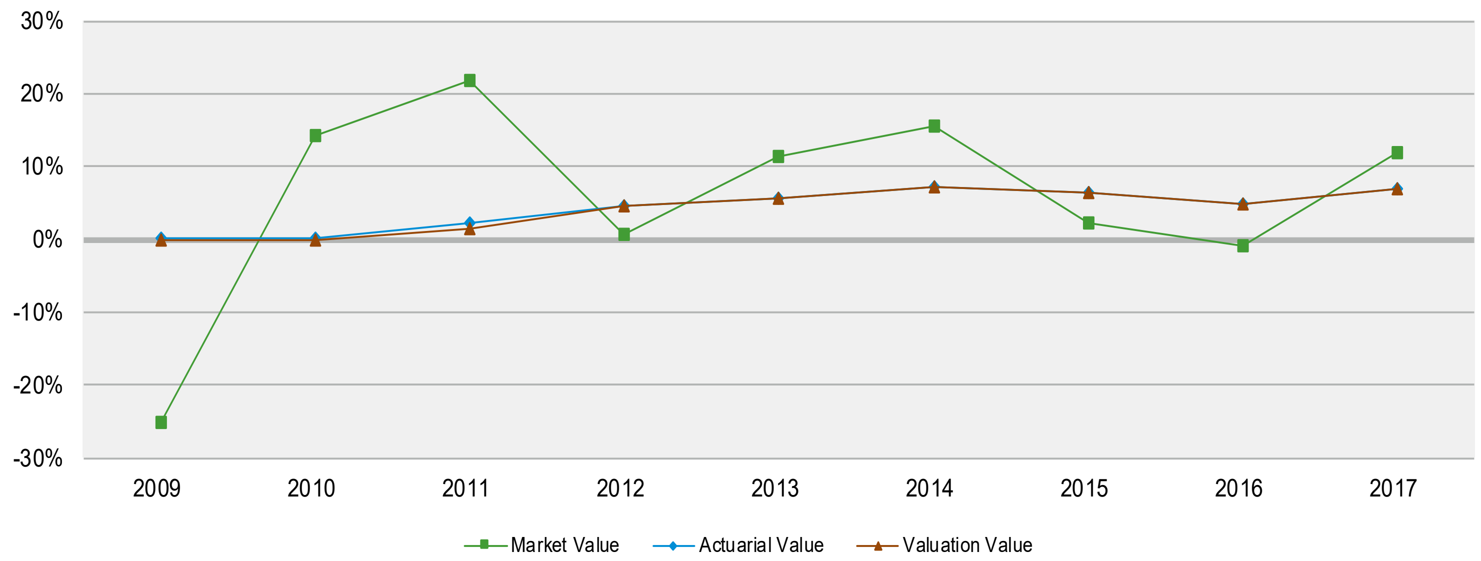
	Market Value Investment Return		Actuarial Value Investment Return		Valuation Value Investment Return	
Year Ended June 30	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**
2009	$(680,408,313)	-25.12%	$1,904,894	0.07%	$(3,689,033)	-0.14%
2010	287,578,945	14.24%	6,357,420	0.22%	(27,057)	0.00%
2011	499,791,014	21.74%	62,849,280	2.17%	43,965,998	1.57%
2012	17,681,865	0.63%	133,360,035	4.52%	128,187,974	4.52%
2013	315,415,541	11.29%	171,131,798	5.57%	164,826,838	5.57%
2014	482,632,857	15.57%	235,294,994	7.28%	227,040,629	7.28%
2015	81,931,170	2.30%	222,215,376	6.45%	214,895,554	6.46%
2016	(27,535,157)	-0.76%	181,835,568	5.00%	176,132,858	5.00%
2017	426,606,857	12.00%	265,683,238	7.01%	257,592,581	7.02%
Five-Year Average Return		7.69%		6.27%		6.27%
Nine-Year Average Return		5.30%		4.47%		4.37%

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

This chart illustrates how this leveling effect has actually worked over the years 2009 - 2017.

CHART 13

Market, Actuarial and Valuation Rates of Return for Years Ended June 30, 2009 - 2017



Other Experience

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

These include:

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

The net gain from this other experience for the year ended June 30, 2017 amounted to $76.9 million, which was 1.2% of the actuarial accrued liability. This gain is mainly the result of lower individual salary increases than expected and lower than expected COLA increases. See Exhibit H for a detailed development of the Unfunded Actuarial Accrued Liability.

D. EMPLOYER AND MEMBER CONTRIBUTIONS

Employer contributions consist of two components:

Normal Cost

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

Contribution to the Unfunded Actuarial Accrued Liability (UAAL)

The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain level as a 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 along with expected payroll at the combined annual inflation and "across the board" salary increase rate of 3.50%. Effective with the June 30, 2012 valuation, the June 30, 2011 UAAL is being amortized over a 24.5-year declining period (18.5 years as of June 30, 2017). The change in unfunded liability that arises due to actuarial gains or losses or due to changes in actuarial assumptions or methods at each valuation is amortized over its own declining 18-year period. Any change in unfunded actuarial accrued liability that arises due to plan amendments is amortized over its own declining 15-year period (with the exception of retirement incentives which are amortized over its own declining period of up to 5 years).

The UAAL contribution rates have been adjusted to account for the one-year delay between the valuation date and the date that the contribution rates become effective.

Employer Contribution Rates

The recommended employer contribution rates are shown in Chart 14. The current employer contribution rates are provided in Chart 15. The rates are shown for each tier/cost group and are separated into Normal Cost and UAAL components into each of these three benefit categories:

- The Basic benefits are the retirement benefits excluding all COLAs.

- The COLA benefits adopted prior to the Ventura Settlement are referred to as the "2.0% COLA benefits".
- The COLA benefits provided under the Ventura settlement are referred to as the "0.5% COLA benefits".

These breakdowns are used for allocating employer contributions to specific reserves and, in the case of the 2% COLA contributions, providing the amounts that may be offset by the COLA Contribution Reserve.

There were no active members of West Side Recreation & Park in General Tier III as of the valuation date. For purposes of determining a Normal Cost for this tier, we have assumed that the demographic profile (e.g., entry age, composition of male versus female, etc.) of any future active members in this tier can be approximated by the data profiles of all current active members of West Side Recreation & Park.

Member Contributions

General Tiers I and IIA, Safety Tiers I and IIA

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 and Safety members, respectively. The basic contribution rate is determined as that percentage of compensation which if paid annually from a member's first year of membership through the prescribed retirement age would accumulate to the amount necessary to fund a prescribed annuity.

The prescribed annuity is equal to:

- 1/100 of one year Final Average Salary per year of service at age 55 for General Tier I members
- 1/120 of one year Final Average Salary per year of service at age 60 for General Tier IIA members
- 1/100 of one year Final Average Salary per year of service at age 50 for Safety Tier I and Safety Tier IIA members

Safety Tier I members also pay a supplemental contribution rate such that the aggregate amount of the supplemental and basic contribution rates will provide an annuity equal to 3/200 of one year Final Average Salary per year of service at age 50.

Members in these non-CalPEPRA tiers do not contribute towards the cost-of-living benefits.

Effective July 11, 2015, San Joaquin Valley Unified Air Pollution Control District Tier 1 members pay 28% of the total Normal Cost rate. That percent increased to 39% effective 2016/2017 and 50% effective 2017/2018.

Effective July 8, 2017, San Joaquin Valley Unified Air Pollution Control District Tier IIA members pay 50% of the total Normal Cost rate.

Member Contributions

General Tiers IIB and III, Safety Tier IIB

Pursuant to Section 7522.30(a) of the Government Code, General Tier IIB, General Tier III and Safety Tier IIB members are required to contribute at least 50% of the Normal Cost rate. In addition, there are certain additional requirements that would have to be met such as requiring the new employees to pay the contribution rate of "similarly situated employees", if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees. (reference: section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e). Also of note is that based on our discussions with KCERA, we have used the discretion made available by Section 31620.5(a) of AB 1380 to no longer round the member contribution rates to the nearest quarter of one percent as previously required by CalPEPRA. This is consistent with established practice for the non-CalPEPRA tiers and should allow for exactly one-half of the normal cost for the CalPEPRA tiers to be paid by the employees and one-half by the employers. In addition, Section 31620.5(b) of AB 1380 also provides that the "one percent" rule under Section 7022.30(d) does not apply. This section formerly limited the circumstances under which the member rate would change.

Member contributions are accumulated at an annual interest rate adopted annually by the Board.

For some employers, benefits are integrated with Social Security. In those cases, non-General Tier III members pay two-thirds of the full rate on the first $350 of pay each month. (The General Tier III formula, as valued, is not integrated with Social Security.)

The tables on pages 20 through 23 summarize the specific member contribution rate arrangements for each employer as they have been reflected in this valuation. For valuation purposes, the member contribution levels that are assumed to be in place are those for the fiscal year that begins one year after the valuation date. Any future changes in member contribution rates after that would be reflected in future valuations in determining the allocation of the total costs payable between the employers and the members.

Administrative Expense

The Board adopted an explicit administrative expense assumption of 0.90% of payroll effective with the June 30, 2014 valuation. This assumption will be reviewed as part of each regular triennial experience study.

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

	Total Average Rate Before Administrative Expense	Weighting	Total Loading
Employer Total	46.90%	88.08%	0.79%
Member	6.35%	11.92%	0.11%
		100.00%	0.90%

Under this approach, the employer Normal Cost rate has been 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 PEPRA tiers.

Allocation of Administrative Expense Load as % of Payroll	
Addition to Employer Basic Normal Cost Rate	0.11%
Addition to Employer Basic UAAL Rate	0.68%
Addition to Member Basic Rate	0.11%
Total Addition to Contribution Rate	0.90%

The administrative expense load has been added to the Basic rates.

Transfers

When employees transfer from one participating employer to another KCERA participating employer, recognition needs to be made of the employee's prior service within KCERA on an equitable basis. For each employee that transfers within KCERA the funding for the employee's benefits will be determined as follows:

- The employee will be reported and funded as a vested terminated employee for the former participating employer with reciprocal benefits the same as any other vested terminated employee who moves to a reciprocal retirement system other than KCERA.
- The employee will be reported and funded as an active employee for the new participating employer but with reciprocal service credits for the prior service in KCERA for purposes of benefit eligibility and entry age. Benefit amounts will be funded only for the service provided to the new participating employer.
- Upon retirement from KCERA, the employee's total retirement benefit will be determined based on service with each KCERA participating employer and the employee's Final Average Salary.
- The entire liability for the retired employee's KCERA benefit payments will be allocated to the latest participating employer's cost group. The employee will be reported as a retired employee for the latest participating employer with the full KCERA retirement benefit amount.

Cost Sharing Adjustments

KCERA's Normal Cost is determined separately for each group of members that have the same benefit formula (on a prospective basis). The seven Normal Cost cost sharing groups are as follows:

- General Tier I

- General Tier IIA
- General Tier IIB
- General Tier III
- Safety Tier I
- Safety Tier IIA
- Safety Tier IIB

KCERA's UAAL is determined separately for each cost sharing group depending on the assets for that cost group. The three UAAL cost sharing groups are as follows:

- General County and Courts
- General Districts
- Safety

The tables on pages 20 through 23 contain more benefit and contribution information for each employer participating in KCERA.

Other Adjustments

There is a further adjustment made to the UAAL contribution rates to account for District Category IV adopting the 3% @ 60 formula on a prospective basis only. The District Category IV rates exclude the fixed portion of the UAAL contribution rates attributable to retroactive adoption of the 3% @ 60 formula as a percentage of compensation, which are as follows:

	General District Members
Basic Benefits	2.31%
2% COLA	0.47%
0.5% COLA	0.13%
Total	2.91%

Summary of KCERA Employers, Benefit Formulas and Member Contribution Rates – County and Courts

Plan	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution Provides Average Annuity of:	Adopted 1997 MOU	Soc Sec Integration	Pre-Tax	5-yr Contribution Stop
General – County Tier I	County General Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	Yes	Varies[1]
General – County – Court Employees Tier I	Courts Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55 plus supplemental 8.0%[2]	Yes	Yes	Yes	3/12/2011[3]
Safety – County Tier I	County Safety Tier I	31664.1 (3% @ 50)	31639.25	3/200 of FAS1 at age 50[4]	Yes	Yes	Yes	Varies[1]

Plan	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution Provides Average Annuity of:	Tier Adoption Date	Soc Sec Integration	Pre-Tax
General – County Tier IIA	County General Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	10/27/2007[5]	Yes	Yes
General – County – Court Employees Tier IIA	Courts Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	3/12/2011	Yes	Yes
Safety – County Tier IIA	County Safety Tier IIA	31664 (2% @ 50)	31639.25	1/100 of FAS1 at age 50[4]	3/27/2012	Yes	Yes

Plan	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution:	Tier Adoption Date	Soc Sec Integration	Pre-Tax
General – County Tier IIB	County General Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
General – County – Court Employees Tier IIB	Courts Tier IIB	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
Safety – County Tier IIB	County Safety Tier IIB	31664 (2% @ 50)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes

FAS1 = 1-Year Final Average Salary

[1] *See next page for member contribution rates by employee association and bargaining unit.*

[2] *Court employees in Tier I pay an additional 8% of the base salary for their entire career.*

[3] *Court employees in Tier I hired prior to this date pay the full member contribution rates for only the first five years of service as a result of the 2010 Memorandum of Understanding (MOU).*

[4] *Safety Tier I and Safety Tier IIA members stop paying contributions upon attaining 30 years of continuous county service.*

[5] *KCPA (Prosecutors) employee association adopted Tier IIA effective July 5, 2008.*

Summary of KCERA Member Contribution Rates – County Bargaining Units

Plan	Employee Association	Bargaining Unit	5-yr Contribution Stop[1]	1/6th Rate Start[1]	1/3rd Rate Start[1]	"Safety 3" Effective Date
County General	SEIU	1 – Supervisory, 2 – Professional, 3 – Technical Services, 4 – Clerical, 5 – Administrative, 6 – Trade/Crafts/Labor	8/7/2004	5/4/2013	5/3/2014	N/A
County General		D – Mid-management, M – Management, X – Confidential	9/4/2004[2]	7/13/2013	7/12/2014	N/A
County General	KCPA	P – Prosecutors	2/8/2005	8/10/2013	8/9/2014	N/A
County Safety	KCFFU	F – Firefighters, 7 – Supervisors	3/31/2007[3]	5/4/2013	5/3/2014	3/31/2007[4]
County Safety	KLEA	L – Sheriff Law Enforcement, 8 – Supervisors	11/10/2007	5/4/2013	5/3/2014	N/A
County Safety	KCSCA	N – Sheriff Lieutenants, R – Commanders	3/17/2007	5/4/2013	5/3/2014	N/A
County Safety	SEIU-CJU	J – Criminal Justice, S – Supervisors	12/8/2007	5/4/2013	5/3/2014	N/A
County Safety	KCPMA	O – Probation Management	4/7/2004	5/4/2013	5/3/2014	N/A
County Safety	KCPOA	Q – Probation Officers, Y – Supervisors	9/18/2007	8/10/2013	8/9/2014	9/18/2007[4]
County Safety	KCDOA	T – Detention Officers, V – Supervisors	6/23/2007	5/4/2013	5/3/2014	N/A
County Safety	KCSCA II	W – Detention Officers Lieutenants	9/15/2009	5/4/2013	5/3/2014	12/8/2007 to 9/14/2009[5]

[1] *Tier I members hired prior to this date pay the full member contributions for only the first five years of service. These members will start paying one-sixth of their full member contributions on the "1/6th Rate Start" date, and will start paying one-third of their full member contributions on the "1/3rd Rate Start" date.*

[2] *Elected officials hired prior to this date do not pay member contributions. These members will start paying one-third of their full member contributions on the first day of the first biweekly payroll period in January 2015.*

[3] *Firefighters hired prior to this date pay 1% of their base salary after the first five years of service. These members will start paying one-sixth of their full member contributions (not to exceed 2% of base salary) on the "1/6th Rate Start" date, and will start paying one-third of their full member contributions (not to exceed 4% of base salary) on the "1/3rd Rate Start" date.*

[4] *Members hired after this date pay a uniform "Safety 3" rate for all entry ages. The uniform rate continues to be integrated with Social Security.*

[5] *Effective December 8, 2007 through September 14, 2009, this flat rate applied to KCSCA II employees.*

Summary of KCERA Employers, Benefit Formulas and Member Contribution Rates – Districts

Plan (Tier I)	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution Provides Average Annuity of:	Adopted 1997 MOU	Soc Sec Integration	Pre-Tax	5-yr Contribution Stop[1]
District – Berrenda Mesa Water Tier I	District Category IV Tier I	31676.17 (3% @ 60)[2]	31621.8	1/100 of FAS1 at age 55	Yes	No	Yes	1/1/2004
District – Buttonwillow Recreation & Park Tier I	District Category III Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55 (Member pays 50%)[3]	No	No	No	N/A
District – East Kern Cemetery Tier I	District Category II Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	Yes	1/1/2004
District – Inyokern Community Services Tier I	District Category IV Tier I	31676.17 (3% @ 60)[2]	31621.8	1/100 of FAS1 at age 55	Yes	No	No	1/1/2004
District – Kern County Water Agency Tier I	District Category I Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55 (100% employer pickup if hired prior to 8/22/2004)[4]	Yes	Yes	Yes	N/A
District – Kern Mosquito & Vector Control Tier I	District Category II Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	Yes	1/8/2005
District – North of River Sanitation Tier I	District Category V Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	Yes	8/7/2004
District – San Joaquin Valley Unified Air Pollution Control Tier I	District Category III Tier I	31676.17 (3% @ 60)	31621.8	Member pays 50% of Normal Cost rate[5]	No	No	Yes	N/A
District – Shafter Recreation & Park Tier I	District Category II Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	Yes	1/1/2004
District – West Side Cemetery Tier I	District Category VI Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	No	N/A[6]
District – West Side Mosquito Abatement Tier I	District Category II Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	No	1/1/2004
District – West Side Recreation & Park Tier I	District Category II Tier I	31676.17 (3% @ 60)	31621.8	1/100 of FAS1 at age 55	Yes	Yes	No	1/1/2004

Plan (Tier IIA)	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution Provides Average Annuity of:	Tier Adoption Date	Soc Sec Integration	Pre-Tax
District – Berrenda Mesa Water Tier IIA[7]	District Category IV Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	1/12/2010	No	Yes
District – Kern County Water Agency Tier IIA	District Category I Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	1/1/2010	Yes	Yes
District – North of River Sanitation Tier IIA	District Category V Tier IIA	31676.01 (1.62% @ 65)	31621	1/120 of FAS1 at age 60	10/29/2007	Yes	Yes
District – San Joaquin Valley Unified Air Pollution Control Tier IIA	District Category III Tier IIA	31676.01 (1.62% @ 65)	31621	Member pays 50% of Normal Cost rate[8]	7/31/2012	No	Yes

FAS1 = 1-Year Final Average Salary

1 *Tier I Members hired prior to this date pay the full member contribution rates for only the first five years of service as a result of the 1997 Memorandum of Understanding (MOU).*

2 *District Category IV adopted the 3% @ 60 Formula on a prospective basis only. Member contribution rates are the same as General Tier I.*

3 *Buttonwillow District Tier I (District Category III) did not adopt the 1997 MOU. Members in those districts pay 50% of the full rates, regardless of hire date.*

4 *For Kern County Water Agency (District Category I) employees hired prior to August 22, 2004, the employer picks up 100% of all member contributions.*

5 *Effective July 11, 2015, San Joaquin Valley Unified Air Pollution Control District Tier I members pay 28% of the total Normal Cost rate. That percent increases to 39% effective 2016/2017 and 50% effective 2017/2018.*

6 *West Side Cemetery (District Category VI) employees pay the full member contribution rates for only the first five years of service, regardless of hire date.*

7 *Berrenda Mesa Water adopted Tier IIA, but had no Tier IIA employees as of the valuation date.*

8 *Effective July 8, 2017, San Joaquin Valley Unified Air Pollution Control District Tier IIA members pay 50% of the total Normal Cost rate.*

Summary of KCERA Employers, Benefit Formulas and Member Contribution Rates – Districts (continued)

Plan (Tiers IIB and III)	Valuation Report Label	Benefit Formula	Member Contribution Code Section	Member Contribution:	Tier Adoption Date	Soc Sec Integration	Pre-Tax
District – Berrenda Mesa Water Tier IIB[1]	District Category IV	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	No	Yes
District – Buttonwillow Recreation & Park Tier IIB	District Category III	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	No	No
District – East Kern Cemetery Tier IIB	District Category II	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
District – Inyokern Community Services Tier IIB[1]	District Category IV	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	No	No
District – Kern County Water Agency Tier IIB	District Category I	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
District – Kern Mosquito & Vector Control Tier IIB	District Category II	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
District – North of River Sanitation Tier IIB	District Category V	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
District – San Joaquin Valley Unified Air Pollution Control Tier IIB	District Category III	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	No	Yes
District – Shafter Recreation & Park Tier IIB	District Category II	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes
District – West Side Cemetery Tier IIB[1]	District Category VI	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	No
District – West Side Mosquito Abatement Tier IIB	District Category II	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	No
District – West Side Recreation & Park Tier III[1]	District Category II	7522.20(a) (2.50% @ 67)	7522.30(a)	50% of Normal Cost rate	1/1/2013	No	No
District – Kern County Hospital Authority Tier IIB[2]	District Category VII	31676.01 (1.62% @ 65)	7522.30(a)	50% of Normal Cost rate	1/1/2013	Yes	Yes

[1] *These districts adopted Tier IIB or Tier III, but had no employees in those tiers as of the valuation date.*

[2] *This category applies to members hired on or after July 1, 2018 at the Hospital Authority. Members hired prior to that date are included with the County in this valuation report.*

CHART 14

Recommended Employer Contribution Rates (Current Valuation)

	June 30, 2017 Actuarial Valuation							
	Basic		2% COLA		0.5% COLA		Total	
County General Tier I without Courts	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*
Normal Cost	14.06%	$25,925	4.22%	$7,781	1.30%	$2,397	19.58%	$36,103
UAAL	20.13%	37,117	3.10%	5,716	3.70%	6,822	26.93%	49,655
Total Contribution	34.19%	$63,042	7.32%	$13,497	5.00%	$9,219	46.51%	$85,758
County General Tier IIA without Courts								
Normal Cost	4.12%	$3,018	2.13%	$1,560	0.66%	$484	6.91%	$5,062
UAAL	20.13%	14,745	3.10%	2,271	3.70%	2,710	26.93%	19,726
Total Contribution	24.25%	$17,763	5.23%	$3,831	4.36%	$3,194	33.84%	$24,788
County General Tier IIB without Courts								
Normal Cost	4.81%	$5,317	1.04%	$1,150	0.31%	$342	6.16%	$6,809
UAAL	20.13%	22,251	3.10%	3,427	3.70%	4,089	26.93%	29,767
Total Contribution	24.94%	$27,568	4.14%	$4,577	4.01%	$4,431	33.09%	$36,576
County General without Courts - Combined								
Normal Cost	9.31%	$34,260	2.85%	$10,491	0.87%	$3,223	13.03%	$47,974
UAAL	20.13%	74,113	3.10%	11,414	3.70%	13,621	26.93%	99,148
Total Contribution	29.44%	$108,373	5.95%	$21,905	4.57%	$16,844	39.96%	$147,122
Courts Tier I								
Normal Cost	11.00%	$1,934	4.22%	$742	1.30%	$229	16.52%	$2,905
UAAL	20.13%	3,539	3.10%	545	3.70%	651	26.93%	4,735
Total Contribution	31.13%	$5,473	7.32%	$1,287	5.00%	$880	43.45%	$7,640
Courts Tier IIA								
Normal Cost	4.46%	$97	2.13%	$47	0.66%	$14	7.25%	$158
UAAL	20.13%	440	3.10%	68	3.70%	80	26.93%	588
Total Contribution	24.59%	$537	5.23%	$115	4.36%	$94	34.18%	$746
Courts Tier IIB								
Normal Cost	4.81%	$431	1.04%	$93	0.31%	$28	6.16%	$552
UAAL	20.13%	1,803	3.10%	278	3.70%	331	26.93%	2,412
Total Contribution	24.94%	$2,234	4.14%	$371	4.01%	$359	33.09%	$2,964
Courts – Combined								
Normal Cost	8.57%	$2,462	3.07%	$882	0.94%	$271	12.58%	$3,615
UAAL	20.13%	5,782	3.10%	891	3.70%	1,062	26.93%	7,735
Total Contribution	28.70%	$8,244	6.17%	$1,773	4.64%	$1,333	39.51%	$11,350
County Safety Tier I								
Normal Cost	18.67%	$21,606	6.63%	$7,673	2.12%	$2,453	27.42%	$31,732
UAAL	30.08%	34,810	7.16%	8,286	7.96%	9,211	45.20%	52,307
Total Contribution	48.75%	$56,416	13.79%	$15,959	10.08%	$11,664	72.62%	$84,039
County Safety Tier IIA								
Normal Cost	12.54%	$940	5.46%	$409	1.73%	$130	19.73%	$1,479
UAAL	30.08%	2,255	7.16%	537	7.96%	596	45.20%	3,388
Total Contribution	42.62%	$3,195	12.62%	$946	9.69%	$726	64.93%	$4,867
County Safety Tier IIB								
Normal Cost	10.73%	$1,859	2.69%	$466	0.86%	$150	14.28%	$2,475
UAAL	30.08%	5,213	7.16%	1,241	7.96%	1,379	45.20%	7,833
Total Contribution	40.81%	$7,072	9.85%	$1,707	8.82%	$1,529	59.48%	$10,308

CHART 14 (continued)

Recommended Employer Contribution Rates (Current Valuation)

	June 30, 2017 Actuarial Valuation							
	Basic		2% COLA		0.5% COLA		Total	
County Safety – Combined	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*
Normal Cost	17.36%	$24,405	6.08%	$8,548	1.95%	$2,733	25.39%	$35,686
UAAL	30.08%	42,278	7.16%	10,064	7.96%	11,186	45.20%	63,528
Total Contribution	47.44%	$66,683	13.24%	$18,612	9.91%	$13,919	70.59%	$99,214
All County with Courts - Combined								
Normal Cost	11.37%	$61,127	3.71%	$19,921	1.16%	$6,227	16.24%	$87,275
UAAL	22.73%	122,173	4.16%	22,369	4.82%	25,869	31.71%	170,411
Total Contribution	34.10%	$183,300	7.87%	$42,290	5.98%	$32,096	47.95%	$257,686
District Category I Tier I								
Normal Cost	16.12%	$857	4.22%	$224	1.30%	$69	21.64%	$1,150
UAAL	22.73%	1,208	4.02%	214	3.68%	195	30.43%	1,617
Total Contribution	38.85%	$2,065	8.24%	$438	4.98%	$264	52.07%	$2,767
District Category I Tier IIA								
Normal Cost	4.55%	$31	2.13%	$15	0.66%	$4	7.34%	$50
UAAL	22.73%	155	4.02%	27	3.68%	26	30.43%	208
Total Contribution	27.28%	$186	6.15%	$42	4.34%	$30	37.77%	$258
District Category I Tier IIB								
Normal Cost	4.81%	$15	1.04%	$3	0.31%	$1	6.16%	$19
UAAL	22.73%	69	4.02%	12	3.68%	11	30.43%	92
Total Contribution	27.54%	$84	5.06%	$15	3.99%	$12	36.59%	$111
District Category I - Combined								
Normal Cost	14.33%	$903	3.84%	$242	1.18%	$74	19.35%	$1,219
UAAL	22.73%	1,432	4.02%	253	3.68%	232	30.43%	1,917
Total Contribution	37.06%	$2,335	7.86%	$495	4.86%	$306	49.78%	$3,136
District Category II Tier I								
Normal Cost	14.88%	$296	4.22%	$84	1.30%	$26	20.40%	$406
UAAL	22.73%	453	4.02%	80	3.68%	73	30.43%	606
Total Contribution	37.61%	$749	8.24%	$164	4.98%	$99	50.83%	$1,012
District Category II Tier IIB								
Normal Cost	4.81%	$19	1.04%	$4	0.31%	$1	6.16%	$24
UAAL	22.73%	88	4.02%	16	3.68%	13	30.43%	117
Total Contribution	27.54%	$107	5.06%	$20	3.99%	$14	36.59%	$141
District Category II Tier III								
Normal Cost	6.82%	$0	1.34%	$0	0.40%	$0	8.56%	$0
UAAL	22.73%	0	4.02%	0	3.68%	0	30.43%	0
Total Contribution	29.55%	$0	5.36%	$0	4.08%	$0	38.99%	$0
District Category II - Combined								
Normal Cost	13.28%	$315	3.72%	$88	1.08%	$27	18.08%	$430
UAAL	22.73%	541	4.02%	96	3.68%	86	30.43%	723
Total Contribution	36.01%	$856	7.74%	$184	4.76%	$113	48.51%	$1,153
District Category III Tier I (Buttonwillow)								
Normal Cost	10.71%	$9	4.22%	$3	1.30%	$1	16.23%	$13
UAAL	22.73%	18	4.02%	3	3.68%	4	30.43%	25
Total Contribution	33.44%	$27	8.24%	$6	4.98%	$5	46.66%	$38

CHART 14 (continued)

Recommended Employer Contribution Rates (Current Valuation)

	June 30, 2017 Actuarial Valuation							
	Basic		2% COLA		0.5% COLA		Total	
District Category III Tier I (SJVAPCD)	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*
Normal Cost	9.56%	$1,880	2.12%	$417	0.66%	$129	12.34%	$2,426
UAAL	22.73%	4,469	4.02%	790	3.68%	724	30.43%	5,983
Total Contribution	32.29%	$6,349	6.14%	$1,207	4.34%	$853	42.77%	$8,409
District Category III Tier IIA (Buttonwillow)								
Normal Cost	4.10%	$0	2.13%	$0	0.66%	$0	6.89%	$0
UAAL	22.73%	0	4.02%	0	3.68%	0	30.43%	0
Total Contribution	26.83%	$0	6.15%	$0	4.34%	$0	37.32%	$0
District Category III Tier IIA (SJVAPCD)								
Normal Cost	5.32%	$51	1.08%	$10	0.33%	$4	6.73%	$65
UAAL	22.73%	218	4.02%	39	3.68%	35	30.43%	292
Total Contribution	28.05%	$269	5.10%	$49	4.01%	$39	37.16%	$357
District Category III Tier IIB								
Normal Cost	4.81%	$175	1.04%	$38	0.31%	$11	6.16%	$224
UAAL	22.73%	828	4.02%	146	3.68%	135	30.43%	1,109
Total Contribution	27.54%	$1,003	5.06%	$184	3.99%	$146	36.59%	$1,333
District Category III - Combined								
Normal Cost	8.68%	$2,115	1.92%	$468	0.61%	$145	11.21%	$2,728
UAAL	22.73%	5,533	4.02%	978	3.68%	898	30.43%	7,409
Total Contribution	31.41%	$7,648	5.94%	$1,446	4.29%	$1,043	41.64%	$10,137
District Category IV Tier I								
Normal Cost	16.37%	$50	4.22%	$13	1.30%	$4	21.89%	$67
UAAL	20.40%	62	3.55%	11	3.54%	11	27.49%	84
Total Contribution	36.77%	$112	7.77%	$24	4.84%	$15	49.38%	$151
District Category IV Tier IIB								
Normal Cost	4.81%	$0	1.04%	$0	0.31%	$0	6.16%	$0
UAAL	20.40%	0	3.55%	0	3.54%	0	27.49%	0
Total Contribution	25.21%	$0	4.59%	$0	3.85%	$0	33.65%	$0
District Category IV - Combined								
Normal Cost	16.37%	$50	4.22%	$13	1.30%	$4	21.89%	$67
UAAL	20.40%	62	3.55%	11	3.54%	11	27.49%	84
Total Contribution	36.77%	$112	7.77%	$24	4.84%	$15	49.38%	$151
District Category V Tier I								
Normal Cost	13.62%	$18	4.22%	$5	1.30%	$2	19.14%	$25
UAAL	22.73%	30	4.02%	5	3.68%	5	30.43%	40
Total Contribution	36.35%	$48	8.24%	$10	4.98%	$7	49.57%	$65
District Category V Tier IIA								
Normal Cost	4.75%	$17	2.13%	$8	0.66%	$2	7.54%	$27
UAAL	22.73%	82	4.02%	15	3.68%	13	30.43%	110
Total Contribution	27.48%	$99	6.15%	$23	4.34%	$15	37.97%	$137
District Category V Tier IIB								
Normal Cost	4.81%	$21	1.04%	$4	0.31%	$1	6.16%	$26
UAAL	22.73%	97	4.02%	17	3.68%	16	30.43%	130
Total Contribution	27.54%	$118	5.06%	$21	3.99%	$17	36.59%	$156

CHART 14 (continued)
Recommended Employer Contribution Rates (Current Valuation)

	June 30, 2017 Actuarial Valuation							
	Basic		2% COLA		0.5% COLA		Total	
District Category V – Combined	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*
Normal Cost	6.07%	$56	1.85%	$17	0.56%	$5	8.48%	$78
UAAL	22.73%	209	4.02%	37	3.68%	34	30.43%	280
Total Contribution	28.80%	$265	5.87%	$54	4.24%	$39	38.91%	$358
District Category VI Tier I								
Normal Cost	19.00%	$74	4.22%	$16	1.30%	$5	24.52%	$95
UAAL	22.73%	88	4.02%	16	3.68%	14	30.43%	118
Total Contribution	41.73%	$162	8.24%	$32	4.98%	$19	54.95%	$213
District Category VI Tier IIB								
Normal Cost	4.81%	$0	1.04%	$0	0.31%	$0	6.16%	$0
UAAL	22.73%	0	4.02%	0	3.68%	0	30.43%	0
Total Contribution	27.54%	$0	5.06%	$0	3.99%	$0	36.59%	$0
District Category VI - Combined								
Normal Cost	19.00%	$74	4.22%	$16	1.30%	$5	24.52%	$95
UAAL	22.73%	88	4.02%	16	3.68%	14	30.43%	118
Total Contribution	41.73%	$162	8.24%	$32	4.98%	$19	54.95%	$213
District Category VII Tier IIB								
Normal Cost	4.81%	$0	1.04%	$0	0.31%	$0	6.16%	$0
UAAL	0.68%	0	0.00%	0	0.00%	0	0.68%	0
Total Contribution	5.49%	$0	1.04%	$0	0.31%	$0	6.84%	$0
All Districts – Combined								
Normal Cost	10.14%	$3,513	2.44%	$844	0.75%	$260	13.33%	$4,617
UAAL	22.71%	7,865	4.02%	1,391	3.67%	1,275	30.40%	10,531
Total Contribution	32.85%	$11,378	6.46%	$2,235	4.42%	$1,535	43.73%	$15,148
All Employers – Combined								
Normal Cost	11.30%	$64,640	3.63%	$20,765	1.13%	$6,487	16.06%	$91,892
UAAL	22.73%	130,038	4.15%	23,760	4.75%	27,144	31.63%	180,942
Total Contribution	34.03%	$194,678	7.78%	$44,525	5.88%	$33,631	47.69%	$272,834

Note: Contribution rates shown are before adjustments to phase-in over three years the UAAL contribution rate impact of new assumptions adopted for the June 30, 2017 valuation.

CHART 14 (continued)

Recommended Employer Contribution Rates (Current Valuation)

* *Amounts are in thousands and are based on June 30, 2017 projected compensation (also in thousands):*

County General Tier I without Courts	$184,385	District Category I Tier I	$5,315
County General Tier IIA without Courts	73,251	District Category I Tier IIA	683
County General Tier IIB without Courts	110,536	District Category I Tier IIB	302
Courts Tier I	17,582	District Category II Tier I	1,991
Courts Tier IIA	2,185	District Category II Tier IIB	386
Courts Tier IIB	8,957	District Category II Tier III	0
County Safety Tier I	115,724	District Category III Tier I (Buttonwillow)	81
County Safety Tier IIA	7,496	District Category III Tier I (SJVAPCD)	19,661
County Safety Tier IIB	17,329	District Category III Tier IIA (Buttonwillow)	0
		District Category III Tier IIA (SJVAPCD)	961
		District Category III Tier IIB	3,643
		District Category IV Tier I	304
		District Category IV Tier IIB	0
		District Category V Tier I	130
		District Category V Tier IIA	362
		District Category V Tier IIB	428
		District Category VI Tier I	389
		District Category VI Tier IIB	0
		District Category VII Tier IIB	0
All County with Courts	$537,445	All Districts	$34,636
		Total	$572,081

Note: As of June 30, 2017, the COLA Contribution Reserve was zero and therefore not available to offset the 2% COLA contribution rate.

CHART 15
Recommended Employer Contribution Rates (Prior Valuation)

	June 30, 2016 Actuarial Valuation							
	Basic		2% COLA		0.5% COLA		Total	
County General Tier I without Courts	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*
Normal Cost	13.82%	$28,090	3.92%	$7,968	1.20%	$2,439	18.94%	$38,497
UAAL	19.17%	38,965	2.48%	5,041	3.29%	6,687	24.94%	50,693
Total Contribution	32.99%	$67,055	6.40%	$13,009	4.49%	$9,126	43.88%	$89,190
County General Tier IIA without Courts								
Normal Cost	3.96%	$2,998	1.93%	$1,461	0.58%	$439	6.47%	$4,898
UAAL	19.17%	14,512	2.48%	1,877	3.29%	2,491	24.94%	18,880
Total Contribution	23.13%	$17,510	4.41%	$3,338	3.87%	$2,930	31.41%	$23,778
County General Tier IIB without Courts								
Normal Cost	4.64%	$3,793	0.91%	$744	0.28%	$229	5.83%	$4,766
UAAL	19.17%	15,671	2.48%	2,027	3.29%	2,690	24.94%	20,388
Total Contribution	23.81%	$19,464	3.39%	$2,771	3.57%	$2,919	30.77%	$25,154
County General without Courts - Combined								
Normal Cost	9.67%	$34,881	2.82%	$10,173	0.86%	$3,107	13.35%	$48,161
UAAL	19.17%	69,148	2.48%	8,945	3.29%	11,868	24.94%	89,961
Total Contribution	28.84%	$104,029	5.30%	$19,118	4.15%	$14,975	38.29%	$138,122
Courts Tier I								
Normal Cost	10.61%	$1,864	3.92%	$689	1.20%	$210	15.73%	$2,763
UAAL	19.17%	3,367	2.48%	436	3.29%	578	24.94%	4,381
Total Contribution	29.78%	$5,231	6.40%	$1,125	4.49%	$788	40.67%	$7,144
Courts Tier IIA								
Normal Cost	4.26%	$77	1.93%	$35	0.58%	$10	6.77%	$122
UAAL	19.17%	345	2.48%	45	3.29%	58	24.94%	448
Total Contribution	23.43%	$422	4.41%	$80	3.87%	$68	31.71%	$570
Courts Tier IIB								
Normal Cost	4.64%	$335	0.91%	$66	0.28%	$20	5.83%	$421
UAAL	19.17%	1,384	2.48%	179	3.29%	238	24.94%	1,801
Total Contribution	23.81%	$1,719	3.39%	$245	3.57%	$258	30.77%	$2,222
Courts – Combined								
Normal Cost	8.56%	$2,276	2.97%	$790	0.91%	$240	12.44%	$3,306
UAAL	19.17%	5,096	2.48%	660	3.29%	874	24.94%	6,630
Total Contribution	27.73%	$7,372	5.45%	$1,450	4.20%	$1,114	37.38%	$9,936
County Safety Tier I								
Normal Cost	18.46%	$22,728	6.20%	$7,634	1.96%	$2,413	26.62%	$32,775
UAAL	26.67%	32,836	5.45%	6,710	6.54%	8,053	38.66%	47,599
Total Contribution	45.13%	$55,564	11.65%	$14,344	8.50%	$10,466	65.28%	$80,374
County Safety Tier IIA								
Normal Cost	11.93%	$917	4.93%	$379	1.54%	$118	18.40%	$1,414
UAAL	26.67%	2,049	5.45%	419	6.54%	503	38.66%	2,971
Total Contribution	38.60%	$2,966	10.38%	$798	8.08%	$621	57.06%	$4,385
County Safety Tier IIB								
Normal Cost	10.42%	$1,606	2.44%	$376	0.75%	$116	13.61%	$2,098
UAAL	26.67%	4,110	5.45%	840	6.54%	1,008	38.66%	5,958
Total Contribution	37.09%	$5,716	7.89%	$1,216	7.29%	$1,124	52.27%	$8,056

CHART 15 (continued)
Recommended Employer Contribution Rates (Prior Valuation)

	June 30, 2016 Actuarial Valuation							
	Basic		2% COLA		0.5% COLA		Total	
County Safety - Combined	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*
Normal Cost	17.27%	$25,251	5.74%	$8,389	1.81%	$2,647	24.82%	$36,287
UAAL	26.67%	38,995	5.45%	7,969	6.54%	9,564	38.66%	56,528
Total Contribution	43.94%	$64,246	11.19%	$16,358	8.35%	$12,211	63.48%	$92,815
All County with Courts - Combined								
Normal Cost	11.70%	$62,408	3.63%	$19,352	1.12%	$5,994	16.45%	$87,754
UAAL	21.23%	113,239	3.29%	17,574	4.18%	22,306	28.70%	153,119
Total Contribution	32.93%	$175,647	6.92%	$36,926	5.30%	$28,300	45.15%	$240,873
District Category I Tier I								
Normal Cost	15.91%	$837	3.92%	$206	1.20%	$63	21.03%	$1,106
UAAL	19.51%	1,026	3.16%	166	3.16%	167	25.83%	1,359
Total Contribution	35.42%	$1,863	7.08%	$372	4.36%	$230	46.86%	$2,465
District Category I Tier IIA								
Normal Cost	4.35%	$28	1.93%	$13	0.58%	$3	6.86%	$44
UAAL	19.51%	126	3.16%	20	3.16%	21	25.83%	167
Total Contribution	23.86%	$154	5.09%	$33	3.74%	$24	32.69%	$211
District Category I Tier IIB								
Normal Cost	4.64%	$13	0.91%	$2	0.28%	$1	5.83%	$16
UAAL	19.51%	53	3.16%	9	3.16%	8	25.83%	70
Total Contribution	24.15%	$66	4.07%	$11	3.44%	$9	31.66%	$86
District Category I - Combined								
Normal Cost	14.20%	$878	3.57%	$221	1.10%	$67	18.87%	$1,166
UAAL	19.51%	1,205	3.16%	195	3.16%	196	25.83%	1,596
Total Contribution	33.71%	$2,083	6.73%	$416	4.26%	$263	44.70%	$2,762
District Category II Tier I								
Normal Cost	14.80%	$305	3.92%	$81	1.20%	$25	19.92%	$411
UAAL	19.51%	402	3.16%	65	3.16%	65	25.83%	532
Total Contribution	34.31%	$707	7.08%	$146	4.36%	$90	45.75%	$943
District Category II Tier IIB								
Normal Cost	4.64%	$17	0.91%	$3	0.28%	$1	5.83%	$21
UAAL	19.51%	71	3.16%	11	3.16%	12	25.83%	94
Total Contribution	24.15%	$88	4.07%	$14	3.44%	$13	31.66%	$115
District Category II Tier III								
Normal Cost	9.15%	$3	1.56%	$1	1.55%	$0	12.26%	$4
UAAL	19.51%	6	3.16%	1	3.16%	2	25.83%	9
Total Contribution	28.66%	$9	4.72%	$2	4.71%	$2	38.09%	$13
District Category II - Combined								
Normal Cost	13.23%	$325	3.44%	$85	1.11%	$26	17.78%	$436
UAAL	19.51%	479	3.16%	77	3.16%	79	25.83%	635
Total Contribution	32.74%	$804	6.60%	$162	4.27%	$105	43.61%	$1,071
District Category III Tier I (Buttonwillow)								
Normal Cost	10.40%	$11	3.92%	$4	1.20%	$2	15.52%	$17
UAAL	19.51%	21	3.16%	3	3.16%	4	25.83%	28
Total Contribution	29.91%	$32	7.08%	$7	4.36%	$6	41.35%	$45

CHART 15 (continued)

Recommended Employer Contribution Rates (Prior Valuation)

	June 30, 2016 Actuarial Valuation							
	Basic		2% COLA		0.5% COLA		Total	
District Category III Tier I (SJVAPCD)	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*
Normal Cost	9.38%	$1,864	1.98%	$393	0.60%	$120	11.96%	$2,377
UAAL	19.51%	3,877	3.16%	628	3.16%	628	25.83%	5,133
Total Contribution	28.89%	$5,741	5.14%	$1,021	3.76%	$748	37.79%	$7,510
District Category III Tier IIA (Buttonwillow)								
Normal Cost	3.90%	$0	1.93%	$0	0.58%	$0	6.41%	$0
UAAL	19.51%	0	3.16%	0	3.16%	0	25.83%	0
Total Contribution	23.41%	$0	5.09%	$0	3.74%	$0	32.24%	$0
District Category III Tier IIA (SJVAPCD)								
Normal Cost	5.14%	$45	0.98%	$9	0.30%	$2	6.42%	$56
UAAL	19.51%	170	3.16%	28	3.16%	27	25.83%	225
Total Contribution	24.65%	$215	4.14%	$37	3.46%	$29	32.25%	$281
District Category III Tier IIB								
Normal Cost	4.64%	$122	0.91%	$24	0.28%	$7	5.83%	$153
UAAL	19.51%	513	3.16%	83	3.16%	83	25.83%	679
Total Contribution	24.15%	$635	4.07%	$107	3.44%	$90	31.66%	$832
District Category III - Combined								
Normal Cost	8.70%	$2,042	1.83%	$430	0.55%	$131	11.08%	$2,603
UAAL	19.51%	4,581	3.16%	742	3.16%	742	25.83%	6,065
Total Contribution	28.21%	$6,623	4.99%	$1,172	3.71%	$873	36.91%	$8,668
District Category IV Tier I								
Normal Cost	16.41%	$59	3.92%	$14	1.20%	$5	21.53%	$78
UAAL	17.17%	62	2.69%	10	3.03%	11	22.89%	83
Total Contribution	33.58%	$121	6.61%	$24	4.23%	$16	44.42%	$161
District Category IV Tier IIB								
Normal Cost	4.64%	$0	0.91%	$0	0.28%	$0	5.83%	$0
UAAL	17.17%	0	2.69%	0	3.03%	0	22.89%	0
Total Contribution	21.81%	$0	3.60%	$0	3.31%	$0	28.72%	$0
District Category IV - Combined								
Normal Cost	16.41%	$59	3.92%	$14	1.20%	$5	21.53%	$78
UAAL	17.17%	62	2.69%	10	3.03%	11	22.89%	83
Total Contribution	33.58%	$121	6.61%	$24	4.23%	$16	44.42%	$161
District Category V Tier I								
Normal Cost	13.07%	$16	3.92%	$5	1.20%	$2	18.19%	$23
UAAL	19.51%	25	3.16%	4	3.16%	4	25.83%	33
Total Contribution	32.58%	$41	7.08%	$9	4.36%	$6	44.02%	$56
District Category V Tier IIA								
Normal Cost	4.54%	$18	1.93%	$8	0.58%	$3	7.05%	$29
UAAL	19.51%	79	3.16%	13	3.16%	13	25.83%	105
Total Contribution	24.05%	$97	5.09%	$21	3.74%	$16	32.88%	$134
District Category V Tier IIB								
Normal Cost	4.64%	$17	0.91%	$3	0.28%	$1	5.83%	$21
UAAL	19.51%	70	3.16%	11	3.16%	12	25.83%	93
Total Contribution	24.15%	$87	4.07%	$14	3.44%	$13	31.66%	$114

CHART 15 (continued)

Recommended Employer Contribution Rates (Prior Valuation)

June 30, 2016 Actuarial Valuation	Basic		2% COLA		0.5% COLA		Total	
District Category V - Combined	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*	Rate	Estimated Annual Amount*
Normal Cost	5.74%	$51	1.78%	$16	0.77%	$6	8.29%	$73
UAAL	19.51%	174	3.16%	28	3.16%	29	25.83%	231
Total Contribution	25.25%	$225	4.94%	$44	3.93%	$35	34.12%	$304
District Category VI Tier I								
Normal Cost	18.63%	$72	3.92%	$15	1.20%	$5	23.75%	$92
UAAL	19.51%	75	3.16%	12	3.16%	13	25.83%	100
Total Contribution	38.14%	$147	7.08%	$27	4.36%	$18	49.58%	$192
District Category VI Tier IIB								
Normal Cost	4.64%	$0	0.91%	$0	0.28%	$0	5.83%	$0
UAAL	19.51%	0	3.16%	0	3.16%	0	25.83%	0
Total Contribution	24.15%	$0	4.07%	$0	3.44%	$0	31.66%	$0
District Category VI - Combined								
Normal Cost	18.63%	$72	3.92%	$15	1.20%	$5	23.75%	$92
UAAL	19.51%	75	3.16%	12	3.16%	13	25.83%	100
Total Contribution	38.14%	$147	7.08%	$27	4.36%	$18	49.58%	$192
All Districts – Combined								
Normal Cost	10.15%	$3,427	2.31%	$781	0.72%	$240	13.18%	$4,448
UAAL	19.48%	6,576	3.15%	1,064	3.17%	1,070	25.80%	8,710
Total Contribution	29.63%	$10,003	5.46%	$1,845	3.89%	$1,310	38.98%	$13,158
All Employers - Combined								
Normal Cost	11.61%	$65,835	3.55%	$20,133	1.09%	$6,234	16.25%	$92,202
UAAL	21.12%	119,815	3.29%	18,638	4.12%	23,376	28.53%	161,829
Total Contribution	32.73%	$185,650	6.84%	$38,771	5.21%	$29,610	44.78%	$254,031

* *Amounts are in thousands and are based on June 30, 2016 projected compensation (also in thousands):*

County General Tier I without Courts	$203,259	District Category I Tier I	$5,261
County General Tier IIA without Courts	75,701	District Category I Tier IIA	648
County General Tier IIB without Courts	81,747	District Category I Tier IIB	270
Courts Tier I	17,565	District Category II Tier I	2,061
Courts Tier IIA	1,798	District Category II Tier IIB	362
Courts Tier IIB	7,221	District Category II Tier III	33
County Safety Tier I	123,121	District Category III Tier I (Buttonwillow)	107
County Safety Tier IIA	7,684	District Category III Tier I (SJVAPCD)	19,873
County Safety Tier IIB	15,412	District Category III Tier IIA (Buttonwillow)	0
		District Category III Tier IIA (SJVAPCD)	872
		District Category III Tier IIB	2,629
		District Category IV Tier I	361
		District Category IV Tier IIB	0
		District Category V Tier I	126
		District Category V Tier IIA	406
		District Category V Tier IIB	359
		District Category VI Tier I	386
		District Category VI Tier IIB	0
All County with Courts	$533,508	All Districts	$33,754
		Total	$567,262

Note: As of June 30, 2016, the COLA Contribution Reserve was zero and therefore not available to offset the 2% COLA contribution rate.

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

Reconciliation of Recommended Average Employer Contribution

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

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

CHART 16

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

	Contribution Rate	Estimated Annual Dollar Cost(1)
Recommended Average Employer Contribution Rate in June 30, 2016 Valuation	44.78%	$254,031
Effect of investment loss(2)	0.23%	1,316
Effect of lower than expected salary increase for actives	-0.66%	(3,776)
Effect of amortizing prior year's UAAL over a lower than expected projected total payroll	0.89%	5,092
Effect of lower than expected COLA benefit increase for retirees and beneficiaries	-0.28%	(1,602)
Effect of actual contributions less than expected	0.18%	1,030
Effect of changes in demographics of members amongst tiers	-0.81%	(4,634)
Effect of other experience (gains)/losses(3)	-0.52%	(820)
Effect of changes in assumptions	3.88%	22,197
Total change	2.91%	$18,803
Recommended Average Employer Contribution Rate in June 30, 2017 Valuation(4)	47.69%	$272,834

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

(2) *Return on the valuation value of assets of 7.02% was less than the 7.50% assumed rate of return.*

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

(4) *The June 30, 2017 contribution rates are before adjustments to phase-in over three years the UAAL contribution rate impact of new assumptions adopted for the June 30, 2017 valuation.*

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

Reconciliation of Recommended Average Member Contribution Rate

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

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

CHART 17

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

	Contribution Rate	Estimated Annual Dollar Cost[1]
Recommended Average Member Contribution Rate in June 30, 2016 Valuation	6.22%	$35,278
Effect of changes in assumptions	0.16%	915
Effect of changes in demographics of members amongst tiers	0.04%	229
Effect of other changes[2]	0.04%	543
Total change	0.24%	$1,687
Recommended Average Member Contribution Rate in June 30, 2017 Valuation	6.46%	$36,965

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

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

E. FUNDED RATIO

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

The chart below depicts a history of the funded ratios for the Plan. Chart 19 on the next page shows the Plan's schedule of funding progress for the last nine years.

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

CHART 18

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

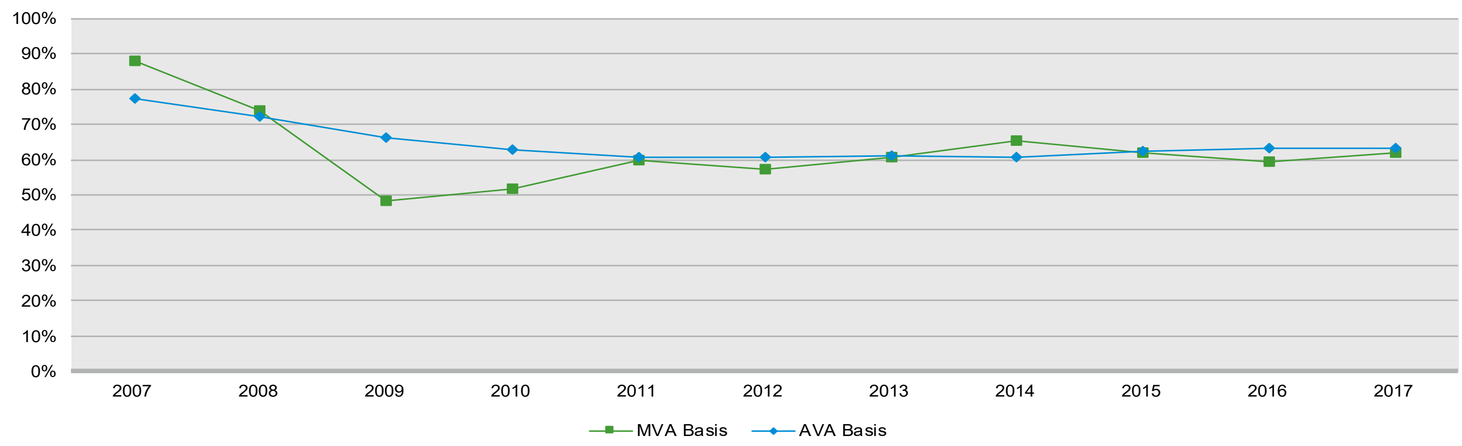


CHART 19

Schedule of Funding Progress

Actuarial Valuation Date	Valuation Value of Assets[1] (a)	Actuarial Accrued Liability (AAL)[2] (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
06/30/2009	$2,780,215,000	$4,205,200,000	$1,424,985,000	66.1%	$559,872,000	254.5%
06/30/2010	2,794,644,000	4,457,038,000	1,662,395,000	62.7%	559,380,000	297.2%
06/30/2011	2,839,747,000	4,672,348,000	1,832,601,000	60.8%	539,836,000	339.5%
06/30/2012	2,960,507,000	4,894,990,000	1,934,483,000	60.5%	543,558,000	355.9%
06/30/2013	3,120,632,000	5,108,619,000	1,987,987,000	61.1%	555,752,000	357.7%
06/30/2014	3,342,122,000	5,492,440,000	2,150,318,000	60.8%	555,634,000	387.0%
06/30/2015	3,529,786,000	5,657,173,000	2,127,387,000	62.4%	556,824,000	382.1%
06/30/2016	3,685,447,000	5,813,092,000	2,127,645,000	63.4%	567,261,000	375.1%
06/30/2017	3,913,073,000	6,191,433,000	2,278,360,000	63.2%	572,081,000	398.3%

(1) *Excludes assets for SRBR Reserves Unallocated to 0.5% COLA benefits and COLA Contribution Reserve. Excludes assets for Contingency Reserve (unless the Contingency Reserve is negative).*

(2) *Excludes liabilities held for SRBR Reserves Unallocated to 0.5% COLA benefits.*

F. VOLATILITY RATIOS

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

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

For KCERA, the current AVR is about 6.9. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 6.9% of one-year's payroll. Since KCERA amortizes actuarial gains and losses over a period of 18 years, there would be a 0.5% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

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

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

For KCERA, the current LVR is about 10.8. This is about 57% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long term.

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

CHART 20

Volatility Ratios for Years Ended June 30, 2009 – 2017

	Asset Volatility Ratios			Liability Volatility Ratios		
Year Ended June 30	**General**	**Safety**	**Total**	**General**	**Safety**	**Total**
2009	2.9	5.7	3.6	6.3	11.1	7.5
2010	3.4	6.4	4.1	6.7	11.7	7.9
2011	4.3	7.9	5.2	7.4	12.5	8.7
2012	4.3	7.7	5.2	7.7	12.8	9.0
2013	4.7	8.0	5.6	8.0	12.7	9.2
2014	5.5	9.1	6.4	8.5	13.7	9.9
2015	5.6	9.2	6.5	8.8	14.1	10.2
2016	5.4	9.0	6.3	8.8	14.4	10.3
2017	5.8	10.4	6.9	9.2	16.0	10.8

EXHIBIT A

Table of Plan Coverage

i. General Tier I County with Courts

Category	Year Ended June 30: 2017	2016	Change From Prior Year
Active members in valuation:			
Number	2,920	3,232	-9.7%
Average age	49.8	49.5	0.3
Average service	16.7	16.1	0.6
Projected total compensation	$201,966,628	$220,824,419	-8.5%
Projected average compensation	$69,167	$68,324	1.2%
Account balances	$133,595,619	$135,944,227	-1.7%
Total active vested members	2,912	3,221	-9.6%
Vested terminated members:[1]	1,030	1,067	-3.5%
Retired members:			
Number in pay status	4,616	4,455	3.6%
Average age	68.8	68.7	0.1
Average monthly benefit[2]	$2,881	$2,792	3.2%
Disabled members:			
Number in pay status	482	490	-1.6%
Average age	66.5	65.8	0.7
Average monthly benefit[2]	$1,848	$1,806	2.3%
Beneficiaries:			
Number in pay status	786	765	2.7%
Average age	74.4	74.5	-0.1
Average monthly benefit[2]	$1,467	$1,381	6.2%

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

(2) *Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.*

EXHIBIT A

Table of Plan Coverage

ii. General Tier IIA County with Courts

Category	Year Ended June 30 2017	Year Ended June 30 2016	Change From Prior Year
Active members in valuation:			
Number	1,209	1,292	-6.4%
Average age	42.8	41.6	1.2
Average service	6.7	5.8	0.9
Projected total compensation	$75,435,803	$77,498,642	-2.7%
Projected average compensation	$62,395	$59,983	4.0%
Account balances	$29,847,509	$27,093,526	10.2%
Total active vested members	863	682	26.5%
Vested terminated members:[(1)]	456	416	9.6%
Retired members:			
Number in pay status	14	10	40.0%
Average age	68.6	67.9	0.7
Average monthly benefit[(2)]	$612	$546	12.1%
Disabled members:			
Number in pay status	1	1	0.0%
Average age	55.9	54.9	1.0
Average monthly benefit[(2)]	$2,363	$2,316	2.0%
Beneficiaries:			
Number in pay status	2	2	0.0%
Average age	57.0	56.0	1.0
Average monthly benefit[(2)]	$613	$601	2.0%

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

(2) *Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.*

EXHIBIT A

Table of Plan Coverage

iii. General Tier IIB County with Courts

	Year Ended June 30		
Category	**2017**	**2016**	**Change From Prior Year**
Active members in valuation:			
Number	2,440	1,861	31.1%
Average age	35.4	35.0	0.4
Average service	1.9	1.6	0.3
Projected total compensation	$119,492,912	$88,968,107	34.3%
Projected average compensation	$48,973	$47,807	2.4%
Account balances	$12,835,966	$8,074,921	59.0%
Total active vested members	25	8	212.5%
Vested terminated members:[1]	427	306	39.5%
Retired 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
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[2]	N/A	N/A	N/A

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

(2) *Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.*

EXHIBIT A

Table of Plan Coverage

iv. Districts Tier I

Category	Year Ended June 30 2017	Year Ended June 30 2016	Change From Prior Year
Active members in valuation:			
Number	288	309	-6.8%
Average age	46.3	46.0	0.3
Average service	14.5	13.7	0.8
Projected total compensation	$27,872,118	$28,175,066	-1.1%
Projected average compensation	$96,778	$91,181	6.1%
Account balances	$16,287,068	$15,420,736	5.6%
Total active vested members	286	292	-2.1%
Vested terminated members:[1]	162	169	-4.1%
Retired members:			
Number in pay status	239	223	7.2%
Average age	66.5	66.4	0.1
Average monthly benefit[2]	$3,595	$3,550	1.3%
Disabled members:			
Number in pay status	10	12	-16.7%
Average age	62.8	61.9	0.9
Average monthly benefit[2]	$2,444	$2,253	8.5%
Beneficiaries:			
Number in pay status	34	30	13.3%
Average age	72.4	72.7	-0.3
Average monthly benefit[2]	$2,111	$2,356	-10.4%

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

(2) *Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.*

EXHIBIT A

Table of Plan Coverage

v. Districts Tier IIA

Category	Year Ended June 30 2017	Year Ended June 30 2016	Change From Prior Year
Active members in valuation:			
Number	24	25	-4.0%
Average age	38.8	37.7	1.1
Average service	6.1	5.0	1.1
Projected total compensation	$2,005,234	$1,925,616	4.1%
Projected average compensation	$83,551	$77,025	8.5%
Account balances	$571,001	$462,515	23.5%
Total active vested members	15	7	114.3%
Vested terminated members:[1]	5	5	0.0%
Retired 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
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[2]	N/A	N/A	N/A

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

(2) *Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.*

EXHIBIT A

Table of Plan Coverage

vi. Districts Tier IIB

Category	Year Ended June 30 2017	Year Ended June 30 2016	Change From Prior Year
Active members in valuation:			
Number	85	68	25.0%
Average age	34.8	35.6	-0.8
Average service	1.8	1.5	0.3
Projected total compensation	$4,759,579	$3,619,157	31.5%
Projected average compensation	$55,995	$53,223	5.2%
Account balances	$490,221	$303,226	61.7%
Total active vested members	0	0	0.0
Vested terminated members:[1]	8	4	100.0%
Retired 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
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[2]	N/A	N/A	N/A

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

(2) *Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.*

EXHIBIT A

Table of Plan Coverage

vii. Districts Tier III

Category	Year Ended June 30 2017	Year Ended June 30 2016	Change From Prior Year
Active members in valuation:			
Number	0	1	N/A
Average age	N/A	55.0	N/A
Average service	N/A	2.1	N/A
Projected total compensation	N/A	$32,707	N/A
Projected average compensation	N/A	$32,707	N/A
Account balances	N/A	$6,403	N/A
Total active vested members	N/A	0	N/A
Vested terminated members:[1]	1	1	0.0%
Retired 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
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[2]	N/A	N/A	N/A

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

(2) *Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.*

EXHIBIT A

Table of Plan Coverage

viii. Safety Tier I

Category	Year Ended June 30 2017	Year Ended June 30 2016	Change From Prior Year
Active members in valuation:			
Number	1,339	1,437	-6.8%
Average age	41.3	40.8	0.5
Average service	14.6	14.0	0.6
Projected total compensation	$115,723,974	$123,121,421	-6.0%
Projected average compensation	$86,426	$85,679	0.9%
Account balances	$82,519,358	$79,852,342	3.3%
Total active vested members	1,337	1,361	-1.8%
Vested terminated members:[1]	215	207	3.9%
Retired members:			
Number in pay status	1,124	1,079	4.2%
Average age	65.5	65.4	0.1
Average monthly benefit[2]	$5,802	$5,697	1.8%
Disabled members:			
Number in pay status	431	435	-0.9%
Average age	65.1	64.5	0.6
Average monthly benefit[2]	$4,341	$4,196	3.5%
Beneficiaries:			
Number in pay status	354	345	2.6%
Average age	70.4	70.3	0.1
Average monthly benefit[2]	$2,404	$2,320	3.6%

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

(2) *Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.*

EXHIBIT A

Table of Plan Coverage

ix. Safety Tier IIA

Category	Year Ended June 30 2017	Year Ended June 30 2016	Change From Prior Year
Active members in valuation:			
Number	112	120	-6.7%
Average age	33.4	32.2	1.2
Average service	5.4	4.5	0.9
Projected total compensation	$7,496,204	$7,683,830	-2.4%
Projected average compensation	$66,930	$64,032	4.5%
Account balances	$2,894,955	$2,403,830	20.4%
Total active vested members	47	21	123.8%
Vested terminated members:[1]	17	14	21.4%
Retired 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
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[2]	N/A	N/A	N/A

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

(2) *Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.*

EXHIBIT A

Table of Plan Coverage

x. Safety Tier IIB

Category	Year Ended June 30 2017	Year Ended June 30 2016	Change From Prior Year
Active members in valuation:			
Number	311	282	10.3%
Average age	30.7	30.2	0.5
Average service	2.6	2.1	0.5
Projected total compensation	$17,329,134	$15,412,174	12.4%
Projected average compensation	$55,721	$54,653	2.0%
Account balances	$5,827,162	$4,188,109	39.1%
Total active vested members	6	3	100.0%
Vested terminated members:[1]	42	29	44.8%
Retired 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
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[2]	N/A	N/A	N/A

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

(2) *Excludes monthly benefits paid from the Supplemental Retiree Benefit Reserve.*

EXHIBIT B

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

i. General Tier I County with Courts

		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	1	3	1	- -	- -	- -	- -	- -	- -
	$46,745	$47,745	$49,196	$38,393	- -	- -	- -	- -	- -	- -
30 - 34	119	- -	44	75	- -	- -	- -	- -	- -	- -
	60,999	- -	59,470	61,896	- -	- -	- -	- -	- -	- -
35 - 39	377	3	67	253	54	- -	- -	- -	- -	- -
	64,454	61,975	64,522	63,975	$66,751	- -	- -	- -	- -	- -
40 - 44	438	- -	48	212	155	21	2	- -	- -	- -
	69,660	- -	74,750	67,173	71,836	$66,848	$72,051	- -	- -	- -
45 - 49	528	1	42	160	216	82	26	1	- -	- -
	71,528	62,551	72,398	64,390	73,282	81,939	67,965	$45,874	- -	- -
50 - 54	540	1	27	137	154	91	100	29	1	- -
	67,739	35,312	61,654	60,791	70,485	69,316	74,058	64,988	$97,838	- -
55 - 59	523	- -	28	110	137	76	95	64	13	- -
	70,832	- -	58,649	63,371	67,533	73,201	77,444	80,141	86,950	- -
60 - 64	280	3	23	80	80	50	30	12	1	1
	71,562	68,026	55,600	65,856	66,801	73,577	93,954	104,594	54,783	$134,535
65 - 69	90	- -	5	25	30	16	9	3	- -	2
	73,994	- -	78,827	63,584	67,733	81,172	103,400	54,851	- -	124,914
70 & over	20	- -	- -	6	7	4	2	- -	- -	1
	78,815	- -	- -	76,469	72,809	95,696	81,354	- -	- -	62,340
Total	2,920	9	287	1,059	833	340	264	109	15	4
	$69,167	$59,513	$65,142	$64,235	$70,301	$74,571	$77,977	$77,791	$85,532	$111,676

EXHIBIT B

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

ii. General Tier IIA County with Courts

		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	1	1	- -	- -	- -	- -	- -	- -	- -	- -
	$29,851	$29,851	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	85	48	37	- -	- -	- -	- -	- -	- -	- -
	51,070	48,928	$53,850	- -	- -	- -	- -	- -	- -	- -
30 - 34	256	78	175	3	- -	- -	- -	- -	- -	- -
	60,992	54,149	63,973	$65,022	- -	- -	- -	- -	- -	- -
35 - 39	232	65	162	4	1	- -	- -	- -	- -	- -
	63,375	54,916	66,715	69,697	$46,776	- -	- -	- -	- -	- -
40 - 44	176	52	122	2	- -	- -	- -	- -	- -	- -
	64,118	58,389	66,496	68,049	- -	- -	- -	- -	- -	- -
45 - 49	158	51	103	3	1	- -	- -	- -	- -	- -
	63,182	56,473	66,019	86,643	42,858	- -	- -	- -	- -	- -
50 - 54	116	32	80	2	2	- -	- -	- -	- -	- -
	64,721	56,944	68,674	53,210	42,529	- -	- -	- -	- -	- -
55 - 59	99	19	78	1	- -	1	- -	- -	- -	- -
	68,384	71,775	68,352	40,703	- -	$34,114	- -	- -	- -	- -
60 - 64	66	18	47	1	- -	- -	- -	- -	- -	- -
	61,365	46,606	67,270	49,508	- -	- -	- -	- -	- -	- -
65 - 69	18	4	14	- -	- -	- -	- -	- -	- -	- -
	59,806	58,284	60,241	- -	- -	- -	- -	- -	- -	- -
70 & over	2	- -	2	- -	- -	- -	- -	- -	- -	- -
	38,096	- -	38,096	- -	- -	- -	- -	- -	- -	- -
Total	1,209	368	820	16	4	1	- -	- -	- -	- -
	$62,395	$55,288	$65,628	$66,657	$43,673	$34,114	- -	- -	- -	- -

EXHIBIT B

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

iii. General Tier IIB County with Courts

		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	166	166	- -	- -	- -	- -	- -	- -	- -	- -
	$36,565	$36,565	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	718	715	3	- -	- -	- -	- -	- -	- -	- -
	47,424	47,415	$49,629	- -	- -	- -	- -	- -	- -	- -
30 - 34	573	568	4	1	- -	- -	- -	- -	- -	- -
	49,808	49,418	106,162	$45,716	- -	- -	- -	- -	- -	- -
35 - 39	352	351	1	- -	- -	- -	- -	- -	- -	- -
	51,020	51,069	33,977	- -	- -	- -	- -	- -	- -	- -
40 - 44	228	226	2	- -	- -	- -	- -	- -	- -	- -
	49,854	49,901	44,533	- -	- -	- -	- -	- -	- -	- -
45 - 49	151	148	3	- -	- -	- -	- -	- -	- -	- -
	53,281	53,333	50,745	- -	- -	- -	- -	- -	- -	- -
50 - 54	113	110	3	- -	- -	- -	- -	- -	- -	- -
	50,718	50,885	44,596	- -	- -	- -	- -	- -	- -	- -
55 - 59	88	86	1	1	- -	- -	- -	- -	- -	- -
	53,641	53,724	49,280	50,813	- -	- -	- -	- -	- -	- -
60 - 64	43	41	2	- -	- -	- -	- -	- -	- -	- -
	56,478	54,794	90,988	- -	- -	- -	- -	- -	- -	- -
65 - 69	5	5	- -	- -	- -	- -	- -	- -	- -	- -
	74,228	74,228	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	3	3	- -	- -	- -	- -	- -	- -	- -	- -
	70,116	70,116	- -	- -	- -	- -	- -	- -	- -	- -
Total	2,440	2,419	19	2	- -	- -	- -	- -	- -	- -
	$48,973	$48,856	$63,887	$48,265	- -	- -	- -	- -	- -	- -

EXHIBIT B

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

iv. Districts Tier I

		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	6	- -	6	- -	- -	- -	- -	- -	- -	- -
	$58,193	- -	$58,193	- -	- -	- -	- -	- -	- -	- -
30 - 34	36	1	28	7	- -	- -	- -	- -	- -	- -
	83,865	$74,273	84,156	$84,073	- -	- -	- -	- -	- -	- -
35 - 39	43	- -	16	21	6	- -	- -	- -	- -	- -
	97,578	- -	88,211	95,550	$129,654	- -	- -	- -	- -	- -
40 - 44	61	1	14	23	22	1	- -	- -	- -	- -
	96,387	136,385	83,262	91,613	108,873	$75,261	- -	- -	- -	- -
45 - 49	37	- -	8	13	10	4	2	- -	- -	- -
	104,355	- -	85,628	89,840	133,131	113,309	$111,816	- -	- -	- -
50 - 54	32	- -	7	4	11	6	4	- -	- -	- -
	100,362	- -	89,553	97,235	94,584	119,510	109,571	- -	- -	- -
55 - 59	46	- -	6	8	11	10	8	2	1	- -
	107,871	- -	77,848	113,952	99,972	102,819	156,311	$75,840	$53,339	- -
60 - 64	20	- -	3	2	5	4	5	- -	1	- -
	88,719	- -	55,548	88,071	75,468	123,518	102,102	- -	49,665	- -
65 - 69	5	- -	1	- -	1	1	- -	- -	2	- -
	87,321	- -	57,008	- -	110,082	106,456	- -	- -	81,529	- -
70 & over	2	- -	- -	2	- -	- -	- -	- -	- -	- -
	91,282	- -	- -	91,282	- -	- -	- -	- -	- -	- -
Total	288	2	89	80	66	26	19	2	4	- -
	$96,778	$105,329	$81,856	$94,117	$108,060	$110,549	$127,522	$75,840	$66,516	- -

EXHIBIT B

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

v. Districts Tier IIA

		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	3	1	2	--	--	--	--	--	--	--
	$72,994	$85,135	$66,923	--	--	--	--	--	--	--
30 - 34	6	3	3	--	--	--	--	--	--	--
	80,629	77,225	84,032	--	--	--	--	--	--	--
35 - 39	6	2	4	--	--	--	--	--	--	--
	80,396	84,318	78,436	--	--	--	--	--	--	--
40 - 44	4	2	2	--	--	--	--	--	--	--
	74,181	87,488	60,873	--	--	--	--	--	--	--
45 - 49	3	1	2	--	--	--	--	--	--	--
	87,067	80,586	90,308	--	--	--	--	--	--	--
50 - 54	1	1	--	--	--	--	--	--	--	--
	147,231	147,231	--	--	--	--	--	--	--	--
55 - 59	1	1	--	--	--	--	--	--	--	--
	114,948	114,948	--	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	24	11	13	--	--	--	--	--	--	--
	$83,551	$91,199	$77,080	--	--	--	--	--	--	--

EXHIBIT B

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

vi. Districts Tier IIB

		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	3	3	- -	- -	- -	- -	- -	- -	- -	- -
	$50,900	$50,900	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	33	33	- -	- -	- -	- -	- -	- -	- -	- -
	54,964	54,964	- -	- -	- -	- -	- -	- -	- -	- -
30 - 34	18	18	- -	- -	- -	- -	- -	- -	- -	- -
	53,074	53,074	- -	- -	- -	- -	- -	- -	- -	- -
35 - 39	13	13	- -	- -	- -	- -	- -	- -	- -	- -
	56,591	56,591	- -	- -	- -	- -	- -	- -	- -	- -
40 - 44	5	5	- -	- -	- -	- -	- -	- -	- -	- -
	49,907	49,907	- -	- -	- -	- -	- -	- -	- -	- -
45 - 49	4	4	- -	- -	- -	- -	- -	- -	- -	- -
	89,853	89,853	- -	- -	- -	- -	- -	- -	- -	- -
50 - 54	5	5	- -	- -	- -	- -	- -	- -	- -	- -
	56,410	56,410	- -	- -	- -	- -	- -	- -	- -	- -
55 - 59	2	2	- -	- -	- -	- -	- -	- -	- -	- -
	51,296	51,296	- -	- -	- -	- -	- -	- -	- -	- -
60 - 64	1	1	- -	- -	- -	- -	- -	- -	- -	- -
	49,692	49,692	- -	- -	- -	- -	- -	- -	- -	- -
65 - 69	1	1	- -	- -	- -	- -	- -	- -	- -	- -
	58,781	58,781	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	85	85	- -	- -	- -	- -	- -	- -	- -	- -
	$55,995	$55,995	- -	- -	- -	- -	- -	- -	- -	- -

EXHIBIT B

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

vii. Districts Tier III

		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	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
35 - 39	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
40 - 44	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
45 - 49	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
50 - 54	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
55 - 59	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
60 - 64	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
65 - 69	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

EXHIBIT B

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

viii. Safety Tier I

		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	61	1	59	1	- -	- -	- -	- -	- -	- -
	$76,769	$54,701	$76,410	$120,000	- -	- -	- -	- -	- -	- -
30 - 34	242	1	151	89	1	- -	- -	- -	- -	- -
	81,937	63,713	79,437	85,862	$128,259	- -	- -	- -	- -	- -
35 - 39	332	- -	85	171	75	1	- -	- -	- -	- -
	85,144	- -	77,911	85,962	91,318	$96,983	- -	- -	- -	- -
40 - 44	303	- -	37	83	155	27	1	- -	- -	- -
	87,444	- -	77,368	83,120	91,639	89,452	$114,749	- -	- -	- -
45 - 49	229	- -	15	32	106	56	20	- -	- -	- -
	88,847	- -	73,681	84,759	91,151	86,745	100,436	- -	- -	- -
50 - 54	97	- -	3	16	32	17	19	10	- -	- -
	95,277	- -	74,466	78,798	91,058	87,212	103,729	$139,038	- -	- -
55 - 59	50	- -	3	5	7	9	10	16	- -	- -
	94,016	- -	94,158	88,868	85,250	79,760	96,855	105,677	- -	- -
60 - 64	17	- -	1	3	3	3	4	2	1	- -
	90,029	- -	107,823	94,117	73,314	79,897	94,531	92,949	$116,676	- -
65 - 69	6	- -	1	2	1	1	- -	- -	- -	1
	73,662	- -	62,655	69,253	73,453	58,060	- -	- -	- -	$109,301
70 & over	2	- -	- -	- -	1	- -	- -	1	- -	- -
	93,943	- -	- -	- -	107,131	- -	- -	80,754	- -	- -
Total	1,339	2	355	402	381	114	54	29	1	1
	$86,426	$59,207	$78,225	$85,071	$91,219	$86,562	$100,759	$115,444	$116,676	$109,301

EXHIBIT B

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

ix. Safety Tier IIA

		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	2	1	1	- -	- -	- -	- -	- -	- -	- -
	$61,270	$56,577	$65,962	- -	- -	- -	- -	- -	- -	- -
25 - 29	32	23	9	- -	- -	- -	- -	- -	- -	- -
	66,014	66,794	64,021	- -	- -	- -	- -	- -	- -	- -
30 - 34	52	38	14	- -	- -	- -	- -	- -	- -	- -
	66,166	67,744	61,883	- -	- -	- -	- -	- -	- -	- -
35 - 39	14	7	7	- -	- -	- -	- -	- -	- -	- -
	64,494	58,932	70,056	- -	- -	- -	- -	- -	- -	- -
40 - 44	5	3	2	- -	- -	- -	- -	- -	- -	- -
	72,902	62,146	89,036	- -	- -	- -	- -	- -	- -	- -
45 - 49	3	2	1	- -	- -	- -	- -	- -	- -	- -
	78,035	62,419	109,266	- -	- -	- -	- -	- -	- -	- -
50 - 54	1	- -	1	- -	- -	- -	- -	- -	- -	- -
	56,681	- -	56,681	- -	- -	- -	- -	- -	- -	- -
55 - 59	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
60 - 64	3	3	- -	- -	- -	- -	- -	- -	- -	- -
	87,459	87,459	- -	- -	- -	- -	- -	- -	- -	- -
65 - 69	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	112	77	35	- -	- -	- -	- -	- -	- -	- -
	$66,930	$66,926	$66,940	- -	- -	- -	- -	- -	- -	- -

EXHIBIT B

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

x. Safety Tier IIB

		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	50	50	- -	- -	- -	- -	- -	- -	- -	- -
	$49,767	$49,767	- -	- -	- -	- -	- -	- -	- -	- -
25 - 29	132	130	2	- -	- -	- -	- -	- -	- -	- -
	54,891	54,774	$62,516	- -	- -	- -	- -	- -	- -	- -
30 - 34	77	75	1	1	- -	- -	- -	- -	- -	- -
	56,161	55,923	58,899	$71,277	- -	- -	- -	- -	- -	- -
35 - 39	25	25	- -	- -	- -	- -	- -	- -	- -	- -
	54,858	54,858	- -	- -	- -	- -	- -	- -	- -	- -
40 - 44	13	11	2	- -	- -	- -	- -	- -	- -	- -
	55,694	55,374	57,451	- -	- -	- -	- -	- -	- -	- -
45 - 49	3	3	- -	- -	- -	- -	- -	- -	- -	- -
	56,457	56,457	- -	- -	- -	- -	- -	- -	- -	- -
50 - 54	3	3	- -	- -	- -	- -	- -	- -	- -	- -
	72,216	72,216	- -	- -	- -	- -	- -	- -	- -	- -
55 - 59	7	7	- -	- -	- -	- -	- -	- -	- -	- -
	98,100	98,100	- -	- -	- -	- -	- -	- -	- -	- -
60 - 64	1	1	- -	- -	- -	- -	- -	- -	- -	- -
	102,572	102,572	- -	- -	- -	- -	- -	- -	- -	- -
65 - 69	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
70 & over	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Total	311	305	5	1	- -	- -	- -	- -	- -	- -
	$55,721	$55,603	$59,766	$71,277	- -	- -	- -	- -	- -	- -

EXHIBIT C

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

	Active Members	Vested Terminated Members[1]	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2016	8,627	2,218	5,767	938	1,142	18,692
New members	979	0	N/A	N/A	106	1,085
Terminations – with vested rights	-383	383	N/A	N/A	N/A	0
Contribution refunds	-188	-129	N/A	N/A	N/A	-317
Retirements	-309	-79	388	N/A	N/A	0
New disabilities	-5	0	-4	9	N/A	0
Return to work	24	-22	-2	0	N/A	0
Died with or without beneficiary	-16	-8	-158	-23	-68	-273
Data adjustments	-1	0	2	0	-4	-3
Number as of June 30, 2017	8,728	2,363	5,993	924	1,176	19,184

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

EXHIBIT D

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended June 30, 2017		Year Ended June 30, 2016	
Net contribution income:				
Employer contributions	$241,112,434		$234,713,690	
Employee contributions	34,649,054		33,278,504	
Less administrative expenses	(5,243,309)		(5,224,452)	
Total contribution income		$270,518,179		$262,767,742
Investment income:				
Interest, dividends and other income	$50,560,319		$38,453,538	
Adjustment toward market value[1]	239,731,469		163,801,477	
Less investment expenses	(24,608,550)		(20,419,447)	
Net investment income		265,683,238		181,835,568
Total income available for benefits		$536,201,417		$444,603,310
Less benefit payments:				
Retirement and survivor benefits	$288,750,388		$272,269,080	
Supplemental retirement benefits	13,142,925		13,186,660	
Refunds of member contributions	3,924,141		3,282,434	
Net benefit payments		$(305,817,454)		$(288,738,174)
Change in assets held for future benefits		$230,383,963		$155,865,136

[1] *Equals the "non-cash" earnings on investments implicitly included in the Actuarial Value of Assets.*

Note: Results may not add due to rounding.

EXHIBIT E
Summary Statement of Plan Assets

	Year Ended June 30, 2017		Year Ended June 30, 2016	
Cash equivalents		$84,237,976		$73,531,938
Capital assets		3,872,896		4,514,477
Accounts receivable:				
Investments sold	$153,925,194		$89,979,799	
Interest and dividends	6,620,981		7,300,431	
Contributions and other receivables	2,949,287		4,054,809	
Total accounts receivable		$163,495,463		$101,335,039
Investments:				
Domestic equities and securities	$788,828,000		$957,087,065	
International equities and securities	737,122,088		727,074,606	
Bonds	1,571,493,424		1,083,943,312	
Collateral held for securities lending	123,154,329		75,999,638	
Other investments	903,040,882		819,757,255	
Total investments at market value		$4,123,638,722		3,663,861,876
Total assets		$4,375,245,057		$3,843,243,330
Less accounts payable:				
Securities purchased	$(286,618,374)		$(189,851,964)	
Collateral held for securities lent	(123,154,329)		(75,999,638)	
Contributions and other	(2,577,178)		(5,804,134)	
Total accounts payable		$(412,349,881)		$(271,655,736)
Net assets at market value		$3,962,895,176		$3,571,587,594
Net assets at actuarial value		$4,037,301,965		$3,806,918,002
Net assets at valuation value		$3,913,072,636		$3,685,447,112

Note: Results may not add due to rounding.

EXHIBIT F

Actuarial Balance Sheet

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

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

		Total KCERA ($ in 000s)	
Assets		June 30, 2017	June 30, 2016
1	Total valuation value of assets	$3,913,073	$3,685,447
2	Present value of future contributions by members	317,892	304,996
3	Present value of future employer contributions for:		
	a. entry age normal cost	697,633	677,394
	b. unfunded actuarial accrued liability	2,278,360	2,127,645
4	Total current and future assets	$7,206,958	$6,795,482
Liabilities			
5	Present value of benefits for retirees and beneficiaries	$3,912,770	$3,600,336
6	Present value of benefits for active members	3,113,132	3,028,607
7	Present value of benefits for vested terminated members(1)	181,056	166,539
8	Total liabilities	$7,206,958	$6,795,482

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

EXHIBIT G

Summary of Reported Reserve Information

Reserves	June 30, 2017	June 30, 2016
Member Deposit Reserve – General & Courts[1]	$225,694,947	$207,468,344
Member Deposit Reserve – Safety[1]	103,224,061	91,699,390
Member Deposit Reserve – Special Districts[1]	22,672,624	21,232,720
Employers Advance Reserve – General & Courts[1]	359,448,526	336,966,229
Employers Advance Reserve – Safety[1]	388,433,921	350,036,435
Employers Advance Reserve – Special Districts[1]	38,472,411	37,855,015
Cost-of-Living Reserve – General & Courts[1]	661,092,336	610,830,082
Cost-of-Living Reserve – Safety[1]	469,812,839	431,643,538
Cost-of-Living Reserve – Special Districts[1]	48,047,077	43,277,445
Retired Members – General, Courts & Special Districts[1]	1,089,422,117	1,043,456,216
Retired Members – Safety[1]	469,256,406	469,442,125
Supplemental Retiree Benefit Reserve (SRBR) – 0.5% COLA[1]	53,850,104	57,894,309
Contingency Reserve[1] [3]	(16,354,734)	(16,354,734)
Valuation Reserves	$3,913,072,636	$3,685,447,112
Supplemental Retiree Benefit Reserve (SRBR)[2]	124,229,329	121,470,890
COLA Contribution Reserve[2]	0	0
Total Reserves	$4,037,301,965	$3,806,918,002
Market Stabilization Reserve[2]	(74,406,789)	(235,330,408)
Net Market Value	$3,962,895,176	$3,571,587,594

(1) *Included in valuation value of assets.*

(2) *Not included in valuation value of assets.*

(3) *Since the Contingency Reserve is negative, it is included as part of (i.e., as an offset to) the valuation value of assets.*

Note: Results may not add due to rounding.

EXHIBIT H

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2017

				(Amounts in Thousands)
1.	Unfunded actuarial accrued liability at beginning of year			$2,127,645
2.	Total normal cost at middle of year[1]			126,232
3.	Expected administrative expenses			5,111
4.	Expected employer and member contributions[2]			(289,309)
5.	Interest for whole year on (1) and half year on (2) + (3) + (4)			154,364
6.	Expected unfunded actuarial accrued liability			$2,124,043
7.	Actuarial (gain)/loss due to all changes:			
	(a)	Investment return less than expected	$17,692	
	(b)	Lower than expected individual salary increases	(50,071)	
	(c)	Lower than expected COLA increases	(21,582)	
	(d)	Actual contributions less than expected	14,056	
	(e)	Other experience	(19,254)	
	(f)	Assumption changes	213,476	
	(g)	Total changes		$154,317
8.	Unfunded actuarial accrued liability at end of year			$2,278,360

[1] *Excludes administrative expense load.*

[2] *Includes contributions towards administration expenses.*

Note: The sum of items 7(b), (c), (d) and (e) equals the "net gain/(loss) from other experience" shown in Section 2, Chart 10.

EXHIBIT I
Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment[1]
General County with Courts	December 31, 2005	Restart Amortization	$1,137,894,000[2]	$1,184,601,000	18.5	$89,186,000
	June 30, 2012	Actuarial Loss	36,175,000	34,218,000	13	3,355,000
	June 30, 2013	Actuarial Loss	13,512,000	13,018,000	14	1,205,000
	June 30, 2014	Actuarial Gain	(37,659,000)	(36,776,000)	15	(3,228,000)
	June 30, 2014	Assumption Change	103,045,000	100,632,000	15	8,834,000
	June 30, 2015	Actuarial Gain	(21,641,000)	(21,370,000)	16	(1,787,000)
	June 30, 2016	Actuarial Gain	(2,590,000)	(2,579,000)	17	(206,000)
	June 30, 2017	Actuarial Gain	(40,492,000)	(40,492,000)	18	(3,108,000)
	June 30, 2017	Assumption Change	120,406,000	120,406,000	18	9,243,000
Subtotal				$1,351,658,000		$103,494,000
Districts	December 31, 2005	Restart Amortization	$88,675,000[2]	$92,315,000	18.5	$6,950,000
	June 30, 2012	Actuarial Loss	4,561,000	4,314,000	13	423,000
	June 30, 2013	Actuarial Loss	1,667,000	1,602,000	14	148,000
	June 30, 2014	Actuarial Loss	2,660,000	2,598,000	15	228,000
	June 30, 2014	Assumption Change	7,607,000	7,428,000	15	652,000
	June 30, 2015	Actuarial Gain	(32,000)	(25,000)	16	(2,000)
	June 30, 2016	Actuarial Loss	5,208,000	5,184,000	17	415,000
	June 30, 2017	Actuarial Loss	5,993,000	5,993,000	18	460,000
	June 30, 2017	Assumption Change	11,676,000	11,676,000	18	896,000
Subtotal				$131,085,000		$10,170,000
Safety	December 31, 2005	Restart Amortization	$606,032,000[2]	$630,904,000	18.5	$47,500,000
	June 30, 2012	Actuarial Loss	37,591,000	35,550,000	13	3,485,000
	June 30, 2013	Actuarial Loss	17,808,000	17,152,000	14	1,587,000
	June 30, 2014	Actuarial Gain	(23,991,000)	(23,431,000)	15	(2,057,000)
	June 30, 2014	Assumption Change	93,817,000	91,609,000	15	8,042,000
	June 30, 2015	Actuarial Gain	(8,513,000)	(8,404,000)	16	(703,000)
	June 30, 2016	Actuarial Gain	(4,514,000)	(4,497,000)	17	(360,000)
	June 30, 2017	Actuarial Gain	(24,660,000)	(24,660,000)	18	(1,893,000)
	June 30, 2017	Assumption Change	81,394,000	81,394,000	18	6,248,000
Subtotal				$795,617,000		$61,849,000

(1) *As of middle of year.*

(2) *As of June 30, 2011.*

EXHIBIT I

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment[1]
Total KCERA	December 31, 2005	Restart Amortization	$1,832,601,000[2]	$1,907,820,000	18.5	$143,636,000
	June 30, 2012	Actuarial Loss	78,327,000	74,082,000	13	7,263,000
	June 30, 2013	Actuarial Loss	32,987,000	31,772,000	14	2,940,000
	June 30, 2014	Actuarial Gain	(58,990,000)	(57,609,000)	15	(5,057,000)
	June 30, 2014	Assumption Change	204,469,000	199,669,000	15	17,528,000
	June 30, 2015	Actuarial Gain	(30,186,000)	(29,799,000)	16	(2,492,000)
	June 30, 2016	Actuarial Gain	(1,896,000)	(1,892,000)	17	(151,000)
	June 30, 2017	Actuarial Gain	(59,159,000)	(59,159,000)	18	(4,541,000)
	June 30, 2017	Assumption Change	213,476,000	213,476,000	18	16,387,000
Grand Total				$2,278,360,000		$175,513,000

(1) *As of middle of year.*

(2) *As of June 30, 2011.*

EXHIBIT J

Projection of UAAL Balances and Payments

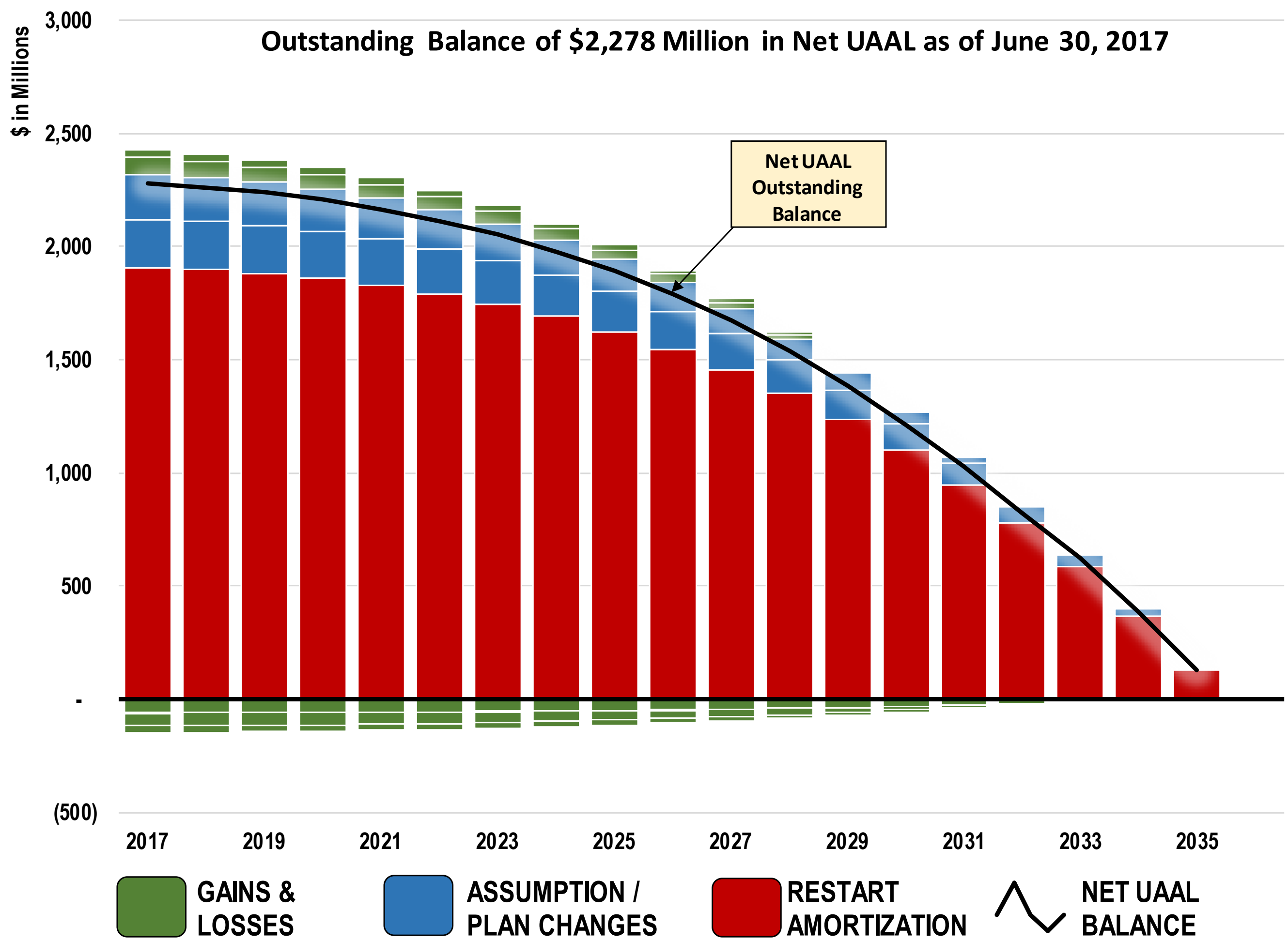


EXHIBIT J (continued)

Projection of UAAL Balances and Payments

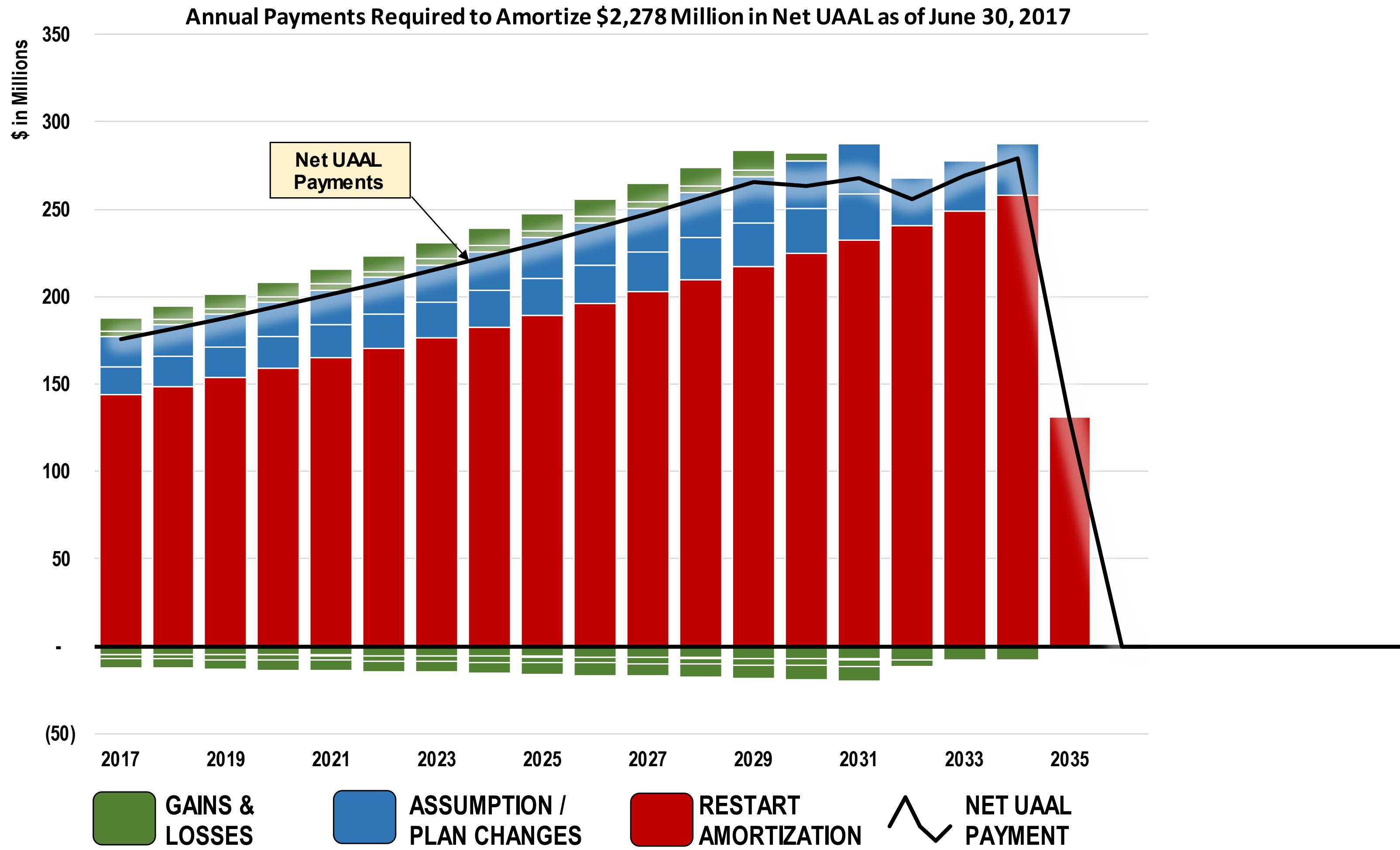


EXHIBIT K
Section 415 Limitations

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

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

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar amount indexed for inflation. The amount of that limit is $215,000 for 2017 and $220,000 for 2018. 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. Limits could also be affected by the "grandfather" election under Section 415(b)(10).

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

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

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

EXHIBIT L
Definitions of Pension Terms

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

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

(a) Investment return — the rate of investment yield that the Plan will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age; and

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Normal Cost: The amount of contributions required to fund the cost allocated to the current year of service.

Actuarial Accrued Liability For Actives: The equivalent of the accumulated normal costs allocated to the years before the valuation date.

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

Unfunded Actuarial Accrued Liability: The extent to which the actuarial accrued liability of the Plan exceeds (or is exceeded by) the assets of the Plan.

Amortization of the Unfunded Actuarial Accrued Liability:	Payments made over a period of years equal in value to the Plan's unfunded actuarial accrued liability.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the market gains and losses to avoid significant swings in the value of assets from one year to the next.

EXHIBIT I
Summary of Actuarial Valuation Results

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

1.	Retired members as of the valuation date (including 1,176 beneficiaries in pay status)		8,093
2.	Members inactive during year ended June 30, 2017 with vested rights[1]		2,363
3.	Members active during the year ended June 30, 2017		8,728

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

1.	Normal cost		$128,857
2.	Present value of future benefits		7,206,958
3.	Present value of future normal costs		1,015,525
4.	Actuarial accrued liability[2]		6,191,433
	Retired members and beneficiaries	$3,912,770	
	Inactive members with vested rights[1]	181,056	
	Active members	2,097,607	
5.	Valuation value of assets[3] ($3,962,895 at market value as reported by Retirement Association)		3,913,073
6.	Unfunded actuarial accrued liability		$2,278,360

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

(2) *Excludes liabilities held for SRBR Reserves Unallocated to 0.5% COLA benefits.*

(3) *Excludes assets for SRBR Reserves Unallocated to 0.5% COLA benefits and COLA Contribution Reserve. Excludes assets for Contingency Reserve (unless the Contingency Reserve is negative).*

EXHIBIT I (continued)
Summary of Actuarial Valuation Results

The determination of the recommended average employer contribution is as follows (amounts in 000s):	Dollar Amount	% of Payroll
1. Total normal cost	$128,857	22.52%
2. Expected employee contributions	-36,965	-6.46%
3. Employer normal cost: (1) + (2)	$91,892	16.06%
4. Amortization of unfunded actuarial accrued liability	180,942	31.63%
5. Total recommended average employer contribution: (3) + (4)	$272,834	47.69%
6. Projected compensation	$572,081	

Note: The June 30, 2017 contribution rates are before adjustments to phase-in over three years the UAAL contribution rate impact of new assumptions adopted for the June 30, 2017 valuation.

EXHIBIT II
Actuarial Assumptions and Methods

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2013 through June 30, 2016 Actuarial Experience Study dated June 21, 2017.
<u>Economic Assumptions</u>	
Net Investment Return:	7.25%, net of investment expenses.
Administrative Expenses:	0.90% of payroll allocated to both the employer and the member based on the components of the total average contribution rate (before expenses) for the employer and the member.
Employee Contribution Crediting Rate:	7.25%, compounded semi-annually.
Consumer Price Index:	Increase of 3.00% per year; retiree COLA increases due to CPI are assumed to be 2.50% per year.
Payroll Growth:	Inflation of 3.00% per year plus "across the board" real salary increases of 0.50% per year.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 3.00% per year from the valuation date.
Increase in Section 7522.10 Compensation Limit:	Increase of 3.00% per year from the valuation date.

Individual Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.00% per year; plus "across the board" salary increases of 0.50% per year; plus the following promotional and merit increases:

Years of Service	General	Safety
Less than 1	5.50%	9.00%
1	4.00	6.50
2	3.50	5.50
3	3.00	4.25
4	2.50	3.75
5	2.25	3.25
6	2.00	3.00
7	1.50	2.50
8	1.25	1.75
9	1.00	1.50
10	0.90	1.25
11	0.80	1.00
12	0.70	0.90
13	0.60	0.85
14	0.50	0.80
15	0.50	0.75
16	0.50	0.70
17	0.50	0.65
18	0.50	0.60
19	0.50	0.55
20 & Over	0.50	0.50

Note: The promotional and merit increases are added to the sum of the inflationary and "across the board" increases.

Demographic Assumptions

Mortality Rates:

Healthy:	For General Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set forward one year for males and set forward two years for females projected generationally with the two-dimensional MP-2016 projection scale. For Safety Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set back one year for males and females projected generationally with the two-dimensional MP-2016 projection scale.
Disabled:	For General Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set forward seven years for males and set forward eight years for females projected generationally with the two-dimensional MP-2016 projection scale. For Safety Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set forward three years for males and females projected generationally with the two-dimensional MP-2016 projection scale.
Beneficiaries:	Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who is receiving a service (non-disability) retirement.

The RP-2014 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.

Member Contribution Rates:	For General Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set forward one year for males and set forward two years for females, projected to 2034 with the two-dimensional MP-2016 projection scale, weighted 30% male and 70% female. For Safety Members: Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set back one year for males and females, projected to 2034 with the two-dimensional MP-2016 projection scale, weighted 80% male and 20% female.

Pre-Retirement Mortality Rates: For General and Safety Members: Headcount-Weighted RP-2014 Employee Mortality Table times 80%, projected generationally with the two-dimensional MP-2016 projection scale.

Termination Rates Before Retirement:

Rate (%)
Mortality

	General		Safety	
Age	**Male**	**Female**	**Male**	**Female**
25	0.05	0.02	0.05	0.02
30	0.05	0.02	0.05	0.02
35	0.05	0.03	0.05	0.03
40	0.06	0.04	0.06	0.04
45	0.10	0.07	0.10	0.07
50	0.17	0.11	0.17	0.11
55	0.27	0.17	0.27	0.17
60	0.45	0.24	0.45	0.24
65	0.78	0.36	0.78	0.36

All pre-retirement deaths are assumed to be non-service connected. Note that generational projections beyond the base year (2014) are not reflected in the above mortality tables.

Termination Rates Before Retirement (continued):

	Rate (%) Disability	
Age	**General[1]**	**Safety[2]**
20	0.02	0.05
25	0.03	0.07
30	0.04	0.12
35	0.08	0.24
40	0.11	0.36
45	0.17	0.46
50	0.23	1.10
55	0.28	2.55
60	0.36	3.70
65	0.40	4.00
70	0.00	0.00

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

(2) *90% of Safety disabilities are assumed to be service connected (duty) disabilities and the other 10% are assumed to be non-service connected (ordinary) disabilities.*

Termination Rates Before Retirement (continued):

	Rate (%) Withdrawal[1]	
Years of Service	**General**	**Safety**
Less Than 1	17.00	8.00
1	13.00	6.00
2	10.00	4.50
3	9.00	4.00
4	7.50	3.50
5	6.50	3.00
6	5.50	2.50
7	5.00	2.20
8	4.50	2.10
9	4.00	2.00
10	3.25	1.90
11	3.00	1.80
12	2.80	1.60
13	2.60	1.40
14	2.40	1.20
15	2.30	1.00
16	2.20	0.90
17	2.10	0.75
18	1.90	0.75
19	1.70	0.75
20	1.50	0.00
21	1.30	0.00
22	1.10	0.00
23	1.00	0.00
24	1.00	0.00
25	1.00	0.00
26	1.00	0.00
27	1.00	0.00
28	1.00	0.00
29	1.00	0.00
30 & Over	0.00	0.00

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

Termination Rates Before Retirement (continued):

	Rate (%) Electing a Refund of Contributions upon Withdrawal	
Years of Service	**General**	**Safety**
Less Than 1	100	100
1	100	100
2	100	100
3	100	100
4	100	100
5	45	50
6	42	46
7	40	44
8	36	36
9	32	32
10	30	28
11	28	25
12	26	21
13	24	18
14	22	15
15	20	12
16	18	10
17	16	8
18	14	6
19	13	4
20	12	0
21	11	0
22	10	0
23	8	0
24	6	0
25	4	0
26	2	0
27 & Over	0	0

Retirement Rates:

	Rate (%)				
Age	General Tier I	General Tiers IIA and IIB	General Tier III	Safety Tier I	Safety Tiers IIA and IIB
45	0.00	0.00	0.00	2.00	0.00
46	0.00	0.00	0.00	2.00	0.00
47	0.00	0.00	0.00	2.00	0.00
48	0.00	0.00	0.00	3.00	0.00
49	0.00	0.00	0.00	9.00	0.00
50	6.00	3.00	0.00	20.00	6.00
51	6.00	3.00	0.00	15.00	6.00
52	6.00	3.00	3.00	18.00	6.00
53	6.00	3.00	3.00	18.00	8.00
54	8.00	3.50	3.50	20.00	18.00
55	10.00	5.50	5.50	24.00	22.00
56	12.00	6.50	6.50	24.00	20.00
57	14.00	7.50	7.50	24.00	20.00
58	15.00	9.50	9.50	30.00	20.00
59	19.00	11.50	11.50	20.00	20.00
60	23.00	13.50	13.50	20.00	20.00
61	23.00	15.50	15.50	20.00	20.00
62	25.00	25.00	25.00	40.00	40.00
63	25.00	25.00	25.00	40.00	40.00
64	25.00	25.00	25.00	40.00	40.00
65	32.00	32.00	32.00	100.00	100.00
66	35.00	35.00	35.00	100.00	100.00
67	35.00	35.00	35.00	100.00	100.00
68	40.00	40.00	40.00	100.00	100.00
69	40.00	40.00	40.00	100.00	100.00
70	100.00	100.00	100.00	100.00	100.00

Retirement Age and Benefit for Terminated Vested Members:	For current and future terminated vested members, retirement age assumptions are as follows: General Age: 57 Safety Age: 53 We assume that 50% of future General and 55% of future Safety terminated vested members will continue to work for a reciprocal employer. For reciprocal members, we assume 4.00% compensation increases per annum.
Future Benefit Accruals:	1.0 year of service per year.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Definition of Active Members:	All active members of KCERA as of the valuation date.
Form of Payment:	All members are assumed to elect the unmodified option at retirement.
Percent Married:	75% of male members and 60% of female members are assumed to be married at pre-retirement death or retirement. There is no explicit assumption for children's benefits.
Age of Spouse:	Male retirees are 3 years older than their spouses, and female retirees are 2 years younger than their spouses.

Actuarial Methods

Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the age on the valuation date minus years of 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 formulas for each individual have 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 nine semi-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 semi-annually over a five-year period. The actuarial value of assets (AVA) is limited by a 50% corridor; the AVA cannot be less than 50% of MVA, nor greater than 150% of MVA.
Valuation Value of Assets:	The Actuarial Value of Assets reduced by the value of the non-valuation reserves (excluding the Contingency Reserve if it is negative).
Amortization Policy:	The UAAL, (i.e., the difference between the Actuarial Accrued Liability and the Valuation Value of Assets), as of June 30, 2011 shall be amortized separately from any future changes in UAAL over a period of 24.5 years from June 30, 2011. 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 18 years. Any new UAAL as a result of change in actuarial assumptions or methods will be amortized over a period of 18 years. Unless an alternative amortization period is recommended by the Actuary and accepted by the Board based on the results of an actuarial analysis: a. with the exception noted in b., below, the change in UAAL as a result of any plan amendments will be amortized over a period of 15 years or less;

b. the increase in UAAL resulting from a temporary retirement incentive, including the impact of benefits resulting from additional service permitted in Section 31641.04 of the 1937 CERL (Golden Handshake), will be funded over a period of up to 5 years. For Golden Handshakes, the employer has the choice of two methods:

   i. Payment in full for the UAAL attributable to the Golden Handshake in the first month of the fiscal year following the fiscal year in which the Golden Handshake was granted.

   ii. Payment according to a five-year amortization period which will be invoiced (payable in 30 days) to the employer in the first month of the fiscal year following the fiscal year in the which the Golden Handshake was granted. The amortization schedule will be based upon the valuation interest rate used in the most recently completed valuation at the time that the amortization schedule is created. The employer may complete payment of the Golden Handshake at any time during the five-year amortization period.

   If the amortization method is used, then the outstanding balance will generally be recorded as a receivable asset to be included with the Actuarial Value of Assets. All Golden Handshakes provided by an employer during any fiscal year will be bundled together and will be invoiced in one transaction in the first month following the fiscal year in which the Golden Handshakes were granted.

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

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

If an overfunding or "surplus" exists (i.e., the Valuation Value of Assets exceeds the Actuarial Accrued Liability, so that the total of all UAAL amortization layers becomes negative), 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 18 years as the first of a new series of amortization layers.

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

Changes in Actuarial Assumptions and Methods: The Board adopted changes in demographic and economic assumptions as recommended by Segal in the July 1, 2013 through June 30, 2016 Actuarial Experience Study. Previously, these assumptions were as follows:

<u>Economic Assumptions</u>

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

Employee Contribution Crediting Rate: 7.50%, compounded semi-annually.

Consumer Price Index: Increase of 3.25% per year; retiree COLA increases due to CPI are assumed to be 2.50% per year.

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

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

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

Changes in Actuarial Assumptions and Methods (continued):

Individual Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.25% per year; plus "across the board" salary increases of 0.50% per year; plus the following promotional and merit increases:

Years of Service	General	Safety
Less than 1	5.50%	8.00%
1	4.00	6.50
2	3.50	5.50
3	3.00	4.00
4	2.25	3.50
5	2.00	3.25
6	1.75	3.00
7	1.50	2.50
8	1.25	1.75
9	1.00	1.50
10	0.90	1.25
11	0.80	1.00
12	0.70	0.90
13	0.60	0.85
14	0.50	0.80
15	0.50	0.75
16	0.50	0.70
17	0.50	0.65
18	0.50	0.60
19	0.50	0.55
20 & Over	0.50	0.50

Note: The promotional and merit increases are added to the sum of the inflationary and "across the board" increases.

Changes in Actuarial Assumptions and Methods (continued):

Demographic Assumptions

Mortality Rates:

Healthy:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2023 set forward one year for males and females.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2023 set back one year for males and females.
Disabled:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2023 set forward eight years for males and females.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2023 set forward four years for males and females.
Beneficiaries:	Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who has taken a service (non-disability) retirement.
Member Contribution Rates:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2023 set forward one year for males and females weighted 30% male and 70% female.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2023 set back one year for males and females weighted 80% male and 20% female.

Changes in Actuarial Assumptions and Methods (continued):

Termination Rates Before Retirement:

	Rate (%) Mortality			
	General		Safety	
Age	Male	Female	Male	Female
25	0.04	0.02	0.04	0.02
30	0.05	0.03	0.04	0.02
35	0.08	0.05	0.07	0.04
40	0.11	0.07	0.10	0.06
45	0.15	0.11	0.13	0.10
50	0.23	0.17	0.19	0.14
55	0.39	0.27	0.30	0.22
60	0.64	0.45	0.52	0.36
65	1.07	0.83	0.87	0.65

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

Changes in Actuarial Assumptions and Methods (continued):

Termination Rates Before Retirement (continued):

	Rate (%) Disability	
Age	**General[1]**	**Safety[2]**
20	0.02	0.05
25	0.03	0.08
30	0.05	0.16
35	0.10	0.29
40	0.14	0.50
45	0.21	0.69
50	0.28	1.35
55	0.33	2.50
60	0.38	3.60
65	0.40	0.00
70	0.00	0.00

(1) *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.*

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

Changes in Actuarial Assumptions and Methods (continued):
Termination Rates Before Retirement (continued):

	Rate (%) Withdrawal[1]	
Years of Service	**General**	**Safety**
0	18.00	8.00
1	14.00	5.00
2	10.00	3.50
3	8.00	3.25
4	6.50	3.00
5	6.00	2.60
6	5.00	2.30
7	4.50	2.20
8	4.00	2.10
9	3.50	2.05
10	3.25	2.00
11	3.00	1.90
12	2.80	1.70
13	2.60	1.50
14	2.40	1.30
15	2.30	1.10
16	2.20	0.90
17	2.10	0.75
18	1.90	0.75
19	1.70	0.75
20	1.50	0.00
21	1.30	0.00
22	1.10	0.00
23	1.00	0.00
24	1.00	0.00
25	1.00	0.00
26	1.00	0.00
27	1.00	0.00
28	1.00	0.00
29	1.00	0.00
30 & Over	0.00	0.00

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

Changes in Actuarial Assumptions and Methods (continued):
Termination Rates Before Retirement (continued):

	Rate (%) Electing a Refund of Contributions upon Withdrawal	
Years of Service	General	Safety
0	100	100
1	100	100
2	100	100
3	100	100
4	100	100
5	50	60
6	47	46
7	44	44
8	41	36
9	38	34
10	35	32
11	32	27
12	30	24
13	28	21
14	26	18
15	24	15
16	22	12
17	20	9
18	18	7
19	16	5
20	14	0
21	12	0
22	10	0
23	8	0
24	6	0
25	4	0
26	2	0
27 & Over	0	0

Changes in Actuarial Assumptions and Methods (continued):
Retirement Rates:

	Rate (%)				
Age	General Tier I	General Tiers IIA and IIB	General Tier III	Safety Tier I	Safety Tiers IIA and IIB
45	0.00	0.00	0.00	2.00	0.00
46	0.00	0.00	0.00	2.00	0.00
47	0.00	0.00	0.00	2.00	0.00
48	0.00	0.00	0.00	2.00	0.00
49	0.00	0.00	0.00	8.00	0.00
50	6.00	3.00	0.00	20.00	6.00
51	6.00	3.00	0.00	16.00	6.00
52	6.00	3.00	3.00	18.00	6.00
53	6.00	3.00	3.00	18.00	8.00
54	8.00	3.50	3.50	20.00	18.00
55	11.00	6.00	6.00	24.00	22.00
56	12.00	6.50	6.50	28.00	22.00
57	15.00	8.00	8.00	28.00	22.00
58	16.00	10.00	10.00	35.00	22.00
59	19.00	11.50	11.50	20.00	20.00
60	23.00	13.50	13.50	20.00	20.00
61	25.00	17.00	17.00	20.00	20.00
62	30.00	30.00	30.00	50.00	50.00
63	30.00	30.00	30.00	50.00	50.00
64	30.00	30.00	30.00	50.00	50.00
65	30.00	30.00	30.00	100.00	100.00
66	40.00	40.00	40.00	100.00	100.00
67	40.00	40.00	40.00	100.00	100.00
68	40.00	40.00	40.00	100.00	100.00
69	40.00	40.00	40.00	100.00	100.00
70	100.00	100.00	100.00	100.00	100.00

Changes in Actuarial Assumptions and Methods (continued):

Retirement Age and Benefit for Deferred Vested Members: For deferred vested members, we make the following retirement assumption:

General Age:	57
Safety Age:	53

We assume that 55% and 60% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 4.25% compensation increases per annum.

Age of Spouse: Female (or male) spouses are 3 years younger (or older) than their spouses.

EXHIBIT III
Summary of Plan Provisions

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

Membership Eligibility:	All permanent employees of Kern County or participating Special Districts scheduled to work 50% or more of the required regular standard hours are eligible to become a member of the Retirement Association subject to classification below:
General Tier I	All General members hired by the County prior to October 27, 2007 (prior to July 5, 2008 for Prosecutors), hired by North of the River Sanitation District prior to October 29, 2007, hired by the Kern County Water Agency prior to January 1, 2010, hired by Berrenda Mesa Water District prior to January 12, 2010, hired by San Joaquin Valley Unified Air Pollution Control District prior to July 31, 2012, hired by the Courts prior to March 12, 2011, or hired by all other districts prior to January 1, 2013.
General Tier IIA	All General members hired by the County on or after October 27, 2007, hired by North of the River Sanitation District on or after October 29, 2007, hired by the Kern County Water Agency on or after January 1, 2010, hired by Berrenda Mesa Water District on or after January 12, 2010, hired by San Joaquin Valley Unified Air Pollution Control District on or after July 31, 2012, or hired by the Courts on or after March 12, 2011; and hired prior to January 1, 2013.
General Tier IIB	All General members hired by the County or districts (other than West Side Recreation & Park) on or after January 1, 2013.
General Tier III	All General members hired by West Side Recreation & Park on or after January 1, 2013.
Safety Tier I	All members employed in active law enforcement, active fire suppression, probation, detention or criminal investigation hired prior to March 27, 2012.

Safety Tier IIA	All members employed in active law enforcement, active fire suppression, probation, detention or criminal investigation hired on or after March 27, 2012 and prior to January 1, 2013.
Safety Tier IIB	All member employee in active law enforcement, active fire suppression, probation, detention or criminal investigation hired on or after January 1, 2013.
Final Compensation for Benefit Determination:	
General Tiers I and IIA, Safety Tiers I and IIA	Highest consecutive twelve months of compensation earnable (§31462.1) (FAS1).
General Tier IIB, General Tier III and Safety Tier IIB	Highest consecutive thirty-six months of pensionable compensation (§7522.32 and §7522.34) (FAS3).
Compensation Limit:	
Non-General Tier III	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 for the Plan Year beginning July 1, 2017 is $270,000. The limit is indexed for inflation on an annual basis.
General Tier III	Pensionable Compensation is limited to $118,775 for 2017 ($142,530, if not enrolled in Social Security). The limit is indexed for inflation on an annual basis.
Service:	Years of service. (Yrs)
Service Retirement Eligibility:	
General Tiers I, IIA and IIB	Age 50 with 10 years of service credit, or age 70 regardless of service credit, or after 30 years of service credit, regardless of age (§31672).
General Tier III	Age 52 with 5 years of service (§7522.20(a)).
Safety Tiers I, IIA and IIB	Age 50 with 10 years of service credit, or age 70 regardless of service credit, or after 20 years of service credit, regardless of age (§31663.25).

Benefit Formula:

	Retirement Age	Benefit Formula[1]
General Tier I (§31676.17)	50	(2.00%xFAS1 – 1/3%x2.00%x$350 x 12) x Yrs
	55	(2.50%xFAS1 – 1/3%x2.50%x$350 x 12) x Yrs
	60	(3.00%xFAS1 – 1/3%x3.00%x$350 x 12) x Yrs
	62 and over	(3.00%xFAS1 – 1/3%x3.00%x$350 x 12) x Yrs
	Retirement Age	**Benefit Formula**
General Tier I[2] (§31676.14)	50	1.48% x FAS1 x Yrs
	55	1.95% x FAS1 x Yrs
	60	2.44% x FAS1 x Yrs
	62 and over	2.61% x FAS1 x Yrs
	Retirement Age	**Benefit Formula***
General Tier IIA (§31676.01)	50	(0.79%xFAS1 – 1/3x0.79%x$350 x 12) x Yrs
	55	(0.99%xFAS1 – 1/3x1.00%x$350 x 12) x Yrs
	60	(1.28%xFAS1 – 1/3x1.28%x$350 x 12) x Yrs
	62	(1.39%xFAS1 – 1/3x1.39%x$350 x 12) x Yrs
	65 and over	(1.62%xFAS1 – 1/3x1.62%x$350 x 12) x Yrs
	Retirement Age	**Benefit Formula***
General Tier IIB (§31676.01)	50	(0.79%xFAS3 – 1/3x0.79%x$350 x 12) x Yrs
	55	(0.99%xFAS3 – 1/3x1.00%x$350 x 12) x Yrs
	60	(1.28%xFAS3 – 1/3x1.28%x$350 x 12) x Yrs
	62	(1.39%xFAS3 – 1/3x1.39%x$350 x 12) x Yrs
	65 and over	(1.62%xFAS3 – 1/3x1.62%x$350 x 12) x Yrs

(1) *Benefits for some District Members are not integrated with Social Security.*

(2) *Two General Districts, Berrenda Mesa and Inyokern, have adopted Section 31676.17 on a prospective basis only as of January 1, 2005, but have Section 31676.14 for service prior to January 1, 2005.*

	Retirement Age	Benefit Formula
General Tier III (§7522.20(a))	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
	Retirement Age	**Benefit Formula**
Safety Tier I (§31664.1)	50	(3.00% x FAS1 - 1/3 x 3.00% x $350 x 12) x Yrs
	55	(3.00% x FAS1 - 1/3 x 3.00% x $350 x 12) x Yrs
	60 and over	(3.00% x FAS1 - 1/3 x 3.00% x $350 x 12) x Yrs
	Retirement Age	**Benefit Formula**
Safety Tier IIA (§31664)	50	(2.00% x FAS1 - 1/3 x 2.00% x $350 x 12) x Yrs
	55	(2.62% x FAS1 - 1/3 x 2.62% x $350 x 12) x Yrs
	60 and over	(2.62% x FAS1 - 1/3 x 2.62% x $350 x 12) x Yrs
	Retirement Age	**Benefit Formula**
Safety Tier IIB (§31664)	50	(2.00% x FAS3 - 1/3 x 2.00% x $350 x 12) x Yrs
	55	(2.62% x FAS3 - 1/3 x 2.62% x $350 x 12) x Yrs
	60 and over	(2.62% x FAS3 - 1/3 x 2.62% x $350 x 12) x Yrs

Maximum Benefit:

Non-General Tier III	100% of final compensation (§31676.14, §31676.17, §31676.01, §31664.1,§31664).
General Tier III	None

Non-Service Connected Disability:	
Eligibility	Five years of service (§31720).
Benefit Formula	20% of Final Compensation plus 2% of Final Compensation for each full year of service in excess of five years, not to exceed 40% of Final Compensation (§31727.7).
Service Connected Disability:	
Eligibility	No age or service requirements (§31720).
Benefit Formula	50% of Final Compensation (§31727.4).
Pre-Retirement Death:	
Non Service Connected (Not Vested) Before Eligible to Retire	
Eligibility	None.
Benefit	Refund of employee contributions with interest plus one month's eligible compensation for each year of service to a maximum of six months' compensation (§31781).
Non Service Connected (Vested)	
Eligibility	Five years of service.
Benefit	60% of the greater of Service Retirement or Non Service Connected Disability Retirement benefit payable to surviving eligible spouse or eligible children (§31765.1, §31781.1), in lieu of above. Additionally, the spouse may choose a combined benefit of: • A lump sum payment of up to six months' compensation (see above), and • A monthly (60%) benefit reduced by actuarial equivalent of the lump sum payment (§31781.3).
Service Connected Death	50% of Final Compensation or 100% of Service Retirement benefit, if greater, payable to spouse or minor children (§31787). In addition, Safety members are entitled to benefits under Sections 31787.5 and 31787.6.

Death After Retirement:	
Service Retirement or Non Service Connected Disability Retirement	Unless another option was selected at retirement, 60% of member's unmodified allowance continued to eligible spouse (§31760.1). An eligible spouse is a surviving spouse who was married to the member at least one year prior to the day of retirement (§31760.1), or, at least two years prior to the date of death and has attained age 55 on or prior to the date of death (§31760.2).
Service Connected Disability Retirement	Unless another option was selected at retirement, 100% of member's unmodified allowance continued to eligible spouse (§31786).
Withdrawal Benefits:	Refund of accumulated employee contributions with interest (§31628); or if accumulated employee contributions left on deposit, entitled to earned benefits commencing at any time after meeting eligibility criteria to retire (§31629.5 and §31700).
Post-retirement Cost-of-Living Benefits:	Future changes based on changes to the Consumer Price Index to a maximum of 2.50% per year. (§31870.4)
Supplemental Retiree Benefit Reserve:	The Association provides Supplemental Retiree Benefit Reserve benefits for eligible retirees. These benefits have been excluded from this valuation.

Member Contributions:	Please refer to Appendix A for the specific rates. Members in General Tiers I (excluding San Joaquin Valley Unified Air Pollution Control District) and IIA and Safety Tiers I and IIA do not contribute towards the cost-of-living benefits.
General Tier I (non-SJVAPCD)	
Basic	Entry age based rates that provide for an average annuity at age 55 equal to 1/100 of FAS. (§31621.8)
General Tier I (SJVAPCD)	
Basic	Entry age based rates that provide for 50% of total Normal Cost Rate.
General Tier IIA (non-SJVAPCD)	
Basic	Entry age based rates that provide for an average annuity at age 60 equal to 1/120 of FAS. (§31621)
General Tier IIA (SJVAPCD)	
Basic	Entry age based rates that provide for 50% of total Normal Cost Rate.
General Tiers IIB and III	Non-entry age based rates that provide for 50% of total Normal Cost Rate.
Safety Tier I	
Basic	Entry age based rates that provide for an average annuity at age 50 equal to 1/100 of FAS. (§31639.25)
Supplemental	Entry age based rates that provide for an average annuity at age 50 equal to 1/200 of FAS. (Resolution #2004-144)
Safety "3" Tier I	
Basic and Supplemental	At all entry ages, the member contribution rate for the above Safety Tier I members who enter the plan at age 27.
Safety Tier IIA	
Basic	Entry age based rates that provide for an average annuity at age 50 equal to 1/100 of FAS. (§31639.25)
Safety "3" Tier IIA	
Basic	At all entry ages, the member contribution rate for the above Safety Tier IIA members who enter the plan at age 27.
Safety Tier IIB	Non-entry age based rates that provide for 50% of total Normal Cost Rate.

Other Information:	Safety Tier I and Tier IIA members with 30 or more years of service are exempt from paying member contributions. Various other exemptions for member contributions are outlined on pages 20 through 23.
Plan Changes:	There have been no plan changes since the prior valuation.

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.*

Appendix A
Member Contribution Rates

General Tier I Members' (non-SJVAPCD) Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

	Integrated		Non-integrated
Entry Age	First $350 of Monthly Compensation	Over $350 of Monthly Compensation	All Compensation
16	4.21%	6.32%	6.32%
17	4.29%	6.44%	6.44%
18	4.37%	6.56%	6.56%
19	4.45%	6.68%	6.68%
20	4.54%	6.81%	6.81%
21	4.62%	6.93%	6.93%
22	4.71%	7.06%	7.06%
23	4.79%	7.19%	7.19%
24	4.88%	7.32%	7.32%
25	4.97%	7.46%	7.46%
26	5.07%	7.60%	7.60%
27	5.16%	7.74%	7.74%
28	5.25%	7.88%	7.88%
29	5.35%	8.02%	8.02%
30	5.45%	8.17%	8.17%
31	5.55%	8.32%	8.32%
32	5.65%	8.48%	8.48%
33	5.76%	8.64%	8.64%
34	5.87%	8.80%	8.80%
35	5.97%	8.96%	8.96%
36	6.09%	9.13%	9.13%
37	6.21%	9.31%	9.31%
38	6.33%	9.49%	9.49%
39	6.45%	9.67%	9.67%

Appendix A (continued)
Member Contribution Rates

General Tier I Members' (non-SJVAPCD) Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

	Integrated		Non-integrated
Entry Age	First $350 of Monthly Compensation	Over $350 of Monthly Compensation	All Compensation
40	6.57%	9.86%	9.86%
41	6.70%	10.05%	10.05%
42	6.83%	10.24%	10.24%
43	6.95%	10.43%	10.43%
44	7.08%	10.62%	10.62%
45	7.21%	10.81%	10.81%
46	7.33%	10.99%	10.99%
47	7.44%	11.16%	11.16%
48	7.53%	11.29%	11.29%
49	7.60%	11.40%	11.40%
50	7.67%	11.51%	11.51%
51	7.72%	11.58%	11.58%
52	7.75%	11.62%	11.62%
53	7.75%	11.63%	11.63%
54 & Over	7.69%	11.54%	11.54%

Interest:	7.25%
COLA:	None
Administrative Expense:	0.11% of payroll added to the Basic rates.
Salary Increase:	See Exhibit II.
Mortality:	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set forward one year for males and set forward two years for females projected to 2034 with the two-dimensional MP-2016 projection scale, weighted 30% male and 70% female.
Note:	These rates are determined before any pickups by the employer.

Appendix A (continued)
Member Contribution Rates

General Tier I Members' (SJVAPCD) Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	All Compensation
16	9.27%
17	9.45%
18	9.63%
19	9.80%
20	9.99%
21	10.17%
22	10.36%
23	10.55%
24	10.75%
25	10.95%
26	11.16%
27	11.37%
28	11.57%
29	11.78%
30	12.00%
31	12.22%
32	12.46%
33	12.69%
34	12.93%
35	13.17%
36	13.42%
37	13.68%
38	13.95%
39	14.21%

Appendix A (continued)
Member Contribution Rates

General Tier I Members' (SJVAPCD) Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	All Compensation
40	14.49%
41	14.77%
42	15.05%
43	15.33%
44	15.62%
45	15.90%
46	16.16%
47	16.41%
48	16.60%
49	16.77%
50	16.93%
51	17.03%
52	17.09%
53	17.11%
54 & Over	16.97%

The General Tier I (SJVAPCD) member contribution rate is 50% of the total Normal Cost rate. The rates shown above also include an administrative expense load of 0.11% of payroll.

Appendix A (continued)
Member Contribution Rates

General Tier IIA Members' (non-SJVAPCD) Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	Integrated: First $350 of Monthly Compensation	Integrated: Over $350 of Monthly Compensation	Non-integrated: All Compensation
16	3.03%	4.55%	4.55%
17	3.09%	4.64%	4.64%
18	3.15%	4.72%	4.72%
19	3.21%	4.81%	4.81%
20	3.27%	4.90%	4.90%
21	3.33%	4.99%	4.99%
22	3.39%	5.09%	5.09%
23	3.45%	5.18%	5.18%
24	3.52%	5.28%	5.28%
25	3.58%	5.37%	5.37%
26	3.65%	5.47%	5.47%
27	3.71%	5.57%	5.57%
28	3.79%	5.68%	5.68%
29	3.85%	5.78%	5.78%
30	3.93%	5.89%	5.89%
31	3.99%	5.99%	5.99%
32	4.07%	6.10%	6.10%
33	4.15%	6.22%	6.22%
34	4.22%	6.33%	6.33%
35	4.30%	6.45%	6.45%
36	4.38%	6.57%	6.57%
37	4.46%	6.69%	6.69%
38	4.54%	6.81%	6.81%
39	4.63%	6.94%	6.94%
40	4.71%	7.07%	7.07%

Appendix A (continued)
Member Contribution Rates

General Tier IIA Members' (non-SJVAPCD) Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

	Integrated		Non-integrated
Entry Age	First $350 of Monthly Compensation	Over $350 of Monthly Compensation	All Compensation
41	4.80%	7.20%	7.20%
42	4.89%	7.34%	7.34%
43	4.99%	7.48%	7.48%
44	5.08%	7.62%	7.62%
45	5.19%	7.78%	7.78%
46	5.29%	7.93%	7.93%
47	5.38%	8.07%	8.07%
48	5.48%	8.22%	8.22%
49	5.58%	8.37%	8.37%
50	5.68%	8.52%	8.52%
51	5.77%	8.66%	8.66%
52	5.86%	8.79%	8.79%
53	5.93%	8.89%	8.89%
54	5.99%	8.99%	8.99%
55	6.05%	9.07%	9.07%
56	6.09%	9.13%	9.13%
57	6.11%	9.16%	9.16%
58	6.11%	9.17%	9.17%
59 & Over	6.06%	9.09%	9.09%

Interest:	7.25%
COLA:	None
Administrative Expense:	0.11% of payroll added to the Basic rates.
Salary Increase:	See Exhibit II.
Mortality:	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set forward one year for males and set forward two years for females projected to 2034 with the two-dimensional MP-2016 projection scale, weighted 30% male and 70% female.
Note:	These rates are determined before any pickups by the employer.

Appendix A (continued)
Member Contribution Rates

General Tier IIA Members' (SJVAPCD) Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	All Compensation
16	4.67%
17	4.76%
18	4.84%
19	4.93%
20	5.03%
21	5.12%
22	5.22%
23	5.31%
24	5.42%
25	5.51%
26	5.61%
27	5.71%
28	5.83%
29	5.93%
30	6.04%
31	6.14%
32	6.26%
33	6.38%
34	6.49%
35	6.62%
36	6.74%
37	6.86%
38	6.99%
39	7.12%
40	7.25%

Appendix A (continued)
Member Contribution Rates

General Tier IIA Members' (SJVAPCD) Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

Entry Age	All Compensation
41	7.39%
42	7.53%
43	7.67%
44	7.82%
45	7.98%
46	8.14%
47	8.28%
48	8.43%
49	8.59%
50	8.74%
51	8.89%
52	9.02%
53	9.12%
54	9.22%
55	9.31%
56	9.37%
57	9.40%
58	9.41%
59 & Over	9.33%

The General Tier IIA (SJVAPCD) member contribution rate is 50% of the total Normal Cost rate. The rates shown above also include an administrative expense load of 0.11% of payroll.

Appendix A (continued)

Member Contribution Rates

General Tier IIB Members' Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

	Integrated		Non-integrated
All Members	First $350 of Monthly Compensation	Over $350 of Monthly Compensation	All Compensation
Basic	3.31%	4.95%	4.95%
2% COLA	0.71%	1.07%	1.07%
0.5% COLA	0.21%	0.32%	0.32%
Total	4.23%	6.34%	6.34%

The General Tier IIB member contribution rate is 50% of the total Normal Cost rate. The Basic rates shown above also include an administrative expense load of 0.11% of payroll.

General Tier III Members' Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

All Members	All Compensation[1]
Basic	6.82%
2% COLA	1.34%
0.5% COLA	0.40%
Total	8.56%

The General Tier III member contribution rate is 50% of the total Normal Cost rate. The Basic rate shown above also includes an administrative expense load of 0.11% of payroll.

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

Appendix A (continued)
Member Contribution Rates

Safety Tier I Members' (Excluding "Safety 3" Members) Contribution Rates from the June 30, 2017 Actuarial Valuation (Expressed as a Percentage of Monthly Compensation)

	Integrated	
Entry Age	First $350 of Monthly Compensation	Over $350 of Monthly Compensation
16	7.45%	11.17%
17	7.59%	11.38%
18	7.73%	11.60%
19	7.88%	11.82%
20	8.03%	12.05%
21	8.19%	12.28%
22	8.35%	12.52%
23	8.51%	12.76%
24	8.67%	13.01%
25	8.84%	13.26%
26	9.01%	13.52%
27	9.19%	13.79%
28	9.38%	14.07%
29	9.57%	14.35%
30	9.76%	14.64%
31	9.95%	14.93%
32	10.15%	15.23%
33	10.35%	15.52%
34	10.55%	15.83%
35	10.76%	16.14%
36	10.97%	16.46%
37	11.19%	16.79%
38	11.42%	17.13%
39	11.63%	17.45%

Appendix A (continued)
Member Contribution Rates

Safety Tier I Members' (Excluding "Safety 3" Members) Contribution Rates from the June 30, 2017 Actuarial Valuation (Expressed as a Percentage of Monthly Compensation)

	Integrated	
Entry Age	First $350 of Monthly Compensation	Over $350 of Monthly Compensation
40	11.84%	17.76%
41	12.04%	18.06%
42	12.18%	18.27%
43	12.29%	18.43%
44	12.38%	18.57%
45	12.45%	18.67%
46	12.49%	18.74%
47	12.45%	18.67%
48	12.34%	18.51%
49 & Over	12.05%	18.08%

Interest:	7.25%
COLA:	None
Administrative Expenses:	0.11% of payroll added to the Basic rates.
Salary Increase:	See Exhibit II.
Mortality:	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set back one year for males and females projected to 2034 with the two-dimensional MP-2016 projection scale, weighted 80% male and 20% female.
Note:	These rates are determined before any pickups by the employer.

Appendix A (continued)
Member Contribution Rates

"Safety 3" Safety Tier I Members' Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

	Integrated	
Entry Age	**First $350 of Monthly Compensation**	**Over $350 of Monthly Compensation**
Every	9.19%	13.79%

Interest:	7.25%
COLA:	None
Administrative Expenses:	0.11% of payroll added to the Basic rates.
Salary Increase:	See Exhibit II.
Mortality:	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set back one year for males and females projected to 2034 with the two-dimensional MP-2016 projection scale, weighted 80% male and 20% female.
Note:	Beginning at various dates throughout 2007, certain Safety bargaining units converted to a new schedule of contribution rates, referred to as "Safety 3" contribution rates. For employees falling under this category and hired after the appropriate date (which varies by bargaining unit), the contribution rate will be a flat percentage of pay regardless of entry age. Based on the most recent Actuarial Experience Study, the contribution rates shown above are based on an entry age of 27. This is expected to provide for the same value of contributions that would be made based on the specific entry age based rates shown on the previous two pages. These rates are determined before any pickups by the employer.

Appendix A (continued)
Member Contribution Rates

Safety Tier IIA Members' (Excluding "Safety 3" Members) Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

	Integrated	
Entry Age	First $350 of Monthly Compensation	Over $350 of Monthly Compensation
16	4.99%	7.48%
17	5.08%	7.62%
18	5.18%	7.77%
19	5.28%	7.92%
20	5.38%	8.07%
21	5.48%	8.22%
22	5.59%	8.38%
23	5.69%	8.54%
24	5.81%	8.71%
25	5.92%	8.88%
26	6.03%	9.05%
27	6.15%	9.23%
28	6.28%	9.42%
29	6.41%	9.61%
30	6.53%	9.80%
31	6.66%	9.99%
32	6.79%	10.19%
33	6.93%	10.39%
34	7.06%	10.59%
35	7.20%	10.80%
36	7.34%	11.01%
37	7.49%	11.23%
38	7.63%	11.45%
39	7.78%	11.67%

Appendix A (continued)
Member Contribution Rates

Safety Tier IIA Members' (Excluding "Safety 3" Members) Contribution Rates from the June 30, 2017 Actuarial Valuation (Expressed as a Percentage of Monthly Compensation)

	Integrated	
Entry Age	First $350 of Monthly Compensation	Over $350 of Monthly Compensation
40	7.92%	11.88%
41	8.05%	12.08%
42	8.15%	12.22%
43	8.21%	12.32%
44	8.28%	12.42%
45	8.32%	12.48%
46	8.35%	12.53%
47	8.32%	12.48%
48	8.25%	12.37%
49 & Over	8.06%	12.09%

Interest:	7.25%
COLA:	None
Administrative Expenses:	0.11% of payroll added to the Basic rates.
Salary Increase:	See Exhibit II.
Mortality:	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set back one year for males and females projected to 2034 with the two-dimensional MP-2016 projection scale, weighted 80% male and 20% female.
Note:	These rates are determined before any pickups by the employer.

Appendix A (continued)
Member Contribution Rates

"Safety 3" Safety Tier IIA Members' Contribution Rates from the June 30, 2017 Actuarial Valuation (Expressed as a Percentage of Monthly Compensation)

	Integrated	
Entry Age	**First $350 of Monthly Compensation**	**Over $350 of Monthly Compensation**
Every	6.15%	9.23%

Interest:	7.25%
COLA:	None
Administrative Expenses:	0.11% of payroll added to the Basic rates.
Salary Increase:	See Exhibit II.
Mortality:	Headcount-Weighted RP-2014 Healthy Annuitant Mortality Table set back one year for males and females projected to 2034 with the two-dimensional MP-2016 projection scale, weighted 80% male and 20% female.
Note:	Beginning at various dates throughout 2007, certain Safety bargaining units converted to a new schedule of contribution rates, referred to as "Safety 3" contribution rates. For employees falling under this category and hired after the appropriate date (which varies by bargaining unit), the contribution rate will be a flat percentage of pay regardless of entry age. Based on the most recent Actuarial Experience Study, the contribution rates shown above are based on an entry age of 27. This is expected to provide for the same value of contributions that would be made based on the specific entry age based rates shown on the previous page. These rates are determined before any pickups by the employer.

Appendix A (continued)
Member Contribution Rates

Safety Tier IIB Members' Contribution Rates from the June 30, 2017 Actuarial Valuation
(Expressed as a Percentage of Monthly Compensation)

	Integrated	
All Members	**First $350 of Monthly Compensation**	**Over $350 of Monthly Compensation**
Basic	7.34%	11.01%
2% COLA	1.84%	2.76%
0.5% COLA	0.59%	0.88%
Total	9.77%	14.65%

The Safety Tier IIB member contribution rate is 50% of the total Normal Cost rate. The Basic rates shown above also include an administrative expense load of 0.11% of payroll.

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Kern County Employees' Retirement Association

Supplemental Retiree Benefit Reserve (SRBR)

Actuarial Valuation and Review as of June 30, 2017

Segal Consulting

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November 30, 2017

Board of Retirement
Kern County Employees' Retirement Association
11125 River Run Boulevard
Bakersfield, California 93311

Dear Board Members:

We are pleased to submit our Supplemental Retiree Benefit Reserve (SRBR) Actuarial Valuation and Review as of June 30, 2017. It summarizes the actuarial data on members included in the SRBR valuation, determines the funding status of the SRBR benefits and analyzes the preceding year's experience.

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

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

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

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

Sincerely,

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

By:

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

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

JAC/bbf

SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPORTING EXHIBITS

Purpose and Scope

This report has been prepared by Segal Consulting to present a valuation of the Kern County Employees' Retirement Association Supplemental Retiree Benefit Reserve (SRBR) benefits as of June 30, 2017. The valuation was performed to determine the funding status of the SRBR benefits. The funding status information presented in this report is based on:

- The benefit provisions of the SRBR, as administered by the Retirement Association;

  The characteristics of covered active members, vested terminated members, retired members and beneficiaries as of June 30, 2017, provided by the Retirement Association;
- The SRBR Reserve value as of June 30, 2017, provided by the Retirement Association;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Note that the investment return assumption of 7.25% used in this report was determined without taking into consideration any impact of the 50/50 excess earnings allocation between the retirement and SRBR asset pools. More details regarding this can be found in the actuarial valuation for funding purposes.

Significant Issues in this Valuation

- The Retirement Board approved a new SRBR policy. Under the new policy, the SRBR funding status is calculated by comparing the SRBR Reserve excluding the court ordered Allocated SRBR Reserve (i.e., the 0.5% COLA Reserve), to the current actuarial funding target, which is the present value of all projected future SRBR benefit payments for all KCERA's current plan members.
- Additional or increased SRBR benefits may be adopted if the PVB for the SRBR benefits is more than 120% funded in the last two consecutive valuations. In addition, the policy also describes certain conditions that should be considered prior to adopting additional or increased SRBR benefits. These conditions include the funding status of the SRBR benefits, the potential impact of any deferred investment gains or losses not yet recognized in the asset smoothing method and any recent or potential changes in actuarial assumptions.
- The results of this valuation reflect changes in the economic and demographic assumptions as recommended by Segal and adopted by the Retirement Board for the June 30, 2017 valuation. These changes were documented in our Actuarial Experience Study. These assumption changes resulted in an increase in the funding status of 24%.
- The funding status of the SRBR benefits increased from 184% as of June 30, 2016 to 220% as of June 30, 2017 prior to reflecting any deferred investment gains or losses. The funding status of the SRBR benefits is 216% as of June 30, 2017 after reflecting deferred investment losses as of the same date.
- The increase in the funding status for the SRBR benefits was primarily due to changes in actuarial assumptions, lower inflation as compared to expected, the passage of time (i.e., expected changes in the funding status) and other liability gains. These gains were offset to some extent by an investment loss, since the rate of return on the available SRBR (after smoothing) during 2016/2017 was about 6.8%, which is less than the 7.50% assumption (based on the June 30, 2016 valuation).
- In the June 30, 2016 valuation, we assumed that the Consumer Price Index (CPI) would increase by 3.25% from 2015 to 2016, based on our long-term assumption for inflation used in that valuation. The actual increase in the CPI from 2015 to 2016 was 1.9%. Because the CPI increased by less than 2.5% (the maximum COLA possible), COLA bank balances were drawn down to supplement COLAs when available. Current SRBR Tier 3 benefits mostly stayed the same because CPI increases in recent years were lower than the COLA increases for most retirees. However, future projected increases in SRBR Tier 3 benefits for current retirees are expected to occur later than previously expected. This led to the part of the increase in the funding ratio that was due to low inflation, as described above.

- The following table compares the reserves and liabilities for the SRBR benefits as of June 30, 2016 and 2017:

	June 30, 2017	June 30, 2016
1. Available SRBR Reserves		
a. Total SRBR	$178,079,000	$179,365,000
b. 0.5% COLA Account	53,850,000	57,894,000
c. Available SRBR Reserve (1.a. – 1.b.)	$124,229,000	$121,471,000
2. Present Value of SRBR Benefits:		
a. Approved Benefits	53,626,000	55,139,000
b. Future Benefits	2,917,000	10,724,000
c. Total (2.a. + 2.b.)	$56,543,000	$65,863,000
3. PVB minus Reserves (2.c.) – (1.c.)	-67,886,000	-55,608,000
4. Funding Ratio (1.c.) ÷ (2.c.)	219.7%	184.4%

- As of the June 30, 2017 valuation, the net deferred investment losses were 1.88% of the market value of assets. Consistent with the new SRBR policy that requires that the funding status be more than 120% in two consecutive valuations prior to implementing any benefit increases, we have reduced the available SRBR Reserve by this amount to account for these losses. The results before and after reflecting the deferred investment losses are as follows:

	June 30, 2017 After Reflecting Deferred Losses	June 30, 2017 Before Reflecting Deferred Losses
1. Available SRBR Reserves	$121,893,000	$124,229,000
2. Present Value of SRBR Benefits:	56,543,000	56,543,000
3. PVB minus Reserves (2.) – (1.)	-65,350,000	-67,886,000
4. Funding Ratio (1.) ÷ (2.)	215.6%	219.7%

A. INTRODUCTION

Additional benefits may be provided to KCERA active and retired members under the plan provisions adopted by the County as provided under article 5.5 of the County Employees Retirement Association Law of 1937 (CERL). These are the Supplemental Retiree Benefit Reserve (SRBR) benefits.

Article 5.5 governs the crediting of interest to reserves and the allocation of Undistributed Earnings. Undistributed Earnings are the amounts that remain after earnings have been used to credit interest to the Plan's reserves. They are generally thought of as earnings in excess of those assumed to be earned under the actuarial valuation assumptions.

Under the provisions of Article 5.5, and in accordance with the Board's Interest Crediting Policy, if Undistributed Earnings remain, then 50% of those Earnings are allocated to the SRBR and the remaining 50% are allocated as additional interest credits to all other reserve funds excluding the Contingency Reserve and the SRBR.

A summary of the benefits provided by the SRBR is displayed in Exhibit II. Note that, in addition, the KCERA Board has set aside a portion of the SRBR reserve to help pay for an additional 0.5% COLA adopted under the Ventura Settlement. The assets and liabilities related to this additional 0.5% COLA are included in the regular valuation and are therefore excluded from this SRBR valuation.

B. DEMOGRAPHIC DATA

Chart 1 below provides a summary of the number of members eligible for Approved Benefits as of June 30, 2017. It also contains information on the monthly SRBR benefits in pay status as of June 30, 2017.

Each of the various SRBR benefits and their eligibilities are described in Exhibit II.

CHART 1

Table of Coverage

Members Eligible for Approved Benefits as of June 30, 2017	Death Benefits	SRBR1	SRBR2	SRBR3
1. Active Members	8,728	608	-	-
2. Deferred Vested Members	2,363	226	-	-
3. Retirees and Beneficiaries	6,917	6,529	389	348
4. Total	18,008	7,363	389	348
5. Total monthly benefits in pay status as of June 30, 2017		$213,000	$57,300	$95,600
6. Average monthly benefit in pay status as of June 30, 2017		$33	$147	$275

C. FUNDING STATUS

Undistributed Earnings are the only source of funding for the SRBR Benefits. By their very nature, Undistributed Earnings are produced on an inconsistent basis and cannot be relied upon on to appear in any single period.

The actuarial assumptions and methods used to determine the Present Value of Future SRBR Benefits (PVB) are shown in Exhibit I. These are the same assumptions and methods used in the regular June 30, 2017 KCERA valuation.

KCERA's funding target for the SRBR is based on the PVB. They include all Tier 1, Tier 2 and Death Benefits, as well as all current and projected future Tier 3 benefits.

The chart below shows the funding status of the SRBR benefits before reflecting deferred investment losses.

CHART 2

Funding Status of SRBR Benefits before Reflecting Deferred Investment Losses

	June 30, 2017	June 30, 2016
1. Available SRBR Reserves before Reflecting Deferred Investment Losses		
a. Total SRBR	$178,079,000	$179,365,000
b. 0.5% COLA Account	53,850,000	57,894,000
c. Available SRBR Reserve (1.a. – 1.b.)	$124,229,000	$121,471,000
2. Present Value of Future SRBR Benefits (PVB)		
a. Death Benefits	16,332,000	15,422,000
b. SRBR1	27,381,000	27,483,000
c. SRBR2	3,397,000	4,183,000
d. SRBR3	9,433,000	18,775,000
e. Total	$56,543,000	$65,863,000
3. PVB Minus Reserves Available (2.e. – 1.c.)	-$67,686,000	-$55,608,000
4. Funding Ratio before Reflecting Deferred Investment Losses (1.c./2.e.)	219.7%	184.4%

C. FUNDING STATUS (continued)

The new SRBR policy requires that the funding status be more than 120% in two consecutive valuations, taking into account the current status of deferred investment gains and losses not yet recognized under the asset smoothing method and any recent or potential changes in actuarial assumptions, prior to implementing any benefit increases.

The chart below shows the funding status of the SRBR benefits after reflecting deferred investment losses.

CHART 3

Funding Status of SRBR Benefits after Reflecting Deferred Investment Losses

	June 30, 2017	June 30, 2016
1. Available SRBR Reserves after Reflecting Deferred Investment Losses	$121,893,000	$113,961,000
2. Present Value of Future SRBR Benefits (PVB)		
a. Death Benefits	16,332,000	15,422,000
b. SRBR1	27,381,000	27,483,000
c. SRBR2	3,397,000	4,183,000
d. SRBR3	9,433,000	18,775,000
e. Total	$56,543,000	$65,863,000
3. PVB Minus Reserves Available (2.e. – 1.)	-$65,350,000	-$48,098,000
4. Funding Ratio after Reflecting Deferred Investment Losses (1./2.e.)	215.6%	173.0%

C. FUNDING STATUS (continued)

The funding status of the SRBR benefits as measured by the funding ratio increased from 184.4% as of June 30, 2016 to 219.7% as of June 30, 2017 prior to reflecting any deferred investment gains or losses.

The following chart details the changes in the funding ratio from the prior year's valuation to the current year's valuation.

The increase in the funding status for the SRBR benefits was primarily due to changes in actuarial assumptions, lower inflation as compared to expected, the passage of time (i.e., expected changes in the funding status) and other liability gains. These gains were offset to some extent by an investment loss, since the rate of return on the available SRBR (after smoothing) during 2016/2017 was about 6.8%, which is less than the 7.50% assumption (based on the June 30, 2016 valuation).

CHART 4

Reconciliation of Funding Ratio for SRBR Benefits

1. Funding Ratio as of June 30, 2016	184.4%
2. Changes due to:	
a. Passage of Time (Expected Changes)	7.2%
b. Investment Loss	-1.3%
c. Inflation Gain	4.9%
d. Other Liability Gain	0.7%
e. Assumption Changes	23.8%
f. Total	35.3%
3. Funding Ratio as of June 30, 2017	219.7%

Note: Results are prior to reflecting any deferred investment gains or losses as of each valuation date.

EXHIBIT I

Actuarial Assumptions and Methods

Actuarial Assumptions:	The same actuarial assumptions used in the KCERA June 30, 2017 Actuarial Valuation and Review.
Actuarial Value of Assets:	Supplemental Retiree Benefit Reserve value as of valuation date.
Actuarial Cost Method:	Not applicable, since only the Present Value of Future Benefits (PVB) is determined in this report.

EXHIBIT II
Summary of Plan Provisions

Benefits Provided:	The SRBR currently provides four categories of benefits:
Tier 1:	$35.50 per month payable to retirees who were hired on or before July 1, 1994.
Tier 2:	Three additional monthly stipends payable to retirees: • $1.372 per year of service for members who retired prior to 1985. This was granted July 1, 1994. • $5.470 per year of service for members who retired prior to 1985. This was granted July 1, 1996. • $10.276 per year of service for members who retired prior to 1981. This was granted July 1, 1997. Upon death of the retired member, 60% of the Tier 1 and Tier 2 SRBR benefits continue to the retired member’s beneficiary.
Tier 3:	Additional benefits to maintain 80% purchasing power protection. Upon death, this benefit continues to be paid to the retired member’s beneficiary based on the applicable continuation percentage under the member’s form of payment elected at retirement.
Death Benefit:	An additional one-time post-retirement death benefit of $5,000 is paid to a retired member’s beneficiary upon the death of the retired member.
Plan Changes:	None.

EXHIBIT III
Summary of SRBR Valuation Results

Present Value of Future SRBR Benefits	Death Benefit	SRBR1	SRBR2	SRBR3	Total
Active Members	$3,379,000	$2,158,000	$0	$165,000	$5,702,000
Deferred Vested Members	683,000	937,000	0	3,000	1,623,000
Retirees and Beneficiaries	12,270,000	24,286,000	3,397,000	9,265,000	49,218,000
Total	$16,332,000	$27,381,000	$3,397,000	$9,433,000	$56,543,000

Available SRBR Reserves	
Total SRBR	$178,079,000
Additional 0.5% COLA Account	53,850,000
Available SRBR before Reflecting Deferred Investment Gains/Losses	$124,229,000
Available SRBR after Reflecting Deferred Investment Gains/Losses	$121,893,000

Funding Ratios	
SRBR Benefits before Reflecting Deferred Investment Gains/Losses	219.7%
SRBR Benefits after Reflecting Deferred Investment Gains/Losses	215.6%

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Kern County Employees' Retirement Association

Governmental Accounting Standards (GAS) 67
Actuarial Valuation as of June 30, 2017

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

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November 30, 2017

Board of Retirement
Kern County Employees' Retirement Association
11125 River Run Blvd.
Bakersfield, CA 93311

Dear Board Members:

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

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

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

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

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

Sincerely,

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

By:

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

EK/bbf

SECTION 1

VALUATION SUMMARY

SECTION 2

GAS 67 INFORMATION

Purpose

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

- The benefit provisions of KCERA, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of June 30, 2016, provided by KCERA;
- The assets of the Plan as of June 30, 2017, provided by KCERA;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

General Observations on GAS 67 Actuarial Valuation

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

- The Governmental Accounting Standards Board (GASB) rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for actual pension funding purposes. Employers and plans still develop and adopt funding policies under current practices.
- When measuring pension liability GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as KCERA uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on generally the same basis as KCERA's Actuarial Accrued Liability (AAL) measure for funding. We note that the same is generally true for the Normal Cost component of the annual plan cost for funding and financial reporting.
- The Plan's Fiduciary Net Position includes assets held for the Supplemental Retiree Benefit Reserve (SRBR). The TPL reflects all future projected benefits expected to be paid from the SRBR for members as of the valuation date.
- 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 exception is that the NPL is reduced by the excess of the SRBR assets over the TPL associated with the SRBR benefits.

- For this report, the reporting dates for the Plan are June 30, 2017 and 2016. The NPL was measured as of June 30, 2017 and 2016, respectively. The Plan's Fiduciary Net Position (plan assets) was valued as of the measurement dates while the TPL was determined based upon rolling forward the results from actuarial valuations as of June 30, 2016 and 2015, respectively. In addition, any changes in actuarial assumptions or plan provisions that occurred between the valuation date and the measurement date have been reflected.

Significant Issues in Valuation Year

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

- The NPL decreased from $2.41 billion as of June 30, 2016 to $2.36 billion as of June 30, 2017 primarily due to the 12.00% return on the market value of assets during 2016-2017 (that was more than the assumed return of 7.50%). That gain was offset to some degree by the changes in actuarial assumptions, which increased the liability by about $196 million. Changes in these values during the last two fiscal years ending June 30, 2016 and June 30, 2017 can be found in Exhibit 3 of Section 2.
- All results shown in this report are on a combined basis including both the regular statutory (non-Supplemental Retirement Benefit Reserve (SRBR)) benefits and the SRBR benefits. For purposes of illustration, separate values for the TPL, Plan's Fiduciary Net Position and NPL for the regular statutory (non-SRBR) benefits and the SRBR benefits as of June 30, 2017 is shown in the table below:

	Regular Benefits (Non-SRBR)	SRBR Benefits	Total KCERA
Total Pension Liability (TPL)	$6,270,652,272	$56,218,046	$6,326,870,318
Plan's Fiduciary Net Position	3,838,665,847	124,229,329	3,962,895,176
Net Pension Liability (NPL)	2,431,986,425	(68,011,283)	2,363,975,142

- The discount rate used to originally determine the TPL and NPL as of June 30, 2017 and 2016 was 7.50%, following the same assumptions used by the Association in the funding valuations as of June 30, 2016 and June 30, 2015. However, as the Retirement Board has approved a new discount rate of 7.25% (together with other new actuarial assumptions) for use in the next pension funding valuation as of June 30, 2017, we have included the impact of this assumption change by (1) revaluing the actuarial valuation TPL as of June 30, 2016 (before the roll forward) and (2) using this revalued TPL in rolling forward the results from June 30, 2016 to June 30, 2017. The detailed derivation of the discount rate of 7.25% used in the calculation of the TPL and NPL as of June 30, 2017 can be found in Exhibit 5 of

Section 2. The discount rate assumptions have been developed without taking into consideration any impact of the 50/50 allocation of future excess earnings between the retirement and SRBR asset pools.

- As discussed previously our separate letter regarding the treatment of the SRBR for financial reporting purposes, the Actuarial Standard of Practice (ASOP) No. 4 ("Measuring Pension Obligations and Determining Pension Plan Costs or Contributions") was revised in December 2013, effective for measurement dates on or after December 31, 2014. The revised ASOP states that some plan provisions, including "gain sharing" provisions, "may create pension obligations that are difficult to appropriately measure using traditional valuation procedures." ASOP No. 4 now indicates that "for such plan provisions, the actuary should consider using alternative valuation procedures, such as stochastic modeling… to reflect the impact of variations in experience from year to year." The 50% allocation of future excess earnings to the SRBR for KCERA is a clear example of the gain sharing provisions referenced by ASOP No. 4.

  After several meetings with KCERA and its auditors, and based on information regarding another SRBR system that included discussions with GASB staff, it was previously determined that future allocations to the SRBR should be treated as an additional "outflow" (i.e., assets not available to fund the benefits included in the determination of the TPL) against the Plan's Fiduciary Net Position in the GASB crossover test[1] (see Appendix A).

  However, as noted earlier, the Plan's Fiduciary Net Position includes assets held for the SRBR, and the TPL includes all projected future benefits expected to be paid from the SRBR for members as of the valuation date. This treatment was also discussed with KCERA and its auditors and determined to be appropriate. Therefore, any outflows due to the 50/50 excess earnings allocation would not affect the outcome of the crossover test since the crossover test is performed based on the combined results of the statutory (non-SRBR) benefits and the SRBR.

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[1] *The purpose of the GASB crossover test is to determine if the full expected return (or 7.25% in this case) can be used as the discount rate to determine the TPL and the NPL. That is, if there is no crossover point where the projected benefit payments would exceed the Plan's Fiduciary Net Position, then the full expected return assumption can be used. As detailed later in this report, KCERA does pass the crossover test, which means that the full 7.25% investment rate of return assumption can be used as the discount rate to determine the TPL and the resulting NPL.*

- Based on discussions with KCERA and their auditors, starting with the June 30, 2016 measurement date for the employers, employer paid member contributions are excluded from employer contributions in the determination of the Actuarially Determined Contribution (ADC). The amount of employer paid member contributions was estimated by first determining what the employer contribution rates would have been during the year, excluding any employer paid member contributions. The actual employer contribution rates were then adjusted by the ratio of the employer contribution rates determined above and the employer contribution rates determined in the annual actuarial valuation. The result is the employer contributions excluding any employer paid member contributions. This change has not been applied on a retroactive basis prior to the 2015-2016 fiscal year.
- Various other information that is required to be disclosed can be found throughout Exhibits 1 through 4 in Section 2.

Summary of Key Valuation Results

	2017	2016
Disclosure elements for fiscal year ending June 30:		
Service Cost[1]	$122,184,336	$123,181,283
Total Pension Liability	6,326,870,318	5,985,226,950
Plan's Fiduciary Net Position	3,962,895,176	3,571,587,594
Net Pension Liability	2,363,975,142	2,413,639,356
Schedule of contributions for fiscal year ending June 30:		
Actuarially determined contributions[2]	$224,351,000	$216,229,000
Actual contributions	224,351,000	216,229,000
Contribution deficiency (excess)	0	0
Demographic data for plan year ending June 30:[3]		
Number of retired members and beneficiaries	8,093	7,847
Number of vested terminated members[4]	2,363	2,218
Number of active members	8,728	8,627
Key assumptions as of June 30:		
Investment rate of return	7.25%	7.50%
Inflation rate	3.00%	3.25%
Projected salary increases[5]	General: 4.00% to 9.00% and Safety: 4.00% to 12.50%	General: 4.25% to 9.25% and Safety: 4.25% to 11.75%

(1) *Excludes administrative expense load. The service cost is based on the previous year's valuation, meaning the June 30, 2017 and June 30, 2016 values are based on the valuations as of June 30, 2016 and June 30, 2015, respectively. Furthermore, the actuarial assumptions used to determine the service cost in the June 30, 2015 valuation were the same as those used in the June 30, 2016 valuation.*

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

(3) *Data as of June 30, 2016 is used in the measurement of the TPL as of June 30, 2017.*

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

(5) *Includes inflation at 3.00% plus real across-the-board salary increase of 0.50% plus merit and promotional increases that vary by service for 2017 and includes inflation at 3.25% plus real across-the-board salary increase of 0.50% plus merit and promotional increases that vary by service for 2016.*

Important Information about Actuarial Valuations

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

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

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

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

- The valuation is prepared at the request of the Board to assist KCERA in preparing items related to the pension plan in their financial report. 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 KCERA is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

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

EXHIBIT 1

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

Plan Description

Plan administration. The Kern County Employees' Retirement Association (KCERA) was established by the County of Kern in 1945. KCERA is administered by the Board of Retirement and governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et seq.), the California Public Employees' Pension Reform Act (CalPEPRA) and the bylaws, procedures and policies adopted by the KCERA Board. KCERA is a cost-sharing multiple employer defined benefit public employee retirement system whose main function is to provide retirement, disability, death, beneficiary, cost-of-living and supplemental retirement benefits to the General and Safety members employed by the County of Kern. KCERA also provides retirement benefits to the employee members of the Berrenda Mesa Water District, Buttonwillow Recreation and Park District, East Kern Cemetery District, Inyokern Community Services District, Kern County Water Agency, Kern Mosquito and Vector Control District, North of the River Sanitation District, San Joaquin Valley Unified Air Pollution Control District, Shafter Recreation and Park District, West Side Cemetery District, West Side Mosquito and Vector Control District, West Side Recreation and Park District, and the Kern County Superior Court.

The management of KCERA is vested with the KCERA Board of Retirement. The Board consists of nine members and two alternate members. The County Treasurer is elected by the general public and is a member of the Board of Retirement by law. Four members are appointed by the Board of Supervisors, one of whom may be a County Supervisor; two members are elected by the general membership; one member and one alternate member are elected by the safety membership; and one member and one alternate member are elected by the retired members of the Association. All members of the Board of Retirement serve terms of three years except for the County Treasurer whose term runs concurrent with his term as County Treasurer.

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

Retired members or beneficiaries currently receiving benefits	8,093
Vested terminated members entitled to, but not yet receiving benefits[1]	2,363
Active members	8,728
Total	19,184

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

Note: Data as of June 30, 2017 is not used in the measurement of the TPL as of June 30, 2017.

Benefits provided. KCERA provides retirement, disability, beneficiary, cost-of-living and supplemental retirement benefits to eligible employees. All regular full-time employees of the County of Kern or contracting districts who work 50% or more of the regular standard hours required become members of KCERA effective on the first day of the first full biweekly payroll period following the date of employment. There are separate retirement benefits for General and Safety members. Safety membership is extended to those involved in active law enforcement, fire suppression, and certain probation officers.

General members (excluding Tier III) are eligible to retire 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. A member with 30 years of service is eligible to retire regardless of age. General Tier III members are eligible to retire once they have attained the age of 70 regardless of service or at age 52 and have acquired 5 or more years of retirement service credit.

Safety members are eligible to retire 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. A member with 20 years of service is eligible to retire regardless of age.

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 member benefits for Tier I and Tier II are calculated pursuant to the provisions of California Government Code Sections 31676.17 and 31676.01, respectively. The monthly allowance is equal to 1/50th of final average compensation times years of accrued retirement service credit times age factor from Section 31676.17 (Tier I) or 1/90th of final average compensation times years of accrued retirement service credit times age factor from Section 31676.01 (Tier II). General Tier III member benefits are calculated pursuant to the provisions found in California Government Code Section 7522.20(a). The monthly allowance is equal to the final average compensation multiplied by years of accrued retirement credit multiplied by the age factor from Section 7522.20(a).

Safety member benefits for Tier I and Tier II are calculated pursuant to the provisions of California Government Code Sections 31664.1 and 31664, respectively. The monthly allowance is equal to 3% of final average compensation times years of accrued retirement service credit times age factor from 31664.1 (Tier I) or 1/50th (or 2%) of final average compensation times years of accrued retirement service credit times age factor from Section 31664 (Tier II).

For members in Tier I or Tier II, the maximum monthly retirement allowance is 100% of final average compensation. There is no final average compensation limit on the maximum retirement benefit for General Tier III members. However, the maximum amount of compensation earnable that can be taken into account for 2017 for members with membership dates on or after July 1, 1996 but before January 1, 2013 is $270,000. For members with membership dates on or after January 1, 2013 the maximum amount of pensionable compensation that can be taken into account for 2017 is equal to $118,775 for those enrolled in Social Security. These limits are adjusted on an annual basis. Members are exempt from paying member contributions and employers are exempt from paying employer contributions on compensation in excess of the annual cap.

Final average compensation consists of the highest 12 consecutive months of pensionable pay for a General Tier I or Tier IIA member or a Safety Tier I or Tier IIA member and the highest 36 consecutive months of pensionable pay for a General Tier IIB or Tier III member or a Safety Tier IIB member.

The member may elect an unmodified retirement allowance, or choose an optional retirement allowance. The unmodified retirement allowance provides the highest monthly benefit and a 60% continuance to an eligible surviving spouse 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. Certain surviving spouses or domestic partners may also be eligible if marriage or domestic partnership was at least two years prior to the date of death and the surviving spouse or domestic partner 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.

KCERA provides an annual cost-of-living benefit to all retirees. The cost-of-living adjustment, based upon the Consumer Price Index for the Los Angeles-Riverside-Orange County Area, is capped at 2.5%.

The County of Kern and contracting districts contribute to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Retirement. Employer contribution rates are adopted annually based upon recommendations received from KCERA's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2017 for 2016-2017 (based on the June 30, 2015 valuation) was 45.11% of compensation.

Members are required to make contributions to KCERA regardless of the retirement plan or tier in which they are included. The average member contribution rate as of June 30, 2017 for 2016-2017 (based on the June 30, 2015 valuation) was 6.01% of compensation.

EXHIBIT 2

Net Pension Liability

The components of the Net Pension Liability are as follows:

	June 30, 2017	June 30, 2016
Total Pension Liability	$6,326,870,318	$5,985,226,950
Plan's Fiduciary Net Position	(3,962,895,176)	(3,571,587,594)
Net Pension Liability	$2,363,975,142	$2,413,639,356
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	62.64%	59.67%

The Net Pension Liability (NPL) for the plan was measured as of June 30, 2017 and 2016. The Plan's Fiduciary Net Position (plan assets) was valued as of the measurement dates while the Total Pension Liability (TPL) was determined based upon rolling forward the TPL from actuarial valuations as of June 30, 2016 and 2015, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL as of June 30, 2017 and 2016 are the same as those used in the KCERA actuarial valuations as of June 30, 2017 and June 30, 2016, respectively. The TPL and the Plan's Fiduciary Net Position include liabilities and assets held for the Supplemental Retiree Benefit Reserve (SRBR).

Actuarial assumptions and methods. The TPL as of June 30, 2017 that was measured by an actuarial valuation as of June 30, 2016, was re-measured as of June 30, 2016 to reflect the actuarial assumptions that the Retirement Board has approved for use in the KCERA actuarial valuation as of June 30, 2017. Those actuarial assumptions were based on the results of an experience study for the period from July 1, 2013 through June 30, 2016. They are the same as the assumptions used in the June 30, 2017 funding valuation. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Inflation	3.00%
Salary increases	General: 4.00% to 9.00% and Safety: 4.00% to 12.50%, varying by service, including inflation
Investment rate of return	7.25%, net of pension plan investment expense, including inflation
Administrative expenses	0.90% of payroll allocated to both the employer and the member based on the components of the total average contribution rate (before expenses) for the employer and the member
Other assumptions	Same as those used in the June 30, 2017 funding valuation. These assumptions were developed in the analysis of actuarial experience for the period July 1, 2013 through June 30, 2016.

The TPL as of June 30, 2016 that was measured by an actuarial valuation as of June 30, 2015 used the following actuarial assumptions, applied to all periods in the measurement.

Inflation	3.25%
Salary increases	General: 4.25% to 9.25% and Safety: 4.25% to 11.75%, varying by service, including inflation
Investment rate of return	7.50%, net of pension plan investment expense, including inflation
Administrative expenses	0.90% of payroll allocated to both the employer and the member based on the components of the total average contribution rate (before expenses) for the employer and the member
Other assumptions	Same as those used in the June 30, 2016 funding valuation. These assumptions were developed in the analysis of actuarial experience for the period July 1, 2010 through June 30, 2013.

The Entry Age Actuarial Cost Method used in KCERA's annual actuarial valuation 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 reflected the same plan provisions used in determining the member's Actuarial Present Value of Projected Benefits. This is different from the version of this method applied in KCERA's annual funding valuation, where the Normal Cost is determined as if the current benefit accrual rate had always been in effect.

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, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Large Cap U.S. Equity	15%	5.61%
Small Cap U.S. Equity	4%	6.37%
Global Equity	6%	6.50%
Developed International Equity	8%	6.96%
Emerging Market Equity	4%	9.28%
U.S. Core Fixed Income	19%	1.06%
High Yield/Specialty	6%	3.65%
Emerging Market Debt	4%	3.85%
Core Real Estate	5%	4.37%
Value Added Real Estate	5%	6.00%
Commodities	4%	3.76%
Hedge Funds	10%	4.70%
Private Equity	5%	8.70%
Private Credit	5%	5.10%
Total	100%	

Discount rate. The discount rates used to measure the TPL were 7.25% and 7.50% as of June 30, 2017 and June 30, 2016, respectively. The projection of cash flows used to determine the discount rates assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employee and employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2017 and June 30, 2016.

The discount rate assumption has been developed without taking into consideration any impact of the 50/50 allocation of future excess earnings between the retirement and Supplement Retirement Benefit Reserve (SRBR) asset pools.

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL of the KCERA as of June 30, 2017, calculated using the discount rate of 7.25%, as well as what the KCERA's 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, 2017	$3,214,150,584	$2,363,975,142	$1,665,995,113

EXHIBIT 3
Schedule of Changes in Net Pension Liability – Last Two Fiscal Years

	2017	2016
Total Pension Liability		
Service Cost	$122,184,336	$123,181,283
Interest	438,385,093	427,646,235
Change of benefit terms	0	0
Differences between expected and actual experience	(109,367,980)	(105,053,516)
Changes of assumptions	196,259,373	0
Benefit payments, including refunds of member contributions	(305,817,454)	(288,738,174)
Net change in Total Pension Liability	$341,643,368	$157,035,828
Total Pension Liability – beginning	5,985,226,950	5,828,191,122
Total Pension Liability – ending (a)	$6,326,870,318	$5,985,226,950
Plan's Fiduciary Net Position		
Contributions – employer[1]	$224,351,019	$216,228,558
Contributions – employee[1]	51,410,469	51,763,636
Net investment income	426,606,857	(27,535,157)
Benefit payments, including refunds of member contributions	(305,817,454)	(288,738,174)
Administrative expense	(5,243,309)	(5,224,452)
Other	0	0
Net change in Plan's Fiduciary Net Position	$391,307,582	$(53,505,589)
Plan's Fiduciary Net Position – beginning	3,571,587,594	3,625,093,183
Plan's Fiduciary Net Position – ending (b)	$3,962,895,176	$3,571,587,594
Net Pension Liability – ending (a) – (b)	$2,363,975,142	$2,413,639,356
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	62.64%	59.67%
Covered employee payroll[2]	$546,671,003	$537,539,991
Net Pension Liability as percentage of covered employee payroll	432.43%	449.02%

Notes to Schedule:

Benefit changes: None

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

(2) *Covered employee payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of retirement benefits are included.*

EXHIBIT 4

Schedule of Employer Contributions – Last Nine Fiscal Years

Year Ended June 30	Actuarially Determined Contributions[(1)]	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered-Employee Payroll[(2)]	Contributions as a Percentage of Covered Employee Payroll
2009	$138,815,000	$138,815,000	$0	$482,879,000	28.74%
2010	151,127,000	151,127,000	0	559,872,000	26.99%
2011	177,444,000	177,444,000	0	559,380,000	31.72%
2012	189,837,000	189,837,000	0	526,079,162	36.09%
2013	211,677,000	211,677,000	0	516,465,189	40.99%
2014	220,393,000	220,393,000	0	533,850,811	41.28%
2015	215,477,000	215,477,000	0	531,598,183	40.53%
2016	216,229,000	216,229,000	0	537,539,991	40.23%
2017	224,351,000	224,351,000	0	546,671,003	41.04%

See accompanying notes to this schedule on next page.

(1) *All "Actuarially Determined Contributions" through June 30, 2014 were determined as the "Annual Required Contribution" under GAS 25 and 27. Starting from 2016, actuarially determined contributions exclude employer paid member contributions.*

(2) *Covered employee payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of retirement benefits are included.*

Notes to Exhibit 4

Methods and used assumptions 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 for total unfunded liability	
Remaining amortization period	18.5 years as of June 30, 2017 for all UAAL as of June 30, 2011. 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 18-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 in 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 semi-annually over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves.	
Actuarial assumptions:	June 30, 2017 Valuation Date	June 30, 2016 Valuation Date
Investment rate of return	7.25%, net of pension plan investment expenses, including inflation	7.50%, net of pension plan investment expenses, including inflation
Inflation rate	3.00%	3.25%
Real across-the-board salary increase	0.50%	0.50%
Projected salary increases[(1)]	General: 4.00% to 9.00% and Safety: 4.00% to 12.50%	General: 4.25% to 9.25% and Safety: 4.25% to 11.75%
Administrative Expenses	0.90% of payroll allocated to both the employer and member based on the components of the total contribution rate (before expenses) for the employer and member.	0.90% 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	2.50% (actual increases contingent upon CPI increases with a 2.50% maximum)	2.50% (actual increases contingent upon CPI increases with a 2.50% maximum)
Other assumptions	Same as those used in the June 30, 2017 funding actuarial valuation	Same as those used in the June 30, 2016 funding actuarial valuation

(1) *Includes inflation at 3.00% plus real across-the-board salary increase of 0.50% plus merit and promotional increases for 2017 and inflation at 3.25% plus real across-the-board salary increase of 0.50% plus merit and promotional increases for 2016.*

EXHIBIT 5

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

Year Beginning July 1,	Projected Beginning Plan's Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Plan's Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2016	$3,572	$276	$306	$5	$427	$3,963
2017	3,963	300	345	4	285	4,197
2018	4,197	304	347	4	302	4,452
2019	4,452	311	364	4	320	4,715
2020	4,715	318	380	4	339	4,987
2021	4,987	319	397	4	358	5,263
2022	5,263	321	414	4	377	5,544
2023	5,544	325	431	4	397	5,831
2024	5,831	330	450	4	418	6,125
2025	6,125	334	468	4	438	6,426
2026	6,426	339	486	3	460	6,735
2044	9,688	16	759	1	674	9,619
2045	9,619	13	762	1	669	9,539
2046	9,539	11	763	1	663	9,449
2064	7,757	0 *	576	0 *	541	7,722
2065	7,722	0 *	558	0 *	539	7,703
2066	7,703	0 *	539	0 *	538	7,703
2084	12,996	0	137	0	937	13,796
2085	13,796	0	119	0	996	14,672
2086	14,672	0	102	0	1,060	15,630
2104	50,227	0	1	0	3,641	53,868
2105	53,868	0	0 *	0	3,905	57,773
2106	57,773	0	0 *	0	4,189	61,961
2125	218,408	0	0	0	15,835	234,243
2126	234,243					
2126	Discounted Value: 106 **					

* Less than $1 million, when rounded.

** $234,243 million when discounted with interest at the rate of 7.25% per annum has a value of $106 million (or 2.97% of the Plan's Fiduciary Net Position) as of June 30, 2016.

EXHIBIT 5 (continued)

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

Notes:

(1) Amounts may not total exactly due to rounding.

(2) Amounts shown in the year beginning July 1, 2016 row are actual amounts, based on the financial statements provided by KCERA.

(3) Years 2027-2043, 2047-2063, 2067-2083, 2087-2103, and 2107-2124 have been omitted from this table.

(4) Column (a): Except for the "discounted value" shown for 2126, none of the projected beginning Plan's Fiduciary Net Position amounts shown have been adjusted for the time value of money.

(5) Column (b): Projected total contributions include employee and employer normal cost contributions based on closed group projections (based on covered active members as of June 30, 2016); plus employer contributions to the unfunded actuarial accrued liability; plus employer and employee contributions to fund each year's annual administrative expenses. Contributions are assumed to occur halfway through the year, on average.

(6) Column (c): Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of June 30, 2016. The projected benefit payments reflect the cost of living increase assumption of 2.50% per annum and include projected benefits associated with the Supplemental Retiree Benefit Reserve. Benefit payments are assumed to occur halfway through the year, on average.

(7) Column (d): Projected administrative expenses are calculated as approximately 0.90% of the closed group payroll. Administrative expenses are assumed to occur halfway through the year, on average.

(8) Column (e): Projected investment earnings are based on the assumed investment rate of return of 7.25% per annum.

(9) As illustrated in this Exhibit, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 7.25% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2017 shown earlier in this report, pursuant to Paragraph 44 of GASB Statement No. 67.

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