

Contra Costa County Employees' Retirement Association

**Actuarial Valuation and Review
As of December 31, 2014**



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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June 30, 2015

*Board of Retirement
Contra Costa County Employees' Retirement Association
1335 Willow Way, Suite 221
Concord, CA 94520*

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of December 31, 2014. It summarizes the actuarial data used in the valuation, establishes the funding requirements for the fiscal year beginning July 1, 2016 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 CCCERA and the financial information was provided by the Association's staff. 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

By:

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

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

AW/hy

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SECTION 1: Valuation Summary for the Contra Costa County Employees' Retirement Association

PURPOSE AND SCOPE

This report has been prepared by Segal Consulting to present a valuation of the Contra Costa County Employees' Retirement Association (CCCERA) as of December 31, 2014. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution rate requirements presented in this report are based on:

- The benefit provisions of the Retirement Association, as administered by the Board;
- The characteristics of covered active members, terminated members, and retired members and beneficiaries as of December 31, 2014, provided by the Association's staff;
- The assets of the Plan as of December 31, 2014, provided by the Association's staff;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

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

The actuarial valuation required for the Contra Costa County Employees' Retirement Association has been prepared as of December 31, 2014 by Segal Consulting. 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 years' information.

SECTION 1: Valuation Summary for the Contra Costa County Employees' Retirement Association

The contribution requirements are determined as a percentage of payroll. The Association's employer rates provide for both normal cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In 2008, the Board elected to amortize the remaining balance of the Association's unfunded actuarial accrued liability (UAAL) through December 31, 2007 over a decreasing 15 year period with 8 years remaining as of December 31, 2014. Any change in the UAAL that arises at each valuation after December 31, 2007 is amortized over its own separate declining 18-year period.

Effective with the December 31, 2013 valuation, any change in UAAL that arises due to plan amendments is amortized over its own declining 10-year period (with the exception of a change due to retirement incentives, which is to be funded in full upon adoption of the incentive).

We recommend that the rates calculated in this report be adopted by the Board for the fiscal year that extends from July 1, 2016 through June 30, 2017.

SIGNIFICANT ISSUES IN VALUATION YEAR

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

Ref: Pg. 88
Ref: Pg. 68

➤ The ratio of the valuation value of assets to the actuarial accrued liability increased from 76.4% to 81.7% while the ratio of the market value of assets to the actuarial accrued liability increased from 83.5% to 86.1%. The Association's UAAL (which is based on the valuation value of assets) has decreased from \$1.8 billion to \$1.5 billion. This decrease is due to an investment return on actuarial value (i.e. after smoothing) greater than the 7.25% assumed rate, lower than expected individual salary increases and lower than expected COLA increases for retirees and beneficiaries. A reconciliation of the Association's UAAL is provided in Section 3, Exhibit I.

Ref: Pg. 32

➤ The average employer rate calculated in this valuation (excluding any employer subvention of member rates or member subvention of employer rates) has decreased from 43.58% of payroll to 40.06% of payroll. This decrease is due an investment return on actuarial value (i.e. after smoothing) greater than the 7.25% assumed rate, lower than expected individual salary increases, lower than expected COLA increases for retirees and beneficiaries and other experience gains. A complete reconciliation of the Association's aggregate employer rate is provided in Section 2, Subsection D (see Chart 15).

Separate employer contribution rates are shown in Chart 14 for members with membership dates before January 1, 2013 (non-PEPRA members) and on or after January 1, 2013 (PEPRA members). However, the average employer contribution rates shown on page v are based on all members regardless of their membership date. The schedule of the employer contribution rates is provided in Section 2, Subsection D, Chart 14.

SECTION 1: Valuation Summary for the Contra Costa County Employees' Retirement Association

Ref: Pg. 33

- The average member rate calculated in this valuation has decreased from 11.91% of payroll to 11.84% of payroll. This is the net result of (1) a decrease in the average rate due to a change in the composition of the active membership and (2) an increase in the individual member rates due to including leave cashout assumptions in developing basic member rates for non-PEPRA members. A complete reconciliation of the Association's aggregate member rate is provided in Section 2, Subsection D (see Chart 16).

The detailed member rates are provided in Appendix A and B of this report. They are now shown by cost group (instead of just by tier) and reflect including the leave cashout assumption in the basic member rates (discussed below).

Ref: Pg. 16

- As adopted by the Board, for determining the cost of the total benefit (i.e., basic and COLA components), the leave cashout assumptions are recognized in the valuation in determining both the employer and member costs. Prior to this valuation, for determining the cost of the basic benefit (i.e., non-COLA component), the leave cashout assumptions were recognized in the valuation only in the employer cost and did not affect member contribution rates. Including the leave cashout assumptions in developing the basic member rates for non-PEPRA members resulted in a decrease in the average employer rate of 0.07% of payroll and an increase in the average member rate of 0.07% of payroll.

As a result of including the leave cashout assumptions in determining the basic member rates for the members of each specific cost group, the COLA member rates are no longer pooled across all members of the same tier. This results in a total of twelve different sets of member contribution rates for the non-PEPRA members, one for each cost group.

Ref: Pg. 97

- The results of this valuation reflect a change in the leave cashout assumption for Cost Group #9 adopted by the Board. The leave cashout assumption was reduced from 0.25% to 0.00% resulting in a decrease of 0.06% in employer rate for Cost Group #9. However, it has no impact to the overall average employer rate after rounding.

Ref: Pg. 5

- The total unrecognized net investment gain as of December 31, 2014 is about \$336 million as compared to an unrecognized net investment gain of \$536 million in the previous valuation. This net investment gain will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years. This means that if the Association earns the assumed rate of investment return of 7.25% per year (net of expenses) on a **market value** basis, then the net deferred gains of \$336 million would be recognized over the next few years as shown in the footnote in Chart 7.
- The net deferred gains of \$336 million represent about 5% of the market value of assets. Unless offset by future investment losses or other unfavorable experience, the recognition of the \$336 million market gains is expected to have an impact on the Association's future funded ratio and contribution rate requirements. This potential impact may be illustrated as follows:

SECTION 1: Valuation Summary for the Contra Costa County Employees' Retirement Association

- If the net deferred gains were recognized immediately in the valuation value of assets, the funded percentage would increase from 81.7% to 85.9%.
 - If the net deferred gains were recognized immediately in the valuation value of assets, the average employer contribution rate would decrease from 40.1% to about 36.5% of payroll.
- The actuarial valuation report as of December 31, 2014 is based on financial information as of that date. Changes in the 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.
- This valuation includes contribution rates for the new PEPRA Tier E in Cost Group #8. This cost group and also PEPRA Tier 4 (2% COLA) in Cost Group #1 do not have any actual members as of December 31, 2014. The contribution rates for these cost groups have been developed based on generally the same methodology used to estimate contribution rates for all of the PEPRA tiers in the December 31, 2012 valuation. We have assumed in this valuation that the demographic profiles (e.g., entry age, composition of male versus female, etc.) for these cost groups can be approximated by the data profiles of current active members with membership dates on and after January 1, 2011.
- This valuation reflects the \$5 million additional contribution made by the Central Contra Costa Sanitary District on December 30, 2014 towards their UAAL. Based on CCCERA's funding policy, this amount will be amortized as a level percent of pay over a period of eighteen years beginning with the December 31, 2013 valuation.
- The Governmental Accounting Standards Board (GASB) approved two Statements affecting the reporting of pension liabilities for accounting purposes. Statement 67 replaces Statement 25 and is for plan reporting. Statement 68 replaces Statement 27 and is for employer reporting. Statement 67 is effective with the calendar year ending December 31, 2014 for plan reporting. Statement 68 is effective with the fiscal year ending June 30, 2015 for employer reporting. The information needed to comply with Statements 67 and 68 will be provided in separate reports.

Impact of Future Experience on Contribution Rates

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

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

SECTION 1: Valuation Summary for the Contra Costa County Employees' Retirement Association

Summary of Key Valuation Results

	December 31, 2014		December 31, 2013	
		Estimated		Estimated
Average Employer Contribution Rates⁽¹⁾:				
General	Total Rate	Annual Amount	Total Rate	Annual Amount
Cost Group #1 – County and Small Districts (Tier 1 and 4)	33.14%	\$7,471,910	35.48%	\$8,400,094
Cost Group #2 – County and Small Districts (Tier 3 and 5)	29.36%	147,184,037	32.28%	154,922,757
Cost Group #3 – Central Contra Costa Sanitary District	55.71%	15,653,379	60.51%	16,446,846
Cost Group #4 – Contra Costa Housing Authority	41.76%	2,138,471	43.65%	2,196,992
Cost Group #5 – Contra Costa County Fire Protection District	31.59%	1,124,433	35.04%	1,283,642
Cost Group #6 – Small Districts (Non-Enhanced Tier 1 and 4)	26.62%	220,891	29.13%	230,791
Safety				
Cost Group #7 – County (Tier A and D)	77.77%	47,801,788	80.27%	53,484,103
Cost Group #8 – Contra Costa and East Fire Protection Districts	78.93%	24,149,147	82.98%	26,034,468
Cost Group #9 – County (Tier C and E)	70.63%	13,024,297	74.50%	11,435,422
Cost Group #10 – Moraga-Orinda Fire District	69.66%	4,887,061	70.45%	5,293,654
Cost Group #11 – San Ramon Valley Fire District	83.79%	13,965,831	88.33%	14,581,928
Cost Group #12 – Rodeo-Hercules Fire Protection District	89.27%	1,977,156	110.23%	1,784,422
All Employers combined	40.06%	\$279,598,401	43.58%	\$296,095,119
Average Member Contribution Rates⁽¹⁾:				
General	Total Rate	Annual Amount	Total Rate	Annual Amount
Cost Group #1 – County and Small Districts (Tier 1 and 4)	10.63%	\$2,396,574	10.58%	\$2,504,556
Cost Group #2 – County and Small Districts (Tier 3 and 5)	10.54%	52,834,487	10.60%	50,889,675
Cost Group #3 – Central Contra Costa Sanitary District	11.65%	3,273,422	11.10%	3,016,823
Cost Group #4 – Contra Costa Housing Authority	10.95%	560,790	11.17%	562,261
Cost Group #5 – Contra Costa County Fire Protection District	10.86%	386,572	11.05%	404,760
Cost Group #6 – Small Districts (Non-Enhanced Tier 1 and 4)	12.37%	102,637	12.41%	98,322
Safety				
Cost Group #7 – County (Tier A and D)	17.52%	10,768,805	17.41%	11,600,517
Cost Group #8 – Contra Costa and East Fire Protection Districts	17.19%	5,259,475	17.18%	5,390,352
Cost Group #9 – County (Tier C and E)	14.08%	2,596,473	13.66%	2,096,818
Cost Group #10 – Moraga-Orinda Fire District	17.10%	1,199,666	17.01%	1,278,057
Cost Group #11 – San Ramon Valley Fire District	17.28%	2,880,327	16.88%	2,786,567
Cost Group #12 – Rodeo-Hercules Fire Protection District	16.16%	357,914	15.90%	257,382
All Categories Combined	11.84%	\$82,617,142	11.91%	\$80,886,090

⁽¹⁾ Based on projected payroll as of each valuation date shown. These rates do not include any employer subvention of member contributions or any member subvention of employer contributions. The rates shown are averages based on all members regardless of their membership date.

Note: Pages 19 and 20 contain a summary that shows which employers are in each cost group.

SECTION 1: Valuation Summary for the Contra Costa County Employees' Retirement Association

Summary of Key Valuation Results (continued)

	December 31, 2014		December 31, 2013	
Refundability Factors				
General	Legacy Tiers	PEPRA Tiers	Legacy Tiers	PEPRA Tiers
Cost Group #1 – County and Small Districts (Tier 1)	0.9601		0.9603	
PEPRA Tier 4 (2% COLA)		0.9605		0.9598
PEPRA Tier 4 (3% COLA)		0.9634		0.9693
Cost Group #2 – County and Small Districts (Tier 3)	0.9575		0.9571	
PEPRA Tier 5 (2% COLA)		0.9640		0.9725
PEPRA Tier 5 (3%/4% COLA)		0.9650		0.9650
Cost Group #3 – Central Contra Costa Sanitary District	0.9581	0.9624	0.9581	0.9650
Cost Group #4 – Contra Costa Housing Authority	0.9564	0.9753	0.9560	0.9769
Cost Group #5 – Contra Costa County Fire Protection District	0.9592		0.9586	
PEPRA Tier 4 (2% COLA)		0.9727		0.9598
PEPRA Tier 4 (3% COLA)		0.9664		0.9646
Cost Group #6 – Small Districts (Non-Enhanced Tier 1 and 4)	0.9560	0.9717	0.9546	0.9640
Safety				
Cost Group #7 – County (Tier A and D)	0.9741	0.9772	0.9741	0.9784
Cost Group #8 – Contra Costa and East Fire Protection Districts	0.9749		0.9748	
PEPRA Tier D (3% COLA)		0.9821		0.9811
PEPRA Tier E (2% COLA)		0.9809		0.9813
Cost Group #9 – County (Tier C and E)	0.9755	0.9802	0.9755	0.9787
Cost Group #10 – Moraga-Orinda Fire District	0.9764	0.9837	0.9765	0.9828
Cost Group #11 – San Ramon Valley Fire District	0.9763	0.9837	0.9765	0.9831
Cost Group #12 – Rodeo-Hercules Fire Protection District	0.9757	0.9852	0.9754	0.9828
Funded Status:				
Actuarial accrued liability (AAL)	\$8,027,438,213		\$7,731,097,407	
Valuation value of assets (VVA)	\$6,557,496,101		\$5,907,416,432	
Market value of assets (MVA)	\$6,908,910,230		\$6,458,317,596	
Funded percentage on VVA basis (VVA/AAL)	81.7%		76.4%	
Funded percentage on MVA basis (MVA/AAL)	86.1%		83.5%	
Unfunded Actuarial Accrued Liability (UAAL) on VVA basis	\$1,469,942,112		\$1,823,680,975	
Unfunded Actuarial Accrued Liability (UAAL) on MVA basis	\$1,118,527,983		\$1,272,779,811	
Key Assumptions:				
Interest rate	7.25%		7.25%	
Inflation rate	3.25%		3.25%	
Across the board salary increase	0.75%		0.75%	

Note: Pages 19 and 20 contain a summary that shows which employers are in each cost group.

SECTION 1: Valuation Summary for the Contra Costa County Employees' Retirement Association

Summary of Key Valuation Demographic and Financial Data

	December 31, 2014	December 31, 2013	Percentage Change
Active Members:			
Number of members	9,159	9,124	0.4%
Average age	45.8	45.8	N/A
Average service	9.9	10.1	N/A
Projected total payroll (compensation)	\$697,831,837	\$679,428,911	2.7%
Average projected payroll	\$76,191	\$74,466	2.3%
Retired Member and Beneficiaries:			
Number of members:			
Service retired	6,665	6,438	3.5%
Disability retired	921	927	-0.6%
Beneficiaries	1,285	1,260	2.0%
Total	8,871	8,625	2.9%
Average age	69.4	69.3	N/A
Average Monthly Benefit	\$3,669	\$3,579	2.5%
Vested Terminated Members:			
Number of terminated vested members ⁽¹⁾	2,647	2,345	12.9%
Average age	46.7	47.0	N/A
Summary of Financial Data:			
Market value of assets	\$6,908,910,230	\$6,458,317,596	7.0%
Return on market value of assets	7.35%	15.50%	N/A
Actuarial value of assets	\$6,572,560,432	\$5,922,449,192	11.0%
Return on actuarial value of assets	11.39%	9.01%	N/A
Valuation value of assets	\$6,557,496,101	\$5,907,416,432	11.0%
Return on valuation value of assets	11.40%	9.02%	N/A

⁽¹⁾ Includes 1,176 terminated members with less than five years of service as of December 31, 2014 and 933 as of December 31, 2013.

SECTION 1: Valuation Summary for the Contra Costa County Employees' Retirement Association

Important Information about Actuarial Valuations

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

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

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

SECTION 1: Valuation Summary for the Contra Costa County Employees' Retirement Association

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

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

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographics 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, C and D.

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: 2005 – 2014

Year Ended December 31	Active Members	Vested Terminated Members⁽¹⁾	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2005	9,205	1,731	6,437	0.89
2006	9,210	1,919	6,646	0.93
2007	9,421	2,008	6,911	0.95
2008	9,385	2,153	7,012	0.98
2009	8,938	2,209	7,292	1.06
2010	8,811	2,231	7,559	1.11
2011	8,629	2,214	8,085	1.19
2012	8,640	2,288	8,517	1.25
2013	9,124	2,345	8,625	1.20
2014	9,159	2,647	8,871	1.26

⁽¹⁾ Includes members who terminate with less than five years of service and leave accumulated contributions on deposit.

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

Active Members

Plan costs are affected by the age, years of service and payroll of active members. In this year's valuation, there are 9,159 active members with an average age of 45.8, average years of service of 9.9 years and average payroll of \$76,191. The 9,124 active members in the prior valuation had an average age of 45.8, average service of 10.1 years and average payroll of \$74,466.

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

Inactive Members

In this year's valuation, there were 2,647 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their employee contributions versus 2,345 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 December 31, 2014

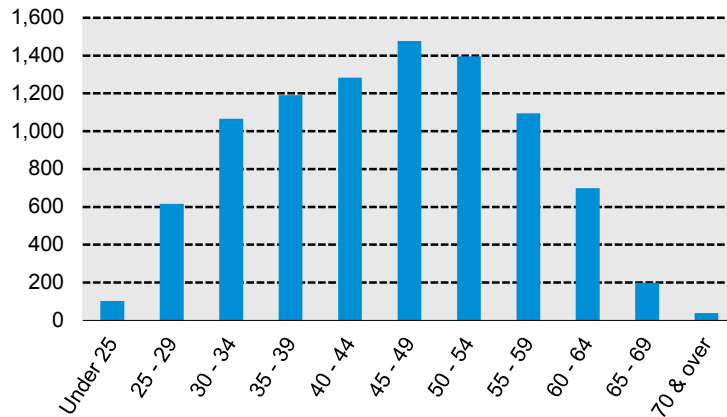
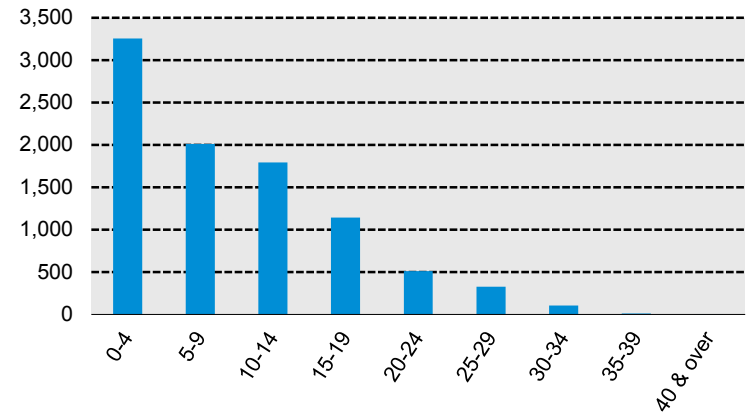


CHART 3
Distribution of Active Members by Years of Service as of December 31, 2014



SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

Retired Members and Beneficiaries

As of December 31, 2014, 7,586 retired members and 1,285 beneficiaries were receiving total monthly benefits of \$32,543,254. For comparison, in the previous valuation, there were 7,365 retired members and 1,260 beneficiaries receiving monthly benefits of \$30,866,774.

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

CHART 4

Distribution of Retired Members and Beneficiaries by Type and by Monthly Amount as of December 31, 2014

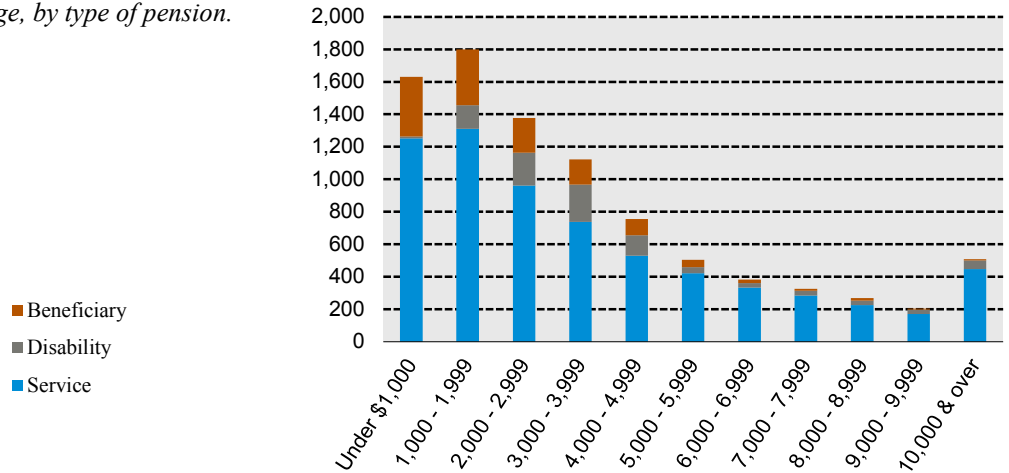
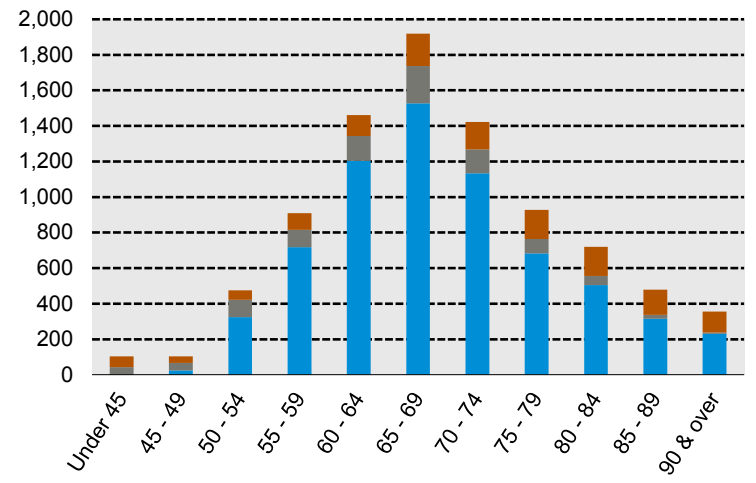


CHART 5

Distribution of Retired Members and Beneficiaries by Type and by Age as of December 31, 2014



SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

B. FINANCIAL INFORMATION

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

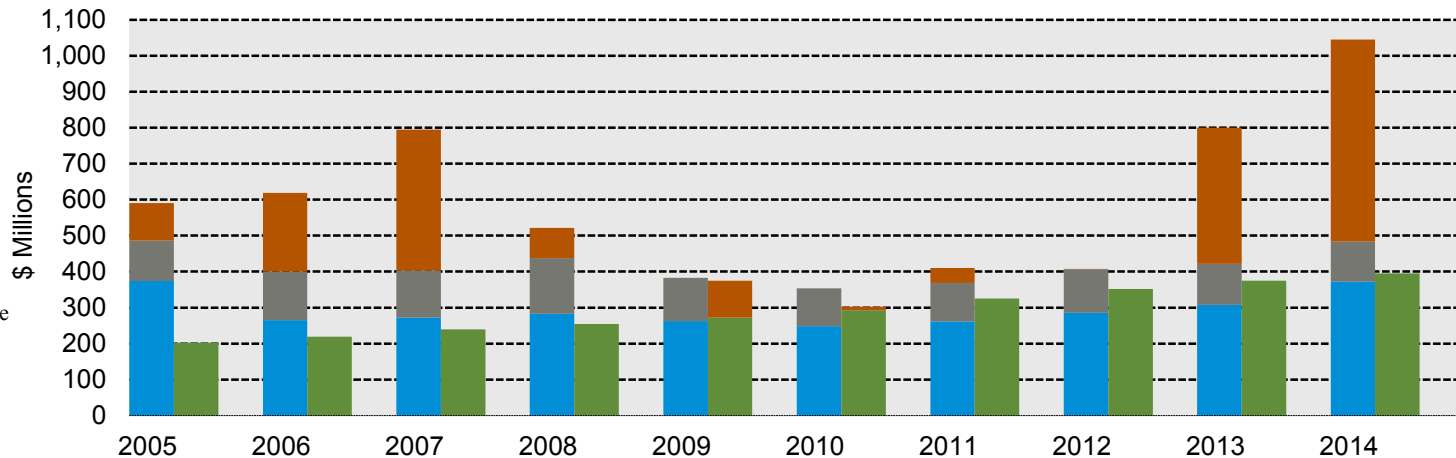
Retirement plan assets change as a result of the net impact of these income and expense components. The adjustment toward market value shown in the chart is the “non-cash” earnings on investment implicitly included in the Actuarial Value of Assets. Additional financial information, including a summary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

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board of Retirement has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuation 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 chart depicts the components of changes in the actuarial value of assets over the last ten years. Pension Obligation Bonds in the amount of \$153 million for 2005 and \$11.7 million for 2006 are included in the contributions. Also included are UAAL prepayments of \$8.6 million for 2006, \$3.0 million for 2007, \$7.0 million for 2013 and \$5.0 million for 2014.

CHART 6
Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended December 31, 2005 - 2014



SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

CHART 7

Determination of Actuarial and Valuation Value of Assets for Year Ended December 31, 2014

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

Six Month Period		Total Actual Market Return (net)	Expected Market Return (net)	Investment Gain (Loss)	Deferred Factor	Deferred Return
From	To					
7/2009	12/2009	\$628,870,712	\$150,326,140	\$478,544,572	0.0	\$0
1/2010	6/2010	(94,057,382)	174,278,387	(268,335,769)	0.0	0
7/2010	12/2010	687,503,854	169,679,293	517,824,561	0.1	51,782,456
1/2011	6/2011	292,872,483	195,544,414	97,328,069	0.2	19,465,614
7/2011	12/2011	(205,242,203)	204,284,793	(409,526,996)	0.3	(122,858,099)
1/2012	6/2012	296,675,568	195,294,521	101,381,047	0.4	40,552,419
7/2012	12/2012	371,057,645	205,350,894	165,706,751	0.5	82,853,375
1/2013	6/2013	281,608,945	218,386,047	63,222,898	0.6	37,933,739
7/2013	12/2013	588,758,958	227,909,702	360,849,256	0.7	252,594,479
1/2014	6/2014	347,257,106	249,636,410	97,620,696	0.8	78,096,557
7/2014	12/2014	125,727,585	241,361,743	(115,634,158)	0.9	<u>(104,070,742)</u>
1. Total Deferred Return ⁽¹⁾						\$336,349,798
2. Market Value of Assets						6,908,910,230
3. Actuarial Value of Assets (Item 2 – Item 1)						6,572,560,432
4. Actuarial Value as Percentage of Market Value (Item 3 / Item 2)						95.1%
5. Non-valuation Reserves and Designations:						
a. Post Retirement Death Benefit						\$15,064,331
b. Statutory Contingency						0
c. Additional One Percent Contingency						0
d. Unrestricted Designation						<u>0</u>
e. Total						\$15,064,331
6. Valuation Value of Assets (Item 3 – Item 5e)						<u>\$6,557,496,101</u>

⁽¹⁾ *Deferred Return Recognized in each of the next 5 years:*

(a) Amount Recognized during 2015	\$123,971,970
(b) Amount Recognized during 2016	93,676,598
(c) Amount Recognized during 2017	97,782,413
(d) Amount Recognized during 2018	32,482,233
(e) Amount Recognized during 2019	<u>(11,563,416)</u>
(f) Subtotal	\$336,349,798

Note: Results may not add due to rounding.

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

CHART 8

Allocation of Valuation Value of Assets as of December 31, 2014

The calculation of the valuation value of assets from December 31, 2013 to December 31, 2014 by cost groups is provided below.

		General				
		Cost Groups #1 and #2 General County and Small Districts	Cost Group #3 Central Contra Costa Sanitary District	Cost Group #4 Contra Costa Housing Authority	Cost Group #5 Contra Costa County Fire Protection District	Cost Group #6 Small Districts (General Non-Enhanced)
1	Allocated Valuation Value of Assets As of Beginning of Plan Year	\$3,305,601,787	\$206,696,819	\$39,066,589	\$38,089,194	\$4,838,413
2	Contributions:					
a.	Total Member Contributions	48,640,418	1,692,323	357,988	378,167	67,301
b.	Employer Contributions - Excludes POB and other Special Contributions	166,800,807	19,184,334	2,070,149	1,298,302	257,485
c.	Employer Contributions - Special (POB, Termination, etc.)	1,815,333	5,000,000	0	0	0
d.	Total Contributions	217,256,558	25,876,657	2,428,137	1,676,469	324,786
3	Total Payments Excluding Post- Retirement Death	220,098,943	16,523,216	2,612,657	2,615,422	282,145
4	Total Transfers Into or Out of Valuation Assets	0	0	0	0	0
5	Subtotal (Item 1 + 2d - 3 + 4)	3,302,759,402	216,050,260	38,882,069	37,150,241	4,881,054
6	Weighted Average Fund Balance	3,304,180,594	211,373,540	38,974,329	37,619,718	4,859,734
7	Earnings Allocated in Proportion to Item 6	376,541,401	24,087,936	4,441,479	4,287,109	553,811
8	Allocated Valuation Value of Assets As of End of Plan Year (Item 5 + 7)	\$3,679,300,803	\$240,138,196	\$43,323,548	\$41,437,350	\$5,434,865

Note: Results may not add due to rounding.

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

CHART 8 (continued)

Allocation of Valuation Value of Assets as of December 31, 2014

	Safety					Total
	Cost Groups #7 & 9 Safety County	Cost Group #8 Contra Costa & East Fire Protection Districts	Cost Group #10 Moraga-Orinda Fire District	Cost Group #11 San Ramon Valley Fire District	Cost Group #12 Rodeo-Hercules Fire Protection District	
1 Allocated Valuation Value of Assets As of Beginning of Plan Year	\$1,218,393,602	\$701,830,573	\$125,942,170	\$244,766,774	\$22,190,514	\$5,907,416,432
2 Contributions:						
a. Total Member Contributions	13,921,808	7,234,923	1,703,910	3,946,733	314,093	78,257,665
b. Employer Contributions - Excludes POB and other Special Contributions	59,425,724	19,612,263	3,899,189	12,135,590	921,087	285,604,929
c. Employer Contributions – Special (POB, Termination, etc.)	1,340,151	0	0	0	0	8,155,484
d. Total Contributions	74,687,683	26,847,186	5,603,099	16,082,323	1,235,180	372,018,078
3 Total Payments Excluding Post- Retirement Death	75,505,518	51,958,027	9,122,612	13,464,953	1,712,128	393,895,621
4 Total Transfers Into or Out of Valuation Assets	0	0	0	0	0	0
5 Subtotal (Item 1 + 2d – 3 + 4)	1,217,575,767	676,719,732	122,422,657	247,384,144	21,713,566	5,885,538,889
6 Weighted Average Fund Balance	1,217,984,685	689,275,153	124,182,414	246,075,459	21,952,040	5,896,477,661
7 Earnings Allocated in Proportion to Item 6	138,800,422	78,549,167	14,151,715	28,042,535	2,501,634	671,957,212
8 Allocated Valuation Value of Assets As of End of Plan Year (Item 5 + 7)	\$1,356,376,189	\$755,268,899	\$136,574,372	\$275,426,679	\$24,215,200	\$6,557,496,101

Note: Results may not add due to rounding.

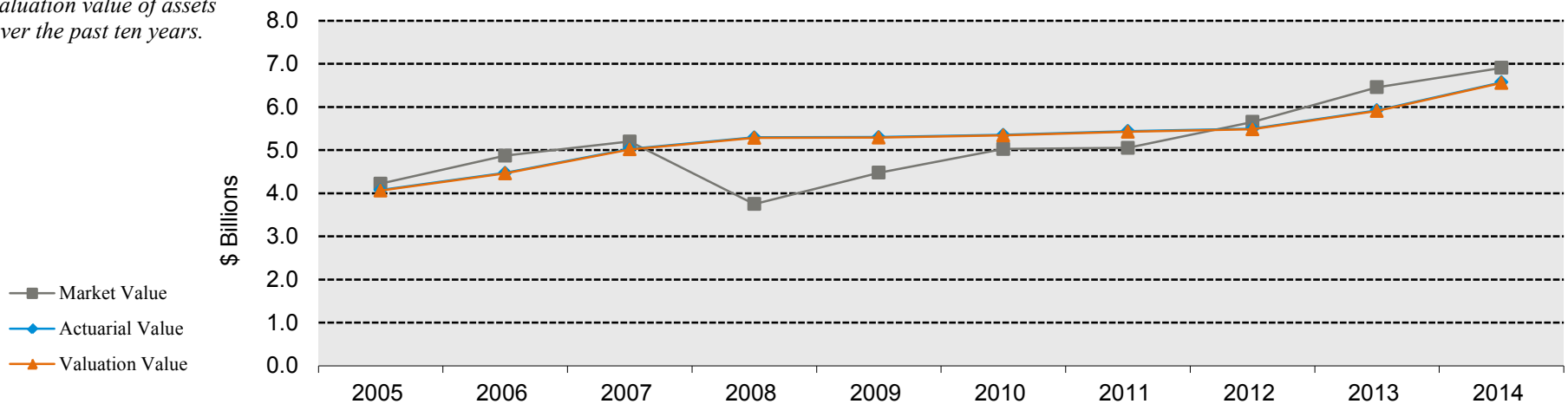
SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

The market value, actuarial value and valuation value of assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets, but with less volatility. The valuation value of assets is the actuarial value, excluding any non-valuation reserves.

The valuation value of assets is significant because the Plan's liabilities are compared to this measure of its assets to determine what portion, if any, remains unfunded. Amortization of the unfunded liability is an important element in determining the contribution requirement.

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

CHART 9
Relative Values of Market Value, Actuarial Value and Valuation Value of Assets for Years Ended December 31, 2005 – 2014



SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

C. ACTUARIAL EXPERIENCE

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

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

return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

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

The total experience gain was \$303.3 million, a gain of \$244.5 million from investments, a loss of \$9.2 million from contribution experience (includes a gain of \$4.6 million from additional UAAL payments and a loss of \$13.8 million from all other contribution experience) and a gain of \$68.0 million from all other sources. A discussion of the major components of the actuarial experience is on the following pages.

**CHART 10
Actuarial Experience for Year Ended December 31, 2014**

1. Net gain/(loss) from investments ⁽¹⁾	\$244,462,582
2. Net gain/(loss) from contribution experience	(9,154,631)
3. Net gain/(loss) from other experience ⁽²⁾	<u>67,988,486</u>
4. Net experience gain/(loss): (1) + (2) + (3)	<u>\$303,296,437</u>

⁽¹⁾ Details in Chart 11

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

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

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

Investment Rate of Return

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. For valuation purposes, the assumed rate of return on the actuarial value of assets during 2014 was 7.25%. The actual rate of return on the actuarial value for the 2014 Plan Year was 11.39%.

The market value return reflects the entire impact of the investment performance during the current year and ignores returns from prior years.

The actuarial and valuation value returns reflect the fact that investment gains and losses are gradually taken into account. This is because these returns reflect only a portion of the investment gain or loss from the current year as well as portions of the gains and losses from prior years in accordance with the Board's asset valuation method.

Since the actual return for the year was greater than the assumed return, the Plan experienced an actuarial gain on the actuarial and valuation value of assets during the year ended December 31, 2014.

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

CHART 11

Investment Experience for Year Ended December 31, 2014 – Market Value, Actuarial Value and Valuation Value of Assets

	Market Value	Actuarial Value	Valuation Value
1. Actual return	\$473,522,261	\$673,040,867	\$671,957,212
2. Average value of assets	6,446,852,783	5,910,984,379	5,896,477,661
3. Actual rate of return: (1) ÷ (2)	7.35%	11.39%	11.40%
4. Assumed rate of return	7.25%	7.25%	7.25%
5. Expected return: (2) x (4)	467,396,827	428,546,367	427,494,630
6. Actuarial gain/(loss): (1) – (5)	<u>\$6,125,434</u>	<u>\$244,494,500</u>	<u>\$244,462,582</u>

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

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

CHART 12

Investment Return – Market Value, Actuarial Value, and Valuation Value: 2005 – 2014

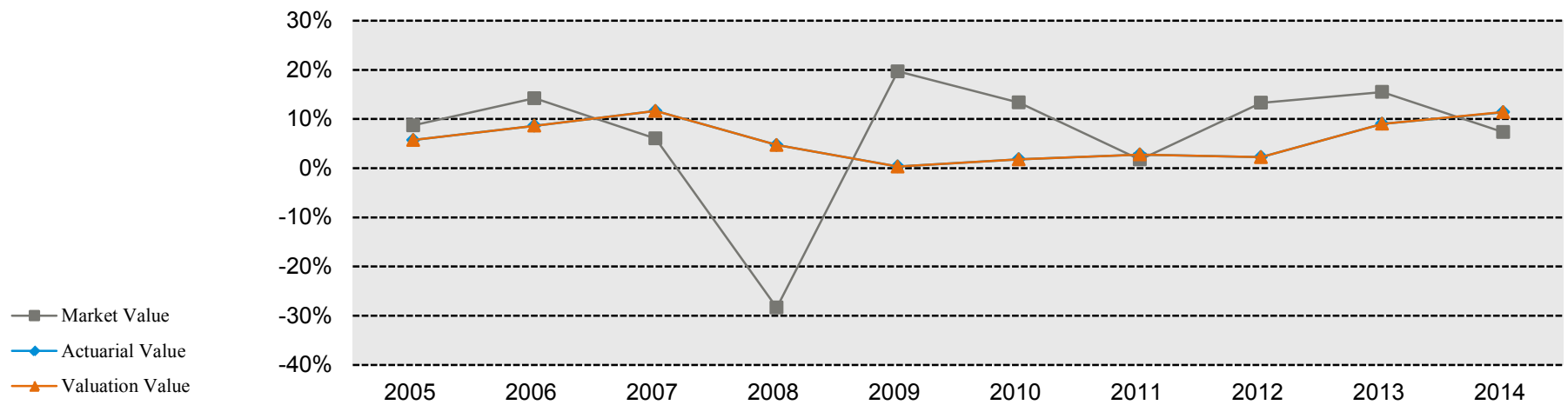
Year Ended December 31	Market Value Investment Return		Actuarial Value Investment Return		Valuation Value Investment Return	
	Amount	Percent of Assets	Amount	Percent of Assets	Amount	Percent of Assets
2005	\$331,400,271	8.71%	\$216,618,073	5.74%	\$215,737,484	5.74%
2006	603,899,378	14.23%	353,776,306	8.63%	352,838,472	8.64%
2007	294,694,885	6.03%	522,206,583	11.63%	521,211,436	11.64%
2008	(1,477,705,765)	(28.35%)	238,397,117	4.73%	237,402,129	4.72%
2009	736,956,891	19.68%	18,226,933	0.34%	17,021,116	0.32%
2010	594,637,090	13.35%	95,918,913	1.82%	94,835,030	1.80%
2011	88,042,268	1.76%	148,058,548	2.78%	146,988,614	2.77%
2012	668,138,997	13.31%	121,921,302	2.25%	120,826,177	2.24%
2013	870,984,744	15.50%	492,503,802	9.01%	491,324,308	9.02%
2014	473,522,261	7.35%	673,040,867	11.39%	671,957,212	11.40%
Total	\$3,184,571,020		\$2,880,668,444		\$2,870,141,978	
<i>Five-Year Average Return</i>		10.16%		5.59%		5.59%
<i>Ten-Year Average Return</i>		6.58%		5.74%		5.74%

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

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

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

CHART 13
Market, Actuarial and Valuation Value Rates of Return for Years Ended December 31, 2005 - 2014



SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

Other Experience

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

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

Please see Exhibit I in Section 3 for a detailed reconciliation of changes in the Unfunded Actuarial Accrued Liability.

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

D. RECOMMENDED CONTRIBUTION

Employer contributions consist of two components:

Normal Cost

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

Contribution to the Unfunded Actuarial Accrued Liability (UAAL)

The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the combined annual inflation and "across the board" salary increase rate of 4.00% along with expected payroll. The remaining balance of the December 31, 2007 UAAL is being amortized over a 8-year declining period as of December 31, 2014. Any change in the UAAL that arises at each valuation after December 31, 2007 is amortized over its own separate declining 18-year period. Effective with the December 31, 2013 valuation, any change in the UAAL that arises due to plan amendments is amortized over its own declining 10-year period (with the exception of a change due to retirement incentives, which is to be funded in full upon adoption of the incentive).

Employer Contribution Rates

The current and recommended employer contribution rates are shown in Chart 14. County contribution rates also include the Superior Court.

For the PEPRA cost groups without actual membership data, we have assumed in this valuation that their demographic profiles can be approximated by the data profiles of current active members with membership dates on or after January 1, 2011.

The amortization cost for the UAAL has been expressed as a percentage of total future payroll, including members with membership dates on or after January 1, 2013. This

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

has been done in order to continue the open group level percent of payroll amortization methodology for the UAAL associated with members with membership dates before January 1, 2013. It is also consistent with the methodology applied when Safety Tier C was implemented.

The employer contribution rates shown in Chart 14 are the aggregate rates before reflecting the under and over \$350 of monthly compensation contribution provisions for members integrated with Social Security. The detailed contribution rates reflecting these provisions will be provided in the contribution rate packet that goes to the Board of Supervisors.

Member Contributions Non-PEPRA Members

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for non-PEPRA 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 annuity is equal to:

- 1/120 of one year Final Average Salary per year of service at age 55 for General Tier 1 and Tier 3 Non-enhanced members
- 1/100 of one year Final Average Salary per year of service at age 50 for Safety Tier A Non-enhanced members
- 1/120 of one year Final Average Salary per year of service at age 60 for General Tier 1 and Tier 3 Enhanced members
- 1/100 of one year Final Average Salary per year of service at age 50 for Safety Tier A Enhanced
- 1/100 of three year Final Average Salary per year of service at age 50 for Safety Tier C Enhanced members

Member contributions are accumulated at an annual interest rate adopted annually by the Board. Note that recently negotiated MOU's for County General members no

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

longer include the 50% employer subvention of the members' basic contributions. Districts pay varying portions, of the members' basic contributions on a nonrefundable basis. Members also pay 50% of the cost-of-living benefit. For most Safety Tier A employers, Safety members also subvent a portion of the employer rate, currently up to 9% of compensation (depending on their MOU). Chart 14 does not include any employer subvention of member contributions or any member subvention of employer contributions.

Effective with the December 31, 2014 valuation, for determining the cost of the total benefit (i.e., basic and COLA components), the leave cashout assumptions are recognized in the valuation as an employer and member cost. Prior to the December 31, 2014 valuation, for determining the cost of the basic benefit (i.e., non-COLA component), the leave cashout assumptions were recognized in the valuation only as an employer cost and did not affect member contribution rates. In other words, the leave cashout assumptions were only used in establishing COLA member contribution rates.

As a result of including the leave cashout assumptions in the basic member rates for the members of each specific cost group, the COLA member rates are no longer pooled across all members of the same tier. This results in twelve different sets of member contribution rates for each specific cost group.

The age specific contribution rates are provided in Appendix A.

PEPRA Members

Pursuant to Section 7522.30(a) of the Government Code, PEPRA members are required to contribute at least 50% of the Normal Cost rate. We have assumed that exactly 50% of the Normal Cost would be paid by PEPRA members. In addition, we have calculated the total Normal Cost rate for the PEPRA tiers to the nearest one-fiftieth of one percent (i.e., the nearest even one-hundredth) as that will allow the Normal Cost rate to be shared exactly 50:50 without going beyond two decimal places.

Member contribution rates are provided in Appendix B.

Cost Sharing Adjustments

Starting with the December 31, 2009 Actuarial Valuation, the Board took action to depool CCCERA's assets, liabilities and normal cost by employer when determining

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

employer contribution rates. The Board action included a review of experience back to December 31, 2002. This did not involve recalculation of any employer rates prior to December 31, 2009. However, it did involve reflecting the separate experience of the employers in each individual cost group back from December 31, 2002 through December 31, 2009. The cost groups are detailed on pages 19 and 20. In addition, the Board action called for a discontinuation of certain cost sharing adjustments for both member and employer contribution rates for General Tier 1 and Safety Tier A. Even under the depooling structure, there are a few remaining cost sharing arrangements. Here is a summary of the cost sharing arrangements that were implemented in the December 31, 2009 Actuarial Valuation:

- Smaller employers (less than 50 active members as of December 31, 2009) were pooled with the applicable County tier. Safety members from the East Contra Costa Fire Protection District were pooled with Safety members of the Contra Costa County Fire Protection District.
- Due to a statutory requirement, the Superior Court was pooled with the County regardless of how many members the Court has.
- UAAL costs are pooled between Cost Group #1 and Cost Group #2 which represent General County and Small Districts. UAAL costs are also pooled for Cost Groups #7 and #9 which are Safety County tiers.

Other Adjustments

Other adjustments made in the determination of rates are as follows:

- Adjustments are made to some UAAL amounts for the County, the Contra Costa County Fire Protection District (CCCFPD), the Moraga-Orinda Fire District (Moraga) and First 5 – Children & Families Commission (First Five) to account for Pension Obligation Bonds (POBs) and any other any other special contributions that they previously made. These adjustments serve to reduce the UAAL contribution rate for these employers. The outstanding balances of these adjustments as of December 31, 2014 are as follows:

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	<u>County General</u>	<u>Moraga General</u>	<u>First Five General</u>	<u>CCCFPD Safety</u>
Basic	\$199,158,214	\$350,724	\$817,111	\$57,165,608
COL	\$159,587,477	\$203,556	\$618,079	\$43,597,052

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

Summary of Cost Groups and Employers

GENERAL

Cost Group	Employer Name	Benefit Structure	Special Adjustment
(1)	County General	Tier 1 Enhanced/PEPRA Tier 4	Yes
	Local Agency Formation Commission	Tier 1 Enhanced/PEPRA Tier 4	
	Contra Costa Mosquito and Vector Control District	Tier 1 Enhanced/PEPRA Tier 4	
	Bethel Island Municipal District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4	
	First 5-Children & Families Commission	Tier 1 Enhanced/PEPRA Tier 4	Yes
	Contra Costa County Employees' Retirement Association	Tier 1 Enhanced/PEPRA Tier 4	
	Superior Court	Tier 1 Enhanced/PEPRA Tier 4	Yes
	East Contra Costa Fire Protection District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4	
	Moraga-Orinda Fire District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4	Yes
	Rodeo-Hercules Fire Protection District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4	
San Ramon Valley Fire District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4		
(2)	County General	Tier 3 Enhanced/PEPRA Tier 5	Yes
	In-Home Supportive Services Authority	Tier 3 Enhanced/PEPRA Tier 5	
	Contra Costa Mosquito and Vector Control District	Tier 3 Enhanced/PEPRA Tier 5	
	Superior Court	Tier 3 Enhanced/PEPRA Tier 5	Yes
(3)	Central Contra Costa Sanitary District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4	
(4)	Contra Costa Housing Authority	Tier 1 Enhanced/PEPRA Tier 4	
(5)	Contra Costa County Fire Protection District (Non-Integrated)	Tier 1 Enhanced/PEPRA Tier 4	
(6)	Rodeo Sanitary District	Tier 1 Non-Enhanced/PEPRA Tier 4	
	Byron Brentwood Cemetery	Tier 1 Non-Enhanced/PEPRA Tier 4	

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

Summary of Cost Groups and Employers (continued)

SAFETY

Cost Group	Employer Name	Benefit Structure	Special Adjustment
(7)	County Safety	Tier A Enhanced/PEPRA Tier D	
(8)	Contra Costa County Fire Protection District East Contra Costa Fire Protection District	Tier A Enhanced/PEPRA Tier D/E Tier A Enhanced/PEPRA Tier D	Yes
(9)	County Safety	Tier C Enhanced/PEPRA Tier E (Members hired on or after January 1, 2007)	
(10)	Moraga-Orinda Fire District	Tier A Enhanced/PEPRA Tier D	
(11)	San Ramon Valley Fire District	Tier A Enhanced/PEPRA Tier D	
(12)	Rodeo-Hercules Fire Protection District	Tier A Non-Enhanced/PEPRA Tier D	

A special adjustment is made for employers that have a remaining balance of a Pension Obligation Bond or any other special contributions as described on page 17.

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CHART 14
Components of Current and Recommended Employer Contribution Rates

Cost Group #1	December 31, 2014 (Recommended Rates for FY 16-17)				December 31, 2013 (Recommended Rates for FY 15-16)			
	Basic	COLA	Total	Estimated Annual Amount	Basic	COLA	Total	Estimated Annual Amount
County General Tier 1 w/Courts								
Normal Cost	11.68%	3.71%	15.39%	\$2,016,968	11.78%	3.62%	15.40%	\$2,233,850
UAAL	<u>11.48%</u>	<u>3.59%</u>	<u>15.07%</u>	<u>1,975,029</u>	<u>12.75%</u>	<u>4.77%</u>	<u>17.52%</u>	<u>2,541,367</u>
Total Contributions	23.16%	7.30%	30.46%	\$3,991,997	24.53%	8.39%	32.92%	\$4,775,217
	Payroll = \$13,105,703				Payroll = \$14,505,517			
Cost Group #1								
District General Tier 1 w/o POB								
Normal Cost	11.68%	3.71%	15.39%	\$991,372	11.78%	3.62%	15.40%	\$1,053,061
UAAL	<u>17.10%</u>	<u>8.10%</u>	<u>25.20%</u>	<u>1,623,299</u>	<u>18.37%</u>	<u>9.27%</u>	<u>27.64%</u>	<u>1,890,039</u>
Total Contributions	28.78%	11.81%	40.59%	\$2,614,671	30.15%	12.89%	43.04%	\$2,943,100
	Payroll = \$6,441,663				Payroll = \$6,838,058			
Cost Group #1								
District General Tier 1 w/ POB (Moraga)								
Normal Cost	11.68%	3.71%	15.39%	\$74,512	11.78%	3.62%	15.40%	\$74,942
UAAL	<u>7.32%</u>	<u>2.42%</u>	<u>9.74%</u>	<u>47,157</u>	<u>8.38%</u>	<u>3.46%</u>	<u>11.84%</u>	<u>57,618</u>
Total Contributions	19.00%	6.13%	25.13%	\$121,669	20.16%	7.08%	27.24%	\$132,560
	Payroll = \$484,159				Payroll = \$486,636			
Cost Group #1								
District General Tier 1 w/ UAAL Prepayment (First Five)								
Normal Cost	11.68%	3.71%	15.39%	\$259,722	11.78%	3.62%	15.40%	\$244,640
UAAL	<u>9.94%</u>	<u>2.69%</u>	<u>12.63%</u>	<u>213,144</u>	<u>10.52%</u>	<u>3.34%</u>	<u>13.86%</u>	<u>220,176</u>
Total Contributions	21.62%	6.40%	28.02%	\$472,866	22.30%	6.96%	29.26%	\$464,816
	Payroll = \$1,687,601				Payroll = \$1,588,570			

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

**CHART 14 (continued)
Components of Current and Recommended Employer Contribution Rates**

Cost Group #1	December 31, 2014 (Recommended Rates for FY 16-17)				December 31, 2013 (Recommended Rates for FY 15-16)			
	Basic	COLA	Total	Estimated Annual Amount	Basic	COLA	Total	Estimated Annual Amount
County General Tier 4 (3% COLA) w/ Courts								
Normal Cost	7.98%	2.96%	10.94%	\$0	8.68%	3.27%	11.95%	\$0
UAAL	<u>11.48%</u>	<u>3.59%</u>	<u>15.07%</u>	<u>0</u>	<u>12.75%</u>	<u>4.77%</u>	<u>17.52%</u>	<u>0</u>
Total Contributions	19.46%	6.55%	26.01%	\$0	21.43%	8.04%	29.47%	\$0
		Payroll = \$0				Payroll = \$0		
Cost Group #1 District General Tier 4 (3% COLA) w/o POB								
Normal Cost	7.98%	2.96%	10.94%	\$66,934	8.68%	3.27%	11.95%	\$16,392
UAAL	<u>17.10%</u>	<u>8.10%</u>	<u>25.20%</u>	<u>154,180</u>	<u>18.37%</u>	<u>9.27%</u>	<u>27.64%</u>	<u>37,914</u>
Total Contributions	25.08%	11.06%	36.14%	\$221,114	27.05%	12.54%	39.59%	\$54,306
		Payroll = \$611,824				Payroll = \$137,172		
Cost Group #1 District General Tier 4 (3% COLA) w/ POB (Moraga)								
Normal Cost	7.98%	2.96%	10.94%	\$3,596	8.68%	3.27%	11.95%	\$0
UAAL	<u>7.32%</u>	<u>2.42%</u>	<u>9.74%</u>	<u>3,202</u>	<u>8.38%</u>	<u>3.46%</u>	<u>11.84%</u>	<u>0</u>
Total Contributions	15.30%	5.38%	20.68%	\$6,798	17.06%	6.73%	23.79%	\$0
		Payroll = \$32,871				Payroll = \$0		
Cost Group #1 District General Tier 4 (3% COLA) with UAAL Prepayment (First Five)								
Normal Cost	7.98%	2.96%	10.94%	\$19,863	8.68%	3.27%	11.95%	\$13,934
UAAL	<u>9.94%</u>	<u>2.69%</u>	<u>12.63%</u>	<u>22,932</u>	<u>10.52%</u>	<u>3.34%</u>	<u>13.86%</u>	<u>16,161</u>
Total Contributions	17.92%	5.65%	23.57%	\$42,795	19.20%	6.61%	25.81%	\$30,095
		Payroll = \$181,564				Payroll = \$116,599		

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

**CHART 14 (continued)
Components of Current and Recommended Employer Contribution Rates**

	December 31, 2014 (Recommended Rates for FY 16-17)				December 31, 2013 (Recommended Rates for FY 15-16)			
	Basic	COLA	Total	Estimated Annual Amount	Basic	COLA	Total	Estimated Annual Amount
Cost Group #1								
County General Tier 4 (2% COLA) w/ Courts								
Normal Cost	8.17%	1.84%	10.01%	\$0	8.25%	1.85%	10.10%	\$0
UAAL	<u>11.48%</u>	<u>3.59%</u>	<u>15.07%</u>	<u>0</u>	<u>12.75%</u>	<u>4.77%</u>	<u>17.52%</u>	<u>0</u>
Total Contributions	19.65%	5.43%	25.08%	\$0	21.00%	6.62%	27.62%	\$0
		Payroll = \$0				Payroll = \$0		
Cost Group #2								
County General Tier 3 w/ Courts								
Normal Cost	11.44%	3.48%	14.92%	\$63,876,948	11.50%	3.49%	14.99%	\$66,765,809
UAAL	<u>11.48%</u>	<u>3.59%</u>	<u>15.07%</u>	<u>64,519,142</u>	<u>12.75%</u>	<u>4.77%</u>	<u>17.52%</u>	<u>78,084,673</u>
Total Contributions	22.92%	7.07%	29.99%	\$128,396,090	24.25%	8.26%	32.51%	\$144,850,482
		Payroll = \$428,129,676				Payroll = \$445,733,711		
Cost Group #2								
District General Tier 3 w/o POB								
Normal Cost	11.44%	3.48%	14.92%	\$473,816	11.50%	3.49%	14.99%	\$464,123
UAAL	<u>17.10%</u>	<u>8.10%</u>	<u>25.20%</u>	<u>800,280</u>	<u>18.37%</u>	<u>9.27%</u>	<u>27.64%</u>	<u>855,795</u>
Total Contributions	28.54%	11.58%	40.12%	\$1,274,096	29.87%	12.76%	42.63%	\$1,319,918
		Payroll = \$3,175,713				Payroll = \$3,096,219		
Cost Group #2								
County General Tier 5 (3%/4% COLA) w/ Courts								
Normal Cost	7.63%	2.76%	10.39%	\$5,251,849	7.74%	2.79%	10.53%	\$3,172,436
UAAL	<u>11.48%</u>	<u>3.59%</u>	<u>15.07%</u>	<u>7,617,456</u>	<u>12.75%</u>	<u>4.77%</u>	<u>17.52%</u>	<u>5,278,355</u>
Total Contributions	19.11%	6.35%	25.46%	\$12,869,305	20.49%	7.56%	28.05%	\$8,450,791
		Payroll = \$50,547,155				Payroll = \$30,127,599		

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

**CHART 14 (continued)
Components of Current and Recommended Employer Contribution Rates**

	December 31, 2014 (Recommended Rates for FY 16-17)				December 31, 2013 (Recommended Rates for FY 15-16)			
	Basic	COLA	Total	Estimated Annual Amount	Basic	COLA	Total	Estimated Annual Amount
Cost Group #2								
District General Tier 5								
(3%/4% COLA) w/o POB								
Normal Cost	7.63%	2.76%	10.39%	\$16,472	7.74%	2.79%	10.53%	\$9,313
UAAL	<u>17.10%</u>	<u>8.10%</u>	<u>25.20%</u>	<u>39,952</u>	<u>18.37%</u>	<u>9.27%</u>	<u>27.64%</u>	<u>24,445</u>
Total Contributions	24.73%	10.86%	35.59%	\$56,424	26.11%	12.06%	38.17%	\$33,758
				Payroll = \$158,538				Payroll = \$88,441
Cost Group #2								
County General Tier 5								
(2% COLA) w/ Courts								
Normal Cost	7.12%	1.61%	8.73%	\$1,679,171	6.58%	1.52%	8.10%	\$84,670
UAAL	<u>11.48%</u>	<u>3.59%</u>	<u>15.07%</u>	<u>2,898,638</u>	<u>12.75%</u>	<u>4.77%</u>	<u>17.52%</u>	<u>183,138</u>
Total Contributions	18.60%	5.20%	23.80%	\$4,577,809	19.33%	6.29%	25.62%	\$267,808
				Payroll = \$19,234,491				Payroll = \$1,045,307
Cost Group #2								
District General Tier 5								
(2% COLA) w/o POB								
Normal Cost	7.12%	1.61%	8.73%	\$2,653	6.58%	1.52%	8.10%	\$0
UAAL	<u>17.10%</u>	<u>8.10%</u>	<u>25.20%</u>	<u>7,660</u>	<u>18.37%</u>	<u>9.27%</u>	<u>27.64%</u>	<u>0</u>
Total Contributions	24.22%	9.71%	33.93%	\$10,313	24.95%	10.79%	35.74%	\$0
				Payroll = \$30,395				Payroll = \$0

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

**CHART 14 (continued)
Components of Current and Recommended Employer Contribution Rates**

Cost Group #3	December 31, 2014 (Recommended Rates for FY 16-17)				December 31, 2013 (Recommended Rates for FY 15-16)			
	Basic	COLA	Total	Estimated Annual Amount	Basic	COLA	Total	Estimated Annual Amount
CCCSD General Tier 1								
Normal Cost	12.91%	4.08%	16.99%	\$4,521,945	13.26%	4.20%	17.46%	\$4,680,654
UAAL	<u>26.17%</u>	<u>12.81%</u>	<u>38.98%</u>	<u>10,374,657</u>	<u>28.69%</u>	<u>14.43%</u>	<u>43.12%</u>	<u>11,559,552</u>
Total Contributions	39.08%	16.89%	55.97%	\$14,896,602	41.95%	18.63%	60.58%	\$16,240,206
	Payroll = \$26,615,333				Payroll = \$26,807,867			
Cost Group #3 CCCSD General Tier 4 (3% COLA)								
Normal Cost	8.80%	3.26%	12.06%	\$178,815	9.20%	3.42%	12.62%	\$46,785
UAAL	<u>26.17%</u>	<u>12.81%</u>	<u>38.98%</u>	<u>577,962</u>	<u>28.69%</u>	<u>14.43%</u>	<u>43.12%</u>	<u>159,855</u>
Total Contributions	34.97%	16.07%	51.04%	\$756,777	37.89%	17.85%	55.74%	\$206,640
	Payroll = \$1,482,714				Payroll = \$370,722			
Cost Group #4 Contra Costa Housing Authority General Tier 1								
Normal Cost	12.64%	3.86%	16.50%	\$753,889	12.74%	3.78%	16.52%	\$806,784
UAAL	<u>15.48%</u>	<u>10.52%</u>	<u>26.00%</u>	<u>1,187,947</u>	<u>15.91%</u>	<u>11.44%</u>	<u>27.35%</u>	<u>1,335,687</u>
Total Contributions	28.12%	14.38%	42.50%	\$1,941,836	28.65%	15.22%	43.87%	\$2,142,471
	Payroll = \$4,569,026				Payroll = \$4,883,683			
Cost Group #4 Contra Costa Housing Authority General Tier 4 (3% COLA)								
Normal Cost	6.96%	2.64%	9.60%	\$53,025	6.55%	2.45%	9.00%	\$13,499
UAAL	<u>15.48%</u>	<u>10.52%</u>	<u>26.00%</u>	<u>143,610</u>	<u>15.91%</u>	<u>11.44%</u>	<u>27.35%</u>	<u>41,022</u>
Total Contributions	22.44%	13.16%	35.60%	\$196,635	22.46%	13.89%	36.35%	\$54,521
	Payroll = \$552,345				Payroll = \$149,988			

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

**CHART 14 (continued)
Components of Current and Recommended Employer Contribution Rates**

Cost Group #5	December 31, 2014 (Recommended Rates for FY 16-17)				December 31, 2013 (Recommended Rates for FY 15-16)			
	Basic	COLA	Total	Estimated Annual Amount	Basic	COLA	Total	Estimated Annual Amount
CCCCFPD General Tier 1								
Normal Cost	11.77%	3.74%	15.51%	\$531,351	12.00%	3.62%	15.62%	\$562,937
UAAL	<u>9.60%</u>	<u>6.61%</u>	<u>16.21%</u>	<u>555,332</u>	<u>11.93%</u>	<u>7.52%</u>	<u>19.45%</u>	<u>700,968</u>
Total Contributions	21.37%	10.35%	31.72%	\$1,086,683	23.93%	11.14%	35.07%	\$1,263,905
	Payroll = \$3,425,859				Payroll = \$3,603,948			
Cost Group #5 CCCCFPD General Tier 4 (3% COLA)								
Normal Cost	10.26%	3.88%	14.14%	\$11,688	10.15%	3.83%	13.98%	\$8,254
UAAL	<u>9.60%</u>	<u>6.61%</u>	<u>16.21%</u>	<u>13,399</u>	<u>11.93%</u>	<u>7.52%</u>	<u>19.45%</u>	<u>11,483</u>
Total Contributions	19.86%	10.49%	30.35%	\$25,087	22.08%	11.35%	33.43%	\$19,737
	Payroll = \$82,656				Payroll = \$59,039			
Cost Group #5 CCCCFPD General Tier 4 (2% COLA)								
Normal Cost	6.99%	1.59%	8.58%	\$4,383	8.25%	1.85%	10.10%	\$0
UAAL	<u>9.60%</u>	<u>6.61%</u>	<u>16.21%</u>	<u>8,280</u>	<u>11.93%</u>	<u>7.52%</u>	<u>19.45%</u>	<u>0</u>
Total Contributions	16.59%	8.20%	24.79%	\$12,663	20.18%	9.37%	29.55%	\$0
	Payroll = \$51,082				Payroll = \$0			

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

**CHART 14 (continued)
Components of Current and Recommended Employer Contribution Rates**

	December 31, 2014 (Recommended Rates for FY 16-17)				December 31, 2013 (Recommended Rates for FY 15-16)			
	Basic	COLA	Total	Estimated Annual Amount	Basic	COLA	Total	Estimated Annual Amount
Cost Group #6								
Non-Enhanced District								
General Tier 1								
Normal Cost	11.77%	3.83%	15.60%	\$125,572	12.32%	3.88%	16.20%	\$128,349
UAAL	<u>9.91%</u>	<u>1.23%</u>	<u>11.14%</u>	<u>89,671</u>	<u>10.78%</u>	<u>2.15%</u>	<u>12.93%</u>	<u>102,442</u>
Total Contributions	21.68%	5.06%	26.74%	\$215,243	23.10%	6.03%	29.13%	\$230,791
	Payroll = \$804,948				Payroll = \$792,280			
Cost Group #6								
Non-Enhanced District General								
Tier 4 (3% COLA)								
Normal Cost	8.41%	3.24%	11.65%	\$2,887	8.25%	3.01%	11.26%	\$0
UAAL	<u>9.91%</u>	<u>1.23%</u>	<u>11.14%</u>	<u>2,761</u>	<u>10.78%</u>	<u>2.15%</u>	<u>12.93%</u>	<u>0</u>
Total Contributions	18.32%	4.47%	22.79%	\$5,648	19.03%	5.16%	24.19%	\$0
	Payroll = \$24,781				Payroll = \$0			
Cost Group #7								
County Safety Tier A								
Normal Cost	21.57%	7.42%	28.99%	\$17,338,168	21.66%	7.39%	29.05%	\$19,122,294
UAAL	<u>26.93%</u>	<u>22.02%</u>	<u>48.95%</u>	<u>29,275,728</u>	<u>28.69%</u>	<u>22.62%</u>	<u>51.31%</u>	<u>33,775,039</u>
Total Contributions	48.50%	29.44%	77.94%	\$46,613,896	50.35%	30.01%	80.36%	\$52,897,333
	Payroll = \$59,807,411				Payroll = \$65,825,451			
Cost Group #7								
County Safety Tier D								
Normal Cost	15.99%	6.69%	22.68%	\$376,119	15.14%	6.36%	21.50%	\$173,267
UAAL	<u>26.93%</u>	<u>22.02%</u>	<u>48.95%</u>	<u>811,773</u>	<u>28.69%</u>	<u>22.62%</u>	<u>51.31%</u>	<u>413,503</u>
Total Contributions	42.92%	28.71%	71.63%	\$1,187,892	43.83%	28.98%	72.81%	\$586,770
	Payroll = \$1,658,372				Payroll = \$805,891			

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

**CHART 14 (continued)
Components of Current and Recommended Employer Contribution Rates**

	December 31, 2014 (Recommended Rates for FY 16-17)				December 31, 2013 (Recommended Rates for FY 15-16)			
	Basic	COLA	Total	Estimated Annual Amount	Basic	COLA	Total	Estimated Annual Amount
Cost Group #8								
CCCYPD Safety Tier A								
Normal Cost	20.97%	7.32%	28.29%	\$7,506,340	21.22%	7.39%	28.61%	\$8,057,977
UAAL	<u>18.81%</u>	<u>27.45%</u>	<u>46.26%</u>	<u>12,274,418</u>	<u>21.90%</u>	<u>27.67%</u>	<u>49.57%</u>	<u>13,961,339</u>
Total Contributions	39.78%	34.77%	74.55%	\$19,780,758	43.12%	35.06%	78.18%	\$22,019,316
	Payroll = \$26,533,545				Payroll = \$28,164,897			
Cost Group #8								
East CCCYPD Safety Tier A								
Normal Cost	20.97%	7.32%	28.29%	\$755,486	21.22%	7.39%	28.61%	\$797,446
UAAL	<u>48.46%</u>	<u>50.07%</u>	<u>98.53%</u>	<u>2,631,251</u>	<u>49.95%</u>	<u>49.06%</u>	<u>99.01%</u>	<u>2,759,704</u>
Total Contributions	69.43%	57.39%	126.82%	\$3,386,737	71.17%	56.45%	127.62%	\$3,557,150
	Payroll = \$2,670,507				Payroll = \$2,787,298			
Cost Group #8								
CCCYPD Safety Tier D								
Normal Cost	13.64%	6.01%	19.65%	\$249,434	14.28%	6.24%	20.52%	\$20,032
UAAL	<u>18.81%</u>	<u>27.45%</u>	<u>46.26%</u>	<u>587,216</u>	<u>21.90%</u>	<u>27.67%</u>	<u>49.57%</u>	<u>48,390</u>
Total Contributions	32.45%	33.46%	65.91%	\$836,650	36.18%	33.91%	70.09%	\$68,422
	Payroll = \$1,269,382				Payroll = \$97,620			
Cost Group #8								
East CCCYPD Safety Tier D								
Normal Cost	13.64%	6.01%	19.65%	\$24,110	14.28%	6.24%	20.52%	\$66,880
UAAL	<u>48.46%</u>	<u>50.07%</u>	<u>98.53%</u>	<u>120,892</u>	<u>49.95%</u>	<u>49.06%</u>	<u>99.01%</u>	<u>322,700</u>
Total Contributions	62.10%	56.08%	118.18%	\$145,002	64.23%	55.30%	119.53%	\$389,580
	Payroll = \$122,696				Payroll = \$325,927			

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

**CHART 14 (continued)
Components of Current and Recommended Employer Contribution Rates**

	December 31, 2014 (Recommended Rates for FY 16-17)				December 31, 2013 (Recommended Rates for FY 15-16)			
	Basic	COLA	Total	Estimated Annual Amount	Basic	COLA	Total	Estimated Annual Amount
Cost Group #8								
CCCYPD Safety Tier E								
Normal Cost	12.63%	3.32%	15.95%	\$0	12.45%	3.28%	15.73%	\$0
UAAL	<u>18.81%</u>	<u>27.45%</u>	<u>46.26%</u>	<u>0</u>	<u>21.90%</u>	<u>27.67%</u>	<u>49.57%</u>	<u>0</u>
Total Contributions	31.44%	30.77%	62.21%	\$0	34.35%	30.95%	65.30%	\$0
		Payroll = \$0				Payroll = \$0		
Cost Group #9								
County Safety Tier C								
Normal Cost	19.30%	3.98%	23.28%	\$3,304,519	19.45%	4.00%	23.45%	\$3,448,703
UAAL	<u>26.93%</u>	<u>22.02%</u>	<u>48.95%</u>	<u>6,948,291</u>	<u>28.69%</u>	<u>22.62%</u>	<u>51.31%</u>	<u>7,545,969</u>
Total Contributions	46.23%	26.00%	72.23%	\$10,252,810	48.14%	26.62%	74.76%	\$10,994,672
		Payroll = \$14,194,670				Payroll = \$14,706,624		
Cost Group #9								
County Safety Tier E								
Normal Cost	12.93%	3.39%	16.32%	\$692,978	13.64%	3.55%	17.19%	\$110,606
UAAL	<u>26.93%</u>	<u>22.02%</u>	<u>48.95%</u>	<u>2,078,509</u>	<u>28.69%</u>	<u>22.62%</u>	<u>51.31%</u>	<u>330,144</u>
Total Contributions	39.86%	25.41%	65.27%	\$2,771,487	42.33%	26.17%	68.50%	\$440,750
		Payroll = \$4,246,187				Payroll = \$643,431		

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

**CHART 14 (continued)
Components of Current and Recommended Employer Contribution Rates**

	December 31, 2014 (Recommended Rates for FY 16-17)				December 31, 2013 (Recommended Rates for FY 15-16)			
	Basic	COLA	Total	Estimated Annual Amount	Basic	COLA	Total	Estimated Annual Amount
Cost Group #10								
Moraga-Orinda FD Safety Tier A								
Normal Cost	20.30%	7.23%	27.53%	\$1,738,868	20.57%	7.23%	27.80%	\$1,956,557
UAAL	<u>18.40%</u>	<u>24.67%</u>	<u>43.07%</u>	<u>2,720,415</u>	<u>19.40%</u>	<u>23.83%</u>	<u>43.23%</u>	<u>3,042,517</u>
Total Contributions	38.70%	31.90%	70.60%	\$4,459,283	39.97%	31.06%	71.03%	\$4,999,074
	Payroll = \$6,316,265				Payroll = \$7,037,975			
Cost Group #10								
Moraga-Orinda FD Safety Tier D								
Normal Cost	12.55%	5.55%	18.10%	\$126,578	12.98%	5.73%	18.71%	\$88,983
UAAL	<u>18.40%</u>	<u>24.67%</u>	<u>43.07%</u>	<u>301,200</u>	<u>19.40%</u>	<u>23.83%</u>	<u>43.23%</u>	<u>205,597</u>
Total Contributions	30.95%	30.22%	61.17%	\$427,778	32.38%	29.56%	61.94%	\$294,580
	Payroll = \$699,327				Payroll = \$475,589			
Cost Group #11								
San Ramon FD Safety Tier A								
Normal Cost	20.83%	7.36%	28.19%	\$4,573,493	20.93%	7.40%	28.33%	\$4,582,145
UAAL	<u>33.55%</u>	<u>22.30%</u>	<u>55.85%</u>	<u>9,061,000</u>	<u>36.46%</u>	<u>23.74%</u>	<u>60.20%</u>	<u>9,736,855</u>
Total Contributions	54.38%	29.66%	84.04%	\$13,634,493	57.39%	31.14%	88.53%	\$14,319,000
	Payroll = \$16,223,813				Payroll = \$16,174,178			
Cost Group #11								
San Ramon FD Safety Tier D								
Normal Cost	12.91%	5.74%	18.65%	\$82,946	12.84%	5.70%	18.54%	\$61,909
UAAL	<u>33.55%</u>	<u>22.30%</u>	<u>55.85%</u>	<u>248,392</u>	<u>36.46%</u>	<u>23.74%</u>	<u>60.20%</u>	<u>201,019</u>
Total Contributions	46.46%	28.04%	74.50%	\$331,338	49.30%	29.44%	78.74%	\$262,928
	Payroll = \$444,748				Payroll = \$333,919			

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

**CHART 14 (continued)
Components of Current and Recommended Employer Contribution Rates**

	December 31, 2014 (Recommended Rates for FY 16-17)				December 31, 2013 (Recommended Rates for FY 15-16)			
	Basic	COLA	Total	Estimated Annual Amount	Basic	COLA	Total	Estimated Annual Amount
Cost Group #12								
Non-Enhanced Rodeo-Hercules								
FPD Safety Tier A								
Normal Cost	16.88%	5.91%	22.79%	\$434,567	17.29%	5.91%	23.20%	\$359,833
UAAL	<u>40.78%</u>	<u>26.57%</u>	<u>67.35%</u> ⁽¹⁾	<u>1,284,250</u>	<u>52.98%</u>	<u>34.24%</u>	<u>87.22%</u> ⁽²⁾	<u>1,352,787</u>
Total Contributions	57.66%	32.48%	90.14%	\$1,718,817	70.27%	40.15%	110.42%	\$1,712,620
	Payroll = \$1,906,830				Payroll = \$1,551,005			
Cost Group #12								
Non-Enhanced Rodeo-Hercules								
FPD Safety Tier D								
Normal Cost	11.43%	5.10%	16.53%	\$50,910	12.99%	5.77%	18.76%	\$12,710
UAAL	<u>40.78%</u>	<u>26.57%</u>	<u>67.35%</u> ⁽¹⁾	<u>207,429</u>	<u>52.98%</u>	<u>34.24%</u>	<u>87.22%</u> ⁽²⁾	<u>59,092</u>
Total Contributions	52.21%	31.67%	83.88%	\$258,339	65.97%	40.01%	105.98%	\$71,802
	Payroll = \$307,987				Payroll = \$67,750			
Total All Employers Combined (Aggregate)								
Normal Cost	12.87%	4.06%	16.93%	\$118,171,947	13.35%	4.20%	17.55%	\$119,239,774
UAAL	<u>15.07%</u>	<u>8.06%</u>	<u>23.13%</u>	<u>161,426,454</u>	<u>16.70%</u>	<u>9.33%</u>	<u>26.03%</u>	<u>176,855,345</u>
Total Contributions	27.94%	12.12%	40.06%	\$279,598,401	30.05%	13.53%	43.58%	\$296,095,119
	Payroll = \$697,831,837				Payroll = \$679,428,911			

⁽¹⁾ Total UAAL dollar contribution for Rodeo-Hercules FPD is \$1,582,069 for FY 15-16. It is based on the UAAL rate shown above multiplied by estimated payroll for FY 16-17. The estimated payroll for FY 15-16 was determined by increasing payroll amounts shown above for 2015 by 18-months of assumed wage inflation.

⁽²⁾ Total UAAL dollar contribution for Rodeo-Hercules FPD is \$1,497,433 for FY 15-16. It is based on the UAAL rate shown above multiplied by estimated payroll for FY 15-16. The estimated payroll for FY 15-16 was determined by increasing payroll amounts shown above for 2014 by 18-months of assumed wage inflation.

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

The employer contribution rates as of December 31, 2014 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 Employer Contribution Rate

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

CHART 15

Reconciliation of Recommended Average Employer Contribution from December 31, 2013 to December 31, 2014 Valuation

	Contribution Rate ⁽¹⁾	Estimated Annual Dollar Cost ⁽²⁾
Recommended Average Employer Contribution Rate in December 31, 2013 Valuation	43.58%	\$296,095,119
Effect of investment (gain)/loss ⁽³⁾	(2.59%)	(18,073,845)
Effect of additional UAAL contributions from Sanitary District	(0.05%)	(348,916)
Effect of difference in actual versus expected contributions due to delay in implementation of contribution rates calculated in 12/31/2013 valuation	0.15%	1,046,748
Effect of lower than expected individual salary increases	(0.46%)	(3,210,026)
Effect of amortizing prior year's UAAL over a lower than expected projected total payroll	0.33%	7,074,214 ⁽⁴⁾
Effect of lower than expected COLA increases for retirees and beneficiaries	(0.27%)	(1,884,146)
Effect of net other experience (gains)/losses ⁽⁵⁾	(0.56%)	(608,392)
Effect of changes in actuarial assumptions ⁽⁶⁾	0.00%	(3,873)
Effect of including leave cashout assumptions in legacy plan member rates	(0.07%)	<u>(488,482)</u>
Total change	(3.52%)	<u>\$(16,496,718)</u>
Recommended Average Employer Contribution Rate in December 31, 2014 Valuation	40.06%	\$279,598,401

⁽¹⁾ These rates *do not* include any employer subvention of member contributions, or member subvention of employer contributions.

⁽²⁾ Based on projected total payroll for each valuation date shown.

⁽³⁾ Return on the valuation value of assets of 11.40% was greater than the 7.25% assumed in the 2013 valuation.

⁽⁴⁾ The dollar amount shown represents the dollar increase in UAAL amortization payments for amortization bases established prior to the December 31, 2014 valuation.

⁽⁵⁾ Other differences in actual versus expected experience including (but not limited to) disability, withdrawal, retirement and leave cashout experience. Estimated annual dollar cost also reflects change in payroll from prior valuation.

⁽⁶⁾ The Board approved changes in leave cashout assumptions for Cost Group #9.

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

The member contribution rates as of December 31, 2014 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 Member Contribution Rate

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

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

**CHART 16
Reconciliation of Recommended Average Member Contribution from December 31, 2013 to December 31, 2014 Valuation**

	Contribution Rate ⁽¹⁾	Estimated Annual Dollar Cost ⁽²⁾
Recommended Average Member Contribution Rate in December 31, 2013 Valuation	11.91%	\$80,886,090
Effect of changes in actuarial assumptions ⁽³⁾	0.00%	(1,844)
Effect of including leave cashout assumptions in legacy plan member rates	0.07%	488,482
Effect of other experience (gains)/losses ⁽⁴⁾	<u>(0.14%)</u>	<u>1,244,414</u>
Total change	<u>(0.07%)</u>	<u>\$1,731,052</u>
Recommended Average Member Contribution Rate in December 31, 2014 Valuation	11.84%	\$82,617,142

⁽¹⁾ These rates *do not* include any employer subvention of member contributions, or member subvention of employer contributions.

⁽²⁾ Based on projected total payroll for each valuation date shown.

⁽³⁾ The Board approved changes in leave cashout assumptions for Cost Group #9.

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

SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

E. FUNDED RATIO

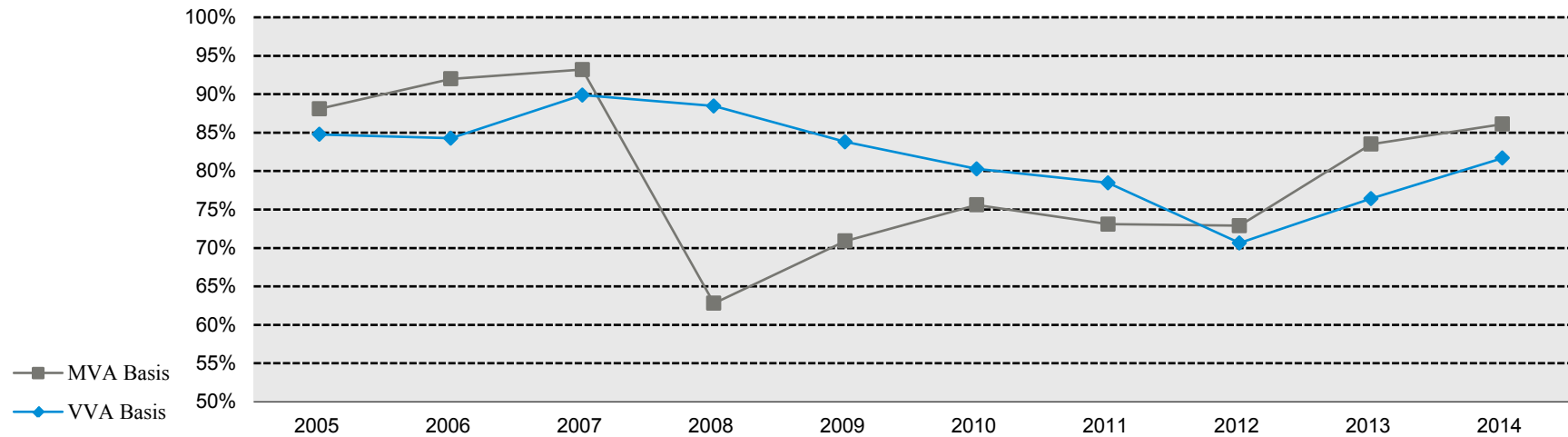
A critical piece of information regarding the Plan's financial status is the funded ratio. The ratios compare the valuation value of assets and market value of assets to the actuarial accrued liabilities of the Plan as calculated. High ratios indicate a well-funded plan with assets sufficient to cover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

depicts a history of the funded ratio for this plan.

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

CHART 17

Funded Ratio for Plan Years Ending December, 31 2005 – 2014



SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

F. VOLATILITY RATIOS

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

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

For CCCERA, the current AVR is about 9.9. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 9.9% of one-year's payroll. Since CCCERA amortizes actuarial gains and losses over a 18-year period, there would be a 0.7% 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 CCCERA, the current LVR is about 11.5. This is about 16% 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 18
Volatility Ratios for Years Ended December 31, 2008 – 2014

Year Ended December 31	Asset Volatility Ratios			Liability Volatility Ratios		
	General	Safety	Total	General	Safety	Total
2008	4.5	8.1	5.3	6.5	15.0	8.5
2009	5.0	11.4	6.4	7.0	16.0	9.1
2010	5.6	13.1	7.3	7.5	17.2	9.7
2011	5.9	13.6	7.6	8.0	18.6	10.4
2012	6.7	16.2	8.7	9.0	22.5	11.9
2013	7.3	18.2	9.5	8.6	22.3	11.4
2014	7.5	19.7	9.9	8.6	23.5	11.5

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT A

Table of Plan Coverage

i. General Tier 1

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	606	661	-8.3%
Average age	49.1	48.7	N/A
Average service	14.4	14.1	N/A
Projected total payroll ⁽¹⁾	\$57,134,291	\$59,506,557	-4.0%
Projected average payroll	\$94,281	\$90,025	4.7%
Account balances	\$51,259,202	\$50,639,503	1.2%
Total active members with at least five years of service	518	554	-6.5%
Vested terminated members	239	260	-8.1%
Retired members			
Number in pay status	2,610	2,647	-1.4%
Average age	74.0	73.7	N/A
Average monthly benefit	\$3,855	\$3,735	3.2%
Disabled members			
Number in pay status ⁽²⁾	283	292	-3.1%
Average age	70.5	70.1	N/A
Average monthly benefit	\$2,665	\$2,599	2.5%
Beneficiaries			
Number in pay status	685	694	-1.3%
Average age	77.2	76.8	N/A
Average monthly benefit	\$2,055	\$1,975	4.1%

⁽¹⁾ Calculated by increasing actual calendar year salaries by the assumed salary scale.

⁽²⁾ For 2014, includes 210 members receiving a service-connected disability and 73 members receiving an ordinary disability.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT A (continued)

Table of Plan Coverage

ii. General Tier 2

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number ⁽¹⁾	0	0	0.0%
Average age	N/A	N/A	N/A
Average service	N/A	N/A	N/A
Projected total payroll ⁽²⁾	N/A	N/A	N/A
Projected average payroll	N/A	N/A	N/A
Account balances	N/A	N/A	N/A
Total active members with at least five years of service	0	0	0.0%
Vested terminated members	248	259	-4.2%
Retired members			
Number in pay status	417	420	-0.7%
Average age	73.6	73.2	N/A
Average monthly benefit	\$824	\$812	1.5%
Disabled members			
Number in pay status ⁽³⁾	42	43	-2.3%
Average age	70.5	69.4	N/A
Average monthly benefit	\$2,074	\$2,023	2.5%
Beneficiaries			
Number in pay status	98	100	-2.0%
Average age	66.9	65.5	N/A
Average monthly benefit	\$834	\$820	1.7%

⁽¹⁾ As of the December 31, 2005 valuation, there are no longer any Tier 2 Active Members since they have all transferred to Tier 3.

⁽²⁾ Calculated by increasing actual calendar year salaries by the assumed salary scale.

⁽³⁾ For 2014, includes 24 members receiving a service-connected disability and 18 members receiving an ordinary disability.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT A (continued)

Table of Plan Coverage

iii. General Tier 3

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	5,729	6,222	-7.9%
Average age	48.4	47.6	N/A
Average service	11.4	10.6	N/A
Projected total payroll ⁽¹⁾	\$431,305,388	\$448,829,930	-3.9%
Projected average payroll	\$75,285	\$72,136	4.4%
Account balances	\$407,046,962	\$381,375,951	6.7%
Total active members with at least five years of service	4,425	4,656	-5.0%
Vested terminated members	1,613	1,460	10.5%
Retired members			
Number in pay status	2,412	2,181	10.6%
Average age	66.1	65.8	N/A
Average monthly benefit	\$2,616	\$2,542	2.9%
Disabled members			
Number in pay status ⁽²⁾	85	87	-2.3%
Average age	61.8	61.6	N/A
Average monthly benefit	\$2,185	\$2,146	1.8%
Beneficiaries			
Number in pay status	134	116	15.5%
Average age	60.5	59.4	N/A
Average monthly benefit	\$1,590	\$1,518	4.7%

⁽¹⁾ Calculated by increasing actual calendar year salaries by the assumed salary scale.

⁽²⁾ For 2014, include 27 members receiving a service-connected disability and 58 members receiving an ordinary disability.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT A (continued)

Table of Plan Coverage

iv. General Tier 4 – 2% COLA

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	2	0	N/A
Average age	31.8	N/A	N/A
Average service	0.3	N/A	N/A
Projected total payroll ⁽¹⁾	\$51,082	N/A	N/A
Projected average payroll	\$25,541	N/A	N/A
Account balances	\$2,106	N/A	N/A
Total active members with at least five years of service	0	0	0.0%
Vested terminated members	0	0	0.0%
Retired members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A

⁽¹⁾ Calculated by increasing actual calendar year salaries by the assumed salary scale. Projected compensation for 2015 has been limited. It is our understanding that in the determination of pension benefits under the PEPRAs formulas, the compensation that can be taken into account for 2015 is equal to \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$117,020, or \$140,424). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015. (reference: Section 7522.10(d))

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT A (continued)

Table of Plan Coverage

v. General Tier 4 – 3% COLA

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	44	16	175.0%
Average age	38.8	39.3	N/A
Average service	0.7	0.5	N/A
Projected total payroll ⁽¹⁾	\$2,968,756	\$833,519	256.2%
Projected average payroll	\$67,472	\$52,095	29.5%
Account balances	\$166,976	\$29,905	458.4%
Total active members with at least five years of service	0	0	0.0%
Vested terminated members	3	0	N/A
Retired members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A

⁽²⁾ Calculated by increasing actual calendar year salaries by the assumed salary scale. Projected compensation for 2015 has been limited. It is our understanding that in the determination of pension benefits under the PEPRAs formulas, the compensation that can be taken into account for 2015 is equal to \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$117,020, or \$140,424). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015. (reference: Section 7522.10(d))

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT A (continued)

Table of Plan Coverage

vi. General Tier 5 – 2% COLA

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	439	19	2210.5%
Average age	37.1	31.5	N/A
Average service	0.3	0.4	N/A
Projected total payroll ⁽¹⁾	\$19,264,886	\$1,045,307	1743.0%
Projected average payroll	\$43,884	\$55,016	-20.2%
Account balances	\$667,597	\$47,453	1306.9%
Total active members with at least five years of service	1	0	N/A
Vested terminated members	23	1	2200.0%
Retired members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A

⁽¹⁾ Calculated by increasing actual calendar year salaries by the assumed salary scale. Projected compensation for 2015 has been limited. It is our understanding that in the determination of pension benefits under the PEPPRA formulas, the compensation that can be taken into account for 2015 is equal to \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$117,020, or \$140,424). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015. (reference: Section 7522.10(d))

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT A (continued)

Table of Plan Coverage

vii. General Tier 5 – 3% COLA

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	954	764	24.9%
Average age	39.6	39.1	N/A
Average service	1.1	0.4	N/A
Projected total payroll ⁽¹⁾	\$50,705,693	\$30,216,040	67.8%
Projected average payroll	\$53,151	\$39,550	34.4%
Account balances	\$5,038,418	\$1,192,204	322.6%
Total active members with at least five years of service	0	1	-100.0%
Vested terminated members	140	40	250.0%
Retired members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A

⁽¹⁾ Calculated by increasing actual calendar year salaries by the assumed salary scale. Projected compensation for 2015 has been limited. It is our understanding that in the determination of pension benefits under the PEPPRA formulas, the compensation that can be taken into account for 2015 is equal to \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$117,020, or \$140,424). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015. (reference: Section 7522.10(d))

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT A (continued)

Table of Plan Coverage

viii. Safety Tier A

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	1,064	1,176	-9.5%
Average age	43.0	42.3	N/A
Average service	13.8	13.0	N/A
Projected total payroll ⁽¹⁾	\$113,458,371	\$121,540,804	-6.6%
Projected average payroll	\$106,634	\$103,351	3.2%
Account balances	\$301,928,599	\$292,572,360	3.2%
Total active members with at least five years of service	1,003	1,067	-6.0%
Vested terminated members	317	300	5.7%
Retired members			
Number in pay status	1,226	1,190	3.0%
Average age	65.4	65.1	N/A
Average monthly benefit	\$7,346	\$7,210	1.9%
Disabled members			
Number in pay status ⁽²⁾	509	504	1.0%
Average age	62.3	61.9	N/A
Average monthly benefit	\$5,542	\$5,350	3.6%
Beneficiaries			
Number in pay status	368	350	5.1%
Average age	67.9	67.9	N/A
Average monthly benefit	\$3,437	\$3,302	4.1%

⁽¹⁾ Calculated by increasing actual calendar year salaries by the assumed salary scale.

⁽²⁾ For 2014, include 489 members receiving a service-connected disability and 20 members receiving an ordinary disability.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT A (continued)

Table of Plan Coverage

ix. Safety Tier C

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	164	195	-15.9%
Average age	34.0	32.5	N/A
Average service	5.0	3.4	N/A
Projected total payroll ⁽¹⁾	\$14,194,670	\$14,706,624	-3.5%
Projected average payroll	\$86,553	\$75,419	14.8%
Account balances	\$7,816,546	\$6,132,795	27.5%
Total active members with at least five years of service	68	58	17.2%
Vested terminated members	51	24	112.5%
Retired members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Disabled members			
Number in pay status ⁽²⁾	2	1	100.0%
Average age	37.6	37.7	N/A
Average monthly benefit	\$3,588	\$3,640	-1.4%
Beneficiaries			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A

⁽¹⁾ Calculated by increasing actual calendar year salaries by the assumed salary scale.

⁽²⁾ For 2014, include 2 member receiving a service-connected disability.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT A (continued)

Table of Plan Coverage

x. Safety Tier D

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	81	45	80.0%
Average age	33.3	33.4	N/A
Average service	0.8	0.4	N/A
Projected total payroll ⁽¹⁾	\$4,502,513	\$2,106,696	113.7%
Projected average payroll	\$55,587	\$46,815	18.7%
Account balances	\$653,931	\$198,045	230.2%
Total active members with at least five years of service	0	0	N/A
Vested terminated members	10	1	900.0%
Retired members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A

⁽¹⁾ Calculated by increasing actual calendar year salaries by the assumed salary scale. Projected compensation for 2015 has been limited. It is our understanding that in the determination of pension benefits under the PEPPRA formulas, the compensation that can be taken into account for 2015 is equal to \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$117,020, or \$140,424). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015. (reference: Section 7522.10(d))

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT A (continued)

Table of Plan Coverage

xi. Safety Tier E

Category	Year Ended December 31		Change From Prior Year
	2014	2013	
Active members in valuation			
Number	76	26	192.3%
Average age	31.0	30.5	N/A
Average service	1.0	0.3	N/A
Projected total payroll ⁽¹⁾	\$4,246,187	\$643,431	559.9%
Projected average payroll	\$55,871	\$24,747	125.8%
Account balances	\$560,378	\$54,160	934.7%
Total active members with at least five years of service	0	0	N/A
Vested terminated members	3	0	N/A
Retired members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Disabled members			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A
Beneficiaries			
Number in pay status	0	0	0.0%
Average age	N/A	N/A	N/A
Average monthly benefit	N/A	N/A	N/A

⁽¹⁾ Calculated by increasing actual calendar year salaries by the assumed salary scale. Projected compensation for 2015 has been limited. It is our understanding that in the determination of pension benefits under the PEPRAs formulas, the compensation that can be taken into account for 2015 is equal to \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is 120% of \$117,020, or \$140,424). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015. (reference: Section 7522.10(d))

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B

**Members in Active Service and Projected Payroll as of December 31, 2014
By Age and Years of Service**

i. General Tier 1 Non-Enhanced

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--	--	--
30 - 34	2	2	--	--	--	--	--	--	--	--
35 - 39	\$55,034	\$55,034	--	--	--	--	--	--	--	--
40 - 44	--	--	--	--	--	--	--	--	--	--
45 - 49	3	--	1	1	1	--	--	--	--	--
50 - 54	102,579	--	\$77,645	\$158,868	\$71,223	--	--	--	--	--
55 - 59	3	1	2	--	--	--	--	--	--	--
60 - 64	71,951	41,691	87,080	--	--	--	--	--	--	--
65 - 69	1	1	--	--	--	--	--	--	--	--
70 & over	54,959	54,959	--	--	--	--	--	--	--	--
	2	--	1	--	--	--	--	1	--	--
	58,167	--	39,028	--	--	--	--	\$77,306	--	--
	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	11	4	4	1	1	--	--	1	--	--
	\$73,177	\$51,680	\$72,708	\$158,868	\$71,223	--	--	\$77,306	--	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B (continued)

**Members in Active Service and Projected Payroll as of December 31, 2014
By Age and Years of Service**

ii. General Tier 1 Enhanced

Age	Total	Years of Service									
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over	
Under 25	3	3	--	--	--	--	--	--	--	--	--
	\$75,776	\$75,776	--	--	--	--	--	--	--	--	--
25 - 29	20	17	3	--	--	--	--	--	--	--	--
	85,729	85,982	\$84,293	--	--	--	--	--	--	--	--
30 - 34	43	14	26	3	--	--	--	--	--	--	--
	92,027	78,367	98,987	\$95,455	--	--	--	--	--	--	--
35 - 39	50	14	15	18	3	--	--	--	--	--	--
	85,985	82,258	86,573	91,770	\$65,719	--	--	--	--	--	--
40 - 44	68	12	16	31	8	1	--	--	--	--	--
	97,054	90,284	100,478	97,177	93,635	\$147,038	--	--	--	--	--
45 - 49	115	12	16	40	29	11	7	--	--	--	--
	98,261	114,926	95,138	99,753	94,713	85,883	\$102,464	--	--	--	--
50 - 54	121	10	23	31	22	16	14	5	--	--	--
	98,184	120,867	87,065	94,987	102,016	101,216	108,167	\$69,264	--	--	--
55 - 59	99	11	17	27	18	10	10	2	4	--	--
	95,617	85,297	100,820	99,813	93,019	91,652	103,002	128,561	\$60,218	--	--
60 - 64	56	4	11	20	8	7	2	1	2	1	--
	96,258	84,214	90,064	104,130	75,833	107,097	94,533	129,360	50,257	\$205,013	--
65 - 69	16	1	4	7	3	--	--	--	1	--	--
	81,154	58,799	66,719	91,770	85,999	--	--	--	72,399	--	--
70 & over	4	2	--	1	1	--	--	--	--	--	--
	49,051	33,163	--	80,722	49,158	--	--	--	--	--	--
Total	595	100	131	178	92	45	33	8	7	1	--
	\$94,671	\$90,092	\$93,351	\$97,675	\$92,667	\$97,275	\$104,566	\$91,600	\$59,112	\$205,013	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B (continued)

Members in Active Service and Projected Payroll as of December 31, 2014

By Age and Years of Service

iii. General Tier 3 Enhanced

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	14	14	--	--	--	--	--	--	--	--
	\$47,143	\$47,143	--	--	--	--	--	--	--	--
25 - 29	153	139	14	--	--	--	--	--	--	--
	58,787	59,405	\$52,646	--	--	--	--	--	--	--
30 - 34	487	239	212	36	--	--	--	--	--	--
	67,998	68,190	68,229	\$65,356	--	--	--	--	--	--
35 - 39	695	239	273	149	34	--	--	--	--	--
	75,390	75,008	79,137	69,848	\$72,285	--	--	--	--	--
40 - 44	751	163	246	210	122	10	--	--	--	--
	78,390	73,421	77,072	84,802	76,817	\$76,378	--	--	--	--
45 - 49	944	183	225	237	195	66	37	1	--	--
	76,595	68,466	73,149	77,767	84,060	83,501	\$78,473	\$81,035	--	--
50 - 54	1,047	154	206	242	200	124	86	34	1	--
	78,587	65,945	75,458	76,793	80,776	92,580	92,023	\$70,047	\$66,105	--
55 - 59	852	121	171	195	145	94	83	40	3	--
	75,815	70,817	70,526	71,521	77,656	81,037	92,148	80,848	86,282	--
60 - 64	576	86	134	118	116	61	46	14	1	--
	75,036	68,399	71,547	73,923	81,248	82,168	77,366	68,619	71,751	--
65 - 69	177	23	56	46	29	15	6	1	1	--
	70,723	64,647	71,453	73,913	71,630	61,479	79,971	49,160	101,287	--
70 & over	33	3	10	14	3	1	1	1	--	--
	71,191	132,468	73,410	67,904	47,325	43,317	40,932	40,932	--	--
Total	5,729	1,364	1,547	1,247	844	371	259	91	6	--
	\$75,285	\$69,010	\$73,789	\$75,865	\$79,716	\$84,501	\$87,048	\$74,146	\$82,998	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B (continued)

Members in Active Service and Projected Payroll as of December 31, 2014

By Age and Years of Service

iv. General Tier 4 – 2% COLA

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--	--	--
30 - 34	2	2	--	--	--	--	--	--	--	--
35 - 39	\$25,541	\$25,541	--	--	--	--	--	--	--	--
40 - 44	--	--	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--	--	--
50 - 54	--	--	--	--	--	--	--	--	--	--
55 - 59	--	--	--	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
Total	2	2	--	--	--	--	--	--	--	--
	\$25,541	\$25,541	--	--	--	--	--	--	--	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B (continued)

Members in Active Service and Projected Payroll as of December 31, 2014

By Age and Years of Service

v. General Tier 4 – 3% COLA

Age	Years of Service									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	2	2	--	--	--	--	--	--	--	--
	\$52,331	\$52,331	--	--	--	--	--	--	--	--
25 - 29	6	6	--	--	--	--	--	--	--	--
	54,575	54,575	--	--	--	--	--	--	--	--
30 - 34	14	14	--	--	--	--	--	--	--	--
	58,925	58,925	--	--	--	--	--	--	--	--
35 - 39	3	3	--	--	--	--	--	--	--	--
	43,985	43,985	--	--	--	--	--	--	--	--
40 - 44	5	5	--	--	--	--	--	--	--	--
	85,254	85,254	--	--	--	--	--	--	--	--
45 - 49	6	6	--	--	--	--	--	--	--	--
	83,896	83,896	--	--	--	--	--	--	--	--
50 - 54	4	4	--	--	--	--	--	--	--	--
	86,032	86,032	--	--	--	--	--	--	--	--
55 - 59	4	4	--	--	--	--	--	--	--	--
	76,490	76,490	--	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	44	44	--	--	--	--	--	--	--	--
	\$67,472	\$67,472	--	--	--	--	--	--	--	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B (continued)

**Members in Active Service and Projected Payroll as of December 31, 2014
By Age and Years of Service**

vi. General Tier 5 – 2% COLA

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	36	36	--	--	--	--	--	--	--	--
	\$42,241	\$42,241	--	--	--	--	--	--	--	--
25 - 29	105	105	--	--	--	--	--	--	--	--
	41,715	41,715	--	--	--	--	--	--	--	--
30 - 34	90	90	--	--	--	--	--	--	--	--
	49,734	49,734	--	--	--	--	--	--	--	--
35 - 39	59	59	--	--	--	--	--	--	--	--
	47,619	47,619	--	--	--	--	--	--	--	--
40 - 44	51	51	--	--	--	--	--	--	--	--
	39,777	39,777	--	--	--	--	--	--	--	--
45 - 49	33	33	--	--	--	--	--	--	--	--
	40,580	40,580	--	--	--	--	--	--	--	--
50 - 54	29	29	--	--	--	--	--	--	--	--
	43,950	43,950	--	--	--	--	--	--	--	--
55 - 59	23	23	--	--	--	--	--	--	--	--
	48,393	48,393	--	--	--	--	--	--	--	--
60 - 64	10	10	--	--	--	--	--	--	--	--
	26,641	26,641	--	--	--	--	--	--	--	--
65 - 69	2	2	--	--	--	--	--	--	--	--
	14,823	14,824	--	--	--	--	--	--	--	--
70 & over	1	1	--	--	--	--	--	--	--	--
	27,204	27,204	--	--	--	--	--	--	--	--
Total	439	439	--	--	--	--	--	--	--	--
	\$43,884	\$43,884	--	--	--	--	--	--	--	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B (continued)

**Members in Active Service and Projected Payroll as of December 31, 2014
By Age and Years of Service**

vii. General Tier 5 – 3% COLA

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	30	30	--	--	--	--	--	--	--	--
	\$38,818	\$38,818	--	--	--	--	--	--	--	--
25 - 29	177	177	--	--	--	--	--	--	--	--
	48,772	48,772	--	--	--	--	--	--	--	--
30 - 34	204	204	--	--	--	--	--	--	--	--
	55,396	55,396	--	--	--	--	--	--	--	--
35 - 39	145	145	--	--	--	--	--	--	--	--
	57,211	57,211	--	--	--	--	--	--	--	--
40 - 44	111	111	--	--	--	--	--	--	--	--
	56,066	56,066	--	--	--	--	--	--	--	--
45 - 49	87	87	--	--	--	--	--	--	--	--
	53,188	53,188	--	--	--	--	--	--	--	--
50 - 54	91	91	--	--	--	--	--	--	--	--
	52,971	52,971	--	--	--	--	--	--	--	--
55 - 59	70	70	--	--	--	--	--	--	--	--
	49,231	49,231	--	--	--	--	--	--	--	--
60 - 64	35	35	--	--	--	--	--	--	--	--
	55,773	55,773	--	--	--	--	--	--	--	--
65 - 69	4	4	--	--	--	--	--	--	--	--
	60,747	60,747	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	954	954	--	--	--	--	--	--	--	--
	\$53,151	\$53,151	--	--	--	--	--	--	--	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B (continued)

Members in Active Service and Projected Payroll as of December 31, 2014

By Age and Years of Service

viii. Safety Tier A Non-Enhanced

Age	Total	Years of Service						
		0-4	5-9	10-14	15-19	20-24	25-29	30 & over
Under 25	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
30 - 34	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
35 - 39	4	2	--	2	--	--	--	--
	\$115,204	\$99,578	--	\$130,830	--	--	--	--
40 - 44	1	--	--	1	--	--	--	--
	141,210	--	--	141,210	--	--	--	--
45 - 49	6	1	--	1	--	--	4	--
	130,995	112,556	--	131,570	--	--	\$135,461	--
50 - 54	1	--	--	--	--	--	1	--
	136,909	--	--	--	--	--	\$136,909	--
55 - 59	2	1	--	--	--	1	--	--
	190,963	219,820	--	--	--	\$162,105	--	--
60 - 64	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
65 & over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	14	4	--	4	--	1	5	--
	\$136,202	\$132,883	--	\$133,610	--	\$162,105	\$135,751	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B (continued)

Members in Active Service and Projected Payroll as of December 31, 2014

By Age and Years of Service

ix. Safety Tier A Enhanced

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	1	1	--	--	--	--	--	--	--	--
	\$63,852	\$63,852	--	--	--	--	--	--	--	--
25 - 29	32	18	14	--	--	--	--	--	--	--
	91,502	84,297	\$100,766	--	--	--	--	--	--	--
30 - 34	128	33	82	13	--	--	--	--	--	--
	97,932	85,608	101,827	\$104,642	--	--	--	--	--	--
35 - 39	197	12	68	103	14	--	--	--	--	--
	100,615	89,248	103,718	99,746	\$101,678	--	--	--	--	--
40 - 44	275	11	52	124	76	12	--	--	--	--
	106,098	103,832	104,436	103,354	108,850	\$126,314	--	--	--	--
45 - 49	273	2	24	73	86	66	22	--	--	--
	113,481	112,754	103,092	104,258	110,365	124,878	\$133,470	--	--	--
50 - 54	89	5	9	32	22	13	6	2	--	--
	111,430	98,327	103,341	104,133	\$111,882	132,836	119,737	\$128,303	--	--
55 - 59	38	1	10	11	7	5	3	1	--	--
	103,065	118,274	90,724	94,602	107,882	129,322	121,662	83,547	--	--
60 - 64	17	1	6	7	2	--	--	1	--	--
	111,400	176,507	93,448	111,626	117,934	--	--	139,359	--	--
65 - 69	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
70 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	1,050	84	265	363	207	96	31	4	--	--
	\$106,240	\$94,640	\$102,326	\$102,521	\$109,372	\$126,367	\$129,669	\$119,878	--	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B (continued)

Members in Active Service and Projected Payroll as of December 31, 2014

By Age and Years of Service

x. Safety Tier C Enhanced

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	3	3	--	--	--	--	--	--	--	--
	\$80,254	\$80,254	--	--	--	--	--	--	--	--
25 - 29	58	49	9	--	--	--	--	--	--	--
	83,045	81,879	\$89,395	--	--	--	--	--	--	--
30 - 34	46	28	18	--	--	--	--	--	--	--
	84,896	81,971	89,446	--	--	--	--	--	--	--
35 - 39	29	9	19	1	--	--	--	--	--	--
	87,074	75,468	92,354	\$91,189	--	--	--	--	--	--
40 - 44	14	5	9	--	--	--	--	--	--	--
	91,766	88,310	93,687	--	--	--	--	--	--	--
45 - 49	6	3	3	--	--	--	--	--	--	--
	114,439	133,710	95,168	--	--	--	--	--	--	--
50 - 54	5	3	2	--	--	--	--	--	--	--
	91,545	91,600	91,463	--	--	--	--	--	--	--
55 - 59	2	1	1	--	--	--	--	--	--	--
	93,023	93,767	92,279	--	--	--	--	--	--	--
60 - 64	1	--	1	--	--	--	--	--	--	--
	91,770	--	91,770	--	--	--	--	--	--	--
65 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	164	101	62	1	--	--	--	--	--	--
	\$86,553	\$83,549	\$91,371	\$91,189	--	--	--	--	--	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B (continued)

Members in Active Service and Projected Payroll as of December 31, 2014

By Age and Years of Service

xi. Safety Tier D

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	4	4	--	--	--	--	--	--	--	--
	\$40,661	\$40,661	--	--	--	--	--	--	--	--
25 - 29	28	28	--	--	--	--	--	--	--	--
	46,779	46,779	--	--	--	--	--	--	--	--
30 - 34	30	30	--	--	--	--	--	--	--	--
	58,521	58,521	--	--	--	--	--	--	--	--
35 - 39	7	7	--	--	--	--	--	--	--	--
	51,654	51,654	--	--	--	--	--	--	--	--
40 - 44	4	4	--	--	--	--	--	--	--	--
	59,923	59,923	--	--	--	--	--	--	--	--
45 - 49	2	2	--	--	--	--	--	--	--	--
	75,418	75,418	--	--	--	--	--	--	--	--
50 - 54	3	3	--	--	--	--	--	--	--	--
	83,865	83,865	--	--	--	--	--	--	--	--
55 - 59	2	2	--	--	--	--	--	--	--	--
	77,696	77,696	--	--	--	--	--	--	--	--
60 - 64	1	1	--	--	--	--	--	--	--	--
	115,335	115,335	--	--	--	--	--	--	--	--
65 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	81	81	--	--	--	--	--	--	--	--
	\$55,587	\$55,587	--	--	--	--	--	--	--	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT B (continued)

Members in Active Service and Projected Payroll as of December 31, 2014

By Age and Years of Service

xii. Safety Tier E

Age	Total	Years of Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	9	9	--	--	--	--	--	--	--	--
	\$53,814	\$53,814	--	--	--	--	--	--	--	--
25 - 29	37	37	--	--	--	--	--	--	--	--
	54,796	54,796	--	--	--	--	--	--	--	--
30 - 34	19	19	--	--	--	--	--	--	--	--
	52,373	52,373	--	--	--	--	--	--	--	--
35 - 39	2	2	--	--	--	--	--	--	--	--
	60,480	60,480	--	--	--	--	--	--	--	--
40 - 44	3	3	--	--	--	--	--	--	--	--
	46,686	46,686	--	--	--	--	--	--	--	--
45 - 49	1	1	--	--	--	--	--	--	--	--
	67,448	67,448	--	--	--	--	--	--	--	--
50 - 54	3	3	--	--	--	--	--	--	--	--
	92,194	92,194	--	--	--	--	--	--	--	--
55 - 59	2	2	--	--	--	--	--	--	--	--
	67,142	67,142	--	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
65 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	76	76	--	--	--	--	--	--	--	--
	\$55,871	\$55,871	--	--	--	--	--	--	--	--

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT C

Average Monthly Benefit and Membership Distribution of Retired Members and Beneficiaries

i. General Tier 1 as of December 31, 2014

Age	Total	Years of Retirement								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
25 - 29	4	2	--	--	--	2	--	--	--	--
	\$672	\$945	--	--	--	\$400	--	--	--	--
30 - 34	3	1	--	--	1	1	--	--	--	--
	867	945	--	--	\$1,256	400	--	--	--	--
35 - 39	5	--	--	--	2	2	--	1	--	--
	717	--	--	--	548	776	--	\$933	--	--
40 - 44	4	1	--	1	--	2	--	--	--	--
	1,498	1,798	--	\$2,249	--	972	--	--	--	--
45 - 49	6	--	--	1	3	2	--	--	--	--
	1,396	--	--	1,507	1,325	1,448	--	--	--	--
50 - 54	48	27	5	5	6	4	1	--	--	--
	1,666	1,937	\$1,602	1,217	1,236	1,337	\$805	--	--	--
55 - 59	212	136	43	10	7	10	2	3	--	1
	3,259	3,933	2,108	2,143	2,346	2,002	1,808	1,188	--	\$366
60 - 64	444	184	149	71	13	9	10	3	2	3
	4,065	5,099	4,155	2,264	2,819	2,272	2,020	1,439	\$1,198	868
65 - 69	659	103	211	196	93	28	11	9	7	1
	4,135	5,063	5,012	4,255	2,096	2,123	2,510	1,850	1,609	1,784
70 - 74	558	16	90	213	120	73	27	11	7	1
	3,875	4,386	5,034	4,662	3,350	1,907	2,250	2,844	1,731	787
75 - 80	491	1	14	99	175	100	72	15	10	5
	3,400	236	3,696	4,892	3,904	2,661	1,628	2,206	2,557	1,536
80 - 84	469	--	1	13	105	143	112	73	13	9
	2,940	--	5,654	4,151	3,733	3,786	2,099	1,517	1,900	1,721
85 - 89	364	--	2	1	14	95	106	83	56	7
	2,616	--	3,679	13,840	4,374	3,446	2,813	1,711	1,621	1,623
90 & over	311	--	--	2	4	11	64	124	74	32
	2,373	--	--	583	2,810	3,269	2,781	2,241	2,470	1,593
Total	3,578	471	515	612	543	482	405	322	169	59
	\$3,417	\$4,505	\$4,453	\$4,203	\$3,336	\$2,952	\$2,325	\$1,927	\$2,069	\$1,543

Note: Total retired benefit \$12,224,573, average age 74.3 and average years retired 17.9.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT C (continued)

Average Monthly Benefit and Membership Distribution of Retired Members and Beneficiaries

ii. General Tier 2 as of December 31, 2014

Age	Total	Years of Retirement								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	--	--	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--	--	--
30 - 34	2	--	--	--	2	--	--	--	--	--
35 - 39	\$757	--	--	--	\$757	--	--	--	--	--
40 - 44	3	--	--	--	2	1	--	--	--	--
45 - 49	588	--	--	--	665	\$433	--	--	--	--
50 - 54	8	--	--	2	4	2	--	--	--	--
55 - 59	748	--	--	\$709	618	1,048	--	--	--	--
60 - 64	9	--	1	--	4	4	--	--	--	--
65 - 69	1,203	--	\$589	--	1,474	1,087	--	--	--	--
70 - 74	9	7	--	--	1	1	--	--	--	--
75 - 80	725	\$273	--	--	3,089	1,523	--	--	--	--
80 - 84	29	8	13	2	4	2	--	--	--	--
85 - 89	766	314	685	1,323	1,367	1,343	--	--	--	--
90 & over	49	6	20	14	8	--	1	--	--	--
Total	716	249	720	437	1,368	--	\$2,148	--	--	--
	106	13	21	30	33	5	4	--	--	--
	871	582	712	633	1,120	1,805	1,203	--	--	--
	107	4	16	26	48	11	2	--	--	--
	871	439	456	1,106	867	1,081	927	--	--	--
	93	--	2	28	43	17	3	--	--	--
	1,066	--	1,413	768	1,290	760	2,134	--	--	--
	95	1	--	10	43	33	5	3	--	--
	1,102	856	--	652	1,262	1,096	903	\$800	--	--
	36	--	--	2	12	18	3	1	--	--
	780	--	--	464	661	863	1,053	528	--	--
	11	--	--	--	2	6	3	--	--	--
	1,012	--	--	--	756	642	1,923	--	--	--
Total	557	39	73	114	206	100	21	4	--	--
	\$920	\$413	\$671	\$762	\$1,109	\$1,005	\$1,365	\$732	--	--

Note: Total retired benefit \$512,435, average age 72.2 and average years retired 15.4.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT C (continued)

Average Monthly Benefit and Membership Distribution of Retired Members and Beneficiaries

iii. General Tier 3 as of December 31, 2014

Age	Total	Years of Retirement								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	1	--	1	--	--	--	--	--	--	--
	\$1,658	--	\$1,658	--	--	--	--	--	--	--
25 - 29	2	--	--	2	--	--	--	--	--	--
	1,769	--	--	\$1,769	--	--	--	--	--	--
30 - 34	3	--	1	1	1	--	--	--	--	--
	948	--	616	1,516	\$711	--	--	--	--	--
35 - 39	7	1	4	2	--	--	--	--	--	--
	1,275	\$2,365	1,083	1,113	--	--	--	--	--	--
40 - 44	5	1	2	2	--	--	--	--	--	--
	1,214	1,686	983	1,209	--	--	--	--	--	--
45 - 49	17	6	6	5	--	--	--	--	--	--
	1,363	1,638	1,476	898	--	--	--	--	--	--
50 - 54	127	117	7	2	1	--	--	--	--	--
	1,792	1,762	2,056	2,635	1,769	--	--	--	--	--
55 - 59	367	274	79	13	1	--	--	--	--	--
	2,534	2,799	1,668	2,170	3,053	--	--	--	--	--
60 - 64	638	414	170	53	1	--	--	--	--	--
	2,792	3,088	2,551	1,262	2,126	--	--	--	--	--
65 - 69	741	397	254	85	5	--	--	--	--	--
	2,865	2,963	2,951	2,230	1,470	--	--	--	--	--
70 - 74	499	130	241	110	16	2	--	--	--	--
	2,367	2,270	2,703	1,907	1,356	\$1,634	--	--	--	--
75 - 80	178	20	62	78	18	--	--	--	--	--
	1,912	1,860	2,293	1,689	1,618	--	--	--	--	--
80 - 84	42	3	15	21	3	--	--	--	--	--
	1,590	1,806	1,998	1,301	1,359	--	--	--	--	--
85 - 89	3	1	1	1	--	--	--	--	--	--
	2,419	865	443	5,948	--	--	--	--	--	--
90 & over	1	--	1	--	--	--	--	--	--	--
	4,418	--	4,418	--	--	--	--	--	--	--
Total	2,631	1,364	844	375	46	2	--	--	--	--
	\$2,549	\$2,772	\$2,577	\$1,811	\$1,520	\$1,634	--	--	--	--

Note: Total retired benefit \$6,707,652, average age 65.7 and average years retired 5.8.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT C (continued)

Average Monthly Benefit and Membership Distribution of Retired Members and Beneficiaries

iv. Safety Tier A and Tier C as of December 31, 2014

Age	Total	Years of Retirement								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	6	--	--	3	--	2	--	1	--	--
	\$1,733	--	--	\$1,310	--	\$1,349	--	\$3,772	--	--
25 - 29	1	--	--	1	--	--	--	--	--	--
	820	--	--	820	--	--	--	--	--	--
30 - 34	4	2	1	--	--	1	--	--	--	--
	2,611	\$3,531	\$2,249	--	--	1,134	--	--	--	--
35 - 39	14	7	5	--	--	2	--	--	--	--
	3,586	4,496	3,355	--	--	\$978	--	--	--	--
40 - 44	31	8	9	13	--	1	--	--	--	--
	3,742	3,046	4,941	3,564	--	823	--	--	--	--
45 - 49	71	44	12	9	3	3	--	--	--	--
	4,728	5,266	4,679	3,778	\$3,710	895	--	--	--	--
50 - 54	291	224	24	19	15	7	2	--	--	--
	6,616	7,367	5,097	3,498	3,706	3,351	\$3,601	--	--	--
55 - 59	301	127	129	20	15	6	4	--	--	--
	6,838	7,407	7,401	3,518	3,621	3,376	4,487	--	--	--
60 - 64	329	49	137	87	28	19	7	--	2	--
	7,046	6,843	8,676	6,965	3,272	3,575	3,210	--	\$3,152	--
65 - 69	412	19	84	178	61	30	19	14	6	1
	6,513	4,445	7,875	8,093	4,391	3,577	2,847	3,219	3,493	\$1,330
70 - 74	258	5	20	65	88	44	18	7	7	4
	6,098	3,332	4,166	6,440	8,245	4,697	3,333	3,138	3,934	3,258
75 - 80	165	2	4	7	40	62	27	15	3	5
	5,741	3,909	2,593	3,932	5,934	7,394	4,573	3,492	4,405	3,351
80 - 84	114	--	1	1	12	24	31	24	17	4
	4,904	--	1,853	13,980	4,831	6,792	5,006	3,708	3,684	3,856
85 - 89	76	--	--	--	1	4	12	25	21	13
	4,857	--	--	--	1,602	3,778	6,344	5,487	4,397	3,597
90 & over	32	--	--	--	--	--	1	3	17	11
	4,418	--	--	--	--	--	3,576	6,870	4,788	3,253
Total	2,105	487	426	403	263	205	121	89	73	38
	\$6,223	\$6,837	\$7,376	\$6,771	\$5,715	\$5,227	\$4,298	\$4,157	\$4,170	\$3,397

Note: Total retired benefit \$13,098,594, average age 65.0 and average years retired 13.9.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT D

Reconciliation of Member Data – December 31, 2013 to December 31, 2014

	Active Participants	Vested Terminated Members	Pensioners	Disableds	Beneficiaries	Total
Number as of December 31, 2013	9,124	2,345	6,438	927	1,260	20,094
New participants	913	74	0	0	89	1,076
Terminations – with vested rights	-375	375	0	0	0	0
Contributions Refunds	-170	-72	0	0	0	-242
Retirements	-325	-57	382	0	0	0
New disabilities	-20	-1	-4	25	0	0
Return to work	21	-18	-3	0	0	0
Died with or without beneficiary	-9	-3	-151	-30	-59	-252
Data adjustments	<u>0</u>	<u>4</u>	<u>3</u>	<u>-1</u>	<u>-5</u>	<u>1</u>
Number as of December 31, 2014	9,159	2,647	6,665	921	1,285	20,677

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT E

Summary Statement of Income and Expenses on an Actuarial Value Basis

	Year Ended December 31, 2014	Year Ended December 31, 2013
Contribution income:		
Employer contributions	\$293,760,413	\$235,017,452
Employee contributions	<u>78,257,665</u>	<u>72,373,254</u>
Net contribution income	\$372,018,078	\$307,390,706
Investment income:		
Interest, dividends and other income	\$160,135,921	\$158,886,435
Adjustment toward market value ⁽¹⁾	561,485,134	378,551,480
Less investment and administrative fees	<u>(48,580,188)</u>	<u>(44,934,113)</u>
Net investment income	<u>673,040,867</u>	<u>492,503,802</u>
Total income available for benefits	\$1,045,058,945	\$799,894,508
Less benefit payments:		
Benefits paid	\$(387,026,328)	\$(369,809,403)
Refunds of contributions	(6,798,277)	(3,844,376)
Adjustments/transfers	<u>(1,123,100)</u>	<u>(985,199)</u>
Net benefit payments	\$(394,947,705)	\$(374,638,978)
Change in reserve for future benefits	\$650,111,240	\$425,255,530

⁽¹⁾ Equals the "non-cash" earnings on investments implicitly included in the Actuarial Value of Assets.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT F

Summary Statement of Assets

	Year Ended December 31, 2014	Year Ended December 31, 2013
Cash equivalents	\$613,763,830	\$856,340,856
Other Assets	1,408,938	1,444,726
Accounts receivable:		
Investment trades	\$772,963,134	\$560,196,591
Investment income	25,967,651	30,970,440
Employee and employer contributions	8,859,556	8,067,883
Additional contributions ⁽¹⁾	<u>18,774,112</u>	<u>20,267,913</u>
Total accounts receivable	826,564,453	619,502,828
Investments:		
Stocks	\$2,850,120,402	\$2,523,485,927
Bonds	2,051,100,371	1,868,682,216
Real estate	934,126,982	828,561,519
Alternative investments and real assets	<u>869,856,402</u>	<u>760,678,445</u>
Total investments at market value	<u>6,705,204,157</u>	<u>5,981,408,107</u>
Total assets	\$8,146,941,378	\$7,458,696,517
Less accounts payable:		
Investment trades	\$(778,448,185)	\$(610,567,716)
Security lending	(277,254,134)	(262,983,553)
Employer contributions unearned	(164,557,125)	(112,308,231)
Other	<u>(17,771,704)</u>	<u>(14,519,421)</u>
Total accounts payable	\$(1,238,031,148)	\$(1,000,378,921)
Net assets at market value	<u>\$6,908,910,230</u>	<u>\$6,458,317,596</u>
Net assets at actuarial value	<u>\$6,572,560,432</u>	<u>\$5,922,449,192</u>
Net assets at valuation value	<u>\$6,557,496,101</u>	<u>\$5,907,416,432</u>

⁽¹⁾ Equals the sum of additional contribution receivables for the final Paulson Settlement.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT G

Actuarial Balance Sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, we first determine the amount and timing of all future payments that are projected/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.

Assets	Basic	COLA	Total
1. Total valuation value of assets	\$4,109,982,659	\$2,447,513,442	\$6,557,496,101
2. Present value of future contributions by members	428,795,714	218,713,737	647,509,451
3. Present value of future employer contributions for:			
(a) entry age normal cost	674,236,281	209,369,269	883,605,550
(b) unfunded actuarial accrued liability	975,717,771	494,224,341	1,469,942,112
4. Total actuarial assets	\$6,188,732,425	\$3,369,820,789	\$9,558,553,214
Liabilities			
5. Present value of benefits for retirees and beneficiaries	\$3,154,272,535	\$2,174,349,065	\$5,328,621,600
6. Present value of benefits for vested terminated members ⁽¹⁾	170,026,614	64,072,629	234,099,243
7. Present value of benefits for active members	2,864,433,276	1,131,399,095	3,995,832,371
8. Total present value of benefits	\$6,188,732,425	\$3,369,820,789	\$9,558,553,214

⁽¹⁾ Includes nonvested terminated members.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT H

Summary of Total Allocated Reserves

Reserves	December 31, 2014	December 31, 2013
Member Deposits ⁽¹⁾	\$586,388,103	\$554,688,703
Member Cost of Living ⁽¹⁾	312,832,275	289,979,180
Employer Advance ⁽¹⁾⁽²⁾	1,494,234,759	1,919,723,014
Employer Cost of Living ⁽¹⁾⁽²⁾	608,072,157	1,370,664,993
Retired Members ⁽¹⁾⁽²⁾	3,109,447,338	2,409,084,264
Retired Cost of Living ⁽¹⁾⁽²⁾	2,138,359,325	1,164,711,751
Dollar Power Cost of Living Supplement Pre-Funding ⁽¹⁾	8,503,154	10,330,314
Post Retirement Death Benefit ⁽³⁾	15,064,331	15,032,760
Statutory Contingency (one percent) ⁽³⁾	0	0
Additional One Percent Contingency Designation ⁽³⁾	0	0
Contra Tracking Account ⁽¹⁾	(1,700,341,010)	(1,811,765,783)
Total Allocated Reserves	\$6,572,560,432	\$5,922,449,192
Total Deferred Return	336,349,798	535,868,404
Net Market Value	\$6,908,910,230	\$6,458,317,596

Note: Results may not add due to rounding.

⁽¹⁾ Included in valuation value of assets.

⁽²⁾ December 31, 2014 information reflects a "true-up" of retired reserves.

⁽³⁾ Not included in valuation value of assets.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT I

Development of Unfunded Actuarial Accrued Liability

	Year Ended December 31, 2014
1. Unfunded actuarial accrued liability at beginning of year	\$1,823,680,975
2. Gross Normal Cost at middle of year	204,123,748
3. Expected employer and member contributions	(380,342,768)
4. Interest (whole year on (1) plus half year on (2) - (3))	<u>125,828,931</u>
5. Expected unfunded actuarial accrued liability at end of year	<u>\$1,773,290,886</u>
6. Actuarial (gain)/loss due to all changes:	
(a) Investment return	\$(244,462,582)
(b) Gain from additional UAAL contributions by Sanitary District	(4,644,628)
(c) Actual contributions less than expected	13,799,259
(d) Lower than expected individual salary increases	(42,975,831)
(e) Lower than expected COLA increases for retirees and beneficiaries	(25,084,260)
(f) Other experience (gain)/loss ⁽¹⁾	71,605
(g) Changes in actuarial assumptions	<u>(52,337)</u>
(h) Total changes	<u>\$(303,348,774)</u>
7. Unfunded actuarial accrued liability at end of year	<u>\$1,469,942,112</u>

Note: The "net gain from other experience" of \$67,988,486 shown in Section 2, Chart 10 is equal to the sum of items 6 (d), (e) and (f).

⁽¹⁾ Other differences in actual versus expected experience including (but not limited to) disability, withdrawal, retirement and leave cashout experience.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Cost Groups #1 and #2	December 31, 2007	Restart of Amortization	\$789,616,678	\$623,985,000	8	\$89,996,846
General County and	December 31, 2008	Actuarial (Gain)/Loss	80,496,792	74,952,058	12	7,640,202
Small Districts	December 31, 2009	Actuarial (Gain)/Loss	165,997,327	158,140,173	13	15,095,797
	December 31, 2009	Assumption Change ⁽²⁾	39,793,000	37,909,477	13	3,618,775
	December 31, 2009	Depooling Implementation	(75,134,625)	(71,578,277)	13	(6,832,743)
	December 31, 2010	Actuarial (Gain)/Loss	153,957,206	149,217,696	14	13,417,455
	December 31, 2011	Actuarial (Gain)/Loss	95,298,919	93,498,584	15	7,959,364
	December 31, 2012	Actuarial (Gain)/Loss	117,707,008	116,391,316	16	9,421,455
	December 31, 2012	Assumption Change ⁽²⁾	290,475,776	287,228,930	16	23,250,141
	December 31, 2013	Actuarial (Gain)/Loss	(135,591,002)	(135,059,698)	17	(10,435,499)
	December 31, 2013	Assumption Change ⁽³⁾	(108,176,293)	(107,752,412)	17	(8,325,579)
	December 31, 2014	Actuarial (Gain)/Loss	(172,894,538)	<u>(172,894,538)</u>	18	<u>(12,794,704)</u>
Total for Cost Groups #1 and #2				\$1,054,038,311		\$132,011,510

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Cost Group #3	December 31, 2007	Restart of Amortization	\$36,185,000	\$28,594,757	8	\$4,124,198
Central Contra Costa	December 31, 2008	Actuarial (Gain)/Loss	3,709,835	3,454,296	12	352,112
Sanitary District	December 31, 2009	Actuarial (Gain)/Loss	10,118,261	9,639,333	13	920,155
	December 31, 2009	Assumption Change ⁽²⁾	2,003,000	1,908,192	13	182,153
	December 31, 2009	Depooling Implementation	20,037,235	19,088,812	13	1,822,186
	December 31, 2010	Actuarial (Gain)/Loss	18,178,489	17,618,872	14	1,584,265
	December 31, 2010	Assumption Change ⁽³⁾	11,479,648	11,126,252	14	1,000,458
	December 31, 2011	Actuarial (Gain)/Loss	10,514,535	10,315,900	15	878,174
	December 31, 2012	Actuarial (Gain)/Loss	12,564,241	12,423,802	16	1,005,662
	December 31, 2012	Assumption Change ⁽²⁾	22,455,342	22,204,343	16	1,797,361
	December 31, 2012	UAAL Prepayment	(4,666,477)	(4,614,317)	16	(373,512)
	December 31, 2013	Actuarial (Gain)/Loss	582,962	580,678	17	44,867
	December 31, 2013	Assumption Change ⁽³⁾	(14,950,866)	(14,892,282)	17	(1,150,664)
	December 31, 2013	UAAL Prepayment	(4,662,899)	(4,644,628)	17	(358,871)
	December 31, 2014	Actuarial (Gain)/Loss	(11,848,823)	<u>(11,848,823)</u>	18	<u>(876,848)</u>
Total for Cost Group #3				\$100,955,188		\$10,951,696

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Cost Group #4	December 31, 2007	Restart of Amortization	\$7,770,000	\$6,140,148	8	\$885,589
Contra Costa Housing Authority	December 31, 2008	Actuarial (Gain)/Loss	1,573,513	1,465,127	12	149,347
	December 31, 2009	Actuarial (Gain)/Loss	1,277,079	1,216,631	13	116,138
	December 31, 2009	Assumption Change ⁽²⁾	425,000	404,883	13	38,650
	December 31, 2009	Depooling Implementation	(189,275)	(180,316)	13	(17,213)
	December 31, 2010	Actuarial (Gain)/Loss	619,697	600,620	14	54,007
	December 31, 2010	Assumption Change ⁽³⁾	(920,656)	(892,314)	14	(80,236)
	December 31, 2011	Actuarial (Gain)/Loss	1,059,328	1,039,316	15	88,475
	December 31, 2012	Actuarial (Gain)/Loss	1,912,999	1,891,616	16	153,119
	December 31, 2012	Assumption Change ⁽²⁾	3,722,862	3,681,249	16	297,984
	December 31, 2013	Actuarial (Gain)/Loss	(2,220,704)	(2,212,002)	17	(170,912)
	December 31, 2013	Assumption Change ⁽³⁾	(1,077,289)	(1,073,068)	17	(82,911)
	December 31, 2014	Actuarial (Gain)/Loss	(1,360,021)	<u>(1,360,021)</u>	18	<u>(100,646)</u>
Total for Cost Group #4				\$10,721,870		\$1,331,391

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Cost Group #5	December 31, 2007	Restart of Amortization	\$(1,011,000)	\$(798,930)	8	\$(115,229)
Contra Costa County Fire	December 31, 2008	Actuarial (Gain)/Loss	45,963	42,797	12	4,362
Protection District	December 31, 2009	Actuarial (Gain)/Loss	1,614,180	1,537,776	13	146,794
	December 31, 2009	Assumption Change ⁽²⁾	336,000	320,096	13	30,556
	December 31, 2009	Depooling Implementation	2,142,538	2,041,125	13	194,842
	December 31, 2010	Actuarial (Gain)/Loss	2,722,306	2,638,501	14	237,250
	December 31, 2011	Actuarial (Gain)/Loss	1,350,620	1,325,105	15	112,804
	December 31, 2012	Actuarial (Gain)/Loss	1,787,426	1,767,447	16	143,068
	December 31, 2012	Assumption Change ⁽²⁾	3,184,172	3,148,580	16	254,866
	December 31, 2013	Actuarial (Gain)/Loss	(2,500,665)	(2,490,867)	17	(192,459)
	December 31, 2013	Assumption Change ⁽³⁾	(985,653)	(981,791)	17	(75,859)
	December 31, 2014	Actuarial (Gain)/Loss	(2,215,758)	<u>(2,215,758)</u>	18	<u>(163,973)</u>
Total for Cost Group #5				\$6,334,081		\$577,022

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Cost Group #6	December 31, 2007	Restart of Amortization	\$1,028,000	\$812,365	8	\$117,167
Small Districts	December 31, 2008	Actuarial (Gain)/Loss	61,240	57,022	12	5,812
(General Non-enhanced)	December 31, 2009	Actuarial (Gain)/Loss	385,148	366,918	13	35,025
	December 31, 2009	Assumption Change ⁽²⁾	126,000	120,036	13	11,458
	December 31, 2009	Depooling Implementation	(1,028,581)	(979,895)	13	(93,539)
	December 31, 2010	Actuarial (Gain)/Loss	194,488	188,500	14	16,950
	December 31, 2011	Actuarial (Gain)/Loss	(137,086)	(134,497)	15	(11,449)
	December 31, 2012	Actuarial (Gain)/Loss	177,439	175,456	16	14,203
	December 31, 2012	Assumption Change ⁽²⁾	225,958	223,432	16	18,086
	December 31, 2013	Actuarial (Gain)/Loss	59,503	59,270	17	4,580
	December 31, 2013	Assumption Change ⁽³⁾	(152,973)	(152,374)	17	(11,773)
	December 31, 2014	Actuarial (Gain)/Loss	(190,513)	<u>(190,513)</u>	18	<u>(14,099)</u>
Total for Cost Group #6				\$545,720		\$92,421

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Cost Groups #7 and #9	December 31, 2007	Restart of Amortization	\$129,233,744	\$102,125,398	8	\$14,729,463
County Safety	December 31, 2008	Actuarial (Gain)/Loss	25,934,594	24,148,182	12	2,461,533
	December 31, 2009	Actuarial (Gain)/Loss	55,813,557	53,171,733	13	5,075,685
	December 31, 2009	Assumption Change ⁽²⁾	11,213,000	10,682,255	13	1,019,710
	December 31, 2009	Depooling Implementation	24,145,656	23,002,769	13	2,195,806
	December 31, 2010	Actuarial (Gain)/Loss	57,993,092	56,207,799	14	5,054,130
	December 31, 2011	Actuarial (Gain)/Loss	45,765,799	44,901,217	15	3,822,359
	December 31, 2012	Actuarial (Gain)/Loss	53,914,024	53,311,390	16	4,315,364
	December 31, 2012	Assumption Change ⁽²⁾	140,056,457	138,490,951	16	11,210,341
	December 31, 2013	Actuarial (Gain)/Loss	(35,456,009)	(35,317,078)	17	(2,728,803)
	December 31, 2013	Assumption Change ⁽³⁾	(44,310,461)	(44,136,834)	17	(3,410,269)
	December 31, 2014	Actuarial (Gain)/Loss	(62,576,234)	(62,576,234)	18	(4,630,826)
	December 31, 2014	Assumption Change ⁽⁴⁾	(52,337)	<u>(52,337)</u>	18	<u>(3,873)</u>
Total for Cost Groups #7 and #9				\$363,959,212		\$39,110,620

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Cost Group #8	December 31, 2007	Restart of Amortization	\$124,138,710	\$98,099,110	8	\$14,148,754
Contra Costa and East Fire	December 31, 2008	Actuarial (Gain)/Loss	6,780,436	6,313,390	12	643,552
Protection Districts	December 31, 2009	Actuarial (Gain)/Loss	27,018,706	25,739,829	13	2,457,081
	December 31, 2009	Assumption Change ⁽²⁾	4,945,000	4,710,938	13	449,698
	December 31, 2009	Depooling Implementation	47,818,666	45,555,264	13	4,348,630
	December 31, 2010	Actuarial (Gain)/Loss	38,165,445	36,990,537	14	3,326,140
	December 31, 2010	Assumption Change ⁽³⁾	(1,599,051)	(1,549,825)	14	(139,358)
	December 31, 2011	Actuarial (Gain)/Loss	26,533,166	26,031,916	15	2,216,050
	December 31, 2012	Actuarial (Gain)/Loss	31,501,440	31,149,327	16	2,521,425
	December 31, 2012	Assumption Change ⁽²⁾	68,193,356	67,431,112	16	5,458,304
	December 31, 2013	Actuarial (Gain)/Loss	(22,661,640)	(22,572,842)	17	(1,744,109)
	December 31, 2013	Assumption Change ⁽³⁾	(17,910,676)	(17,840,494)	17	(1,378,460)
	December 31, 2014	Actuarial (Gain)/Loss	(29,217,962)	<u>(29,217,962)</u>	18	<u>(2,162,215)</u>
Total for Cost Group #8				\$270,840,301		\$30,145,492

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Cost Group #10	December 31, 2007	Restart of Amortization	\$(2,591,000)	\$(2,047,506)	8	\$(295,310)
Moraga-Orinda	December 31, 2008	Actuarial (Gain)/Loss	2,002,150	1,864,239	12	190,030
Fire District	December 31, 2009	Actuarial (Gain)/Loss	5,671,684	5,403,226	13	515,783
	December 31, 2009	Assumption Change ⁽²⁾	1,012,000	964,099	13	92,031
	December 31, 2009	Depooling Implementation	4,873,631	4,642,947	13	443,208
	December 31, 2010	Actuarial (Gain)/Loss	5,334,964	5,170,729	14	464,945
	December 31, 2010	Assumption Change ⁽³⁾	806,018	781,205	14	70,245
	December 31, 2011	Actuarial (Gain)/Loss	6,791,005	6,662,713	15	567,185
	December 31, 2012	Actuarial (Gain)/Loss	8,924,598	8,824,842	16	714,339
	December 31, 2012	Assumption Change ⁽²⁾	12,149,892	12,014,084	16	972,497
	December 31, 2013	Actuarial (Gain)/Loss	(1,027,440)	(1,023,414)	17	(79,075)
	December 31, 2013	Assumption Change ⁽³⁾	(3,613,981)	(3,599,820)	17	(278,143)
	December 31, 2014	Actuarial (Gain)/Loss	(4,813,045)	<u>(4,813,045)</u>	18	<u>(356,179)</u>
Total for Cost Group #10				\$34,844,301		\$3,021,556

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Cost Group #11	December 31, 2007	Restart of Amortization	\$58,766,000	\$46,439,119	8	\$6,697,876
San Ramon Valley	December 31, 2008	Actuarial (Gain)/Loss	10,216,694	9,512,954	12	969,698
Fire District	December 31, 2009	Actuarial (Gain)/Loss	9,262,105	8,823,701	13	842,296
	December 31, 2009	Assumption Change ⁽²⁾	2,453,000	2,336,892	13	223,076
	December 31, 2009	Depooling Implementation	(20,174,500)	(19,219,580)	13	(1,834,669)
	December 31, 2010	Actuarial (Gain)/Loss	6,585,812	6,383,071	14	573,957
	December 31, 2010	Assumption Change ⁽³⁾	5,093,420	4,936,621	14	443,894
	December 31, 2011	Actuarial (Gain)/Loss	5,513,071	5,408,921	15	460,452
	December 31, 2012	Actuarial (Gain)/Loss	14,600,741	14,437,539	16	1,168,666
	December 31, 2012	Assumption Change ⁽²⁾	26,672,143	26,374,010	16	2,134,881
	December 31, 2013	Actuarial (Gain)/Loss	(4,492,900)	(4,475,295)	17	(345,787)
	December 31, 2013	Assumption Change ⁽³⁾	(12,984,002)	(12,933,125)	17	(999,289)
	December 31, 2014	Actuarial (Gain)/Loss	(13,850,852)	<u>(13,850,852)</u>	18	<u>(1,025,003)</u>
Total for Cost Group #11				\$74,173,976		\$9,310,048

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Cost Group #12	December 31, 2007	Restart of Amortization	\$3,960,000	\$3,129,342	8	\$451,342
Rodeo-Hercules Fire	December 31, 2008	Actuarial (Gain)/Loss	957,150	891,220	12	90,846
Protection District	December 31, 2009	Actuarial (Gain)/Loss	2,872,360	2,736,403	13	261,212
	December 31, 2009	Assumption Change ⁽²⁾	1,154,000	1,099,378	13	104,945
	December 31, 2009	Depooling Implementation	(1,809,374)	(1,723,731)	13	(164,544)
	December 31, 2010	Actuarial (Gain)/Loss	1,502,503	1,456,250	14	130,944
	December 31, 2010	Assumption Change ⁽³⁾	662,085	641,703	14	57,701
	December 31, 2011	Actuarial (Gain)/Loss	2,067,217	2,028,164	15	172,654
	December 31, 2012	Actuarial (Gain)/Loss	2,246,131	2,221,024	16	179,784
	December 31, 2012	Assumption Change ⁽²⁾	3,018,796	2,985,053	16	241,629
	December 31, 2013	Actuarial (Gain)/Loss	413,088	411,469	17	31,793
	December 31, 2013	Assumption Change ⁽³⁾	(1,169,821)	(1,165,237)	17	(90,033)
	December 31, 2014	Actuarial (Gain)/Loss	315,937	<u>315,937</u>	18	<u>23,380</u>
Total for Cost Group #12				\$15,026,974		\$1,491,653

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Special Adjustments⁽⁵⁾	December 31, 2007	County General POBs	\$(453,973,319)	\$(358,745,691)	8	\$(51,741,597)
	December 31, 2007	Moraga General POBs	(701,412)	(554,280)	8	(79,943)
	December 31, 2007	CCCFPD Safety POBs	(127,509,711)	(100,762,660)	8	(14,532,916)
	December 31, 2011	First Five UAAL Prepayment	(1,794,205)	<u>(1,435,190)</u>	8	<u>(234,972)</u>
Total for Special Adjustments				\$(461,497,821)		\$(66,589,428)

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
All Cost Groups Combined	December 31, 2007	Restart of Amortization	\$1,147,096,132	\$906,478,802	8	\$130,740,696
	December 31, 2007	County General POBs ⁽⁵⁾	(453,973,319)	(358,745,691)	8	(51,741,597)
	December 31, 2007	Moraga General POBs ⁽⁵⁾	(701,412)	(554,280)	8	(79,943)
	December 31, 2007	CCCFPD Safety POBs ⁽⁵⁾	(127,509,711)	(100,762,660)	8	(14,532,916)
	December 31, 2008	Actuarial (Gain)/Loss	131,778,368	122,701,286	12	12,507,494
	December 31, 2009	Actuarial (Gain)/Loss	280,030,406	266,775,723	13	25,465,966
	December 31, 2009	Assumption Change ⁽²⁾	63,460,000	60,456,247	13	5,771,052
	December 31, 2009	Depooling Implementation	681,371	649,120	13	61,964
	December 31, 2010	Actuarial (Gain)/Loss	285,254,002	276,472,574	14	24,860,043
	December 31, 2010	Assumption Change ⁽³⁾	15,521,464	15,043,642	14	1,352,704
	December 31, 2011	Actuarial (Gain)/Loss	194,756,575	191,077,340	15	16,266,068
	December 31, 2011	First Five UAAL Prepayment ⁽⁵⁾	(1,794,205)	(1,435,190)	8	(234,972)
	December 31, 2012	Actuarial (Gain)/Loss	245,336,047	242,593,759	16	19,637,085
	December 31, 2012	Assumption Change ⁽²⁾	570,154,754	563,781,746	16	45,636,090
	December 31, 2012	Sanitary UAAL Prepayment	(4,666,477)	(4,614,317)	16	(373,512)
	December 31, 2013	Actuarial (Gain)/Loss	(202,894,807)	(202,099,778)	17	(15,615,404)
	December 31, 2013	Assumption Change ⁽³⁾	(205,332,015)	(204,527,436)	17	(15,802,980)
	December 31, 2013	Sanitary UAAL Prepayment	(4,662,899)	(4,644,628)	17	(358,871)
	December 31, 2014	Actuarial (Gain)/Loss	(298,651,809)	(298,651,809)	18	(22,101,113)
	December 31, 2014	Assumption Change ⁽⁴⁾	(52,337)	<u>(52,337)</u>	18	<u>(3,873)</u>
Total for All Cost Groups				\$1,469,942,112		\$161,453,981

Note: Results may not add due to rounding.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT J (continued)

Table of Amortization Bases

- (1) *As of middle of year. The annual payment amounts shown for the Special Adjustments represent the credit allocated to the employer to reflect the receipt of the proceeds for Pension Obligation Bonds (POBs) or any other special contributions. These adjustments serve to reduce the UAAL contribution rate for these employers. The cost of debt service associated with the POBs is not reflected in this report.*
- (2) *Changes in actuarial assumptions and methods from actuarial experience study.*
- (3) *The Board approved changes in actuarial assumptions. Effective with the December 31, 2010 valuation, leave cashout (terminal pay) assumptions are now based on cost groups. Effective with the December 31, 2013 valuation, the leave cashout assumption were reduced to reflect AB 197.*
- (4) *The Board approved changes in actuarial assumptions. Effective with the December 31, 2014 valuation, leave cashout (terminal pay) assumptions were eliminated for Cost Group #9.*
- (5) *Includes remaining balance of POBs and any other special contributions made by the County (including Courts), First 5 – Children & Families Commission or Moraga-Orinda Fire District that have been allocated to the County General cost groups or for Contra Costa Fire Protection District that have been allocated to their Safety cost group.*

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT K

Section 415 Limitations

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

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

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of \$160,000 indexed for inflation. That limit is \$210,000 for 2015. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must generally be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions. Limits are also affected by the "grandfather" election under Section 415(b)(10).

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

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

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

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

EXHIBIT L

Definitions of Pension Terms

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

Assumptions or Actuarial Assumptions:

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

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

Normal Cost:

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

Actuarial Accrued Liability For Actives:

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

Actuarial Accrued Liability For Pensioners:

The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and of 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 the assets of the Plan.

SECTION 3: Supplemental Information for the Contra Costa County Employees' Retirement Association

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.

Payroll or Compensation:

Payroll for pension purposes expected to be paid to active members during the twelve months following the valuation date. Only pay that would possibly go into the determination of retirement benefits is included.

Asset Volatility Ratio:

Equal to the market value of assets divided by total projected payroll. This provides an indication of the potential contribution volatility for any given level of investment volatility.

Liability Volatility Ratio:

Equal to the Actuarial Accrued Liability divided by total projected payroll. This provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. It 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.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

EXHIBIT I

Summary of Actuarial Valuation Results

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

1. Retired members as of the valuation date (including 1,285 beneficiaries in pay status)	8,871
2. Members inactive during year ended December 31, 2014 with vested rights	2,647
3. Members active during the year ended December 31, 2014	9,159

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

1. Normal cost	\$200,789
2. Present value of future benefits	9,558,553
3. Present value of future normal costs	1,531,115
4. Actuarial accrued liability*	8,027,438
Retired members and beneficiaries	\$5,328,622
Inactive members with vested rights	234,099
Active members	2,464,717
5. Valuation value of assets** (\$6,908,910 at market value as reported by Retirement Association)	6,557,496
6. Unfunded actuarial accrued liability	\$1,469,942

* Excludes liabilities for non-valuation reserves

** Excludes assets for non-valuation reserves

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

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

	Dollar Amount	% of Payroll
1. Total normal cost	\$200,789	28.77%
2. Expected employee contributions	<u>(82,617)</u>	<u>(11.84%)</u>
3. Employer normal cost: (1) + (2)	\$118,172	16.93%
4. Amortization of unfunded actuarial accrued liability	<u>161,426</u>	<u>23.13%</u>
5. Total recommended average employer contribution: (3) + (4)	\$279,598	40.06%
6. Projected payroll	\$697,832	

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

EXHIBIT II

Schedule of Employer Contributions

Plan Year Ended December 31	Annual Required Contributions	Actual Contributions	Percentage Contributed
2005	\$147,165,108	\$147,165,108 ⁽¹⁾	100.0%
2006	179,755,315	179,755,315 ⁽²⁾	100.0%
2007	196,929,570	196,929,570	100.0%
2008	206,518,693	206,518,693	100.0%
2009	195,613,673	195,613,673	100.0%
2010	183,950,930	183,950,930	100.0%
2011	200,388,994	200,388,994	100.0%
2012	212,321,325	212,321,325	100.0%
2013	228,017,452	228,017,452 ⁽³⁾	100.0%
2014	288,760,413	288,760,413 ⁽⁴⁾	100.0%

⁽¹⁾Excludes pension obligation bond proceeds of \$153,134,911.

⁽²⁾Excludes pension obligation bond proceeds of \$11,693,396.

⁽³⁾Excludes additional contributions towards UAAL of \$7,000,000.

⁽⁴⁾Excludes additional contributions towards UAAL of \$5,000,000.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

EXHIBIT III

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)
12/31/2005	\$4,062,057,143	\$4,792,428,024	\$730,370,881	84.76%	\$627,546,408	116.39%
12/31/2006	4,460,871,033	5,293,977,010	833,105,977	84.26%	653,953,163	127.40%
12/31/2007	5,016,136,535	5,581,048,225	564,911,690	89.88%	671,617,932	84.11%
12/31/2008	5,282,505,159	5,972,471,074	689,965,915	88.45%	704,947,668	97.87%
12/31/2009	5,290,114,102	6,314,787,187	1,024,673,085	83.77%	694,443,999	147.55%
12/31/2010	5,341,821,711	6,654,036,801	1,312,215,090	80.28%	687,443,206	190.88%
12/31/2011	5,426,719,066	6,915,311,649	1,488,592,583	78.47%	666,394,146	223.38%
12/31/2012	5,482,257,062	7,761,315,535	2,279,058,473	70.64%	652,312,180	349.38%
12/31/2013	5,907,416,432	7,731,097,407	1,823,680,975	76.41%	679,428,911	268.41%
12/31/2014	6,557,496,101	8,027,438,213	1,469,942,112	81.69%	697,831,837	210.64%

⁽¹⁾ Excludes assets for non-valuation reserves.

⁽²⁾ Excludes liabilities for non-valuation reserves.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

EXHIBIT IV

Supplementary Information Required on Actuarially Determined Contribution by GASB

Valuation date	December 31, 2014
Actuarial cost method	Entry Age Actuarial Cost Method
Amortization method	Level percent of payroll for total unfunded liability (4.00% payroll growth assumed)
Remaining amortization period	Remaining balance of December 31, 2007 UAAL is amortized over a fixed (decreasing or closed) period with 8 years remaining as of December 31, 2014. Any changes in UAAL after December 31, 2007 will be separately amortized over a fixed 18-year period effective with that valuation. Effective December 31, 2013, any changes in UAAL due to plan amendments (with the exception of a change due to retirement incentives) will be amortized over a 10-year fixed period effective with that valuation. The entire increase in UAAL resulting from a temporary retirement incentive will be funded in full upon adoption of the incentive.
Asset valuation method	Market value of assets less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized semi-annually over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves and designations.
Actuarial assumptions:	
Investment rate of return	7.25%
Inflation rate	3.25%
Projected salary increases ⁽¹⁾	General: 4.75% to 13.50%; Safety: 4.75% to 14.00%
Cost of living adjustments	3% per year except for Tier 3 and PEPRA Tier 5 (3% COLA) disability benefits and Tier 2 benefits that are valued as a 3.25% increase per year. Safety Tier C and E benefits and benefits for PEPRA Tier 4 and Tier 5 members covered under certain memoranda of understanding are assumed to increase at 2% per year. All increases are contingent upon actual increases in CPI.
Plan membership:	
Retired members and beneficiaries receiving benefits	8,871
Terminated members entitled to, but not yet receiving benefits	2,647
Active members	<u>9,159</u>
Total	20,677

⁽¹⁾ Includes inflation at 3.25%, plus "across the board" salary increases of 0.75%, plus merit and promotional increases. See Exhibit V for these increases. The average total assumed salary increase for active members in the December 31, 2014 valuation is 7.1%.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

EXHIBIT V

Actuarial Assumptions and Methods

Actuarial Assumptions

Post – Retirement Mortality Rates:

<i>Healthy:</i>	<p>For General Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set back one year.</p> <p>For Safety Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set back two years.</p>
<i>Disabled:</i>	<p>For General Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set forward six years for males and set forward seven years for females.</p> <p>For Safety Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set forward three years.</p>
<i>Beneficiaries:</i>	<p>Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who has taken a service (non-disability) retirement.</p> <p>The mortality tables projected with Scale AA to 2015 and adjusted by the applicable set backs and set forwards shown above reasonably reflect the projected mortality experience as of the measurement date. The additional projection to 2030 is a provision for future mortality improvement.</p>
<i>Member Contribution Rates:</i>	<p>For General Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set back one year, weighted 30% male and 70% female.</p> <p>For Safety Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set back two years, weighted 85% male and weighted 15% female.</p>

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Termination Rates Before Retirement:

Age	Rate (%) Mortality			
	General		Safety	
	Male	Female	Male	Female
25	0.03	0.01	0.02	0.01
30	0.04	0.02	0.03	0.02
35	0.06	0.03	0.05	0.03
40	0.08	0.04	0.08	0.04
45	0.10	0.07	0.09	0.06
50	0.12	0.09	0.11	0.08
55	0.17	0.18	0.16	0.15
60	0.37	0.38	0.33	0.34
65	0.74	0.74	0.66	0.66

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

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Termination Rates Before Retirement (continued):

Age	Rate (%)		
	Disability		
	General Tier 1 ⁽¹⁾	General Tier 3 ⁽²⁾	Safety ⁽³⁾
20	0.01	0.01	0.02
25	0.02	0.02	0.22
30	0.04	0.03	0.42
35	0.08	0.05	0.56
40	0.16	0.08	0.66
45	0.32	0.13	0.94
50	0.52	0.17	2.54
55	0.66	0.21	4.10
60	0.70	0.27	4.80
65	0.70	0.36	5.00
70	0.70	0.44	5.00

- ⁽¹⁾ 70% of General Tier 1 disabilities are assumed to be duty disabilities. The other 30% are assumed to be ordinary disabilities.
- ⁽²⁾ 35% of General Tier 3 disabilities are assumed to be duty disabilities. The other 65% are assumed to be ordinary disabilities.
- ⁽³⁾ 100% of Safety disabilities are assumed to be duty disabilities.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Termination Rates Before Retirement (continued):

Years of Service	Rate (%)	
	Withdrawal*	
	General	Safety
Less than 1	13.50	11.50
1	9.00	6.50
2	9.00	5.00
3	6.00	4.00
4	4.50	3.50
5	4.00	3.00
6	3.75	2.75
7	3.50	2.50
8	3.25	2.25
9	3.00	2.00
10	2.75	1.90
11	2.50	1.80
12	2.40	1.70
13	2.30	1.60
14	2.20	1.50
15	2.10	1.40
16	2.00	1.30
17	2.00	1.20
18	2.00	1.10
19	2.00	1.00
20 or more	2.00	1.00

* The member is assumed to receive the greater of the member's contribution balance or a deferred retirement benefit. No withdrawal is assumed after a member is first assumed to retire.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Retirement Rates (General):

Age	Rate (%)			
	General Tier 1 (Enhanced)	General Tier 3 (Enhanced)	General Tier 1 (Non-enhanced)	PEPRA General Tiers 4 and 5
50	5.00	4.00	3.00	0.00
51	4.00	3.00	3.00	0.00
52	6.00	3.00	3.00	2.00
53	6.00	5.00	3.00	3.00
54	12.00	5.00	3.00	3.00
55	20.00	10.00	10.00	5.00
56	20.00	10.00	10.00	5.00
57	20.00	10.00	10.00	6.00
58	22.00	12.00	10.00	8.00
59	25.00	12.00	10.00	9.00
60	30.00	15.00	25.00	10.00
61	35.00	20.00	15.00	14.00
62	35.00	27.00	40.00	21.00
63	35.00	27.00	25.00	21.00
64	35.00	30.00	30.00	21.00
65	40.00	40.00	40.00	27.00
66	40.00	40.00	35.00	33.00
67	40.00	40.00	35.00	33.00
68	40.00	40.00	35.00	33.00
69	40.00	40.00	35.00	33.00
70	100.00	40.00	100.00	50.00
71	100.00	40.00	100.00	50.00
72	100.00	40.00	100.00	50.00
73	100.00	40.00	100.00	50.00
74	100.00	40.00	100.00	50.00
75	100.00	100.00	100.00	100.00

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Retirement Rates (Safety):

Age	Rate (%)			
	Safety Tier A (Enhanced)	Safety Tier C (Enhanced)	Safety Tier A (Non-enhanced)	PEPRA Safety Tiers D and E
45	2.00	1.00	0.00	0.00
46	2.00	1.00	0.00	0.00
47	7.00	3.00	0.00	0.00
48	7.00	3.00	0.00	0.00
49	20.00	10.00	0.00	0.00
50	25.00	15.00	5.00	5.00
51	25.00	15.00	4.00	4.00
52	25.00	15.00	4.00	4.00
53	25.00	15.00	5.00	5.00
54	25.00	15.00	5.00	5.00
55	30.00	20.00	6.00	6.00
56	25.00	15.00	8.00	8.00
57	25.00	15.00	12.00	12.00
58	35.00	25.00	18.00	18.00
59	35.00	25.00	20.00	20.00
60	40.00	35.00	20.00	20.00
61	40.00	35.00	20.00	20.00
62	40.00	35.00	20.00	20.00
63	40.00	35.00	20.00	20.00
64	40.00	35.00	100.00	100.00
65	100.00	100.00	100.00	100.00

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Retirement Age and Benefit for Deferred Vested Members:

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

General: Age 59
Safety: Age 54

We assume that 40% and 60% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 5.25% compensation increases per annum.

Future Benefit Accruals:

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

Unknown Data for Members:

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

Percent Married:

75% of male members and 50% 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:

Females are 3 years younger than their spouses.

Offsets by Other Plans of the Employer for Disability Benefits:

The Plan requires members who retire because of disability from General Tier 3 and PEPRA General Tier 5 to offset the Plan's disability benefits with other Plans of the employer. We have not assumed any offsets in this valuation.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Leave Cashout Assumptions:

The following assumptions for leave cashouts as a percentage of final average pay are used:

General Tiers 1, 2 and 3
Safety Tiers A and C

	Membership Date before January 1, 2013
Cost Group 1:	1.50%
Cost Group 2:	0.50% for Tier 2 0.75% for Tier 3
Cost Group 3:	6.50%
Cost Group 4:	0.25%
Cost Group 5:	1.50%
Cost Group 6:	1.25%
Cost Group 7:	0.75%
Cost Group 8:	0.75%
Cost Group 9:	0.00%
Cost Group 10:	1.50%
Cost Group 11:	3.00%
Cost Group 12:	3.50%

The cost of this pay element is recognized in the valuation as an employer and member cost in both basic and COLA components.

PEPRA General Tiers 4 and 5
PEPRA Safety Tiers D and E

None

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Service From Accumulated Sick Leave:

The following assumptions for additional service due to accumulated sick leave as a percentage of service at retirement are used:

All Retirements Excluding Disability:

General:	1.25%
Safety:	2.00%

Disability Retirements:

General:	0.10%
Safety:	1.25%

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

Net Investment Return:

7.25%, net of administration and investment expenses.

Employee Contribution Crediting Rate:

7.25%, compounded semi-annually.

Consumer Price Index:

Increase of 3.25% per year; retiree COLA increases due to CPI subject to a 3.00% maximum change per year except for Tier 3 and PEPRA Tier 5 disability benefits and Tier 2 benefits which are subject to a 4.00% maximum change per year (valued as a 3.25% increase). Safety Tier C benefits and benefits for PEPRA Tier 4 and Tier 5 members covered under certain memoranda of understanding are subject to a 2.00% maximum change per year.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.25% per year, plus “across the board” salary increases of 0.75% per year, plus the following merit and promotional increases.

<u>Years of Service</u>	<u>General</u>	<u>Safety</u>
Less than 1	9.50%	10.00%
1	6.50	6.50
2	4.75	5.25
3	3.25	4.00
4	2.25	2.25
5	1.50	1.00
6	1.25	0.75
7	1.00	0.75
8	0.75	0.75
9	0.75	0.75
10	0.75	0.75
11	0.75	0.75
12	0.75	0.75
13	0.75	0.75
14	0.75	0.75
15	0.75	0.75
16	0.75	0.75
17	0.75	0.75
18	0.75	0.75
19	0.75	0.75
20 & over	0.75	0.75

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Actuarial Methods

- Actuarial Cost Method:** Entry Age Actuarial Cost Method. Entry Age is calculated as 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 percent of compensation, as if the current benefit formulas have always been in effect (i.e., “replacement life”).
- Actuarial Value of Assets:** Market value of assets less unrecognized returns in each of the last nine semi-annual accounting periods. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized semi-annually over a five-year period.
- Valuation Value of Assets:** Actuarial Value of Assets reduced by the value of the non-valuation reserves and designations.
- Amortization Policy:** The UAAL (i.e., the difference between the AAL and the Valuation Value of Assets) as of December 31, 2014 will continue to be amortized over separate amortization layers based on the valuations during which each separate layer was previously established.
- Any new UAAL as a result of actuarial gains or losses identified in the annual valuation as of December 31 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 the Board adopts an alternative amortization period after receiving an actuarial analysis:
- i. With the exception noted in ii., below, the increase in UAAL as a result of any plan amendments will be amortized over a period of 10 years;
 - ii. The entire increase in UAAL resulting from a temporary retirement incentive will be funded in full upon adoption of the incentive. If the increase in UAAL is due to the impact of benefits resulting from additional service permitted in Section 31641.04 of the 1937 CERL (Golden Handshake), the entire increase in UAAL will be funded in full upon adoption of the Golden Handshake.

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

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

If an overfunding or “surplus” exists (i.e., the Valuation Value of Assets exceeds the AAL, so that the total of all UAAL amortization layers become negative), any prior UAAL amortization layers will be considered fully amortized, and any subsequent UAAL will be amortized as the first of a new series of amortization layers, using the above amortization periods.

If the surplus exceeds 20% of the AAL per Section 7522.52 of the Government Code, then the amount of surplus in excess of 20% of the AAL (and any subsequent surpluses in excess of that amount) will be amortized over an “open” amortization period of 30 years, but only if the other conditions of Section 7522.52 have also been met. If those conditions are not met, then the surplus will not be amortized and the full Normal Cost will be contributed.

These amortization policy components will generally apply separately to each of CCCERA's UAAL cost groups with the exception that the conditions of Section 7522.32 apply to the total plan.

Changes in Actuarial Assumptions and Methods:

The leave cashout assumption for Safety Tier C (Cost Group #9) was eliminated. The previous assumption was as shown below. In addition, the basic (i.e., non-COLA) member contribution rates now reflect the leave cashout assumptions for non-PEPRA members.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Changes in Actuarial Assumptions and Methods – Prior Assumptions:

Leave Cashout (Terminal Pay) Assumptions:

Safety Tier C

The following assumptions for leave cashout as a percentage of final average pay are used:

	Membership Date before January 1, 2013
Cost Group 9:	0.25%

For determining the cost of the basic benefit (i.e., non-COLA component), the cost of this pay element is recognized in the valuation as an employer only cost.

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EXHIBIT VI

Summary of Plan Provisions

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

Membership Eligibility:

<i>General Tier 1</i>	General members hired before July 1, 1980 and electing not to transfer to Tier 2 Plan. Certain General members with membership dates before January 1, 2013 hired by specific employers who did not adopt Tier 2 are placed in Tier 1.
<i>General Tier 2</i>	Most General members hired on or after August 1, 1980 and all General members hired before July 1, 1980 electing to transfer to the Tier 2 Plan. Effective October 1, 2002, for the County, Tier 2 was eliminated and all County employees (excluding CNA employees) in Tier 2 were placed in Tier 3. Effective January 1, 2005, all CNA employees in Tier 2 were placed in Tier 3.
<i>General Tier 3</i>	General members with membership dates before January 1, 2013 who are not placed in Tier 1 are placed in Tier 3.
<i>PEPRA General Tier 4</i>	General members with membership dates on or after January 1, 2013 hired by specific employers who did not adopt Tier 2 are placed in Tier 4.
<i>PEPRA General Tier 5</i>	General members with membership dates on or after January 1, 2013 who are not placed in Tier 4 are placed in Tier 5.
<i>Safety Tiers A and C</i>	Safety members with membership dates before January 1, 2013. County Sheriff's Department Safety members hired on or after January 1, 2007, but before January 1, 2013 are placed in Safety Tier C Enhanced.
<i>PEPRA Safety Tiers D and E</i>	Safety members with membership dates on or after January 1, 2013. Safety members from certain bargaining units are placed in Safety Tier E.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Final Compensation for Benefit Determination:

<i>General Tier 1, Tier 3 (non-disability), and Safety Tier A</i>	Highest consecutive twelve months of compensation earnable. (FAS1) (§31462.1)
<i>General Tier 2, Tier 3 (disability), and Safety Tier C</i>	Highest consecutive thirty-six months of compensation earnable. (FAS3) (§31462)
<i>PEPRA General Tiers 4 and 5 PEPRA Safety Tiers D and E</i>	Highest consecutive thirty-six months of pensionable compensation. (FAS3) (§7522.10(c), §7522.32 and §7522.34)

Social Security Primary Insurance Amount:

<i>General Tier 2</i>	Estimated Social Security award at age 62 assuming level future earnings. (PIA)
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Service:

<i>All tiers</i>	Years of service*. (Yrs)
<i>General Tier 2</i>	Years of service up to a maximum of 30 years*. (Yrs30)

*Includes accumulated sick leave as of the date of retirement (§31641.01).

Service Retirement Eligibility:

<i>General Tiers 1, 2 and 3</i>	Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years of service, regardless of age. (§31672)
<i>PEPRA General Tiers 4 and 5</i>	Age 52 with 5 years of service, or age 70 regardless of service. (§7522.20(a) and §31672.3)
<i>Safety Tiers A and C</i>	Age 50 with 10 years of service, or age 70 regardless of service, or after 20 years of service, regardless of age. (§31663.25)
<i>PEPRA Safety Tiers D and E</i>	Age 50 with 5 years of service, or age 70 regardless of service. (§7522.25(a) and §31672.3)

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Benefit Formula:

General Tiers 1 and 3 (Non-enhanced)(§31676.11)

Retirement Age	Benefit Formula
50	$(1.24\% \times \text{FAS1} - 1/3 \times 1.24\% \times \$350 \times 12) \times \text{Yrs}$
55	$(1.67\% \times \text{FAS1} - 1/3 \times 1.67\% \times \$350 \times 12) \times \text{Yrs}$
60	$(2.18\% \times \text{FAS1} - 1/3 \times 2.18\% \times \$350 \times 12) \times \text{Yrs}$
62	$(2.35\% \times \text{FAS1} - 1/3 \times 2.35\% \times \$350 \times 12) \times \text{Yrs}$
65 or later	$(2.61\% \times \text{FAS1} - 1/3 \times 2.61\% \times \$350 \times 12) \times \text{Yrs}$

General Tier 1 and Tier 3 (Enhanced) (§31676.16)

50	$(1.43\% \times \text{FAS1} - 1/3 \times 1.43\% \times \$350 \times 12) \times \text{Yrs}$
55	$(2.00\% \times \text{FAS1} - 1/3 \times 2.00\% \times \$350 \times 12) \times \text{Yrs}$
60	$(2.26\% \times \text{FAS1} - 1/3 \times 2.26\% \times \$350 \times 12) \times \text{Yrs}$
62	$(2.37\% \times \text{FAS1} - 1/3 \times 2.37\% \times \$350 \times 12) \times \text{Yrs}$
65 or later	$(2.42\% \times \text{FAS1} - 1/3 \times 2.42\% \times \$350 \times 12) \times \text{Yrs}$

For members previously covered under the non-enhanced §31676.11 formula, they are entitled to at least the benefits they could have received under §31676.11.

General Tier 2 (§31752)

50	$0.83\% \times \text{FAS}3 \times \text{Yrs} - 0.57\% \times \text{Yrs}30 \times \text{PIA}$
55	$1.13\% \times \text{FAS}3 \times \text{Yrs} - 0.87\% \times \text{Yrs}30 \times \text{PIA}$
60	$1.43\% \times \text{FAS}3 \times \text{Yrs} - 1.37\% \times \text{Yrs}30 \times \text{PIA}$
62	$1.55\% \times \text{FAS}3 \times \text{Yrs} - 1.67\% \times \text{Yrs}30 \times \text{PIA}$
65 or later	$1.73\% \times \text{FAS}3 \times \text{Yrs} - 1.67\% \times \text{Yrs}30 \times \text{PIA}$

The offsets shown in all of the above formulas only apply to members integrated with Social Security.

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Benefit Formula:

<i>PEPRA General Tiers 4 and 5</i> (§7522.20(a))	Retirement Age	Benefit Formula
	52	1.00%xFAS3xYrs
	55	1.30%xFAS3xYrs
	60	1.80%xFAS3xYrs
	62	2.00%xFAS3xYrs
	65	2.30%xFAS3xYrs
	67 or later	2.50%xFAS3xYrs
<i>Safety Tier A (Non-enhanced)(§31664)</i>	50	2.00%xFAS1xYrs
	55 or later	2.62%xFAS1xYrs
<i>Safety Tier A (Enhanced)(§31664.1)</i>	50 or later	3.00%xFAS1xYrs
<i>Safety Tier C (Enhanced)(§31664.1)</i>	50 or later	3.00%xFAS3xYrs
<i>PEPRA Safety Tiers D and E</i> (§7522.25(d))	50	2.00%xFAS3xYrs
	55	2.50%xFAS3xYrs
	57 or later	2.70%xFAS3xYrs

Maximum Benefit:

<i>General Tiers 1 and 3</i> <i>Safety Tiers A and C</i>	100% of Final Compensation (§31676.11, §31676.16, §31664, §31664.1)
<i>General Tier 2</i> <i>PEPRA General Tiers 4 and 5</i> <i>PEPRA Safety Tiers D and E</i>	None

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Ordinary Disability:

General Tiers 1 and 4

Eligibility

Five years of service (§31720).

Benefit Formula

1.5% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 65, but total benefit cannot be more than one-third of Final Compensation (§31727).

General Tiers 2, 3 and 5

Eligibility

Ten years of service (definition of disability is more strict than Tier 1 Plan) (§31720.1).

Benefit Formula

40% of Final Compensation plus 10% of Final Compensation used in the benefit determination for each minor child (maximum of three) (§31727.01).

Offset

Disability benefits are offset by other plans of the employer except Workers Compensation and Social Security.

Safety

Eligibility

Five years of service (§31720).

Benefit Formula

1.8% per year of service. If the benefit does not exceed one-third of Final Compensation, the service is projected to 55, but total benefit cannot be more than one-third of Final Compensation (§31727.2).

Line-of-Duty Disability:

General Tiers 1 and 4, and Safety

Eligibility

No age or service requirements (§31720).

Benefit Formula

50% of the Final Compensation (§31727.4).

General Tiers 2, 3 and 5

Eligibility

No age or service requirements (§31720).

Benefit Formula

40% of Final Compensation plus 10% of Final Compensation for each minor child (maximum of three) (§31727.01).

Offset

Disability benefits are offset by other plans of the Employer except Workers Compensation and Social Security.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Pre-Retirement Death:

Non-General Tier 2

Eligibility - A

None.

Benefit - A

Refund of employee contributions with interest plus one month's compensation for each year of service to a maximum of six month's compensation (§31781); 50% of Final Compensation payable to spouse if Line of Duty death (§31787).

OR

Eligibility - B

Five years of service (Ten years for Tiers 3 and 5).

Benefit - B

Option 2 (100% continuation) of Service Retirement or Ordinary Disability benefit payable to designated beneficiary.

Death in line of duty

50% of Final compensation.

General Tier 2

Eligibility - A

None.

Benefit - A

Refund of employee contributions with interest plus \$2,000 lump sum benefit offset by any Social Security payment. (§31781.01); If a Line of Duty death, then 60% of Service or Disability Retirement Benefit (minimum benefit is 24% of Final Compensation) plus, for each minor child, 10% of the allowance otherwise paid to the member. Minimum family benefit is 60% of the member's allowance. Maximum family benefit is 100% of member's allowance.

OR

Eligibility - B

Ten years of service.

Benefit - B

Option 2 (100% continuation) of Service Retirement or Ordinary Disability benefit payable to designated beneficiary.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Death After Retirement:

Non-General Tier 2

Service or

Ordinary Disability Retirement

60% of member's unmodified allowance continued to eligible spouse. An eligible spouse is a surviving spouse who was married to the member one year prior to member's retirement 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). An additional lump sum benefit of \$5,000 is payable to the member's beneficiary (§31789.5).

Line-of-Duty Disability

100% of members allowance continued to eligible spouse (§31786). An additional lump sum benefit of \$5,000 is payable to the member's beneficiary (§31789.5).

General Tier 2

Service or

Disability Retirement

60% of member's unmodified allowance continued to eligible spouse plus 20% of allowance to each minor child (§31789.11). Minimum benefit is 60% of allowance. Maximum benefit is 100% of allowance. \$5,000 lump sum death benefit (§31789.5) plus \$2,000 less any Social Security Lump sum payment (§31789.01) are payable to member's beneficiary.

Withdrawal Benefits:

Less than Five Years of Service

Refund of accumulated employee contributions with interest, or earned benefit at age 70 (§31628).

Five or More Years of Service

If contributions left on deposit, entitled to earned benefits commencing at any time after eligible to retire (§31700).

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Post-Retirement

Cost-of-Living Benefits:

General Tiers 1, 3, 4 and 5

Safety Tiers A and D

Future changes based on Consumer Price Index to a maximum of 3% per year, excess "banked." Tier 3 and PEPRAs Tier 5 disability benefits have a maximum of 4% per year, excess "banked." Benefits for PEPRAs Tier 4 and Tier 5 members covered under certain memoranda of understanding have a maximum of 2% per year, excess "banked".

General Tier 2

Future changes based on Consumer Price Index to a maximum of 4% per year, excess "banked."

Safety Tiers C and E

Future changes based on Consumer Price Index to a maximum of 2% per year, excess "banked."

Member Contributions:

Please refer to Appendices A and B for the specific rates.

General Tiers 1 and 3 (Non-enhanced)

Basic

Provide for one-half of the \$31676.11 benefit payable at age 55.

Cost-of-Living

Provide for one-half of future Cost-of-Living costs.

General Tiers 1 and 3 (Enhanced)

Basic

Provide for an average annuity at age 60 equal to 1/120 of FAS1.

Cost-of-Living

Provide for one-half of future Cost-of-Living costs.

PEPRA General Tiers 4 and 5

50% of the total Normal Cost rate.

Safety Tier A (Non-enhanced)

Basic

Provide for one-half of the \$31664 benefit payable at age 50.

Cost-of-Living

Provide for one-half of future Cost-of-Living costs.

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Member Contributions (continued):

Safety Tier A (Enhanced)

Basic

Provide for an average annuity at age 50 equal to 1/100 of FAS1.

Cost-of-Living

Provide for one-half of future Cost-of-Living costs.

Safety Tier C (Enhanced)

Basic

Provide for an average annuity at age 50 equal to 1/100 of FAS3.

Cost-of-Living

Provide for one-half of future Cost-of-Living costs.

PEPRA Safety Tiers D and E

50% of the total Normal Cost rate.

Other Information:

Transfers from the Tier 1 Plan to the Tier 2 Plan were made on an individual voluntary irrevocable basis. Credit is given under the Tier 2 Plan for future service only. The Cost-of-Living maximum is 4% only for the credit under the Tier 2 Plan. Transferred Tier 2 Plan members keep the five-year requirement for nonservice-connected disability. Those who were members on or before March 7, 1973 and Safety members under the enhanced benefit formula with membership dates on or before January 1, 2013 will be exempt from paying member contributions after 30 years of service.

Plan Provisions Not Valued:

Additional \$5,000 lump sum post-retirement death benefit payable to a member's beneficiary. This benefit is paid from a reserve that is not included in the Valuation Value of Assets and is subject at all times to the availability of funds.

Plan Changes:

Contra Costa County Fire Protection PEPRA members covered under a Memorandum of Understanding who become members on or after January 1, 2015 enter Tier E with the 2% COLA provisions. ?

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 that both can be sure the proper provisions are valued.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Appendix A

Member Contribution Rates for Members with Membership Dates before January 1, 2013

**General Cost Group #1 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	3.59%	5.39%	1.97%	2.96%	5.56%	8.35%
16	3.65%	5.47%	2.01%	3.01%	5.66%	8.48%
17	3.70%	5.55%	2.03%	3.05%	5.73%	8.60%
18	3.75%	5.62%	2.06%	3.09%	5.81%	8.71%
19	3.80%	5.70%	2.09%	3.14%	5.89%	8.84%
20	3.85%	5.78%	2.12%	3.18%	5.97%	8.96%
21	3.91%	5.86%	2.15%	3.22%	6.06%	9.08%
22	3.97%	5.95%	2.18%	3.27%	6.15%	9.22%
23	4.02%	6.03%	2.21%	3.32%	6.23%	9.35%
24	4.07%	6.11%	2.24%	3.36%	6.31%	9.47%
25	4.13%	6.20%	2.27%	3.41%	6.40%	9.61%
26	4.19%	6.28%	2.30%	3.45%	6.49%	9.73%
27	4.25%	6.37%	2.33%	3.50%	6.58%	9.87%
28	4.31%	6.46%	2.37%	3.55%	6.68%	10.01%
29	4.37%	6.55%	2.40%	3.60%	6.77%	10.15%
30	4.43%	6.64%	2.43%	3.65%	6.86%	10.29%
31	4.49%	6.73%	2.47%	3.70%	6.96%	10.43%
32	4.55%	6.82%	2.50%	3.75%	7.05%	10.57%
33	4.61%	6.92%	2.54%	3.81%	7.15%	10.73%
34	4.67%	7.01%	2.57%	3.86%	7.24%	10.87%
35	4.74%	7.11%	2.61%	3.91%	7.35%	11.02%
36	4.81%	7.21%	2.65%	3.97%	7.46%	11.18%
37	4.87%	7.31%	2.68%	4.02%	7.55%	11.33%
38	4.94%	7.41%	2.72%	4.08%	7.66%	11.49%
39	5.01%	7.51%	2.75%	4.13%	7.76%	11.64%

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**General Cost Group #1 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
40	5.08%	7.62%	2.79%	4.19%	7.87%	11.81%
41	5.15%	7.72%	2.83%	4.25%	7.98%	11.97%
42	5.22%	7.83%	2.87%	4.31%	8.09%	12.14%
43	5.29%	7.94%	2.91%	4.37%	8.20%	12.31%
44	5.37%	8.06%	2.95%	4.43%	8.32%	12.49%
45	5.45%	8.18%	3.00%	4.50%	8.45%	12.68%
46	5.53%	8.30%	3.05%	4.57%	8.58%	12.87%
47	5.62%	8.43%	3.09%	4.64%	8.71%	13.07%
48	5.71%	8.56%	3.14%	4.71%	8.85%	13.27%
49	5.80%	8.70%	3.19%	4.79%	8.99%	13.49%
50	5.90%	8.85%	3.25%	4.87%	9.15%	13.72%
51	6.00%	9.00%	3.30%	4.95%	9.30%	13.95%
52	6.11%	9.17%	3.36%	5.04%	9.47%	14.21%
53	6.21%	9.31%	3.41%	5.12%	9.62%	14.43%
54	6.31%	9.47%	3.47%	5.21%	9.78%	14.68%
55	6.39%	9.59%	3.51%	5.27%	9.90%	14.86%
56	6.43%	9.65%	3.54%	5.31%	9.97%	14.96%
57	6.41%	9.61%	3.53%	5.29%	9.94%	14.90%
58	6.34%	9.51%	3.49%	5.23%	9.83%	14.74%
59	6.18%	9.27%	3.40%	5.10%	9.58%	14.37%
60	6.18%	9.27%	3.40%	5.10%	9.58%	14.37%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 1.50%
 COLA Loading: 55.00%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**General Cost Group #2 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	3.57%	5.35%	1.78%	2.67%	5.35%	8.02%
16	3.62%	5.43%	1.81%	2.71%	5.43%	8.14%
17	3.67%	5.51%	1.83%	2.75%	5.50%	8.26%
18	3.72%	5.58%	1.86%	2.79%	5.58%	8.37%
19	3.77%	5.66%	1.89%	2.83%	5.66%	8.49%
20	3.83%	5.74%	1.91%	2.87%	5.74%	8.61%
21	3.88%	5.82%	1.94%	2.91%	5.82%	8.73%
22	3.93%	5.90%	1.97%	2.95%	5.90%	8.85%
23	3.99%	5.99%	1.99%	2.99%	5.98%	8.98%
24	4.05%	6.07%	2.02%	3.03%	6.07%	9.10%
25	4.10%	6.15%	2.05%	3.07%	6.15%	9.22%
26	4.16%	6.24%	2.08%	3.12%	6.24%	9.36%
27	4.21%	6.32%	2.11%	3.16%	6.32%	9.48%
28	4.27%	6.41%	2.13%	3.20%	6.40%	9.61%
29	4.33%	6.50%	2.17%	3.25%	6.50%	9.75%
30	4.39%	6.59%	2.19%	3.29%	6.58%	9.88%
31	4.45%	6.68%	2.23%	3.34%	6.68%	10.02%
32	4.51%	6.77%	2.25%	3.38%	6.76%	10.15%
33	4.58%	6.87%	2.29%	3.43%	6.87%	10.30%
34	4.64%	6.96%	2.32%	3.48%	6.96%	10.44%
35	4.71%	7.06%	2.35%	3.53%	7.06%	10.59%
36	4.77%	7.16%	2.39%	3.58%	7.16%	10.74%
37	4.84%	7.26%	2.42%	3.63%	7.26%	10.89%
38	4.91%	7.36%	2.45%	3.68%	7.36%	11.04%
39	4.97%	7.46%	2.49%	3.73%	7.46%	11.19%
40	5.04%	7.56%	2.52%	3.78%	7.56%	11.34%
41	5.11%	7.67%	2.55%	3.83%	7.66%	11.50%
42	5.19%	7.78%	2.59%	3.89%	7.78%	11.67%
43	5.26%	7.89%	2.63%	3.94%	7.89%	11.83%

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**General Cost Group #2 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
44	5.33%	8.00%	2.67%	4.00%	8.00%	12.00%
45	5.42%	8.13%	2.71%	4.06%	8.13%	12.19%
46	5.49%	8.24%	2.75%	4.12%	8.24%	12.36%
47	5.58%	8.37%	2.79%	4.18%	8.37%	12.55%
48	5.67%	8.50%	2.83%	4.25%	8.50%	12.75%
49	5.77%	8.65%	2.88%	4.32%	8.65%	12.97%
50	5.87%	8.80%	2.93%	4.40%	8.80%	13.20%
51	5.96%	8.94%	2.98%	4.47%	8.94%	13.41%
52	6.07%	9.11%	3.03%	4.55%	9.10%	13.66%
53	6.17%	9.25%	3.08%	4.62%	9.25%	13.87%
54	6.28%	9.42%	3.14%	4.71%	9.42%	14.13%
55	6.35%	9.52%	3.17%	4.76%	9.52%	14.28%
56	6.41%	9.61%	3.20%	4.80%	9.61%	14.41%
57	6.37%	9.55%	3.18%	4.77%	9.55%	14.32%
58	6.28%	9.42%	3.14%	4.71%	9.42%	14.13%
59	6.03%	9.04%	3.01%	4.52%	9.04%	13.56%
60	6.03%	9.04%	3.01%	4.52%	9.04%	13.56%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 0.50% for Tier 2 and 0.75% for Tier 3
 COLA Loading: 49.97%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**General Cost Group #3 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	3.77%	5.66%	2.11%	3.16%	5.88%	8.82%
16	3.83%	5.74%	2.13%	3.20%	5.96%	8.94%
17	3.88%	5.82%	2.16%	3.24%	6.04%	9.06%
18	3.93%	5.90%	2.19%	3.29%	6.12%	9.19%
19	3.99%	5.98%	2.22%	3.33%	6.21%	9.31%
20	4.04%	6.06%	2.25%	3.38%	6.29%	9.44%
21	4.10%	6.15%	2.29%	3.43%	6.39%	9.58%
22	4.15%	6.23%	2.31%	3.47%	6.46%	9.70%
23	4.21%	6.32%	2.35%	3.52%	6.56%	9.84%
24	4.27%	6.41%	2.38%	3.57%	6.65%	9.98%
25	4.33%	6.50%	2.41%	3.62%	6.74%	10.12%
26	4.39%	6.59%	2.45%	3.67%	6.84%	10.26%
27	4.45%	6.68%	2.48%	3.72%	6.93%	10.40%
28	4.51%	6.77%	2.51%	3.77%	7.02%	10.54%
29	4.57%	6.86%	2.55%	3.82%	7.12%	10.68%
30	4.64%	6.96%	2.59%	3.88%	7.23%	10.84%
31	4.70%	7.05%	2.62%	3.93%	7.32%	10.98%
32	4.77%	7.15%	2.66%	3.99%	7.43%	11.14%
33	4.83%	7.25%	2.69%	4.04%	7.52%	11.29%
34	4.90%	7.35%	2.73%	4.10%	7.63%	11.45%
35	4.97%	7.45%	2.77%	4.15%	7.74%	11.60%
36	5.03%	7.55%	2.81%	4.21%	7.84%	11.76%
37	5.10%	7.65%	2.84%	4.26%	7.94%	11.91%
38	5.17%	7.76%	2.89%	4.33%	8.06%	12.09%
39	5.25%	7.87%	2.93%	4.39%	8.18%	12.26%
40	5.32%	7.98%	2.97%	4.45%	8.29%	12.43%
41	5.39%	8.09%	3.01%	4.51%	8.40%	12.60%
42	5.47%	8.20%	3.05%	4.57%	8.52%	12.77%
43	5.55%	8.32%	3.09%	4.64%	8.64%	12.96%

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**General Cost Group #3 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
44	5.62%	8.43%	3.13%	4.70%	8.75%	13.13%
45	5.71%	8.56%	3.18%	4.77%	8.89%	13.33%
46	5.79%	8.69%	3.23%	4.84%	9.02%	13.53%
47	5.87%	8.81%	3.27%	4.91%	9.14%	13.72%
48	5.97%	8.95%	3.33%	4.99%	9.30%	13.94%
49	6.06%	9.09%	3.38%	5.07%	9.44%	14.16%
50	6.17%	9.25%	3.44%	5.16%	9.61%	14.41%
51	6.27%	9.41%	3.50%	5.25%	9.77%	14.66%
52	6.37%	9.55%	3.55%	5.32%	9.92%	14.87%
53	6.47%	9.70%	3.61%	5.41%	10.08%	15.11%
54	6.56%	9.84%	3.66%	5.49%	10.22%	15.33%
55	6.63%	9.94%	3.69%	5.54%	10.32%	15.48%
56	6.68%	10.02%	3.73%	5.59%	10.41%	15.61%
57	6.61%	9.92%	3.69%	5.53%	10.30%	15.45%
58	6.53%	9.79%	3.64%	5.46%	10.17%	15.25%
59	6.07%	9.11%	3.39%	5.08%	9.46%	14.19%
60	6.07%	9.11%	3.39%	5.08%	9.46%	14.19%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 6.50%
 COLA Loading: 55.75%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**General Cost Group #4 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	3.55%	5.33%	1.96%	2.94%	5.51%	8.27%
16	3.60%	5.40%	1.99%	2.98%	5.59%	8.38%
17	3.65%	5.48%	2.01%	3.02%	5.66%	8.50%
18	3.71%	5.56%	2.05%	3.07%	5.76%	8.63%
19	3.75%	5.63%	2.07%	3.11%	5.82%	8.74%
20	3.81%	5.71%	2.10%	3.15%	5.91%	8.86%
21	3.86%	5.79%	2.13%	3.19%	5.99%	8.98%
22	3.91%	5.87%	2.16%	3.24%	6.07%	9.11%
23	3.97%	5.96%	2.19%	3.29%	6.16%	9.25%
24	4.03%	6.04%	2.22%	3.33%	6.25%	9.37%
25	4.08%	6.12%	2.25%	3.38%	6.33%	9.50%
26	4.14%	6.21%	2.29%	3.43%	6.43%	9.64%
27	4.19%	6.29%	2.31%	3.47%	6.50%	9.76%
28	4.25%	6.38%	2.35%	3.52%	6.60%	9.90%
29	4.31%	6.47%	2.38%	3.57%	6.69%	10.04%
30	4.37%	6.56%	2.41%	3.62%	6.78%	10.18%
31	4.43%	6.65%	2.45%	3.67%	6.88%	10.32%
32	4.49%	6.74%	2.48%	3.72%	6.97%	10.46%
33	4.55%	6.83%	2.51%	3.77%	7.06%	10.60%
34	4.62%	6.93%	2.55%	3.82%	7.17%	10.75%
35	4.68%	7.02%	2.58%	3.87%	7.26%	10.89%
36	4.75%	7.12%	2.62%	3.93%	7.37%	11.05%
37	4.81%	7.22%	2.65%	3.98%	7.46%	11.20%
38	4.88%	7.32%	2.69%	4.04%	7.57%	11.36%
39	4.95%	7.42%	2.73%	4.09%	7.68%	11.51%
40	5.02%	7.53%	2.77%	4.15%	7.79%	11.68%
41	5.09%	7.64%	2.81%	4.21%	7.90%	11.85%
42	5.16%	7.74%	2.85%	4.27%	8.01%	12.01%
43	5.23%	7.85%	2.89%	4.33%	8.12%	12.18%

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**General Cost Group #4 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
44	5.31%	7.97%	2.93%	4.40%	8.24%	12.37%
45	5.39%	8.09%	2.97%	4.46%	8.36%	12.55%
46	5.47%	8.20%	3.01%	4.52%	8.48%	12.72%
47	5.56%	8.34%	3.07%	4.60%	8.63%	12.94%
48	5.64%	8.46%	3.11%	4.67%	8.75%	13.13%
49	5.73%	8.60%	3.16%	4.74%	8.89%	13.34%
50	5.84%	8.76%	3.22%	4.83%	9.06%	13.59%
51	5.94%	8.91%	3.27%	4.91%	9.21%	13.82%
52	6.05%	9.07%	3.33%	5.00%	9.38%	14.07%
53	6.15%	9.23%	3.39%	5.09%	9.54%	14.32%
54	6.25%	9.37%	3.45%	5.17%	9.70%	14.54%
55	6.33%	9.49%	3.49%	5.23%	9.82%	14.72%
56	6.38%	9.57%	3.52%	5.28%	9.90%	14.85%
57	6.38%	9.57%	3.52%	5.28%	9.90%	14.85%
58	6.29%	9.44%	3.47%	5.21%	9.76%	14.65%
59	6.06%	9.09%	3.34%	5.01%	9.40%	14.10%
60	6.06%	9.09%	3.34%	5.01%	9.40%	14.10%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 0.25%
 COLA Loading: 55.16%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**General Cost Group #5 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	3.59%	5.39%	1.95%	2.92%	5.54%	8.31%
16	3.65%	5.47%	1.98%	2.97%	5.63%	8.44%
17	3.70%	5.55%	2.01%	3.01%	5.71%	8.56%
18	3.75%	5.62%	2.03%	3.05%	5.78%	8.67%
19	3.80%	5.70%	2.06%	3.09%	5.86%	8.79%
20	3.85%	5.78%	2.09%	3.14%	5.94%	8.92%
21	3.91%	5.86%	2.12%	3.18%	6.03%	9.04%
22	3.97%	5.95%	2.15%	3.23%	6.12%	9.18%
23	4.02%	6.03%	2.18%	3.27%	6.20%	9.30%
24	4.07%	6.11%	2.21%	3.31%	6.28%	9.42%
25	4.13%	6.20%	2.24%	3.36%	6.37%	9.56%
26	4.19%	6.28%	2.27%	3.41%	6.46%	9.69%
27	4.25%	6.37%	2.31%	3.46%	6.56%	9.83%
28	4.31%	6.46%	2.33%	3.50%	6.64%	9.96%
29	4.37%	6.55%	2.37%	3.55%	6.74%	10.10%
30	4.43%	6.64%	2.40%	3.60%	6.83%	10.24%
31	4.49%	6.73%	2.43%	3.65%	6.92%	10.38%
32	4.55%	6.82%	2.47%	3.70%	7.02%	10.52%
33	4.61%	6.92%	2.50%	3.75%	7.11%	10.67%
34	4.67%	7.01%	2.53%	3.80%	7.20%	10.81%
35	4.74%	7.11%	2.57%	3.86%	7.31%	10.97%
36	4.81%	7.21%	2.61%	3.91%	7.42%	11.12%
37	4.87%	7.31%	2.65%	3.97%	7.52%	11.28%
38	4.94%	7.41%	2.68%	4.02%	7.62%	11.43%
39	5.01%	7.51%	2.71%	4.07%	7.72%	11.58%
40	5.08%	7.62%	2.75%	4.13%	7.83%	11.75%
41	5.15%	7.72%	2.79%	4.19%	7.94%	11.91%
42	5.22%	7.83%	2.83%	4.25%	8.05%	12.08%
43	5.29%	7.94%	2.87%	4.31%	8.16%	12.25%

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**General Cost Group #5 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
44	5.37%	8.06%	2.91%	4.37%	8.28%	12.43%
45	5.45%	8.18%	2.96%	4.44%	8.41%	12.62%
46	5.53%	8.30%	3.00%	4.50%	8.53%	12.80%
47	5.62%	8.43%	3.05%	4.57%	8.67%	13.00%
48	5.71%	8.56%	3.09%	4.64%	8.80%	13.20%
49	5.80%	8.70%	3.15%	4.72%	8.95%	13.42%
50	5.90%	8.85%	3.20%	4.80%	9.10%	13.65%
51	6.00%	9.00%	3.25%	4.88%	9.25%	13.88%
52	6.11%	9.17%	3.31%	4.97%	9.42%	14.14%
53	6.21%	9.31%	3.37%	5.05%	9.58%	14.36%
54	6.31%	9.47%	3.43%	5.14%	9.74%	14.61%
55	6.39%	9.59%	3.47%	5.20%	9.86%	14.79%
56	6.43%	9.65%	3.49%	5.24%	9.92%	14.89%
57	6.41%	9.61%	3.47%	5.21%	9.88%	14.82%
58	6.34%	9.51%	3.44%	5.16%	9.78%	14.67%
59	6.18%	9.27%	3.35%	5.03%	9.53%	14.30%
60	6.18%	9.27%	3.35%	5.03%	9.53%	14.30%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 1.50%
 COLA Loading: 54.25%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**General Cost Group #6 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	4.09%	6.14%	1.89%	2.83%	5.98%	8.97%
16	4.15%	6.23%	1.92%	2.88%	6.07%	9.11%
17	4.21%	6.32%	1.95%	2.92%	6.16%	9.24%
18	4.27%	6.40%	1.97%	2.95%	6.24%	9.35%
19	4.33%	6.49%	2.00%	3.00%	6.33%	9.49%
20	4.39%	6.58%	2.03%	3.04%	6.42%	9.62%
21	4.45%	6.67%	2.05%	3.08%	6.50%	9.75%
22	4.51%	6.77%	2.09%	3.13%	6.60%	9.90%
23	4.57%	6.86%	2.11%	3.17%	6.68%	10.03%
24	4.64%	6.96%	2.14%	3.21%	6.78%	10.17%
25	4.70%	7.05%	2.17%	3.25%	6.87%	10.30%
26	4.77%	7.15%	2.20%	3.30%	6.97%	10.45%
27	4.83%	7.25%	2.23%	3.35%	7.06%	10.60%
28	4.90%	7.35%	2.26%	3.39%	7.16%	10.74%
29	4.97%	7.45%	2.29%	3.44%	7.26%	10.89%
30	5.03%	7.55%	2.33%	3.49%	7.36%	11.04%
31	5.11%	7.66%	2.36%	3.54%	7.47%	11.20%
32	5.17%	7.76%	2.39%	3.58%	7.56%	11.34%
33	5.25%	7.87%	2.42%	3.63%	7.67%	11.50%
34	5.32%	7.98%	2.45%	3.68%	7.77%	11.66%
35	5.39%	8.09%	2.49%	3.73%	7.88%	11.82%
36	5.47%	8.21%	2.53%	3.79%	8.00%	12.00%
37	5.55%	8.32%	2.56%	3.84%	8.11%	12.16%
38	5.63%	8.44%	2.60%	3.90%	8.23%	12.34%
39	5.71%	8.56%	2.63%	3.95%	8.34%	12.51%
40	5.79%	8.69%	2.67%	4.01%	8.46%	12.70%
41	5.88%	8.82%	2.71%	4.07%	8.59%	12.89%
42	5.97%	8.95%	2.75%	4.13%	8.72%	13.08%
43	6.07%	9.10%	2.80%	4.20%	8.87%	13.30%

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**General Cost Group #6 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
44	6.16%	9.24%	2.85%	4.27%	9.01%	13.51%
45	6.27%	9.41%	2.89%	4.34%	9.16%	13.75%
46	6.38%	9.57%	2.95%	4.42%	9.33%	13.99%
47	6.49%	9.74%	3.00%	4.50%	9.49%	14.24%
48	6.59%	9.89%	3.05%	4.57%	9.64%	14.46%
49	6.71%	10.06%	3.09%	4.64%	9.80%	14.70%
50	6.78%	10.17%	3.13%	4.69%	9.91%	14.86%
51	6.85%	10.28%	3.17%	4.75%	10.02%	15.03%
52	6.83%	10.24%	3.15%	4.73%	9.98%	14.97%
53	6.76%	10.14%	3.12%	4.68%	9.88%	14.82%
54	6.59%	9.89%	3.05%	4.57%	9.64%	14.46%
55	6.59%	9.89%	3.05%	4.57%	9.64%	14.46%
56	6.59%	9.89%	3.05%	4.57%	9.64%	14.46%
57	6.59%	9.89%	3.05%	4.57%	9.64%	14.46%
58	6.59%	9.89%	3.05%	4.57%	9.64%	14.46%
59	6.59%	9.89%	3.05%	4.57%	9.64%	14.46%
60	6.59%	9.89%	3.05%	4.57%	9.64%	14.46%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 1.25%
 COLA Loading: 46.16%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back one year, weighted 30% Male and 70% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #7 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.97%	6.62%	15.59%
16	8.97%	6.62%	15.59%
17	8.97%	6.62%	15.59%
18	8.97%	6.62%	15.59%
19	8.97%	6.62%	15.59%
20	8.97%	6.62%	15.59%
21	8.97%	6.62%	15.59%
22	9.09%	6.71%	15.80%
23	9.21%	6.79%	16.00%
24	9.34%	6.89%	16.23%
25	9.47%	6.99%	16.46%
26	9.60%	7.08%	16.68%
27	9.73%	7.18%	16.91%
28	9.87%	7.28%	17.15%
29	10.00%	7.38%	17.38%
30	10.15%	7.49%	17.64%
31	10.29%	7.59%	17.88%
32	10.43%	7.69%	18.12%
33	10.58%	7.80%	18.38%
34	10.73%	7.92%	18.65%
35	10.89%	8.03%	18.92%
36	11.05%	8.15%	19.20%
37	11.22%	8.28%	19.50%
38	11.39%	8.40%	19.79%
39	11.58%	8.54%	20.12%
40	11.77%	8.68%	20.45%
41	11.99%	8.85%	20.84%
42	12.21%	9.01%	21.22%
43	12.48%	9.21%	21.69%
44	12.74%	9.40%	22.14%

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #7 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
45	12.93%	9.54%	22.47%
46	12.96%	9.56%	22.52%
47	12.93%	9.54%	22.47%
48	12.75%	9.41%	22.16%
49	12.42%	9.16%	21.58%
50	12.42%	9.16%	21.58%
51	12.42%	9.16%	21.58%
52	12.42%	9.16%	21.58%
53	12.42%	9.16%	21.58%
54	12.42%	9.16%	21.58%
55	12.42%	9.16%	21.58%
56	12.42%	9.16%	21.58%
57	12.42%	9.16%	21.58%
58	12.42%	9.16%	21.58%
59	12.42%	9.16%	21.58%
60	12.42%	9.16%	21.58%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 0.75%
 COLA Loading: 73.77%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #8 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.97%	6.66%	15.63%
16	8.97%	6.66%	15.63%
17	8.97%	6.66%	15.63%
18	8.97%	6.66%	15.63%
19	8.97%	6.66%	15.63%
20	8.97%	6.66%	15.63%
21	8.97%	6.66%	15.63%
22	9.09%	6.75%	15.84%
23	9.21%	6.84%	16.05%
24	9.34%	6.94%	16.28%
25	9.47%	7.03%	16.50%
26	9.60%	7.13%	16.73%
27	9.73%	7.23%	16.96%
28	9.87%	7.33%	17.20%
29	10.00%	7.43%	17.43%
30	10.15%	7.54%	17.69%
31	10.29%	7.64%	17.93%
32	10.43%	7.75%	18.18%
33	10.58%	7.86%	18.44%
34	10.73%	7.97%	18.70%
35	10.89%	8.09%	18.98%
36	11.05%	8.21%	19.26%
37	11.22%	8.33%	19.55%
38	11.39%	8.46%	19.85%
39	11.58%	8.60%	20.18%
40	11.77%	8.74%	20.51%
41	11.99%	8.90%	20.89%
42	12.21%	9.07%	21.28%
43	12.48%	9.27%	21.75%
44	12.74%	9.46%	22.20%

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #8 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
45	12.93%	9.60%	22.53%
46	12.96%	9.62%	22.58%
47	12.93%	9.60%	22.53%
48	12.75%	9.47%	22.22%
49	12.42%	9.22%	21.64%
50	12.42%	9.22%	21.64%
51	12.42%	9.22%	21.64%
52	12.42%	9.22%	21.64%
53	12.42%	9.22%	21.64%
54	12.42%	9.22%	21.64%
55	12.42%	9.22%	21.64%
56	12.42%	9.22%	21.64%
57	12.42%	9.22%	21.64%
58	12.42%	9.22%	21.64%
59	12.42%	9.22%	21.64%
60	12.42%	9.22%	21.64%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 0.75%
 COLA Loading: 74.26%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #9 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.50%	3.55%	12.05%
16	8.50%	3.55%	12.05%
17	8.50%	3.55%	12.05%
18	8.50%	3.55%	12.05%
19	8.50%	3.55%	12.05%
20	8.50%	3.55%	12.05%
21	8.50%	3.55%	12.05%
22	8.62%	3.60%	12.22%
23	8.74%	3.65%	12.39%
24	8.86%	3.70%	12.56%
25	8.98%	3.75%	12.73%
26	9.11%	3.80%	12.91%
27	9.23%	3.85%	13.08%
28	9.36%	3.91%	13.27%
29	9.49%	3.96%	13.45%
30	9.62%	4.01%	13.63%
31	9.76%	4.07%	13.83%
32	9.90%	4.13%	14.03%
33	10.04%	4.19%	14.23%
34	10.18%	4.25%	14.43%
35	10.33%	4.31%	14.64%
36	10.49%	4.38%	14.87%
37	10.64%	4.44%	15.08%
38	10.81%	4.51%	15.32%
39	10.99%	4.59%	15.58%
40	11.17%	4.66%	15.83%
41	11.38%	4.75%	16.13%
42	11.57%	4.83%	16.40%
43	11.76%	4.91%	16.67%
44	11.87%	4.95%	16.82%

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #9 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
45	11.89%	4.96%	16.85%
46	11.80%	4.92%	16.72%
47	11.51%	4.80%	16.31%
48	11.90%	4.97%	16.87%
49	12.51%	5.22%	17.73%
50	12.51%	5.22%	17.73%
51	12.51%	5.22%	17.73%
52	12.51%	5.22%	17.73%
53	12.51%	5.22%	17.73%
54	12.51%	5.22%	17.73%
55	12.51%	5.22%	17.73%
56	12.51%	5.22%	17.73%
57	12.51%	5.22%	17.73%
58	12.51%	5.22%	17.73%
59	12.51%	5.22%	17.73%
60	12.51%	5.22%	17.73%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 0.00%
 COLA Loading: 41.73%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #10 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	9.03%	6.57%	15.60%
16	9.03%	6.57%	15.60%
17	9.03%	6.57%	15.60%
18	9.03%	6.57%	15.60%
19	9.03%	6.57%	15.60%
20	9.03%	6.57%	15.60%
21	9.03%	6.57%	15.60%
22	9.16%	6.67%	15.83%
23	9.28%	6.75%	16.03%
24	9.41%	6.85%	16.26%
25	9.54%	6.94%	16.48%
26	9.67%	7.04%	16.71%
27	9.80%	7.13%	16.93%
28	9.94%	7.24%	17.18%
29	10.08%	7.34%	17.42%
30	10.22%	7.44%	17.66%
31	10.36%	7.54%	17.90%
32	10.51%	7.65%	18.16%
33	10.66%	7.76%	18.42%
34	10.81%	7.87%	18.68%
35	10.96%	7.98%	18.94%
36	11.13%	8.10%	19.23%
37	11.30%	8.23%	19.53%
38	11.47%	8.35%	19.82%
39	11.66%	8.49%	20.15%
40	11.84%	8.62%	20.46%
41	12.06%	8.78%	20.84%
42	12.29%	8.95%	21.24%
43	12.55%	9.14%	21.69%
44	12.83%	9.34%	22.17%

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #10 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
45	13.01%	9.47%	22.48%
46	13.06%	9.51%	22.57%
47	12.98%	9.45%	22.43%
48	12.85%	9.35%	22.20%
49	12.33%	8.98%	21.31%
50	12.33%	8.98%	21.31%
51	12.33%	8.98%	21.31%
52	12.33%	8.98%	21.31%
53	12.33%	8.98%	21.31%
54	12.33%	8.98%	21.31%
55	12.33%	8.98%	21.31%
56	12.33%	8.98%	21.31%
57	12.33%	8.98%	21.31%
58	12.33%	8.98%	21.31%
59	12.33%	8.98%	21.31%
60	12.33%	8.98%	21.31%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 1.50%
 COLA Loading: 72.79%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #11 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	9.16%	6.73%	15.89%
16	9.16%	6.73%	15.89%
17	9.16%	6.73%	15.89%
18	9.16%	6.73%	15.89%
19	9.16%	6.73%	15.89%
20	9.16%	6.73%	15.89%
21	9.16%	6.73%	15.89%
22	9.29%	6.82%	16.11%
23	9.42%	6.92%	16.34%
24	9.55%	7.01%	16.56%
25	9.68%	7.11%	16.79%
26	9.81%	7.20%	17.01%
27	9.94%	7.30%	17.24%
28	10.08%	7.40%	17.48%
29	10.22%	7.51%	17.73%
30	10.36%	7.61%	17.97%
31	10.51%	7.72%	18.23%
32	10.66%	7.83%	18.49%
33	10.81%	7.94%	18.75%
34	10.96%	8.05%	19.01%
35	11.12%	8.17%	19.29%
36	11.28%	8.28%	19.56%
37	11.45%	8.41%	19.86%
38	11.62%	8.53%	20.15%
39	11.81%	8.67%	20.48%
40	12.01%	8.82%	20.83%
41	12.21%	8.97%	21.18%
42	12.46%	9.15%	21.61%
43	12.70%	9.33%	22.03%
44	12.98%	9.53%	22.51%

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #11 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
45	13.15%	9.66%	22.81%
46	13.20%	9.69%	22.89%
47	13.09%	9.61%	22.70%
48	12.89%	9.47%	22.36%
49	12.47%	9.16%	21.63%
50	12.47%	9.16%	21.63%
51	12.47%	9.16%	21.63%
52	12.47%	9.16%	21.63%
53	12.47%	9.16%	21.63%
54	12.47%	9.16%	21.63%
55	12.47%	9.16%	21.63%
56	12.47%	9.16%	21.63%
57	12.47%	9.16%	21.63%
58	12.47%	9.16%	21.63%
59	12.47%	9.16%	21.63%
60	12.47%	9.16%	21.63%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 3.00%
 COLA Loading: 73.44%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #12 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	9.21%	5.32%	14.53%
16	9.21%	5.32%	14.53%
17	9.21%	5.32%	14.53%
18	9.21%	5.32%	14.53%
19	9.21%	5.32%	14.53%
20	9.21%	5.32%	14.53%
21	9.21%	5.32%	14.53%
22	9.33%	5.39%	14.72%
23	9.46%	5.47%	14.93%
24	9.59%	5.54%	15.13%
25	9.72%	5.62%	15.34%
26	9.86%	5.70%	15.56%
27	9.99%	5.78%	15.77%
28	10.13%	5.86%	15.99%
29	10.27%	5.94%	16.21%
30	10.41%	6.02%	16.43%
31	10.56%	6.10%	16.66%
32	10.70%	6.19%	16.89%
33	10.85%	6.27%	17.12%
34	11.01%	6.36%	17.37%
35	11.17%	6.46%	17.63%
36	11.33%	6.55%	17.88%
37	11.50%	6.65%	18.15%
38	11.68%	6.75%	18.43%
39	11.86%	6.86%	18.72%
40	12.07%	6.98%	19.05%
41	12.28%	7.10%	19.38%
42	12.49%	7.22%	19.71%
43	12.77%	7.38%	20.15%
44	13.04%	7.54%	20.58%

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Cost Group #12 Members' Contribution Rates (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
45	13.18%	7.62%	20.80%
46	13.24%	7.65%	20.89%
47	13.16%	7.61%	20.77%
48	12.86%	7.43%	20.29%
49	12.41%	7.17%	19.58%
50	12.41%	7.17%	19.58%
51	12.41%	7.17%	19.58%
52	12.41%	7.17%	19.58%
53	12.41%	7.17%	19.58%
54	12.41%	7.17%	19.58%
55	12.41%	7.17%	19.58%
56	12.41%	7.17%	19.58%
57	12.41%	7.17%	19.58%
58	12.41%	7.17%	19.58%
59	12.41%	7.17%	19.58%
60	12.41%	7.17%	19.58%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 Leave Cashout: 3.50%
 COLA Loading: 57.81%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

Appendix B

Member Contribution Rates for Members with Membership Dates on or after January 1, 2013

**General Members' Contribution Rates for Members with Membership Dates on or after January 1, 2013
(Expressed as a Percentage of Monthly Payroll)**

Calculated Under Recommended Assumptions

	Basic	COLA	Total
Cost Group #1 – PEPRA Tier 4 (2% COLA)	8.17%	1.84%	10.01%
Cost Group #1 – PEPRA Tier 4 (3% COLA)	7.98%	2.96%	10.94%
Cost Group #2 - PEPRA Tier 5 (2% COLA)	7.12%	1.61%	8.73%
Cost Group #2 - PEPRA Tier 5 (3%/4% COLA)	7.63%	2.76%	10.39%
Cost Group #3 - PEPRA Tier 4 (3% COLA)	8.80%	3.26%	12.06%
Cost Group #4 - PEPRA Tier 4 (3% COLA)	6.96%	2.64%	9.60%
Cost Group #5 - PEPRA Tier 4 (2% COLA)	6.99%	1.59%	8.58%
Cost Group #5 - PEPRA Tier 4 (3% COLA)	10.26%	3.88%	14.14%
Cost Group #6 - PEPRA Tier 4 (3% COLA)	8.41%	3.24%	11.65%

Note: It is our understanding that in the determination of pension benefits under the PEPRA formulas, the compensation that can be taken into account for 2015 is equal to the Social Security Taxable Wage Base or \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is \$140,424 or 120% of the Social Security Taxable Wage Base). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015. (reference: Section 7522.10(d))

SECTION 4: Reporting Information for the Contra Costa County Employees' Retirement Association

**Safety Members' Contribution Rates for Members with Membership Dates on or after January 1, 2013
(Expressed as a Percentage of Monthly Payroll)**

Calculated Under Recommended Assumptions

	Basic	COLA	Total
Cost Group #7 - PEPRA Tier D	15.99%	6.69%	22.68%
Cost Group #8 - PEPRA Tier D	13.64%	6.01%	19.65%
Cost Group #8 - PEPRA Tier E	12.63%	3.32%	15.95%
Cost Group #9 - PEPRA Tier E	12.93%	3.39%	16.32%
Cost Group #10 - PEPRA Tier D	12.55%	5.55%	18.10%
Cost Group #11 - PEPRA Tier D	12.91%	5.74%	18.65%
Cost Group #12 - PEPRA Tier D	11.43%	5.10%	16.53%

Note: It is our understanding that in the determination of pension benefits under the PEPRA formulas, the compensation that can be taken into account for 2015 is equal to the Social Security Taxable Wage Base or \$117,020. (For an employer that is not enrolled in Social Security, the maximum amount is \$140,424 or 120% of the Social Security Taxable Wage Base). (reference: Section 7522.10). These amounts should be adjusted for changes to the Consumer Price Index for All Urban Consumers after 2015. (reference: Section 7522.10(d))

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