

Contra Costa County Employees' Retirement Association

**Actuarial Valuation and Review
as of December 31, 2012**

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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The Segal Company
100 Montgomery Street Suite 500, San Francisco, CA 94104
T 415.263.8200 F 415.263.8290 www.segalco.com

July 15, 2013

*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, 2012. It summarizes the actuarial data used in the valuation, establishes the funding requirements for the fiscal year beginning July 1, 2014 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 actuarial calculations were completed under the supervision of John Monroe, ASA, MAAA, Enrolled Actuary.

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

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

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

Sincerely,

THE SEGAL COMPANY

By:

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

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

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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 The Segal Company to present a valuation of the Contra Costa County Employees' Retirement Association (CCCERA) as of December 31, 2012. 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, 2012, provided by the Association's staff;
- The assets of the Plan as of December 31, 2012, 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, 2012 by The Segal Company. 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. The remaining balance of the Association's unfunded actuarial accrued liability (UAAL) through December 31, 2007 is being amortized over a decreasing period with 10 years remaining as December 31, 2012. Any change in the UAAL that arises at each valuation after December 31, 2007 is amortized over its own separate declining 18-year period.

We recommend that the rates calculated in this report be adopted by the Board for the fiscal year that extends from July 1, 2014 through June 30, 2015.

SIGNIFICANT ISSUES IN VALUATION YEAR

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

- The California Public Employees' Pension Reform Act (CalPEPRA) of 2013 (AB340) was passed on September 12, 2012 and became effective on January 1, 2013. In general, it affects new members who enter the plan on or after January 1, 2013. New plan provisions include new benefit formulas, a limit on pensionable income, 3-year final average salary, and new cost sharing by members. The impact of AB340 has been addressed in this report. We understand that CCCERA has created new PEPRA General Tiers 4 and 5 and PEPRA Safety Tiers D and E for members covered under AB340, and we have included in this report employee and employer rates for members who will be covered under those Tiers.

The PEPRA Tiers' contribution rates have been developed based on generally the same methodology used to estimate the costs in our new tier reports dated January 2, 2013 and January 25, 2013. In particular, as the new tier formulas are only offered to new members, and since data for such members is not yet available, we have assumed in this valuation that their demographic profiles (e.g., entry age, composition of male versus female, etc.) can be approximated by the data profiles of current active members with membership dates on and after January 1, 2011¹. With the exception of the service retirement assumptions and the elimination of terminal pay assumptions under the new tier formulas, the PEPRA rates in this report are based on the actuarial assumptions and methodologies adopted by the CCCERA Board of Retirement for use in the December 31, 2012 valuation.

Ref: Pg. 104

- The results of this valuation reflect changes in the economic and non-economic assumptions adopted by the Board for the December 31, 2012 valuation. These changes were documented in our Review of Economic Assumptions and our

¹ Note that in preparing our original reports dated January 2, 2013 and January 25, 2013, we assumed that new entrants in the PEPRA tiers would be approximated by the data profiles of the active members with membership dates on and after January 1, 2011 as reported in the December 31, 2011 valuation.

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

Actuarial Experience Study and are also outlined in Section 4, Exhibit V of this report. These assumption changes resulted in an increase in the average employer rate of 8.24% of payroll and an increase in the average member rate of 1.27% of payroll.

Ref: Pg. 102
Ref: Pg. 89

- The ratio of the valuation value of assets to actuarial accrued liabilities decreased from 78.5% to 70.6%. The Association's UAAL has increased from \$1.5 billion to \$2.3 billion. This increase is primarily due to changes in actuarial assumptions and an investment return on actuarial value (i.e. after smoothing) that fell short of the 7.75% assumed rate offset by lower than expected individual salary increases. A reconciliation of the Association's UAAL is provided in Section 3, Exhibit I.

Ref: Pg. 65

- The average employer rate calculated in this valuation (excluding any employer subvention of member rates or member subvention of employer rates) has increased from 37.87% of payroll to 49.82% of payroll. This increase is primarily due to changes in actuarial assumptions and the investment loss mentioned above. A complete reconciliation of the Association's aggregate employer rate is provided in Section 2, Subsection D (see Chart 16).

Ref: Pg. 66

- The average member rate calculated in this valuation has increased from 10.98% of payroll to 12.20% of payroll. This increase is primarily due to changes in actuarial assumptions. A complete reconciliation of the Association's aggregate member rate is provided in Section 2, Subsection D (see Chart 17).

Separate employer contribution rates are shown in Charts 14 and 15 for members with membership dates before January 1, 2011, on or after January 1, 2011 and before January 1, 2013, and on or after January 1, 2013. However, the average employer contribution rates shown on page vi are based on all members regardless of their membership date.

Ref: Pg. 5

- The total unrecognized net investment gain as of December 31, 2012 is about \$157 million as compared to an unrecognized net investment loss of \$389 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 \$157 million would be recognized over the next few years as shown in the footnote in Chart 7.
- The net deferred gains of \$157 million represent about 3% of the market value of assets. Unless offset by future investment losses or other unfavorable experience, the recognition of the \$157 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:
 - If the net deferred gains were recognized immediately in the valuation value of assets, the funded percentage would increase from 70.6% to 72.7%.

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 average employer contribution rate would decrease from 49.8% to about 48.0% of payroll.
- This is the second valuation that includes actual valuation data for members with membership dates on or after January 1, 2011 and before January 1, 2013. These members are subject to the amended policy that determines which pay items are considered compensation for retirement purposes. Cost groups #10 and #12 still do not contain any members with membership dates on or after January 1, 2011. Consistent with the methodology that was applied in the December 31, 2010 valuation for all cost groups, for those two cost groups we have continued to assume that the demographics of members with membership dates on or after January 1, 2011 are the same as the demographics of members with membership dates before January 1, 2011.
- The actuarial valuation report as of December 31, 2012 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.
- Subsequent to the valuation date, the First-5 Children & Families Commission made an additional payment towards their UAAL of \$2 million. As adopted by the Board, this amount will be amortized as a level dollar amount over a period of eleven years beginning with the December 31, 2011 valuation. This employer's UAAL contribution rate will be reduced starting with the 2013/2014 fiscal year. The reduced rates for 2013/2014 are provided in a separate letter. Rates for 2014/2015 will also be provided separately.
- In 2012, the California Actuarial Advisory Panel (CAAP) adopted a set of model disclosure elements recommended for actuarial valuation reports for public retirement systems in California. Information has been added to this valuation report consistent with the recommendations regarding basic disclosure elements. In particular, we are now including new information regarding measures of plan volatility.
- The Governmental Accounting Standards Board (GASB) recently approved two new 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. It is important to note that the new GASB rules only redefine pension expense for financial reporting purposes, and do not apply to contribution amounts for actual pension funding purposes. Employers and plans can still develop and adopt funding policies under current practices. While these new Statements are applicable for preparing the 2014 calendar year financial statement for the Plan's reporting and for the 2014/2015 fiscal year financial statement for the employer's reporting, the actual preparation of schedules in compliance with those Statements will depend upon GASB's issuance of detailed implementation guides for the Plan and the employer, anticipated around June 2013 and January 2014, respectively. As a result, we have continued to use Statements 25 and 27 in preparing the financial reporting information in this report.

Ref: Pg. 68

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

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, 2012		December 31, 2011	
		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)	41.59%	\$10,611,239	32.53%	\$9,389,219
Cost Group #2 – County and Small Districts (Tier 3)	37.08%	168,815,252	28.78%	130,861,297
Cost Group #3 – Central Contra Costa Sanitary District	73.93%	17,620,915	58.36%	14,435,891
Cost Group #4 – Contra Costa Housing Authority	47.04%	2,377,319	35.26%	1,983,485
Cost Group #5 – Contra Costa County Fire Protection District	42.81%	1,522,178	30.75%	1,080,023
Cost Group #6 – Small Districts (Tier 1 Non-Enhanced)	32.16%	240,133	24.88%	189,265
Safety				
Cost Group #7 – County (Tier A)	89.83%	59,805,301	66.42%	47,810,154
Cost Group #8 – Contra Costa and East Fire Protection Districts	89.79%	29,274,716	59.05%	22,204,573
Cost Group #9 – County (Tier C)	81.53%	11,166,934	59.19%	6,001,376
Cost Group #10 – Moraga-Orinda Fire District	80.03%	5,669,942	52.94%	3,979,298
Cost Group #11 – San Ramon Valley Fire District	95.39%	15,961,561	68.39%	12,968,849
Cost Group #12 – Rodeo-Hercules Fire Protection District	110.02%	1,865,548	72.53%	1,433,817
All Employers combined	49.82%	\$324,931,038	37.87%	\$252,337,247
Average Member Contribution Rates⁽¹⁾:				
General	Total Rate	Annual Amount	Total Rate	Annual Amount
Cost Group #1 – County and Small Districts (Tier 1)	10.90%	\$2,781,559	9.55%	\$2,756,922
Cost Group #2 – County and Small Districts (Tier 3)	10.81%	49,226,376	9.75%	44,337,350
Cost Group #3 – Central Contra Costa Sanitary District	11.26%	2,684,595	10.03%	2,481,328
Cost Group #4 – Contra Costa Housing Authority	11.59%	585,541	10.44%	587,382
Cost Group #5 – Contra Costa County Fire Protection District	11.14%	396,160	9.85%	345,958
Cost Group #6 – Small Districts (Tier 1 Non-Enhanced)	12.86%	96,073	11.34%	86,275
Safety				
Cost Group #7 – County (Tier A)	17.80%	11,851,328	15.85%	11,411,285
Cost Group #8 – Contra Costa and East Fire Protection Districts	17.43%	5,681,658	15.26%	5,737,116
Cost Group #9 – County (Tier C)	14.06%	1,926,255	12.49%	1,265,845
Cost Group #10 – Moraga-Orinda Fire District	17.31%	1,226,374	15.34%	1,153,050
Cost Group #11 – San Ramon Valley Fire District	17.20%	2,878,150	14.54%	2,756,394
Cost Group #12 – Rodeo-Hercules Fire Protection District	16.36%	277,408	14.10%	278,737
All Categories Combined	12.20%	\$79,611,477	10.98%	\$73,197,642

⁽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, 2012	December 31, 2011
Refundability Factors		
General		
Cost Group #1 – County and Small Districts (Tier 1)	0.9845	0.9838
Cost Group #2 – County and Small Districts (Tier 3)	0.9360	0.9465
Cost Group #3 – Central Contra Costa Sanitary District	0.9486	0.9729
Cost Group #4 – Contra Costa Housing Authority	0.9811	0.9761
Cost Group #5 – Contra Costa County Fire Protection District	0.9602	0.9937
Cost Group #6 – Small Districts (Tier 1 Non-Enhanced)	0.9338	0.9031
Safety		
Cost Group #7 – County (Tier A)	0.9924	0.9966
Cost Group #8 – Contra Costa and East Fire Protection Districts	0.9897	0.9596
Cost Group #9 – County (Tier C)	0.8718	0.8852
Cost Group #10 – Moraga-Orinda Fire District	0.9938	0.9813
Cost Group #11 – San Ramon Valley Fire District	0.9905	0.9894
Cost Group #12 – Rodeo-Hercules Fire Protection District	0.9860	0.9772
Funded Status:		
Actuarial accrued liability (AAL)	\$7,761,315,535	\$6,915,311,649
Valuation value of assets (VVA)	\$5,482,257,062	\$5,426,719,066
Market value of assets (MVA)	\$5,654,581,124	\$5,052,289,458
Funded percentage on VVA basis (VVA/AAL)	70.6%	78.5%
Funded percentage on MVA basis (MVA/AAL)	72.9%	73.1%
Unfunded Actuarial Accrued Liability (UAAL) on VVA basis	\$2,279,058,473	\$1,488,592,583
Unfunded Actuarial Accrued Liability (UAAL) on MVA basis	\$2,106,734,411	\$1,863,022,191
Key Assumptions:		
Interest rate	7.25%	7.75%
Inflation rate	3.25%	3.50%
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, 2012	December 31, 2011	Percentage Change
Active Members:			
Number of members	8,640	8,629	0.1%
Average age	45.9	46.22	N/A
Average service	10.2	10.7	N/A
Projected total payroll (compensation)	\$652,312,178	\$666,394,146	-2.1%
Average projected payroll	\$75,499	\$77,227	-2.2%
Retired Member and Beneficiaries:			
Number of members:			
Service retired	6,375	5,960	7.0%
Disability retired	923	920	0.3%
Beneficiaries	1,219	1,205	1.2%
Total	8,517	8,085	5.3%
Average age	69.0	69.1	N/A
Average Monthly Benefit	\$3,518	\$3,381	4.1%
Vested Terminated Members:			
Number of terminated vested members ⁽¹⁾	2,288	2,214	3.3%
Average age	46.8	46.7	N/A
Summary of Financial Data:			
Market value of assets	\$5,654,581,124	\$5,052,289,458	11.9%
Return on market value of assets	13.31%	1.76%	N/A
Actuarial value of assets	\$5,497,193,662	\$5,441,119,691	1.0%
Return on actuarial value of assets	2.25%	2.78%	N/A
Valuation value of assets	\$5,482,257,062	\$5,426,719,066	1.0%
Return on valuation value of assets	2.24%	2.77%	N/A

⁽¹⁾ Includes 888 terminated members with less than five years of service as of December 31, 2012 and 834 as of December 31, 2011.

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: 2003 – 2012

Year Ended December 31	Active Members	Vested Terminated Members⁽¹⁾	Retired Members and Beneficiaries	Ratio of Non-Actives to Actives
2003	9,476	1,248	5,936	0.76
2004	9,358	1,517	6,118	0.82
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

⁽¹⁾ Beginning in 2003, 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 8,640 active members with an average age of 45.9, average years of service of 10.2 years and average payroll of \$75,499. The 8,629 active members in the prior valuation had an average age of 46.2, average service of 10.7 years and average payroll of \$77,227.

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

Inactive Members

In this year's valuation, there were 2,288 members with a vested right to a deferred or immediate vested benefit or entitled to a return of their employee contributions versus 2,214 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, 2012

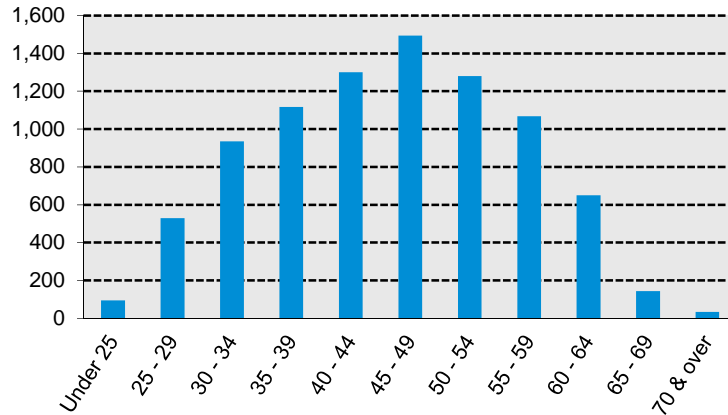
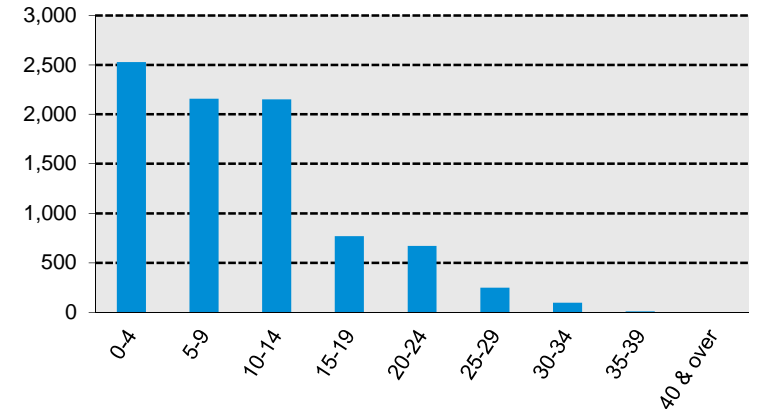


CHART 3
Distribution of Active Members by Years of Service as of December 31, 2012



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

Retired Members and Beneficiaries

As of December 31, 2012, 7,298 retired members and 1,219 beneficiaries were receiving total monthly benefits of \$29,964,786. For comparison, in the previous valuation, there were 6,880 retired members and 1,205 beneficiaries receiving monthly benefits of \$27,336,013.

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

- Beneficiary
- Disability
- Service

CHART 4
Distribution of Retired Members and Beneficiaries by Type and by Monthly Amount as of December 31, 2012

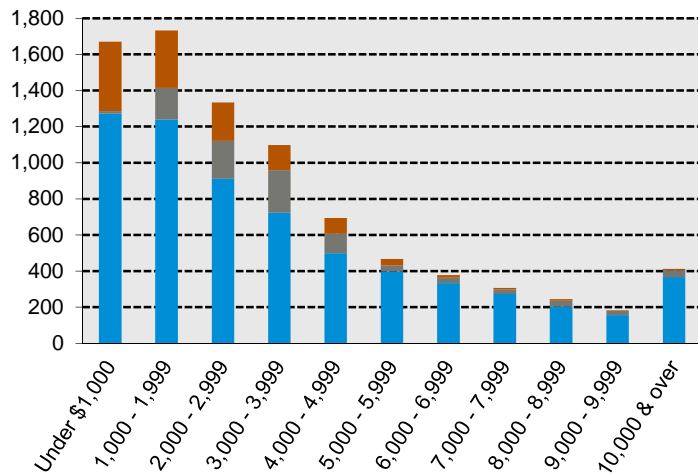
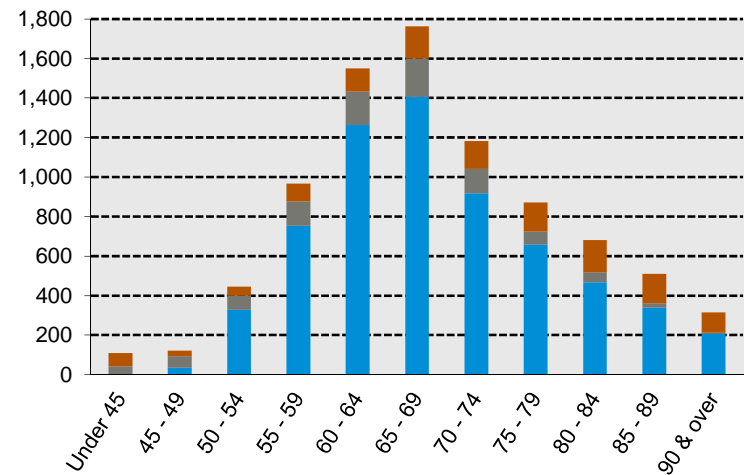


CHART 5
Distribution of Retired Members and Beneficiaries by Type and by Age as of December 31, 2012



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.

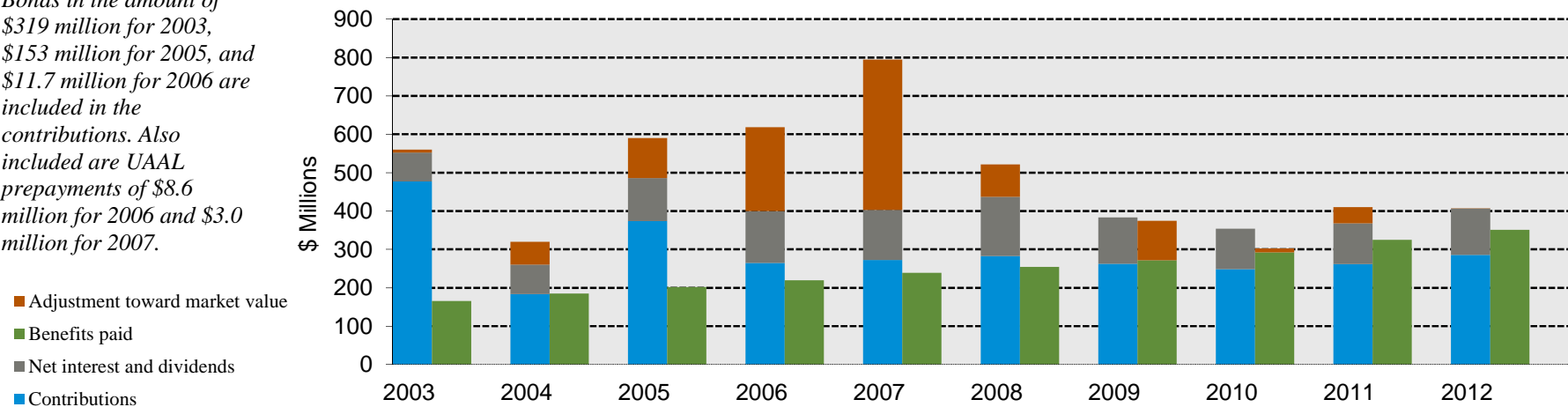
Retirement plan assets change as a result of the net impact of these income and expense components. The adjustment toward market value shown in the chart is the “non-cash” earnings on investment implicitly included in the Actuarial Value of Assets. Additional financial information, including a summary 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 \$319 million for 2003, \$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 and \$3.0 million for 2007.

CHART 6
Comparison of Increases and Decreases in the Actuarial Value of Assets for Years Ended December 31, 2003 - 2012



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, 2012

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

Six Month Period		Total Actual Market	Expected Market	Investment	Deferred Factor	Deferred
From	To	Return (net)	Return (net)	Gain (Loss)		Return
7/2007	12/2007	\$35,143,730	\$203,536,876	\$(168,393,146)	0.0	\$0
1/2008	6/2008	(348,105,153)	205,702,885	(553,808,038)	0.0	0
7/2008	12/2008	(1,128,210,678)	189,989,366	(1,318,200,044)	0.1	(131,820,004)
1/2009	6/2009	106,872,212	146,385,892	(39,513,680)	0.2	(7,902,736)
7/2009	12/2009	628,870,712	150,326,140	478,544,572	0.3	143,563,372
1/2010	6/2010	(94,057,382)	174,278,387	(268,335,769)	0.4	(107,334,308)
7/2010	12/2010	687,503,854	169,679,293	517,824,561	0.5	258,912,280
1/2011	6/2011	292,872,483	195,544,414	97,328,069	0.6	58,396,841
7/2011	12/2011	(205,242,203)	204,284,793	(409,526,996)	0.7	(286,668,897)
1/2012	6/2012	296,675,568	195,294,521	101,381,047	0.8	81,104,838
7/2012	12/2012	371,057,645	205,350,894	165,706,751	0.9	<u>149,136,076</u>
1. Total Deferred Return ⁽¹⁾						\$157,387,462
2. Market Value of Assets						5,654,581,124
3. Actuarial Value of Assets (Item 2 – Item 1)						5,497,193,662
4. Actuarial Value as Percentage of Market Value (Item 3 / Item 2)						97.2%
5. Non-valuation Reserves and Designations:						
a. Post Retirement Death Benefit						\$14,936,600
b. Statutory Contingency						0
c. Additional One Percent Contingency						0
d. Unrestricted Designation						<u>0</u>
e. Total						\$14,936,600
6. Valuation Value of Assets (Item 3 – Item 5e)						<u>\$5,482,257,062</u>

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

(a) Amount Recognized during 2013	\$(3,138,293)
(b) Amount Recognized during 2014	88,729,988
(c) Amount Recognized during 2015	42,760,231
(d) Amount Recognized during 2016	12,464,860
(e) Amount Recognized during 2017	<u>16,570,676</u>
(f) Subtotal	\$157,387,462

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, 2012

The calculation of the valuation value of assets from December 31, 2011 to December 31, 2012 by cost groups is provided below.

		General				
		Cost Groups #1 and #2 County and Small Districts (Tier 1 & Tier 3)	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 (Tier 1 Non-Enhanced)
1	Allocated Valuation Value of Assets As of Beginning of Plan Year	\$3,006,468,671	\$181,915,145	\$35,661,825	\$36,683,955	\$4,284,438
2	Contributions:					
a.	Total Member Contributions	43,435,866	972,678	369,219	360,191	58,288
b.	Employer Contributions - Excludes POB and other Special Contributions	122,597,704	12,869,979	1,867,426	795,928	213,284
c.	Employer Contributions - Special (POB, Termination, etc.)	3,309,064	0	0	0	0
d.	Total Contributions	169,342,634	13,842,657	2,236,645	1,156,119	271,572
3	Total Payments Excluding Post- Retirement Death	189,918,584	15,598,485	2,456,113	2,553,909	228,900
4	Total Transfers Into or Out of Valuation Assets	0	0	0	0	0
5	Subtotal (Item 1 + 2d - 3 + 4)	2,985,892,721	180,159,317	35,442,357	35,286,165	4,327,110
6	Weighted Average Fund Balance	2,996,180,696	181,037,231	35,552,091	35,985,060	4,305,774
7	Earnings Allocated in Proportion to Item 6	67,113,836	4,055,197	796,360	806,058	96,448
8	Allocated Valuation Value of Assets As of End of Plan Year (Item 5 + 7)	\$3,053,006,557	\$184,214,514	\$36,238,717	\$36,092,223	\$4,423,558

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, 2012

	Safety					Total
	Cost Groups #7 & 9 County (Tier A & Tier C)	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	\$1,122,035,053	\$679,842,188	\$121,880,818	\$217,205,902	\$20,741,075	\$5,426,719,066
2 Contributions:						
a. Total Member Contributions	15,488,668	7,988,763	1,766,639	2,750,214	171,186	73,361,712
b. Employer Contributions - Excludes POB and other Special Contributions	40,150,735	13,222,298	2,269,231	10,575,067	976,046	205,537,697
c. Employer Contributions – Special (POB, Termination, etc.)	3,474,564	0	0	0	0	6,783,628
d. Total Contributions	59,113,967	21,211,061	4,035,870	13,325,281	1,147,232	285,683,037
3 Total Payments Excluding Post- Retirement Death	72,559,464	46,482,817	8,700,749	10,820,658	1,651,540	350,971,218
4 Total Transfers Into or Out of Valuation Assets	0	0	0	0	0	0
5 Subtotal (Item 1 + 2d – 3 + 4)	1,108,589,556	654,570,432	117,215,939	219,710,525	20,236,767	5,361,430,885
6 Weighted Average Fund Balance	1,115,312,304	667,206,310	119,548,379	218,458,214	20,488,921	5,394,074,976
7 Earnings Allocated in Proportion to Item 6	24,982,768	14,945,285	2,677,859	4,893,419	458,948	120,826,177
8 Allocated Valuation Value of Assets As of End of Plan Year (Item 5 + 7)	\$1,133,572,324	\$669,515,717	\$119,893,798	\$224,603,944	\$20,695,715	\$ 5,482,257,062

Note: Results may not add due to rounding.

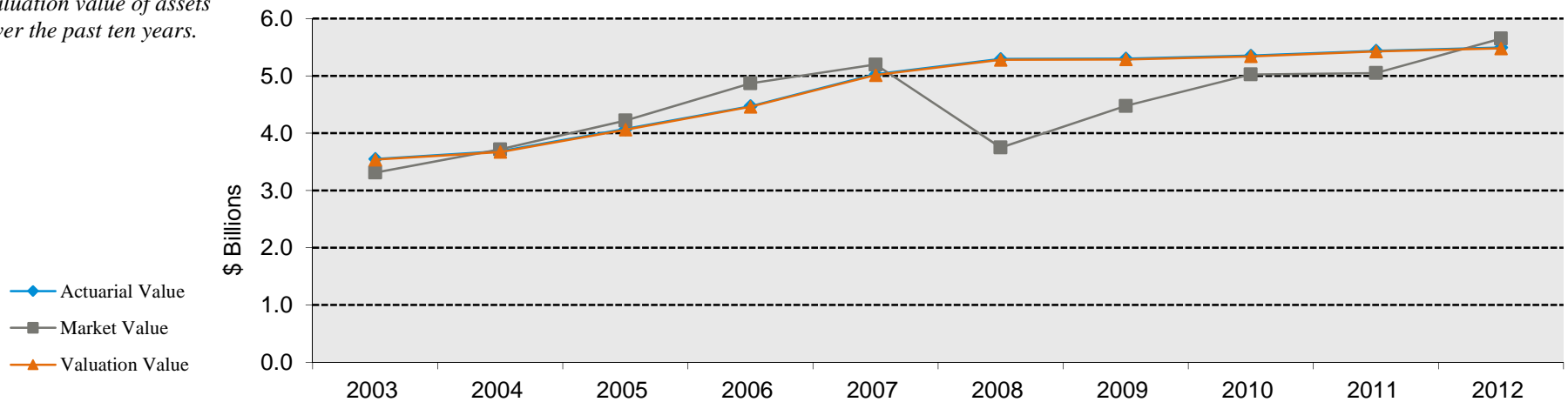
SECTION 2: Valuation Results for the Contra Costa County Employees' Retirement Association

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, 2003 – 2012



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 loss is \$245.3 million, \$297.2 million loss from investments and \$51.9 million gain from all other sources. The net experience variation from individual sources other than investments was 0.7% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

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

CHART 10
Actuarial Experience for Year Ended December 31, 2012

1. Net gain/(loss) from investments*	\$(297,214,634)
2. Net gain/(loss) from other experience**	<u>51,878,587</u>
3. Net experience gain/(loss): (1) + (2) + (3)	<u>\$(245,336,047)</u>

* Details in Chart 11

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

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 2012 was 7.75%. The actual rate of return on Actuarial Value for the 2012 Plan Year was 2.25%.

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 less than the assumed return, the Plan experienced an actuarial loss on the Actuarial and Valuation Value of Assets during the year ended December 31, 2012.

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

CHART 11

Investment Experience for Year Ended December 31, 2012 – Market Value, Actuarial Value and Valuation Value of Assets

	Market Value	Actuarial Value	Valuation Value
1. Actual return	\$668,138,997	\$121,921,302	\$120,826,177
2. Average value of assets	5,019,365,793	5,408,196,026	5,394,074,976
3. Actual rate of return: (1) ÷ (2)	13.31%	2.25%	2.24%
4. Assumed rate of return	7.75%	7.75%	7.75%
5. Expected return: (2) x (4)	389,000,849	419,135,192	418,040,811
6. Actuarial gain/(loss): (1) – (5)	<u>\$279,138,148</u>	<u>\$(297,213,890)</u>	<u>\$(297,214,634)</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: 2003 – 2012

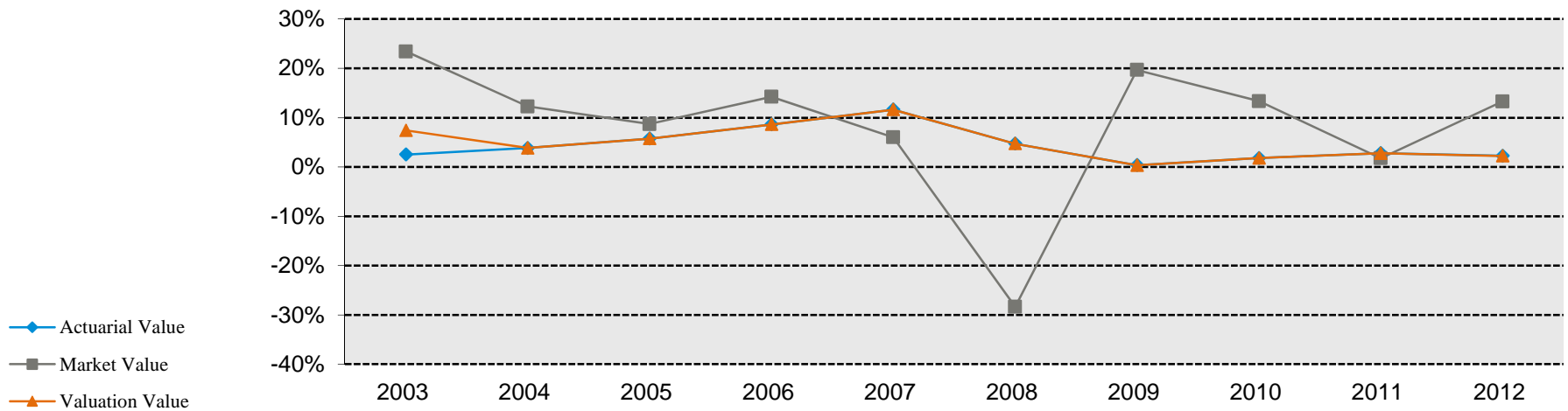
Year Ended December 31	Market Value Investment Return		Actuarial Value Investment Return		Valuation Value Investment Return	
	Amount	Percent of Assets	Amount	Percent of Assets	Amount	Percent of Assets
2003	\$599,528,120	23.44%	\$83,420,012	2.52%	\$244,215,190	7.41%
2004	406,427,237	12.27%	136,674,234	3.85%	135,741,405	3.84%
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%
Total	\$2,846,019,372		\$1,935,218,021		\$2,086,817,053	
<i>Five-Year Average Return</i>		2.60%			2.36%	2.34%
<i>Ten-Year Average Return</i>		6.74%			4.24%	4.59%

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, 2003 - 2012



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, and
- salary increases 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 10-year declining period as of December 31, 2012. Any change in the UAAL that arises at each valuation after December 31, 2007 is amortized over its own separate declining 18-year period.

Employer Contribution Rates

The current employer contribution rates are shown in Chart 14-A for members with membership dates before January 1, 2011, Chart 14-B for members with membership dates on or after January 1, 2011 and before January 1, 2013, and Chart 14-C for members with membership dates on or after January 1, 2013. The recommended employer contributions are provided on Chart 15-A for members with membership dates before January 1, 2011, Chart 15-B for members with membership dates on or after January 1, 2011 and before January 1, 2013, and Chart 15-C for members with membership dates on or after January 1, 2013. County contribution rates also include the Superior Court.

For the December 31, 2010 valuation, the demographics of members with membership dates on or after January 1, 2011 were assumed to be the same as the

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

demographics of members included in the December 31, 2010 valuation. For the December 31, 2012 valuation, a similar methodology was applied to cost groups #10 and #12 since those cost groups had no members with membership dates on or after January 1, 2011.

For the PEPRA Tiers, 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, 2012. This 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, 2011. It is also consistent with the methodology applied when Safety Tier C was implemented.

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

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

- 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 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). Charts 14 and 15 do not include any employer subvention of member contributions or any member subvention of employer contributions. The age specific contribution rates are provided in Appendix A for members with membership dates before January 1, 2011 and Appendix B for members with membership dates on or after January 1, 2011.

For determining the cost of the basic benefit (i.e. non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates. The terminal pay assumptions are only used in establishing cost-of-living member contributions.

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. In addition, there are certain additional requirements that would have to be met such as requiring the employee rates be rounded to the nearest one quarter of one percent and requiring the new employees to pay the contribution rate of "similarly situated employees", if it is greater. (reference: Section 7522.30(c)). We further understand that different rules may have to be applied for collectively bargained employees, non-represented, managerial or other supervisory employees. (reference: section 7522.30(e)). In preparing the Normal Cost rates in this report, we have assumed that exactly 50% of the Normal Cost would be paid by the new members and we have taken into account in this valuation only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e). We have also compared the total Normal Cost rates between the current and the prior valuation. Since the total Normal Cost rate increased by greater than 1% of payroll for all PEPRA Tiers, this results in changes to the member

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

contribution rates for those tiers (reference: Section 7522.30(d)). The member contribution rates for PEPRA members are provided in Appendix C.

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 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 for Tiers 1 and 3. UAAL costs are also pooled for Cost Groups #7 and #9 which are Safety County Tiers A and C.

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

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) and the Moraga-Orinda Fire District (Moraga) to account for Pension Obligation Bonds (POBs) and 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, 2012 are as follows:

	County General	Moraga General	CCCFPD Safety
Basic	\$223,508,295	\$393,605	\$64,154,961
COL	\$179,099,442	\$228,444	\$48,927,447

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	POB Issuance
(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	Tier 1 Enhanced/PEPRA Tier 4	
	First 5-Children & Families Commission	Tier 1 Enhanced/PEPRA Tier 4	
	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	Tier 1 Enhanced/PEPRA Tier 4	
	Moraga-Orinda Fire District	Tier 1 Enhanced/PEPRA Tier 4	Yes
	Rodeo-Hercules Fire Protection District	Tier 1 Enhanced/PEPRA Tier 4	
San Ramon Valley Fire District	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	Tier 1 Enhanced/PEPRA Tier 4	
(4)	Contra Costa Housing Authority	Tier 1 Enhanced/PEPRA Tier 4	
(5)	Contra Costa County Fire Protection District	Tier 1 Enhanced/PEPRA Tier 4	Yes
(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	POB Issuance
(7)	County Safety	Tier A Enhanced/PEPRA Tier D	Yes
(8)	Contra Costa County Fire Protection District East Contra Costa Fire Protection District	Tier A Enhanced/PEPRA Tier D Tier A Enhanced/PEPRA Tier D	Yes
(9)	County Safety	Tier C Enhanced/PEPRA Tier E (Deputy Sheriff members hired on or after January 1, 2007)	Yes
(10)	Moraga-Orinda Fire District	Tier A Enhanced/PEPRA Tier D	Yes
(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	

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

CHART 14-A
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced			
	Cost Group #1				Cost Group #1			
	County				Districts without POB			
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total
General Tier 1 (Aggregate)								
Basic	11.90%		10.72%	22.62%	11.90%		16.19%	28.09%
COL	3.26%		3.77%	7.03%	3.26%		8.15%	11.41%
Total	15.16%		14.49%	29.65%	15.16%		24.34%	39.50%
General Tier 1 (Under \$350)								
Basic	8.06%		7.26%	15.32%	8.06%		10.97%	19.03%
COL	2.21%		2.56%	4.77%	2.21%		5.52%	7.73%
Total	10.27%		9.82%	20.09%	10.27%		16.49%	26.76%
General Tier 1 (Over \$350)								
Basic	12.09%		10.89%	22.98%	12.09%		16.46%	28.55%
COL	3.32%		3.84%	7.16%	3.32%		8.28%	11.60%
Total	15.41%		14.73%	30.14%	15.41%		24.74%	40.15%
			Payroll = \$19,694,083				Payroll = \$8,460,118	

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

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced			
	Cost Group #1			
	Districts with POB (Moraga)			
	Normal Cost	+	UAAL	= Total
General Tier 1 (Aggregate)				
Basic	11.90%		5.10%	17.00%
COL	3.26%		1.71%	4.97%
Total	15.16%		6.81%	21.97%
General Tier 1 (Under \$350)				
Basic	8.06%		3.46%	11.52%
COL	2.21%		1.16%	3.37%
Total	10.27%		4.62%	14.89%
General Tier 1 (Over \$350)				
Basic	12.09%		5.19%	17.28%
COL	3.32%		1.74%	5.06%
Total	15.41%		6.93%	22.34%

Payroll = \$409,247

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

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced			
	Cost Group #2				Cost Group #2			
	County				Districts without POB			
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total
General Tier 3 (Aggregate)								
Basic	11.12%		10.72%	21.84%	11.12%		16.19%	27.31%
COL	3.16%		3.77%	6.93%	3.16%		8.15%	11.31%
Total	14.28%		14.49%	28.77%	14.28%		24.34%	38.62%
General Tier 3 (Under \$350)								
Basic	7.56%		7.29%	14.85%	7.56%		11.01%	18.57%
COL	2.15%		2.56%	4.71%	2.15%		5.54%	7.69%
Total	9.71%		9.85%	19.56%	9.71%		16.55%	26.26%
General Tier 3 (Over \$350)								
Basic	11.34%		10.94%	22.28%	11.34%		16.51%	27.85%
COL	3.22%		3.84%	7.06%	3.22%		8.32%	11.54%
Total	14.56%		14.78%	29.34%	14.56%		24.83%	39.39%
				Payroll = \$429,208,477				Payroll = \$3,079,346

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

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced							
	Cost Group #3				Cost Group #4							
	Central Contra Costa Sanitary District				Contra Costa Housing Authority							
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total		
General Tier 1 (Aggregate)												
Basic	14.55%		27.30%		41.85%	12.33%		11.42%		23.75%		
COL	4.30%		12.26%		16.56%	3.19%		8.31%		11.50%		
Total	18.85%		39.56%		58.41%	15.52%		19.73%		35.25%		
General Tier 1 (Under \$350)												
Basic	9.83%		18.46%		28.29%	8.41%		7.79%		16.20%		
COL	2.91%		8.29%		11.20%	2.18%		5.67%		7.85%		
Total	12.74%		26.75%		39.49%	10.59%		13.46%		24.05%		
General Tier 1 (Over \$350)												
Basic	14.75%		27.69%		42.44%	12.61%		11.68%		24.29%		
COL	4.36%		12.43%		16.79%	3.27%		8.51%		11.78%		
Total	19.11%		40.12%		59.23%	15.88%		20.19%		36.07%		
			Payroll = \$23,956,936						Payroll = \$5,539,507			

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

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Non-enhanced					
	Cost Group #5				Cost Group #6					
	Contra Costa County Fire Protection District				Districts without POB					
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
General Tier 1 (Aggregate)										
Basic	11.87%		10.41%		22.28%	11.88%		7.87%		19.75%
COL	3.15%		5.32%		8.47%	3.59%		1.72%		5.31%
Total	15.02%		15.73%		30.75%	15.47%		9.59%		25.06%
General Tier 1 (Under \$350)										
Basic	8.06%		7.07%		15.13%	8.09%		5.37%		13.46%
COL	2.13%		3.61%		5.74%	2.44%		1.18%		3.62%
Total	10.19%		10.68%		20.87%	10.53%		6.55%		17.08%
General Tier 1 (Over \$350)										
Basic	12.09%		10.60%		22.69%	12.13%		8.06%		20.19%
COL	3.20%		5.42%		8.62%	3.67%		1.77%		5.44%
Total	15.29%		16.02%		31.31%	15.80%		9.83%		25.63%
					Payroll = \$3,512,267					Payroll = \$670,838

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

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

Enhanced										
Cost Group #7										
County										
	Normal Cost	+	UAAL	=	Total					
Safety Tier A										
Basic	22.06%		22.25%		44.31%					
COL	6.68%		15.42%		22.10%					
Total	28.74%		37.67%		66.41%					
Payroll = \$71,819,816										
Enhanced					Enhanced					
Cost Group #8					Cost Group #8					
Contra Costa County Fire Protection District					East Contra Costa Fire Protection District					
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
Safety Tier A										
Basic	21.33%		12.59%		33.92%	21.33%		34.12%		55.45%
COL	6.83%		15.17%		22.00%	6.83%		31.58%		38.41%
Total	28.16%		27.76%		55.92%	28.16%		65.70%		93.86%
Payroll = \$31,342,830					Payroll = \$3,225,793					

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

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

Enhanced										
Cost Group #9										
County										
	Normal Cost	+	UAAL	=	Total					
Safety Tier C										
Basic	18.51%		22.25%		40.76%					
COL	3.57%		15.42%		18.99%					
Total	22.08%		37.67%		59.75%					
			Payroll = \$8,106,818							
Enhanced					Enhanced					
Cost Group #10					Cost Group #11					
Moraga-Orinda Fire District					San Ramon Valley Fire District					
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
Safety Tier A										
Basic	21.50%		10.53%		32.03%	21.72%		25.51%		47.23%
COL	6.83%		14.08%		20.91%	7.03%		14.19%		21.22%
Total	28.33%		24.61%		52.94%	28.75%		39.70%		68.45%
			Payroll = \$7,516,620					Payroll = \$18,460,540		

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

CHART 14-A (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Non-enhanced			
	Cost Group #12			
	Rodeo-Hercules Fire Protection District			
	Normal Cost	+	UAAL	= Total
Safety Tier A				
Basic	16.86%		32.70%	49.56%
COL	5.33%		17.64%	22.97%
Total	22.19%		50.34%	72.53%

Payroll = \$1,976,861

Total (Includes Both Enhanced and Non-enhanced – County and District)				
	Normal Cost	+	UAAL	= Total
Basic	13.63%		13.59%	27.22%
COL	3.97%		6.84%	10.81%
Total	17.60%		20.44%	38.04%

Payroll = \$636,980,097

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

CHART 14-B

Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced				
	Cost Group #1				Cost Group #1				
	County				Districts without POB				
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total	
General Tier 1 (Aggregate)									
Basic	11.89%		10.72%	22.61%	11.89%		16.19%	28.08%	
COL	3.54%		3.77%	7.31%	3.54%		8.15%	11.69%	
Total	15.43%		14.49%	29.92%	15.43%		24.34%	39.77%	
General Tier 1 (Under \$350)									
Basic	8.12%		7.26%	15.38%	8.12%		10.97%	19.09%	
COL	2.41%		2.56%	4.97%	2.41%		5.52%	7.93%	
Total	10.53%		9.82%	20.35%	10.53%		16.49%	27.02%	
General Tier 1 (Over \$350)									
Basic	12.18%		10.89%	23.07%	12.18%		16.46%	28.64%	
COL	3.62%		3.84%	7.46%	3.62%		8.28%	11.90%	
Total	15.80%		14.73%	30.53%	15.80%		24.74%	40.54%	
			Payroll = \$0				Payroll = \$297,370		

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

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced			
	Cost Group #1			
	Districts with POB (Moraga)			
	Normal Cost	+	UAAL	= Total
General Tier 1 (Aggregate)				
Basic	11.89%		5.10%	16.99%
COL	3.54%		1.71%	5.25%
Total	15.43%		6.81%	22.24%
General Tier 1 (Under \$350)				
Basic	8.12%		3.46%	11.58%
COL	2.41%		1.16%	3.57%
Total	10.53%		4.62%	15.15%
General Tier 1 (Over \$350)				
Basic	12.18%		5.19%	17.37%
COL	3.62%		1.74%	5.36%
Total	15.80%		6.93%	22.73%

Payroll = \$0

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

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced			
	Cost Group #2				Cost Group #2			
	County				Districts without POB			
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total
General Tier 3 (Aggregate)								
Basic	10.18%		10.72%	20.90%	10.18%		16.19%	26.37%
COL	2.92%		3.77%	6.69%	2.92%		8.15%	11.07%
Total	13.10%		14.49%	27.59%	13.10%		24.34%	37.44%
General Tier 3 (Under \$350)								
Basic	7.00%		7.29%	14.29%	7.00%		11.01%	18.01%
COL	2.01%		2.56%	4.57%	2.01%		5.54%	7.55%
Total	9.01%		9.85%	18.86%	9.01%		16.55%	25.56%
General Tier 3 (Over \$350)								
Basic	10.50%		10.94%	21.44%	10.50%		16.51%	27.01%
COL	3.01%		3.84%	6.85%	3.01%		8.32%	11.33%
Total	13.51%		14.78%	28.29%	13.51%		24.83%	38.34%
			Payroll = \$22,431,223				Payroll = \$0	

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

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced						
	Cost Group #3				Cost Group #4						
	Central Contra Costa Sanitary District				Contra Costa Housing Authority						
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total	
General Tier 1 (Aggregate)											
Basic	13.61%		27.30%		40.91%	12.60%		11.42%		24.02%	
COL	3.73%		12.26%		15.99%	3.49%		8.31%		11.80%	
Total	17.34%		39.56%		56.90%	16.09%		19.73%		35.82%	
General Tier 1 (Under \$350)											
Basic	9.31%		18.46%		27.77%	8.68%		7.79%		16.47%	
COL	2.55%		8.29%		10.84%	2.41%		5.67%		8.08%	
Total	11.86%		26.75%		38.61%	11.09%		13.46%		24.55%	
General Tier 1 (Over \$350)											
Basic	13.96%		27.69%		41.65%	13.02%		11.68%		24.70%	
COL	3.83%		12.43%		16.26%	3.61%		8.51%		12.12%	
Total	17.79%		40.12%		57.91%	16.63%		20.19%		36.82%	
			Payroll = \$777,935						Payroll = \$86,009		

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

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Non-enhanced						
	Cost Group #5				Cost Group #6						
	Contra Costa County Fire Protection District				Districts without POB						
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total	
General Tier 1 (Aggregate)											
Basic	10.44%		10.41%		20.85%	10.80%		7.87%		18.67%	
COL	2.91%		5.32%		8.23%	3.13%		1.72%		4.85%	
Total	13.35%		15.73%		29.08%	13.93%		9.59%		23.52%	
General Tier 1 (Under \$350)											
Basic	7.09%		7.07%		14.16%	7.55%		5.37%		12.92%	
COL	1.97%		3.61%		5.58%	2.19%		1.18%		3.37%	
Total	9.06%		10.68%		19.74%	9.74%		6.55%		16.29%	
General Tier 1 (Over \$350)											
Basic	10.63%		10.60%		21.23%	11.33%		8.06%		19.39%	
COL	2.96%		5.42%		8.38%	3.28%		1.77%		5.05%	
Total	13.59%		16.02%		29.61%	14.61%		9.83%		24.44%	
			Payroll = \$0					Payroll = \$89,934			

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

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

Enhanced					Enhanced						
Cost Group #7					Cost Group #8						
County					East Contra Costa Fire Protection District						
	Normal Cost	+	UAAL	=	Total		Normal Cost	+	UAAL	=	Total
Safety Tier A											
Basic	25.26%		22.25%		47.51%		20.06%		34.12%		54.18%
COL	7.54%		15.42%		22.96%		6.53%		31.58%		38.11%
Total	32.80%		37.67%		70.47%		26.59%		65.70%		92.29%
			Payroll = \$162,642						Payroll = \$0		
			Payroll = \$3,035,755						Payroll = \$0		

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

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

		Enhanced											
		Cost Group #9											
		County											
		Normal Cost	+	UAAL	=	Total							
Safety Tier C													
Basic		16.09%		22.25%		38.34%							
COL		3.22%		15.42%		18.64%							
Total		19.31%		37.67%		56.98%							
		Payroll = \$2,031,507											
		Enhanced				Enhanced							
		Cost Group #10				Cost Group #11							
		Moraga-Orinda Fire District				San Ramon Valley Fire District							
		Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total		
Safety Tier A													
Basic		18.28%		10.53%		28.81%	20.12%		25.51%		45.63%		
COL		5.86%		14.08%		19.94%	6.48%		14.19%		20.67%		
Total		24.14%		24.61%		48.75%	26.60%		39.70%		66.30%		
		Payroll = \$0				Payroll = \$501,674							

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

CHART 14-B (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Non-enhanced			
	Cost Group #12			
	Rodeo-Hercules Fire Protection District			
	Normal Cost	+	UAAL	= Total
Safety Tier A				
Basic	15.10%		32.70%	47.80%
COL	4.97%		17.64%	22.61%
Total	20.07%		50.34%	70.41%

Payroll = \$0

Total (Includes Both Enhanced and Non-enhanced – County and District)				
	Normal Cost	+	UAAL	= Total
Basic	11.98%		12.51%	24.49%
COL	3.43%		6.27%	9.70%
Total	15.41%		18.78%	34.19%

Payroll = \$29,414,049

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

CHART 14-C

**Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014**

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced				
	Cost Group #1				Cost Group #1				
	County				Districts without POB				
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total	
PEPRA General Tier 4 (3% COLA)									
Basic	7.53%		10.72%	18.25%	7.53%		16.19%	23.72%	
COL	2.66%		3.77%	6.43%	2.66%		8.15%	10.81%	
Total	10.19%		14.49%	24.68%	10.19%		24.34%	34.53%	
			Payroll = \$0				Payroll = \$0		
PEPRA General Tier 4 (2% COLA)									
Basic	7.49%		10.72%	18.21%					
COL	1.62%		3.77%	5.39%					
Total	9.11%		14.49%	23.60%					
			Payroll = \$0						
Enhanced									
Cost Group #1									
Districts with POB (Moraga)									
	Normal Cost	+	UAAL	= Total					
PEPRA General Tier 4 (3% COLA)									
Basic	7.53%		5.10%	12.63%					
COL	2.66%		1.71%	4.37%					
Total	10.19%		6.81%	17.00%					
			Payroll = \$0						

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

CHART 14-C (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced				
	Cost Group #2				Cost Group #2				
	County				Districts without POB				
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total	
PEPRA General Tier 5 (3%/4% COLA)									
Basic	6.95%		10.72%	17.67%	6.95%		16.19%	23.14%	
COL	2.38%		3.77%	6.15%	2.38%		8.15%	10.53%	
Total	9.33%		14.49%	23.82%	9.33%		24.34%	33.67%	
			Payroll = \$0				Payroll = \$0		
PEPRA General Tier 5 (2% COLA)									
Basic	7.00%		10.72%	17.72%					
COL	1.45%		3.77%	5.22%					
Total	8.45%		14.49%	22.94%					
			Payroll = \$0						
	Enhanced				Enhanced				
	Cost Group #3				Cost Group #4				
	Central Contra Costa Sanitary District				Contra Costa Housing Authority				
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total	
PEPRA General Tier 4 (3% COLA)									
Basic	7.53%		27.30%	34.83%	7.53%		11.42%	18.95%	
COL	2.66%		12.26%	14.92%	2.66%		8.31%	10.97%	
Total	10.19%		39.56%	49.75%	10.19%		19.73%	29.92%	
			Payroll = \$0				Payroll = \$0		

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

CHART 14-C (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Non-enhanced						
	Cost Group #5				Cost Group #6						
	Contra Costa County Fire Protection District				Districts without POB						
	Normal Cost	+	UAAL	=	Total		Normal Cost	+	UAAL	=	Total
PEPRA General Tier 4 (3% COLA)											
Basic	7.53%		10.41%		17.94%		7.53%		7.87%		15.40%
COL	2.66%		5.32%		7.98%		2.66%		1.72%		4.38%
Total	10.19%		15.73%		25.92%		10.19%		9.59%		19.78%
			Payroll = \$0						Payroll = \$0		

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

CHART 14-C (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

Enhanced										
Cost Group #7										
County										
	Normal Cost	+	UAAL	=	Total					
PEPRA Safety Tier D										
Basic	11.06%		22.25%		33.31%					
COL	4.65%		15.42%		20.07%					
Total	15.71%		37.67%		53.38%					
			Payroll = \$0							
Enhanced					Enhanced					
Cost Group #8					Cost Group #8					
Contra Costa County Fire Protection District					East Contra Costa Fire Protection District					
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
PEPRA Safety Tier D										
Basic	11.06%		12.59%		23.65%	11.06%		34.12%		45.18%
COL	4.65%		15.17%		19.82%	4.65%		31.58%		36.23%
Total	15.71%		27.76%		43.47%	15.71%		65.70%		81.41%
			Payroll = \$0					Payroll = \$0		

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

CHART 14-C (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

Enhanced										
Cost Group #9										
County										
	Normal Cost	+	UAAL	=	Total					
PEPRA Safety Tier E										
Basic	10.30%		22.25%		32.55%					
COL	2.60%		15.42%		18.02%					
Total	12.90%		37.67%		50.57%					
			Payroll = \$0							
Enhanced					Enhanced					
Cost Group #10					Cost Group #11					
Moraga-Orinda Fire District					San Ramon Valley Fire District					
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
PEPRA Safety Tier D										
Basic	11.06%		10.53%		21.59%	11.06%		25.51%		36.57%
COL	4.65%		14.08%		18.73%	4.65%		14.19%		18.84%
Total	15.71%		24.61%		40.32%	15.71%		39.70%		55.41%
			Payroll = \$0					Payroll = \$0		

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

CHART 14-C (continued)
Components of Current Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Current Assumptions for July 1, 2013 through June 30, 2014

7.75% Interest, 4.25% Wage Inflation, Plus Merit Salary Increase Assumptions

	Non-enhanced			
	Cost Group #12			
	Rodeo-Hercules Fire Protection District			
	Normal Cost	+	UAAL	= Total
PEPRA Safety Tier D				
Basic	11.06%		32.70%	43.76%
COL	4.65%		17.64%	22.29%
Total	15.71%		50.34%	66.05%
			Payroll = \$0	

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

CHART 15-A

**Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015**

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced						
	Cost Group #1				Cost Group #1						
	County				Districts without POB						
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total	
General Tier 1 (Aggregate)											
Basic	13.17%		15.00%		28.17%	13.17%		20.67%		33.84%	
COL	3.73%		6.25%		9.98%	3.73%		10.79%		14.52%	
Total	16.90%		21.25%		38.15%	16.90%		31.46%		48.36%	
General Tier 1 (Under \$350)											
Basic	8.92%		10.16%		19.08%	8.92%		14.01%		22.93%	
COL	2.53%		4.23%		6.76%	2.53%		7.30%		9.83%	
Total	11.45%		14.39%		25.84%	11.45%		21.31%		32.76%	
General Tier 1 (Over \$350)											
Basic	13.38%		15.24%		28.62%	13.38%		21.01%		34.39%	
COL	3.79%		6.35%		10.14%	3.79%		10.96%		14.75%	
Total	17.17%		21.59%		38.76%	17.17%		31.97%		49.14%	
					Payroll = \$16,198,127					Payroll = \$8,042,664	

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

CHART 15-A (continued)

**Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015**

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced			
	Cost Group #1			
	Districts with POB (Moraga)			
	Normal Cost	+	UAAL	= Total
General Tier 1 (Aggregate)				
Basic	13.17%		11.89%	25.06%
COL	3.73%		5.69%	9.42%
Total	16.90%		17.58%	34.48%
General Tier 1 (Under \$350)				
Basic	8.92%		8.05%	16.97%
COL	2.53%		3.86%	6.39%
Total	11.45%		11.91%	23.36%
General Tier 1 (Over \$350)				
Basic	13.38%		12.08%	25.46%
COL	3.79%		5.78%	9.57%
Total	17.17%		17.86%	35.03%

Payroll = \$483,695

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

CHART 15-A (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced			
	Cost Group #2				Cost Group #2			
	County				Districts without POB			
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total
General Tier 3 (Aggregate)								
Basic	12.21%		15.00%	27.21%	12.21%		20.67%	32.88%
COL	3.64%		6.25%	9.89%	3.64%		10.79%	14.43%
Total	15.85%		21.25%	37.10%	15.85%		31.46%	47.31%
General Tier 3 (Under \$350)								
Basic	8.30%		10.21%	18.51%	8.30%		14.05%	22.35%
COL	2.47%		4.25%	6.72%	2.47%		7.34%	9.81%
Total	10.77%		14.46%	25.23%	10.77%		21.39%	32.16%
General Tier 3 (Over \$350)								
Basic	12.45%		15.31%	27.76%	12.45%		21.08%	33.53%
COL	3.71%		6.38%	10.09%	3.71%		11.01%	14.72%
Total	16.16%		21.69%	37.85%	16.16%		32.09%	48.25%
			Payroll = \$395,158,990				Payroll = \$2,968,951	

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

CHART 15-A (continued)

**Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015**

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced				
	Cost Group #3				Cost Group #4				
	Central Contra Costa Sanitary District				Contra Costa Housing Authority				
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total	
General Tier 1 (Aggregate)									
Basic	16.11%		35.10%	51.21%	12.84%		18.03%	30.87%	
COL	5.12%		17.92%	23.04%	3.38%		12.81%	16.19%	
Total	21.23%		53.02%	74.25%	16.22%		30.84%	47.06%	
General Tier 1 (Under \$350)									
Basic	10.89%		23.75%	34.64%	8.76%		12.30%	21.06%	
COL	3.46%		12.14%	15.60%	2.31%		8.75%	11.06%	
Total	14.35%		35.89%	50.24%	11.07%		21.05%	32.12%	
General Tier 1 (Over \$350)									
Basic	16.34%		35.63%	51.97%	13.14%		18.45%	31.59%	
COL	5.19%		18.20%	23.39%	3.46%		13.12%	16.58%	
Total	21.53%		53.83%	75.36%	16.60%		31.57%	48.17%	
			Payroll = \$20,732,893					Payroll = \$4,917,280	

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

CHART 15-A (continued)

**Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015**

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Non-enhanced						
	Cost Group #5				Cost Group #6						
	Contra Costa County Fire Protection District				Districts without POB						
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total	
General Tier 1 (Aggregate)											
Basic	12.79%		16.48%		29.27%	14.11%		11.22%		25.33%	
COL	3.67%		9.77%		13.44%	4.29%		2.86%		7.15%	
Total	16.46%		26.25%		42.71%	18.40%		14.08%		32.48%	
General Tier 1 (Under \$350)											
Basic	8.69%		11.20%		19.89%	9.59%		7.64%		17.23%	
COL	2.49%		6.64%		9.13%	2.91%		1.95%		4.86%	
Total	11.18%		17.84%		29.02%	12.50%		9.59%		22.09%	
General Tier 1 (Over \$350)											
Basic	13.03%		16.80%		29.83%	14.38%		11.46%		25.84%	
COL	3.74%		9.96%		13.70%	4.37%		2.92%		7.29%	
Total	16.77%		26.76%		43.53%	18.75%		14.38%		33.13%	
					Payroll = \$3,282,084					Payroll = \$602,465	

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

CHART 15-A (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

Enhanced										
Cost Group #9										
County										
	Normal Cost	+	UAAL	=	Total					
Safety Tier C										
Basic	20.82%		32.80%		53.62%					
COL	4.23%		24.66%		28.89%					
Total	25.05%		57.46%		82.51%					
			Payroll = \$7,656,292							
Enhanced					Enhanced					
Cost Group #10					Cost Group #11					
Moraga-Orinda Fire District					San Ramon Valley Fire District					
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
Safety Tier A										
Basic	23.29%		23.16%		46.45%	23.10%		39.60%		62.70%
COL	8.00%		25.58%		33.58%	7.95%		24.93%		32.88%
Total	31.29%		48.74%		80.03%	31.05%		64.53%		95.58%
			Payroll = \$7,084,771					Payroll = \$15,491,569		

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

CHART 15-A (continued)

**Components of Recommended Employer Contribution Rates for Members with Membership Dates before January 1, 2011
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015**

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Non-enhanced			
	Cost Group #12			
	Rodeo-Hercules Fire Protection District			
	Normal Cost	+	UAAL	= Total
Safety Tier A				
Basic	20.19%		51.45%	71.64%
COL	6.60%		31.78%	38.38%
Total	26.79%		83.23%	110.02%

Payroll = \$1,695,645

Total (Includes Both Enhanced and Non-enhanced – County and District)				
	Normal Cost	+	UAAL	= Total
Basic	14.88%		19.67%	34.54%
COL	4.59%		11.21%	15.80%
Total	19.46%		30.88%	50.34%

Payroll = \$579,211,362

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

CHART 15-B

Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013

Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced			
	Cost Group #1				Cost Group #1			
	County				Districts without POB			
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total
General Tier 1 (Aggregate)								
Basic	13.73%		15.00%	28.73%	13.73%		20.67%	34.40%
COL	4.18%		6.25%	10.43%	4.18%		10.79%	14.97%
Total	17.91%		21.25%	39.16%	17.91%		31.46%	49.37%
General Tier 1 (Under \$350)								
Basic	9.33%		10.16%	19.49%	9.33%		14.01%	23.34%
COL	2.85%		4.23%	7.08%	2.85%		7.30%	10.15%
Total	12.18%		14.39%	26.57%	12.18%		21.31%	33.49%
General Tier 1 (Over \$350)								
Basic	14.00%		15.24%	29.24%	14.00%		21.01%	35.01%
COL	4.27%		6.35%	10.62%	4.27%		10.96%	15.23%
Total	18.27%		21.59%	39.86%	18.27%		31.97%	50.24%
			Payroll = \$71,847				Payroll = \$668,281	

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

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced			
	Cost Group #1			
	Districts with POB (Moraga)			
	Normal Cost	+	UAAL	= Total
General Tier 1 (Aggregate)				
Basic	13.73%		11.89%	25.62%
COL	4.18%		5.69%	9.87%
Total	17.91%		17.58%	35.49%
General Tier 1 (Under \$350)				
Basic	9.33%		8.05%	17.38%
COL	2.85%		3.86%	6.71%
Total	12.18%		11.91%	24.09%
General Tier 1 (Over \$350)				
Basic	14.00%		12.08%	26.08%
COL	4.27%		5.78%	10.05%
Total	18.27%		17.86%	36.13%

Payroll = \$48,968

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

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced			
	Cost Group #2				Cost Group #2			
	County				Districts without POB			
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total
General Tier 3 (Aggregate)								
Basic	11.71%		15.00%	26.71%	11.71%		20.67%	32.38%
COL	3.48%		6.25%	9.73%	3.48%		10.79%	14.27%
Total	15.19%		21.25%	36.44%	15.19%		31.46%	46.65%
General Tier 3 (Under \$350)								
Basic	8.02%		10.21%	18.23%	8.02%		14.05%	22.07%
COL	2.39%		4.25%	6.64%	2.39%		7.34%	9.73%
Total	10.41%		14.46%	24.87%	10.41%		21.39%	31.80%
General Tier 3 (Over \$350)								
Basic	12.03%		15.31%	27.34%	12.03%		21.08%	33.11%
COL	3.58%		6.38%	9.96%	3.58%		11.01%	14.59%
Total	15.61%		21.69%	37.30%	15.61%		32.09%	47.70%
			Payroll = \$57,055,426				Payroll = \$33,566	

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

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced						
	Cost Group #3				Cost Group #4						
	Central Contra Costa Sanitary District				Contra Costa Housing Authority						
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total	
General Tier 1 (Aggregate)											
Basic	14.43%		35.10%		49.53%	12.56%		18.03%		30.59%	
COL	4.36%		17.92%		22.28%	2.82%		12.81%		15.63%	
Total	18.79%		53.02%		71.81%	15.38%		30.84%		46.22%	
General Tier 1 (Under \$350)											
Basic	9.84%		23.75%		33.59%	8.64%		12.30%		20.94%	
COL	2.97%		12.14%		15.11%	1.94%		8.75%		10.69%	
Total	12.81%		35.89%		48.70%	10.58%		21.05%		31.63%	
General Tier 1 (Over \$350)											
Basic	14.76%		35.63%		50.39%	12.96%		18.45%		31.41%	
COL	4.46%		18.20%		22.66%	2.91%		13.12%		16.03%	
Total	19.22%		53.83%		73.05%	15.87%		31.57%		47.44%	
			Payroll = \$3,100,880						Payroll = \$136,837		

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

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Non-enhanced							
	Cost Group #5				Cost Group #6							
	Contra Costa County Fire Protection District				Districts without POB							
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total		
General Tier 1 (Aggregate)												
Basic	14.07%		16.48%		30.55%	12.82%		11.22%		24.04%		
COL	3.72%		9.77%		13.49%	3.90%		2.86%		6.76%		
Total	17.79%		26.25%		44.04%	16.72%		14.08%		30.80%		
General Tier 1 (Under \$350)												
Basic	9.63%		11.20%		20.83%	8.80%		7.64%		16.44%		
COL	2.54%		6.64%		9.18%	2.68%		1.95%		4.63%		
Total	12.17%		17.84%		30.01%	11.48%		9.59%		21.07%		
General Tier 1 (Over \$350)												
Basic	14.44%		16.80%		31.24%	13.20%		11.46%		24.66%		
COL	3.82%		9.96%		13.78%	4.02%		2.92%		6.94%		
Total	18.26%		26.76%		45.02%	17.22%		14.38%		31.60%		
			Payroll = \$273,387						Payroll = \$144,322			

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

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

Enhanced										
Cost Group #7										
County										
	Normal Cost	+	UAAL	=	Total					
Safety Tier A										
Basic	26.44%		32.80%		59.24%					
COL	8.55%		24.66%		33.21%					
Total	34.99%		57.46%		92.45%					
			Payroll = \$1,512,206							
Enhanced					Enhanced					
Cost Group #8					Cost Group #8					
Contra Costa County Fire Protection District					East Contra Costa Fire Protection District					
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
Safety Tier A										
Basic	20.53%		26.63%		47.16%	20.53%		52.02%		72.55%
COL	7.08%		29.09%		36.17%	7.08%		48.45%		55.53%
Total	27.61%		55.72%		83.33%	27.61%		100.47%		128.08%
			Payroll = \$2,772,180					Payroll = \$0		

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

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

Enhanced										
Cost Group #9										
County										
	Normal Cost	+	UAAL	=	Total					
Safety Tier C										
Basic	18.87%		32.80%		51.67%					
COL	3.95%		24.66%		28.61%					
Total	22.82%		57.46%		80.28%					
	Payroll = \$6,041,016									
Enhanced					Enhanced					
Cost Group #10					Cost Group #11					
Moraga-Orinda Fire District					San Ramon Valley Fire District					
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
Safety Tier A										
Basic	19.93%		23.16%		43.09%	20.99%		39.60%		60.59%
COL	6.92%		25.58%		32.50%	7.46%		24.93%		32.39%
Total	26.85%		48.74%		75.59%	28.45%		64.53%		92.98%
	Payroll = \$0					Payroll = \$1,241,902				

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

CHART 15-B (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2011 and before January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Non-enhanced			
	Cost Group #12			
	Rodeo-Hercules Fire Protection District			
	Normal Cost	+	UAAL	= Total
Safety Tier A				
Basic	17.78%		51.45%	69.23%
COL	6.07%		31.78%	37.85%
Total	23.85%		83.23%	107.08%
			Payroll = \$0	

Total (Includes Both Enhanced and Non-enhanced – County and District)				
	Normal Cost	+	UAAL	= Total
Basic	13.25%		18.61%	31.86%
COL	3.87%		9.89%	13.77%
Total	17.12%		28.50%	45.62%
			Payroll = \$73,100,818	

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

CHART 15-C (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Enhanced				
	Cost Group #2				Cost Group #2				
	County				Districts without POB				
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total	
PEPRA General Tier 5 (3%/4% COLA)									
Basic	7.61%		15.00%	22.61%	7.61%		20.67%	28.28%	
COL	2.69%		6.25%	8.94%	2.69%		10.79%	13.48%	
Total	10.30%		21.25%	31.55%	10.30%		31.46%	41.76%	
			Payroll = \$0				Payroll = \$0		
PEPRA General Tier 5 (2% COLA)									
Basic	7.75%		15.00%	22.75%					
COL	1.66%		6.25%	7.91%					
Total	9.41%		21.25%	30.66%					
			Payroll = \$0						
	Enhanced				Enhanced				
	Cost Group #3				Cost Group #4				
	Central Contra Costa Sanitary District				Contra Costa Housing Authority				
	Normal Cost	+	UAAL	= Total	Normal Cost	+	UAAL	= Total	
PEPRA General Tier 4 (3% COLA)									
Basic	7.97%		35.10%	43.07%	7.97%		18.03%	26.00%	
COL	2.95%		17.92%	20.87%	2.95%		12.81%	15.76%	
Total	10.92%		53.02%	63.94%	10.92%		30.84%	41.76%	
			Payroll = \$0				Payroll = \$0		

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

CHART 15-C (continued)

**Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015**

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Enhanced				Non-enhanced					
	Cost Group #5				Cost Group #6					
	Contra Costa County Fire Protection District				Districts without POB					
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
PEPRA General Tier 4 (3% COLA)										
Basic	7.97%		16.48%		24.45%	7.97%		11.22%		19.19%
COL	2.95%		9.77%		12.72%	2.95%		2.86%		5.81%
Total	10.92%		26.25%		37.17%	10.92%		14.08%		25.00%
			Payroll = \$0					Payroll = \$0		

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

CHART 15-C (continued)

**Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015**

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

Enhanced					Enhanced						
Cost Group #7					Cost Group #8						
County					Contra Costa County Fire Protection District						
County					East Contra Costa Fire Protection District						
	Normal Cost	+	UAAL	=	Total		Normal Cost	+	UAAL	=	Total
PEPRA Safety Tier D											
Basic	11.88%		32.80%		44.68%		11.88%		52.02%		63.90%
COL	5.21%		24.66%		29.87%		5.21%		48.45%		53.66%
Total	17.09%		57.46%		74.55%		17.09%		100.47%		117.56%
			Payroll = \$0						Payroll = \$0		

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

CHART 15-C (continued)
Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

Enhanced										
Cost Group #9										
County										
	Normal Cost	+	UAAL	=	Total					
PEPRA Safety Tier E										
Basic	11.54%		32.80%		44.34%					
COL	3.05%		24.66%		27.71%					
Total	14.59%		57.46%		72.05%					
			Payroll = \$0							
Enhanced					Enhanced					
Cost Group #10					Cost Group #11					
Moraga-Orinda Fire District					San Ramon Valley Fire District					
	Normal Cost	+	UAAL	=	Total	Normal Cost	+	UAAL	=	Total
PEPRA Safety Tier D										
Basic	11.88%		23.16%		35.04%	11.88%		39.60%		51.48%
COL	5.21%		25.58%		30.79%	5.21%		24.93%		30.14%
Total	17.09%		48.74%		65.83%	17.09%		64.53%		81.62%
			Payroll = \$0					Payroll = \$0		

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

CHART 15-C (continued)

**Components of Recommended Employer Contribution Rates for Members with Membership Dates on or after January 1, 2013
Employer Rates Under Recommended Assumptions for July 1, 2014 through June 30, 2015**

7.25% Interest, 4.00% Wage Inflation, Plus Merit Salary Increase Assumptions

	Non-enhanced			
	Cost Group #12			
	Rodeo-Hercules Fire Protection District			
	Normal Cost	+	UAAL	= Total
PEPRA Safety Tier D				
Basic	11.88%		51.45%	63.33%
COL	5.21%		31.78%	36.99%
Total	17.09%		83.23%	100.32%
			Payroll = \$0	

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

The employer contribution rates as of December 31, 2012 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 16

Reconciliation of Recommended Average Employer Contribution from December 31, 2011 to December 31, 2012 Valuation

	Contribution Rate*	Estimated Annual Dollar Cost**
Recommended Average Employer Contribution Rate in December 31, 2011 Valuation	37.87%	\$252,337,247
Effect of investment (gain)/loss ⁽¹⁾	3.44%	22,439,539
Effect of difference in actual versus expected contributions due to delay in implementation of contribution rates calculated in 12/31/2011 valuation	0.42%	2,739,711
Effect of lower than expected individual salary increases ⁽²⁾	(1.19%)	(7,762,515)
Effect of amortizing prior year's UAAL over a smaller than expected projected total payroll ⁽³⁾	1.25%	5,748,030 ⁽⁴⁾
Effect of net other experience (gains)/losses ⁽⁵⁾	(0.21%)	(4,321,498)
Effect of changes in actuarial assumptions ⁽⁶⁾	<u>8.24%</u>	<u>53,750,524</u>
Total change	<u>11.95%</u>	<u>\$72,593,791</u>
Recommended Average Employer Contribution Rate in December 31, 2012 Valuation	49.82%	\$324,931,038

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

** Based on projected total payroll for each valuation date shown.

(1) Return on the valuation value of assets of 2.24% was less than the 7.75% assumed in the 2011 valuation.

(2) Lower individual salary increases decrease costs.

(3) Lower total payroll growth increases the UAAL contribution rate, since the remaining UAAL is amortized over a lower payroll.

(4) Actual dollar increase in existing amortization bases.

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

(6) The Board approved changes in actuarial assumptions.

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

The member contribution rates as of December 31, 2012 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 member contribution rate from the prior valuation to the current year's valuation.

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

**CHART 17
Reconciliation of Recommended Average Member Contribution from December 31, 2011 to December 31, 2012 Valuation**

	Contribution Rate*	Estimated Annual Dollar Cost**
Recommended Average Member Contribution Rate in December 31, 2011 Valuation	10.98%	\$73,197,642
Effect of changes in actuarial assumptions ⁽¹⁾	1.27%	8,284,365
Effect of other experience (gains)/losses ⁽²⁾	<u>(0.05%)</u>	<u>(1,870,530)</u>
Total change	<u>1.22%</u>	<u>\$6,413,835</u>
Recommended Average Member Contribution Rate in December 31, 2012 Valuation	12.20%	\$79,611,477

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

** Based on projected total payroll for each valuation date shown.

(1) The Board approved changes in actuarial assumptions.

(2) 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. INFORMATION REQUIRED BY GASB

Government Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to GASB is the historical comparison of the GASB required contributions to the actual contributions. This comparison demonstrates whether a plan is being funded on an actuarially sound basis and in accordance with the GASB funding requirements. Chart 18 below presents a graphical representation of this information for the Plan

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

The details regarding the calculations of these values and other GASB numbers may be found in Section 4, Exhibits II, III, and IV.

These graphs show key GASB factors.

CHART 18
Required Versus Actual Contributions

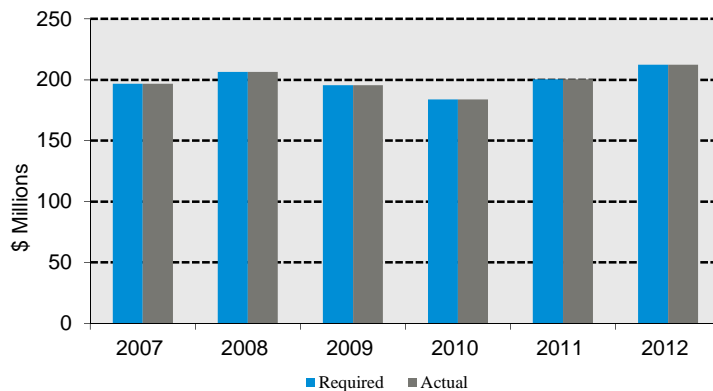
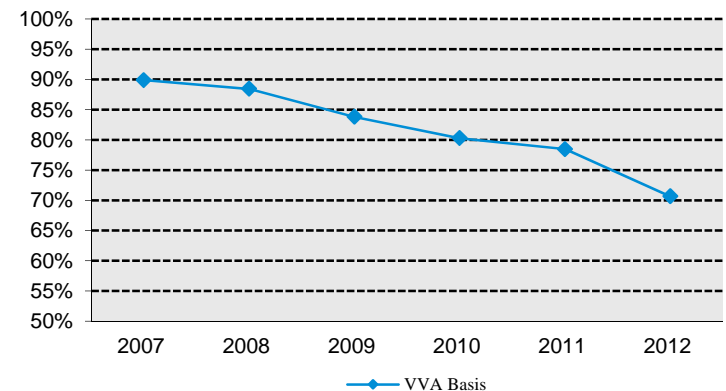


CHART 19
Funded Ratio



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 8.7. This means that a 1% asset gain/(loss) (relative to the assumed investment return) translates to about 8.7% of one-year's payroll. Since CCCERA amortizes actuarial gains and losses over a 18-year period, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

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

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

For CCCERA, the current LVR is about 11.9. This is about 37% 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.

CHART 20
Volatility Ratios for Years Ended December 31, 2008 – 2012

Year Ended December 31	Asset Volatility Ratio	Liability Volatility Ratio
2008	5.3	8.5
2009	6.4	9.1
2010	7.3	9.7
2011	7.6	10.4
2012	8.7	11.9

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
	2012	2011	
Active members in valuation			
Number	686	726	-5.5%
Average age	48.2	49.1	N/A
Average service	13.6	14.9	N/A
Projected total payroll ⁽¹⁾	\$58,703,729	\$63,333,022	-7.3%
Projected average payroll	\$85,574	\$87,236	-1.9%
Account balances	\$46,348,419	\$51,097,289	-9.3%
Total active members with at least five years of service	544	597	-8.9%
Vested terminated members	267	279	-4.3%
Retired members			
Number in pay status	2,726	2,719	0.3%
Average age	73.6	73.4	N/A
Average monthly benefit	\$3,634	\$3,485	4.3%
Disabled members			
Number in pay status ⁽²⁾	307	314	-2.2%
Average age	69.6	69.1	N/A
Average monthly benefit	\$2,534	\$2,455	3.2%
Beneficiaries			
Number in pay status	690	705	-2.1%
Average age	76.6	76.2	N/A
Average monthly benefit	\$1,915	\$1,867	2.6%

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

⁽²⁾ For 2012, includes 230 members receiving a service-connected disability and 77 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
	2012	2011	
Active members in valuation			
Number ⁽¹⁾	0	0	N/A
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	N/A	N/A	N/A
Vested terminated members	266	276	-3.6%
Retired members			
Number in pay status	428	432	-0.9%
Average age	72.6	72.0	N/A
Average monthly benefit	\$800	\$781	2.4%
Disabled members			
Number in pay status ⁽³⁾	46	50	-8.0%
Average age	68.8	68.2	N/A
Average monthly benefit	\$1,982	\$1,921	3.2%
Beneficiaries			
Number in pay status	97	93	4.3%
Average age	63.5	62.0	N/A
Average monthly benefit	\$849	\$840	1.1%

⁽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 2012, includes 25 members receiving a service-connected disability and 21 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
	2012	2011	
Active members in valuation			
Number	6,558	6,457	1.6%
Average age	46.8	47.1	N/A
Average service	9.7	10.0	N/A
Projected total payroll ⁽¹⁾	\$455,216,933	\$454,880,268	0.1%
Projected average payroll	\$69,414	\$70,448	-1.5%
Account balances	\$334,502,172	\$317,284,200	5.4%
Total active members with at least five years of service	4,562	4,522	0.9%
Vested terminated members	1,435	1,357	5.7%
Retired members			
Number in pay status	2,054	1,730	18.7%
Average age	65.2	65.0	N/A
Average monthly benefit	\$2,527	\$2,395	5.5%
Disabled members			
Number in pay status ⁽²⁾	78	73	6.8%
Average age	61.5	60.8	N/A
Average monthly benefit	\$2,174	\$2,125	2.3%
Beneficiaries			
Number in pay status	101	92	9.8%
Average age	58.5	57.6	N/A
Average monthly benefit	\$1,475	\$1,383	6.7%

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

⁽²⁾ For 2012, includes 26 members receiving a service-connected disability and 52 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. Safety Tier A

Category	Year Ended December 31		Change From Prior Year
	2012	2011	
Active members in valuation			
Number	1,209	1,315	-8.1%
Average age	41.9	41.9	N/A
Average service	12.6	12.5	N/A
Projected total payroll ⁽¹⁾	\$124,694,208	\$138,042,530	-9.7%
Projected average payroll	\$103,138	\$104,975	-1.7%
Account balances	\$268,197,775	\$266,690,587	0.6%
Total active members with at least five years of service	1,086	1,315	-17.4%
Vested terminated members	304	289	5.2%
Retired members			
Number in pay status	1,167	1,079	8.2%
Average age	64.7	65.0	N/A
Average monthly benefit	\$7,122	\$6,897	3.3%
Disabled members			
Number in pay status ⁽²⁾	492	483	1.9%
Average age	61.6	61.0	N/A
Average monthly benefit	\$5,209	\$5,008	4.0%
Beneficiaries			
Number in pay status	331	315	5.1%
Average age	68.1	67.8	N/A
Average monthly benefit	\$3,204	\$3,101	3.3%

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

⁽²⁾ For 2012, includes 472 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

v. Safety Tier C

Category	Year Ended December 31		Change From Prior Year
	2012	2011	
Active members in valuation			
Number	187	131	42.7%
Average age	31.8	32.3	N/A
Average service	2.7	2.8	N/A
Projected total payroll ⁽¹⁾	\$13,697,308	\$10,138,325	35.1%
Projected average payroll	\$73,248	\$77,392	-5.4%
Account balances	\$4,188,009	\$2,542,182	64.7%
Total active members with at least five years of service	26	4	550.0%
Vested terminated members	16	13	23.1%
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.

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, 2012
By Age and Years of Service**

i. General Tier 1 Non-Enhanced

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	1	1	--	--	--	--	--	--	--	--
35 - 39	\$59,020	\$59,020	--	--	--	--	--	--	--	--
40 - 44	3	--	2	1	--	--	--	--	--	--
45 - 49	91,579	--	\$102,801	\$69,135	--	--	--	--	--	--
50 - 54	4	3	1	--	--	--	--	--	--	--
55 - 59	62,447	56,887	\$79,127	--	--	--	--	--	--	--
60 - 64	2	--	1	--	--	--	--	1	--	--
65 & over	58,261	--	37,673	--	--	--	--	\$78,848	--	--
	46,718	--	46,718	--	--	--	--	--	--	--
Total	11	4	5	1	--	--	--	1	--	--
	\$67,890	\$57,421	\$73,824	\$69,135	--	--	--	\$78,848	--	--

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, 2012

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	8	8	--	--	--	--	--	--	--	--
	\$55,404	\$55,404	--	--	--	--	--	--	--	--
25 - 29	24	21	3	--	--	--	--	--	--	--
	66,407	68,811	\$49,574	--	--	--	--	--	--	--
30 - 34	54	32	15	7	--	--	--	--	--	--
	70,961	60,796	84,603	\$88,197	--	--	--	--	--	--
35 - 39	59	19	16	20	4	--	--	--	--	--
	78,664	69,426	81,578	85,761	\$75,410	--	--	--	--	--
40 - 44	86	22	14	38	10	2	--	--	--	--
	83,907	84,382	75,252	84,190	88,229	\$112,286	--	--	--	--
45 - 49	126	14	26	47	15	20	4	--	--	--
	92,380	84,563	93,213	96,800	80,284	91,519	\$112,057	--	--	--
50 - 54	133	19	18	38	20	22	8	7	1	--
	90,587	85,881	77,673	94,610	93,177	97,906	105,326	\$69,942	\$73,340	--
55 - 59	115	15	16	32	14	19	6	8	5	--
	89,918	82,403	94,591	91,687	81,928	99,289	88,661	101,482	55,953	--
60 - 64	60	3	15	23	6	7	--	3	3	--
	92,019	82,362	86,068	101,192	73,579	80,399	--	118,094	99,039	--
65 - 69	6	--	2	2	2	--	--	--	--	--
	81,335	--	72,118	97,187	74,701	--	--	--	--	--
70 & over	4	2	--	1	1	--	--	--	--	--
	48,289	33,284	--	77,860	48,729	--	--	--	--	--
Total	675	155	125	208	72	70	18	18	9	--
	\$85,862	\$73,384	\$84,375	\$92,357	\$83,865	\$95,117	\$101,267	\$91,985	\$72,247	--

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, 2012
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	55	55	--	--	--	--	--	--	--	--
	\$35,733	\$35,733	--	--	--	--	--	--	--	--
25 - 29	358	299	57	2	--	--	--	--	--	--
	49,048	46,829	\$59,865	\$72,616	--	--	--	--	--	--
30 - 34	678	382	245	51	--	--	--	--	--	--
	61,868	57,710	68,582	\$60,760	--	--	--	--	--	--
35 - 39	793	307	276	195	15	--	--	--	--	--
	69,007	63,211	74,772	69,888	\$70,112	--	--	--	--	--
40 - 44	893	262	251	277	81	21	1	--	--	--
	73,212	65,916	71,624	79,860	80,399	\$69,622	\$35,118	--	--	--
45 - 49	1,086	249	237	299	148	124	29	--	--	--
	73,014	58,602	67,470	77,148	82,049	89,676	82,084	--	--	--
50 - 54	1,053	210	223	259	121	143	67	29	1	--
	73,561	59,671	71,739	73,209	83,013	86,441	81,426	\$70,487	\$64,168	--
55 - 59	908	160	182	252	104	105	72	33	--	--
	72,017	59,213	68,482	71,785	77,119	79,917	87,992	79,281	--	--
60 - 64	574	99	159	147	80	57	21	10	--	1
	71,266	63,408	68,689	72,582	76,707	81,964	68,957	68,437	--	\$97,507
65 - 69	131	21	36	43	13	11	2	4	1	--
	67,931	75,856	67,237	60,606	71,684	66,809	72,383	92,489	97,836	--
70 & over	29	3	10	12	--	4	--	--	--	--
	58,467	88,474	46,031	65,224	--	46,778	--	--	--	--
Total	6,558	2,047	1,676	1,537	562	465	192	76	2	1
	\$69,414	\$58,339	\$69,859	\$73,631	\$79,788	\$83,717	\$82,289	\$75,193	\$81,002	\$97,507

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, 2012
By Age and Years of Service**

iv. 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	3	--	--	3	--	--	--	--
	\$117,199	--	--	\$117,199	--	--	--	--
40 - 44	2	--	--	1	--	1	--	--
	119,326	--	--	124,395	--	\$114,257	--	--
45 - 49	4	--	--	--	--	4	--	--
	124,720	--	--	--	--	124,720	--	--
50 - 54	3	1	--	--	--	1	1	--
	159,717	211,537	--	--	--	137,362	\$130,252	--
55 - 59	1	--	--	--	1	--	--	--
	127,364	--	--	--	127,364	--	--	--
60 - 64	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
65 & over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	13	1	--	4	1	6	1	--
	\$130,434	\$211,537	--	\$118,998	\$127,364	\$125,083	\$130,252	--

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, 2012

By Age and Years of Service

v. 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	3	3	--	--	--	--	--	--	--	--
	\$78,061	\$78,061	--	--	--	--	--	--	--	--
25 - 29	78	56	22	--	--	--	--	--	--	--
	89,222	84,879	\$100,278	--	--	--	--	--	--	--
30 - 34	158	47	89	22	--	--	--	--	--	--
	96,547	87,752	98,819	\$106,149	--	--	--	--	--	--
35 - 39	239	16	94	123	6	--	--	--	--	--
	97,259	93,708	100,330	94,843	\$108,140	--	--	--	--	--
40 - 44	303	17	62	144	58	22	--	--	--	--
	104,328	92,808	104,204	101,034	107,839	\$125,892	--	--	--	--
45 - 49	272	6	32	75	47	87	25	--	--	--
	111,021	99,678	95,753	103,177	103,783	124,751	\$122,646	--	--	--
50 - 54	84	7	10	24	15	17	8	3	--	--
	109,172	88,598	96,649	93,960	\$120,214	123,629	145,887	\$85,569	--	--
55 - 59	39	5	13	10	5	3	3	--	--	--
	112,991	131,258	112,521	86,254	120,402	143,967	130,381	--	--	--
60 - 64	14	--	6	3	4	--	1	--	--	--
	98,286	--	91,561	107,161	105,981	--	81,230	--	--	--
65 - 69	5	--	1	2	1	--	1	--	--	--
	92,582	--	127,434	86,466	58,694	--	103,851	--	--	--
70 & over	1	1	--	--	--	--	--	--	--	--
	80,425	80,425	--	--	--	--	--	--	--	--
Total	1,196	158	329	403	136	129	38	3	--	--
	\$102,842	\$89,517	\$100,495	\$99,008	\$107,861	\$125,245	\$126,565	\$85,569	--	--

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, 2012
By Age and Years of Service**

vi. 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	28	28	--	--	--	--	--	--	--	--
	\$60,042	\$60,042	--	--	--	--	--	--	--	--
25 - 29	69	65	4	--	--	--	--	--	--	--
	70,226	69,029	\$89,676	--	--	--	--	--	--	--
30 - 34	44	37	7	--	--	--	--	--	--	--
	73,673	70,301	91,495	--	--	--	--	--	--	--
35 - 39	22	14	8	--	--	--	--	--	--	--
	82,516	78,372	89,767	--	--	--	--	--	--	--
40 - 44	12	9	3	--	--	--	--	--	--	--
	78,608	73,567	93,731	--	--	--	--	--	--	--
45 - 49	6	6	--	--	--	--	--	--	--	--
	107,264	107,264	--	--	--	--	--	--	--	--
50 - 54	2	1	1	--	--	--	--	--	--	--
	78,425	66,065	90,785	--	--	--	--	--	--	--
55 - 59	4	4	--	--	--	--	--	--	--	--
	92,466	92,466	--	--	--	--	--	--	--	--
60 - 64	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
65 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	187	164	23	--	--	--	--	--	--	--
	\$73,248	\$70,781	\$90,838	--	--	--	--	--	--	--

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, 2012

Age	Years of Retirement									
	Total	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	2	1	--	--	1	--	--	--	--	--
	\$643	\$904	--	--	\$382	--	--	--	--	--
25 - 29	5	2	--	--	3	--	--	--	--	--
	755	904	--	--	655	--	--	--	--	--
30 - 34	2	--	1	--	1	--	--	--	--	--
	557	--	\$590	--	525	--	--	--	--	--
35 - 39	5	--	1	--	2	1	1	--	--	--
	1,008	--	2,151	--	555	\$899	\$880	--	--	--
40 - 44	4	--	--	1	2	1	--	--	--	--
	1,203	--	--	\$2,049	929	905	--	--	--	--
45 - 49	13	1	1	3	4	3	1	--	--	--
	992	1,921	498	930	949	1,044	759	--	--	--
50 - 54	50	32	6	4	4	2	2	--	--	--
	1,976	2,086	1,579	2,529	1,335	2,715	864	--	--	--
55 - 59	267	175	50	16	10	7	5	1	3	--
	3,581	4,420	2,086	1,744	2,583	1,993	1,578	\$1,601	\$396	--
60 - 64	538	221	191	82	16	15	4	6	1	2
	3,952	5,389	3,571	2,020	2,180	2,122	1,860	1,604	960	\$1,339
65 - 69	649	90	279	152	76	23	15	6	8	--
	3,933	4,789	4,909	3,295	1,913	1,888	2,670	2,023	1,264	--
70 - 74	513	10	81	185	128	71	18	14	5	1
	3,463	3,875	4,884	4,466	2,472	1,643	2,148	2,524	1,660	742
75 - 80	505	2	14	116	152	124	74	17	4	2
	3,110	2,817	4,597	4,738	3,277	2,433	1,351	2,495	1,136	1,956
80 - 84	475	1	3	26	92	157	117	55	15	9
	2,701	1,753	1,368	2,914	3,956	3,213	1,755	1,581	1,741	1,633
85 - 89	407	--	3	7	16	97	138	103	41	2
	2,483	--	5,938	3,682	2,938	3,030	2,650	1,872	1,517	2,563
90 & over	288	--	1	2	3	13	59	122	64	24
	2,089	--	1,113	3,589	3,069	2,244	2,092	2,151	2,134	1,352
Total	3,723	535	631	594	510	514	434	324	141	40
	\$3,224	\$4,697	\$4,202	\$3,693	\$2,854	\$2,618	\$2,055	\$1,986	\$1,773	\$1,490

Note: Total retired benefit \$12,004,433, average age 73.8 and average years retired 17.1.

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, 2012

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	2	--	--	--	--	2	--	--	--	--
	\$1,290	--	--	--	--	\$1,290	--	--	--	--
25 - 29	2	--	--	2	--	--	--	--	--	--
	724	--	--	\$724	--	--	--	--	--	--
30 - 34	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
35 - 39	8	--	--	3	3	2	--	--	--	--
	752	--	--	788	\$550	1,002	--	--	--	--
40 - 44	8	--	--	2	3	3	--	--	--	--
	904	--	--	380	1,486	672	--	--	--	--
45 - 49	4	--	1	--	2	1	--	--	--	--
	1,408	--	\$563	--	1,666	1,738	--	--	--	--
50 - 54	14	10	1	1	2	--	--	--	--	--
	774	\$208	157	2,955	2,823	--	--	--	--	--
55 - 59	37	9	17	4	6	1	--	--	--	--
	773	670	504	1,342	1,023	2,498	--	--	--	--
60 - 64	65	14	23	19	5	4	--	--	--	--
	780	687	601	693	1,678	1,421	--	--	--	--
65 - 69	118	15	23	38	36	2	4	--	--	--
	795	726	585	765	915	1,514	\$1,105	--	--	--
70 - 74	93	7	12	34	32	8	--	--	--	--
	990	395	932	1,151	947	1,089	--	--	--	--
75 - 80	111	3	--	45	40	19	4	--	--	--
	995	1,174	--	1,046	1,010	772	1,188	--	--	--
80 - 84	71	--	1	11	40	15	2	2	--	--
	1,054	--	53	786	1,083	1,398	395	\$517	--	--
85 - 89	30	--	--	2	14	13	1	--	--	--
	949	--	--	869	761	1,200	500	--	--	--
90 & over	8	--	--	--	3	5	--	--	--	--
	423	--	--	--	576	332	--	--	--	--
Total	571	58	78	161	186	75	11	2	--	--
	\$904	\$602	\$613	\$943	\$1,016	\$1,082	\$951	\$517	--	--

Note: Total retired benefit \$516,035, average age 70.7 and average years retired 14.0.

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, 2012

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	2	2	--	--	--	--	--	--	--	--
	\$987	\$987	--	--	--	--	--	--	--	--
25 - 29	4	--	1	2	1	--	--	--	--	--
	1,328	--	\$1,247	\$1,692	\$680	--	--	--	--	--
30 - 34	4	1	3	--	--	--	--	--	--	--
	858	1,680	584	--	--	--	--	--	--	--
35 - 39	2	1	1	--	--	--	--	--	--	--
	1,827	2,263	1,391	--	--	--	--	--	--	--
40 - 44	6	--	3	3	--	--	--	--	--	--
	1,013	--	1,005	1,021	--	--	--	--	--	--
45 - 49	19	9	7	3	--	--	--	--	--	--
	1,937	2,147	1,970	1,232	--	--	--	--	--	--
50 - 54	114	109	4	1	--	--	--	--	--	--
	1,544	1,511	2,473	1,446	--	--	--	--	--	--
55 - 59	359	275	77	7	--	--	--	--	--	--
	2,612	2,942	1,465	2,268	--	--	--	--	--	--
60 - 64	608	417	161	30	--	--	--	--	--	--
	2,754	3,062	2,288	976	--	--	--	--	--	--
65 - 69	629	343	237	48	--	1	--	--	--	--
	2,709	2,998	2,572	1,336	--	\$1,798	--	--	--	--
70 - 74	344	103	167	73	--	1	--	--	--	--
	2,126	2,282	2,276	1,572	--	1,328	--	--	--	--
75 - 80	123	22	55	46	--	--	--	--	--	--
	1,536	2,070	1,556	1,256	--	--	--	--	--	--
80 - 84	15	2	7	6	--	--	--	--	--	--
	1,804	4,402	960	1,922	--	--	--	--	--	--
85 - 89	4	2	1	1	--	--	--	--	--	--
	3,273	2,527	5,689	2,349	--	--	--	--	--	--
90 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	2,233	1,286	724	220	1	2	--	--	--	--
	\$2,467	\$2,798	\$2,210	\$1,397	\$680	\$1,563	--	--	--	--

Note: Total retired benefit \$5,509,852, average age 64.7 and average years retired 4.7.

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 as of December 31, 2012

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	5	--	5	--	--	--	--	--	--	--
	\$1,620	--	\$1,620	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
30 - 34	6	4	--	--	2	--	--	--	--	--
	2,767	\$3,608	--	--	\$1,085	--	--	--	--	--
35 - 39	11	5	5	--	--	1	--	--	--	--
	3,422	3,204	4,167	--	--	\$787	--	--	--	--
40 - 44	32	11	15	5	--	1	--	--	--	--
	3,552	3,482	3,911	\$3,184	--	787	--	--	--	--
45 - 49	86	47	16	14	6	3	--	--	--	--
	5,277	6,756	3,895	3,715	3,240	856	--	--	--	--
50 - 54	267	212	23	20	7	5	--	--	--	--
	6,427	7,151	3,688	3,805	3,470	2,952	--	--	--	--
55 - 59	304	121	135	24	10	8	5	1	--	--
	7,150	7,832	7,853	3,767	2,941	3,061	\$3,788	\$2,482	--	--
60 - 64	339	58	164	54	32	16	10	3	1	1
	6,587	7,017	8,330	4,845	3,152	3,288	3,009	3,303	\$3,307	\$1,253
65 - 69	367	18	88	161	42	21	22	13	1	1
	5,913	5,295	6,786	7,022	3,952	3,662	2,602	3,172	2,539	3,092
70 - 74	233	9	18	74	65	34	15	8	8	2
	5,953	2,621	4,890	7,600	6,761	4,853	3,031	3,432	3,648	3,303
75 - 80	132	2	2	10	31	49	21	12	4	1
	5,275	3,420	2,002	4,601	6,168	6,341	3,874	3,309	3,361	3,091
80 - 84	119	--	--	2	10	19	44	25	16	3
	4,527	--	--	4,564	5,688	4,935	4,900	4,232	3,057	2,871
85 - 89	70	--	--	--	--	1	8	29	18	14
	4,415	--	--	--	--	6,292	5,645	5,076	3,479	3,414
90 & over	19	--	--	--	--	--	--	--	13	6
	4,247	--	--	--	--	--	--	--	4,580	3,527
Total	1,990	487	471	364	205	158	125	91	61	28
	\$5,997	\$6,946	\$7,113	\$6,165	\$5,023	\$4,738	\$3,951	\$4,108	\$3,599	\$3,272

Note: Total retired benefit \$11,934,466, average age 64.5 and average years retired 13.3.

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

EXHIBIT D

Reconciliation of Member Data – December 31, 2011 to December 31, 2012

	Active Participants	Vested Terminated Members	Pensioners	Disableds	Beneficiaries	Total
Number as of December 31, 2011	8,629	2,214	5,960	920	1,205	18,928
New participants	802	56	0	0	77	935
Terminations – with vested rights	-198	198	0	0	0	0
Contributions Refunds	-109	-86	0	0	0	-195
Retirements	-495	-56	551	0	0	0
New disabilities	-20	0	-7	27	0	0
Return to work	40	-36	-4	0	0	0
Died with or without beneficiary	-9	-2	-131	-25	-51	-218
Data adjustments	<u>0</u>	<u>0</u>	<u>6</u>	<u>1</u>	<u>-12</u>	<u>-5</u>
Number as of December 31, 2012	8,640	2,288	6,375	923	1,219	19,445

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, 2012	Year Ended December 31, 2011
Contribution income:		
Employer contributions	\$212,321,325	\$200,388,994
Employee contributions	<u>73,361,712</u>	<u>61,575,376</u>
Net contribution income	\$285,683,037	\$261,964,370
Investment income:		
Interest, dividends and other income	\$161,163,771	\$143,174,944
Adjustment toward market value ⁽¹⁾	1,151,230	41,866,888
Less investment and administrative fees	<u>(40,393,699)</u>	<u>(36,983,284)</u>
Net investment income	<u>121,921,302</u>	<u>148,058,548</u>
Total income available for benefits	\$407,604,339	\$410,022,918
Less benefit payments:		
Benefits paid	\$(347,569,044)	\$(320,297,817)
Refunds of contributions	(3,275,968)	(3,909,122)
Adjustments/transfers	<u>(685,356)</u>	<u>(667,440)</u>
Net benefit payments	\$(351,530,368)	\$(324,874,379)
Change in reserve for future benefits	\$56,073,971	\$85,148,539

⁽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, 2012	Year Ended December 31, 2011
Cash equivalents	\$375,051,326	\$538,622,465
Other Assets	1,682,574	1,712,327
Accounts receivable:		
Investment trades	\$349,375,172	\$380,827,659
Investment income	19,631,875	15,247,814
Employee and employer contributions	8,105,409	7,069,451
Additional contributions ⁽¹⁾	<u>21,048,104</u>	<u>22,092,843</u>
Total accounts receivable	398,160,560	425,237,767
Investments:		
Stocks	\$2,733,435,352	\$2,185,882,788
Bonds	1,688,952,924	1,826,834,166
Real estate	741,660,064	588,704,762
Alternative investments	<u>396,452,549</u>	<u>367,414,250</u>
Total investments at market value	<u>5,560,500,889</u>	<u>4,968,835,966</u>
Total assets	<u>\$6,335,395,349</u>	<u>\$5,934,408,525</u>
Less accounts payable:		
Investment trades	\$(429,062,199)	\$(482,507,139)
Security lending	(145,423,087)	(289,850,840)
Employer contributions unearned	(92,762,859)	(95,371,345)
Other	<u>(13,566,080)</u>	<u>(14,389,743)</u>
Total accounts payable	\$(680,814,225)	\$(882,119,067)
Net assets at market value	<u>\$5,654,581,124</u>	<u>\$5,052,289,458</u>
Net assets at actuarial value	<u>\$5,497,193,662</u>	<u>\$5,441,119,691</u>
Net assets at valuation value	<u>\$5,482,257,062</u>	<u>\$5,426,719,066</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	<u>Basic</u>	<u>COLA</u>	<u>Total</u>
1. Total valuation value of assets	\$3,495,525,297	\$1,986,731,765	\$5,482,257,062
2. Present value of future contributions by members	\$391,400,864	\$230,871,323	\$622,272,187
3. Present value of future employer contributions for:			
(a) entry age normal cost	\$737,856,312	\$219,305,149	\$957,161,461
(b) unfunded actuarial accrued liability	\$1,464,225,511	\$814,832,962	\$2,279,058,473
4. Total actuarial assets	<u>\$6,089,007,984</u>	<u>\$3,251,741,199</u>	<u>\$9,340,749,183</u>
Liabilities			
5. Present value of benefits for retirees and beneficiaries	\$2,986,481,142	\$2,004,279,244	\$4,990,760,386
6. Present value of benefits for vested terminated members ⁽¹⁾	\$148,308,201	\$58,368,449	\$206,676,650
7. Present value of benefits for active members	\$2,954,218,641	\$1,189,093,506	\$4,143,312,147
8. Total present value of benefits	<u>\$6,089,007,984</u>	<u>\$3,251,741,199</u>	<u>\$9,340,749,183</u>

⁽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, 2012	December 31, 2011
Member Deposits ⁽¹⁾	\$698,208,398	\$619,225,584
Member Cost of Living ⁽¹⁾	334,087,401	291,620,624
Employer Advance ⁽¹⁾	2,370,879,309	2,066,274,507
Employer Cost of Living ⁽¹⁾	1,454,610,666	1,289,966,298
Retired Members ⁽¹⁾	1,332,381,216	1,496,424,250
Retired Cost of Living ⁽¹⁾	698,157,521	722,344,492
Smoothed Market Value Valuation ⁽¹⁾	270,149,422	250,369,816
Dollar Power Cost of Living Supplement Pre-Funding ⁽¹⁾	12,253,103	14,280,696
Post Retirement Death Benefit ⁽²⁾	14,936,600	14,400,625
Statutory Contingency (one percent) ⁽²⁾	0	0
Additional One Percent Contingency Designation ⁽²⁾	0	0
Contra Tracking Account ⁽¹⁾	(1,688,469,971)	(1,323,787,201)
Total Allocated Reserves	\$5,497,193,662	\$5,441,119,691
Market Stabilization Account	157,387,462	(388,830,233)
Net Market Value	\$5,654,581,124	\$5,052,289,458

Note: Results may not add due to rounding.

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

⁽²⁾ *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, 2012
1. Unfunded actuarial accrued liability at beginning of year	\$1,488,592,583
2. Gross Normal cost at middle of year	185,865,203
3. Expected employer and member contributions	(321,018,836)
4. Interest (whole year on (1) plus half year on (2) - (3))	<u>110,128,722</u>
5. Expected unfunded actuarial accrued liability at end of year	<u>\$1,463,567,672</u>
6. Actuarial (gain)/loss due to all changes:	
(a) Investment return	\$297,214,634
(b) Actual contributions less than expected	36,679,512
(c) Salary increases	(102,697,220)
(d) Other experience (gain)/loss ⁽¹⁾	14,139,121
(e) Changes in actuarial assumptions	<u>\$570,154,754</u>
(f) Total changes	<u>\$815,490,801</u>
7. Unfunded actuarial accrued liability at end of year	<u>\$2,279,058,473</u>

Note: The "net gain from other experience" of \$51,878,587 shown in Section 2, Chart 10 is equal to the sum of items 6(b), (c) and (d).

⁽¹⁾ Other differences in actual versus expected experience including (but not limited to) mortality, disability, withdrawal, retirement and terminal pay 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⁾
General						
Cost Groups #1 and #2	December 31, 2007	Restart of Amortization	\$789,616,678	\$700,276,533	10	\$80,114,739
County and Small Districts	December 31, 2008	Actuarial (Gain)/Loss	80,496,792	78,557,623	14	6,801,269
(Tiers 1 and 3)	December 31, 2009	Actuarial (Gain)/Loss	165,997,327	163,951,746	15	13,438,202
	December 31, 2009	Assumption Change ⁽²⁾	39,793,000	39,302,632	15	3,221,416
	December 31, 2009	Depooling Implementation	-75,134,625	-74,208,743	15	-6,082,473
	December 31, 2010	Actuarial (Gain)/Loss	153,957,206	153,251,970	16	11,944,151
	December 31, 2011	Actuarial (Gain)/Loss	95,298,919	95,241,066	17	7,085,386
	December 31, 2012	Actuarial (Gain)/Loss	117,707,008	117,707,008	18	8,386,932
	December 31, 2012	Assumption Change ⁽²⁾	290,475,776	<u>290,475,776</u>	18	<u>20,697,159</u>
Subtotal				\$1,564,555,611		\$145,606,780
Cost Group #3						
	December 31, 2007	Restart of Amortization	\$36,185,000	\$32,090,896	10	\$3,671,341
Central Contra Costa	December 31, 2008	Actuarial (Gain)/Loss	3,709,835	3,620,465	14	313,448
Sanitary District	December 31, 2009	Actuarial (Gain)/Loss	10,118,261	9,993,574	15	819,117
	December 31, 2009	Assumption Change ⁽²⁾	2,003,000	1,978,317	15	162,152
	December 31, 2009	Depooling Implementation	20,037,235	19,790,317	15	1,622,101
	December 31, 2010	Actuarial (Gain)/Loss	18,178,489	18,095,219	16	1,410,305
	December 31, 2010	Assumption Change ⁽³⁾	11,479,648	11,427,063	16	890,602
	December 31, 2011	Actuarial (Gain)/Loss	10,514,535	10,508,152	17	781,746
	December 31, 2012	Actuarial (Gain)/Loss	12,564,241	12,564,241	18	895,235
	December 31, 2012	Assumption Change ⁽²⁾	22,455,342	<u>22,455,342</u>	18	<u>1,600,002</u>
Subtotal				\$142,523,585		\$12,166,049

Note: Results may not add due to rounding.

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

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
General						
Cost Group #4	December 31, 2007	Restart of Amortization	\$7,770,000	\$6,890,874	10	\$788,346
Contra Costa Housing Authority	December 31, 2008	Actuarial (Gain)/Loss	1,573,513	1,535,607	14	132,948
	December 31, 2009	Actuarial (Gain)/Loss	1,277,079	1,261,341	15	103,385
	December 31, 2009	Assumption Change ⁽²⁾	425,000	419,763	15	34,406
	December 31, 2009	Depooling Implementation	-189,275	-186,943	15	-15,323
	December 31, 2010	Actuarial (Gain)/Loss	619,697	616,858	16	48,077
	December 31, 2010	Assumption Change ⁽³⁾	-920,656	-916,439	16	-71,425
	December 31, 2011	Actuarial (Gain)/Loss	1,059,328	1,058,685	17	78,760
	December 31, 2012	Actuarial (Gain)/Loss	1,912,999	1,912,999	18	136,306
	December 31, 2012	Assumption Change ⁽²⁾	3,722,862	<u>3,722,862</u>	18	<u>265,264</u>
Subtotal				\$16,315,608		\$1,500,744
Cost Group #5						
Contra Costa County Fire Protection District	December 31, 2007	Restart of Amortization	-\$1,011,000	-\$896,612	10	-\$102,576
	December 31, 2008	Actuarial (Gain)/Loss	45,963	44,855	14	3,883
	December 31, 2009	Actuarial (Gain)/Loss	1,614,180	1,594,288	15	130,675
	December 31, 2009	Assumption Change ⁽²⁾	336,000	331,859	15	27,201
	December 31, 2009	Depooling Implementation	2,142,538	2,116,136	15	173,448
	December 31, 2010	Actuarial (Gain)/Loss	2,722,306	2,709,836	16	211,199
	December 31, 2011	Actuarial (Gain)/Loss	1,350,620	1,349,800	17	100,417
	December 31, 2012	Actuarial (Gain)/Loss	1,787,426	1,787,426	18	127,359
	December 31, 2012	Assumption Change ⁽²⁾	3,184,172	<u>3,184,172</u>	18	<u>226,881</u>
Subtotal				\$12,221,761		\$898,486

Note: Results may not add due to rounding.

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

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
General						
Cost Group #6	December 31, 2007	Restart of Amortization	\$1,028,000	\$911,688	10	\$104,301
Small Districts	December 31, 2008	Actuarial (Gain)/Loss	61,240	59,765	14	5,174
(Tier 1 Non-enhanced)	December 31, 2009	Actuarial (Gain)/Loss	385,148	380,402	15	31,179
	December 31, 2009	Assumption Change ⁽²⁾	126,000	124,447	15	10,200
	December 31, 2009	Depooling Implementation	-1,028,581	-1,015,906	15	-83,268
	December 31, 2010	Actuarial (Gain)/Loss	194,488	193,597	16	15,089
	December 31, 2011	Actuarial (Gain)/Loss	-137,086	-137,003	17	-10,192
	December 31, 2012	Actuarial (Gain)/Loss	177,439	177,439	18	12,643
	December 31, 2012	Assumption Change ⁽²⁾	225,958	<u>225,958</u>	18	<u>16,100</u>
Subtotal				\$920,387		\$101,226
Safety						
Cost Group #7 and #9	December 31, 2007	Restart of Amortization	\$129,233,744	\$114,611,761	10	\$13,112,093
County Tiers A and C	December 31, 2008	Actuarial (Gain)/Loss	25,934,594	25,309,829	14	2,191,245
	December 31, 2009	Actuarial (Gain)/Loss	55,813,557	55,125,768	15	4,518,349
	December 31, 2009	Assumption Change ⁽²⁾	11,213,000	11,074,822	15	907,741
	December 31, 2009	Depooling Implementation	24,145,656	23,848,110	15	1,954,695
	December 31, 2010	Actuarial (Gain)/Loss	57,993,092	57,727,442	16	4,499,161
	December 31, 2011	Actuarial (Gain)/Loss	45,765,799	45,738,016	17	3,402,644
	December 31, 2012	Actuarial (Gain)/Loss	53,914,024	53,914,024	18	3,841,515
	December 31, 2012	Assumption Change ⁽²⁾	140,056,457	<u>140,056,457</u>	18	<u>9,979,389</u>
Subtotal				\$527,406,230		\$44,406,833

Note: Results may not add due to rounding.

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

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Safety						
Cost Group #8	December 31, 2007	Restart of Amortization	\$124,138,710	\$110,093,198	10	\$12,595,150
Contra Costa and East Fire	December 31, 2008	Actuarial (Gain)/Loss	6,780,436	6,617,096	14	572,887
Protection Districts	December 31, 2009	Actuarial (Gain)/Loss	27,018,706	26,685,755	15	2,187,281
	December 31, 2009	Assumption Change ⁽²⁾	4,945,000	4,884,063	15	400,319
	December 31, 2009	Depooling Implementation	47,818,666	47,229,398	15	3,871,128
	December 31, 2010	Actuarial (Gain)/Loss	38,165,445	37,990,619	16	2,960,913
	December 31, 2010	Assumption Change ⁽³⁾	-1,599,051	-1,591,726	16	-124,056
	December 31, 2011	Actuarial (Gain)/Loss	26,533,166	26,517,059	17	1,972,716
	December 31, 2012	Actuarial (Gain)/Loss	31,501,440	31,501,440	18	2,244,560
	December 31, 2012	Assumption Change ⁽²⁾	68,193,356	<u>68,193,356</u>	18	<u>4,858,955</u>
Subtotal				\$358,120,258		\$31,539,853
Cost Group #10						
	December 31, 2007	Restart of Amortization	-\$2,591,000	-\$2,297,845	10	-\$262,884
Moraga-Orinda Fire District	December 31, 2008	Actuarial (Gain)/Loss	2,002,150	1,953,919	14	169,164
	December 31, 2009	Actuarial (Gain)/Loss	5,671,684	5,601,792	15	459,147
	December 31, 2009	Assumption Change ⁽²⁾	1,012,000	999,529	15	81,926
	December 31, 2009	Depooling Implementation	4,873,631	4,813,573	15	394,542
	December 31, 2010	Actuarial (Gain)/Loss	5,334,964	5,310,526	16	413,892
	December 31, 2010	Assumption Change ⁽³⁾	806,018	802,326	16	62,532
	December 31, 2011	Actuarial (Gain)/Loss	6,791,005	6,786,882	17	504,905
	December 31, 2012	Actuarial (Gain)/Loss	8,924,598	8,924,598	18	635,901
	December 31, 2012	Assumption Change ⁽²⁾	12,149,892	<u>12,149,892</u>	18	<u>865,712</u>
Subtotal				\$45,045,193		\$3,324,836

Note: Results may not add due to rounding.

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

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Safety						
Cost Group #11	December 31, 2007	Restart of Amortization	\$58,766,000	\$52,116,998	10	\$5,962,416
San Ramon Valley	December 31, 2008	Actuarial (Gain)/Loss	10,216,694	9,970,574	14	863,221
Fire District	December 31, 2009	Actuarial (Gain)/Loss	9,262,105	9,147,968	15	749,807
	December 31, 2009	Assumption Change ⁽²⁾	2,453,000	2,422,772	15	198,581
	December 31, 2009	Depooling Implementation	-20,174,500	-19,925,890	15	-1,633,213
	December 31, 2010	Actuarial (Gain)/Loss	6,585,812	6,555,644	16	510,934
	December 31, 2010	Assumption Change ⁽³⁾	5,093,420	5,070,088	16	395,153
	December 31, 2011	Actuarial (Gain)/Loss	5,513,071	5,509,724	17	409,892
	December 31, 2012	Actuarial (Gain)/Loss	14,600,741	14,600,741	18	1,040,341
	December 31, 2012	Assumption Change ⁽²⁾	26,672,143	<u>26,672,143</u>	18	<u>1,900,460</u>
Subtotal				\$112,140,763		\$10,397,590
Cost Group #12						
	December 31, 2007	Restart of Amortization	\$3,960,000	\$3,511,951	10	\$401,783
Rodeo-Hercules Fire	December 31, 2008	Actuarial (Gain)/Loss	957,150	934,092	14	80,871
Protection District	December 31, 2009	Actuarial (Gain)/Loss	2,872,360	2,836,964	15	232,530
	December 31, 2009	Assumption Change ⁽²⁾	1,154,000	1,139,779	15	93,421
	December 31, 2009	Depooling Implementation	-1,809,374	-1,787,077	15	-146,477
	December 31, 2010	Actuarial (Gain)/Loss	1,502,503	1,495,621	16	116,566
	December 31, 2010	Assumption Change ⁽³⁾	662,085	659,052	16	51,365
	December 31, 2011	Actuarial (Gain)/Loss	2,067,217	2,065,962	17	153,696
	December 31, 2012	Actuarial (Gain)/Loss	2,246,131	2,246,131	18	160,043
	December 31, 2012	Assumption Change ⁽²⁾	3,018,796	<u>3,018,796</u>	18	<u>215,097</u>
Subtotal				\$16,121,271		\$1,358,894

Note: Results may not add due to rounding.

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

	Date Established	Source	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment⁽¹⁾
Both General and Safety						
Special Adjustments⁽⁴⁾	December 31, 2007	County General POBs	-\$453,973,319	-\$402,607,737	10	-\$46,060,109
Subtotal	December 31, 2007	Moraga General POBs	-701,412	-622,049	10	-71,165
	December 31, 2007	CCCFPD Safety POBs	-127,509,711	<u>-113,082,408</u>	10	<u>-12,937,129</u>
Subtotal				-\$516,312,194		-\$59,068,403
Grand Total				\$2,279,058,473		\$192,232,889

- (1) *As of beginning 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. Terminal pay assumptions are now based on cost groups.*
- (4) *Includes remaining balance of POBs and any other special contributions made by the County (including Courts) 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.*

Note: Results may not add due to rounding.

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 \$205,000 for 2013. 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 1,219 beneficiaries in pay status)	8,517
2. Members inactive during year ended December 31, 2012 with vested rights	2,288
3. Members active during the year ended December 31, 2012	8,640

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

1. Normal cost	\$204,848
2. Present value of future benefits	9,340,749
3. Present value of future normal costs	1,579,434
4. Actuarial accrued liability*	7,761,315
Retired members and beneficiaries	\$4,990,760
Inactive members with vested rights	206,677
Active members	2,563,878
5. Valuation value of assets** (\$5,654,581 at market value as reported by Retirement Association)	5,482,257
6. Unfunded actuarial accrued liability	\$2,279,058

* 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	\$204,848	31.40%
2. Expected employee contributions	<u>-79,611</u>	<u>-12.20%</u>
3. Employer normal cost: (1) + (2)	\$125,237	19.20%
4. Amortization of unfunded actuarial accrued liability	<u>199,694</u>	<u>30.62%</u>
5. Total recommended average employer contribution: (3) + (4)	\$324,931	49.82%
6. Projected payroll	\$652,312	

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

EXHIBIT II

Supplementary Information Required by GASB – Schedule of Employer Contributions

Plan Year Ended December 31	Annual Required Contributions	Actual Contributions	Percentage Contributed
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%

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

EXHIBIT III

Supplementary Information Required by GASB – Schedule of Funding Progress

Actuarial Valuation Date	Valuation Value of Assets⁽¹⁾ (a)	Actuarial 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)
12/31/2007	\$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%

⁽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 by GASB

Valuation date	December 31, 2012
Actuarial cost method	Entry Age Normal 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 10 years remaining as of December 31, 2012. Any changes in UAAL after December 31, 2007 will be separately amortized over a fixed 18-year period effective with that valuation.
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 disability benefits and Tier 2 benefits that are valued as a 3.25% increase per year. Safety Tier C 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	8,517
Terminated members entitled to, but not yet receiving benefits	2,288
Active members	<u>8,640</u>
Total	19,445

⁽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, 2012 valuation is 5.4%.

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

EXHIBIT V

Actuarial Assumptions and Methods

Actuarial Assumptions

Post – Retirement Mortality Rates:

Healthy:

For General Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set back one year.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set back two years.

Disabled:

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.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected to 2030 with Scale AA, set forward three years.

Beneficiaries:

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

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.

Member Contribution Rates:

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.

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.

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 PEPR 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

Terminal Pay Assumptions: The following assumptions for terminal pay 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, 2011	Membership Date on or after January 1, 2011
Cost Group 1:	12.50%	3.00%
Cost Group 2:	4.00% for Tier 2 8.00% for Tier 3	1.00%
Cost Group 3:	24.00%	8.75%
Cost Group 4:	5.75%	0.75%
Cost Group 5:	11.50%	2.75%
Cost Group 6:	9.00%	2.25%
Cost Group 7:	12.00%	1.50%
Cost Group 8:	10.50%	1.25%
Cost Group 9:	4.00%	0.50%
Cost Group 10:	13.00%	1.50%
Cost Group 11:	14.00%	3.50%
Cost Group 12:	15.50%	6.25%

For determining the cost of the basic benefit (i.e. non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.

These assumptions do not reflect any potential changes due to AB 197 pending a decision by the Contra Costa County Superior Court.

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.

Years of Service	General	Safety
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 Normal 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:	<p>The remaining balance of the December 31, 2007 UAAL is being amortized over a 10-year declining period as of December 31, 2012.</p> <p>Any new UAAL identified in the annual valuation as of December 31 will be amortized over a period of 18 years.</p> <p>UAAL shall be amortized over "closed" amortization periods so that the amortization periods for each layer decreases by one year with each actuarial valuation.</p> <p>UAAL shall be amortized as a level percentage of payroll so that the amortization amount in each year during the amortization period shall be expected to be a level percentage of covered payroll, taking into consideration the current assumption for general payroll increase.</p>

Changes in Actuarial Assumptions and Methods:

Based on the Actuarial Experience Study and Review of Economic Assumptions, the following assumptions and methods were changed. Previously, these assumptions and methods were as follows:

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

Changes in Actuarial Assumptions and Methods – Prior Assumptions:

Post – Retirement Mortality Rates:

Healthy:

For General Members: RP-2000 Combined Healthy Mortality Table set back three years for males and set back two years for females.

For Safety Members: RP-2000 Combined Healthy Mortality Table set back three years for males and set back two years for females.

Disabled:

For General Members: RP-2000 Combined Healthy Mortality Table set forward four years.

For Safety Members: RP-2000 Combined Healthy Mortality Table set back two years.

Beneficiaries:

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

Member Contribution Rates:

For General Members: RP-2000 Combined Healthy Mortality Table set back three years for males and set back two years for females weighted 30% male and 70% female.

For Safety Members: RP-2000 Combined Healthy Mortality Table set back three years for males and set back two years for females weighted 85% male and 15% female.

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

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Termination Rates Before Retirement:

Age	Rate (%) Mortality			
	General		Safety	
	Male	Female	Male	Female
25	0.04	0.02	0.04	0.02
30	0.04	0.02	0.04	0.02
35	0.06	0.04	0.06	0.04
40	0.09	0.06	0.09	0.06
45	0.12	0.09	0.12	0.09
50	0.17	0.14	0.17	0.14
55	0.27	0.22	0.27	0.22
60	0.47	0.39	0.47	0.39
65	0.88	0.76	0.88	0.76

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

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

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Termination Rates Before Retirement (continued):

Age	Rate (%)		
	Disability		
	General Tier 1⁽¹⁾	General Tier 3⁽²⁾	Safety⁽³⁾
20	0.02	0.00	0.02
25	0.04	0.02	0.22
30	0.11	0.04	0.42
35	0.18	0.06	0.65
40	0.26	0.09	0.90
45	0.42	0.13	1.15
50	0.56	0.18	2.60
55	0.69	0.23	4.40
60	0.75	0.28	5.00
65	0.75	0.42	5.00
70	0.75	0.58	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⁾ 25% of General Tier 3 disabilities are assumed to be duty disabilities. The other 75% 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

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Termination Rates Before Retirement (continued):

Rate (%)		
<u>Withdrawal (Less than Five Years of Service)</u>		
<u>Years of Service</u>	<u>General</u>	<u>Safety</u>
0	15.00	11.00
1	9.00	7.00
2	9.00	5.00
3	6.00	4.00
4	5.00	4.00
<u>Withdrawal (Five or More Years of Service) *</u>		
<u>Age</u>	<u>General</u>	<u>Safety</u>
20	5.00	4.00
25	5.00	4.00
30	5.00	4.00
35	5.00	3.14
40	4.73	2.39
45	3.05	1.80
50	2.42	1.24
55	1.68	0.81
60	0.00	0.00

* 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

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

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	4.00	4.00	3.00	0.00
51	4.00	3.00	3.00	0.00
52	4.00	3.00	3.00	2.00
53	5.00	3.00	3.00	2.00
54	10.00	5.00	3.00	3.00
55	15.00	10.00	10.00	5.00
56	15.00	10.00	10.00	5.00
57	17.00	10.00	10.00	6.00
58	20.00	10.00	10.00	7.00
59	20.00	10.00	10.00	8.00
60	20.00	15.00	25.00	10.00
61	30.00	17.00	15.00	12.50
62	30.00	25.00	40.00	20.00
63	30.00	25.00	25.00	20.00
64	30.00	27.00	30.00	20.00
65	35.00	35.00	40.00	25.00
66	35.00	35.00	35.00	30.00
67	35.00	35.00	35.00	30.00
68	35.00	35.00	35.00	30.00
69	35.00	35.00	35.00	30.00
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

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

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	2.00	1.00	0.00	0.00
48	2.00	1.00	0.00	0.00
49	10.00	5.00	0.00	0.00
50	25.00	15.00	1.00	5.00
51	17.00	10.00	1.00	3.00
52	20.00	12.00	1.00	3.00
53	20.00	12.00	1.00	4.00
54	20.00	12.00	1.00	4.00
55	30.00	20.00	2.00	6.00
56	25.00	15.00	2.00	8.00
57	25.00	15.00	3.00	12.00
58	30.00	20.00	4.00	18.00
59	30.00	20.00	20.00	20.00
60	40.00	30.00	17.00	17.00
61	40.00	30.00	17.00	17.00
62	40.00	30.00	18.00	18.00
63	40.00	30.00	20.00	20.00
64	40.00	30.00	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

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

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

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

General: Age 58
Safety: Age 55

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 5.50% compensation increases per annum.

Terminal Pay Assumptions:

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

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

	Membership Date before January 1, 2011	Membership Date on or after January 1, 2011
Cost Group 1:	12.00%	3.00%
Cost Group 2:	3.50% for Tier 2 7.50% for Tier 3	1.00%
Cost Group 3:	24.00%	8.00%
Cost Group 4:	6.00%	0.75%
Cost Group 5:	12.00%	3.00%
Cost Group 6:	12.00%	3.00%
Cost Group 7:	11.25%	1.50%
Cost Group 8:	10.50%	1.25%
Cost Group 9:	3.75%	0.50%
Cost Group 10:	14.00%	1.75%
Cost Group 11:	15.00%	3.50%
Cost Group 12:	16.00%	8.00%

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

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

For determining the cost of the basic benefit (i.e. non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.

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:

Service Retirements:

General:	1.25%
Safety:	2.25%

Disability Retirements:

General:	0.25%
Safety:	1.25%

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

Net Investment Return:

7.75%, net of administration and investment expenses.

Employee Contribution Crediting Rate:

7.75%, compounded semi-annually.

Consumer Price Index:

Increase of 3.50% per year; retiree COLA increases due to CPI subject to a 3.00% maximum change per year except for Tier 3 disability benefits and Tier 2 benefits which are subject to a 4.00% (valued as 3.50% increase) maximum change per year. Safety Tier C benefits are subject to a 2.00% maximum change per year.

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

Changes in Actuarial Assumptions and Methods – Prior Assumptions (continued):

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.50% per year, plus “across the board” salary increases of 0.75% per year, plus the following merit and promotional increases.

Years of Service	General	Safety
Less than 1	9.00%	9.50%
21	6.00%	6.25%
22	4.75%	5.25%
23	3.25%	4.00%
24	2.25%	2.00%
25	1.50%	0.75%
26	1.25%	0.75%
27	1.00%	0.75%
28	0.75%	0.75%
29	0.75%	0.75%
30	0.75%	0.75%
31	0.75%	0.75%
32	0.75%	0.75%
33	0.75%	0.75%
34	0.75%	0.75%
35	0.75%	0.75%
36	0.75%	0.75%
37	0.75%	0.75%
38	0.75%	0.75%
39	0.75%	0.75%
40 & over	0.75%	0.75%

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

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. County Sheriff's Department Safety members are placed in Safety Tier E.

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

Final Compensation for Benefit Determination:

General Tier 1, Tier 3 (non-disability), and Safety Tier A Highest consecutive twelve months of compensation earnable. (FAS1) (§31462.1)

General Tier 2, Tier 3 (disability), and Safety Tier C Highest consecutive thirty-six months of compensation earnable. (FAS3) (§31462)

Note: For members with membership dates on or after January 1, 2011, certain terminal pay elements are no longer included in the determination of compensation for retirement purposes.

*PEPRA General Tiers 4 and 5
PEPRA Safety Tiers D and E* Highest consecutive thirty-six months of pensionable compensation. (FAS3) (§7522.10(c), §7522.32 and §7522.34)

Social Security Primary Insurance Amount:

General Tier 2 Estimated Social Security award at age 62 assuming level future earnings. (PIA)

Service:

All tiers Years of service*. (Yrs)

General Tier 2 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:

General Tiers 1, 2 and 3 Age 50 with 10 years of service, or age 70 regardless of service, or after 30 years of service, regardless of age. (§31672)

PEPRA General Tiers 4 and 5 Age 52 with 5 years of service. (§7522.20(a))

Safety Tiers A and C Age 50 with 10 years of service, or age 70 regardless of service, or after 20 years of service, regardless of age. (§31663.25)

PEPRA Safety Tiers D and E Age 50 with 5 years of service. (§7522.25(d))

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

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	$1.73\% \times \text{FAS}3 \times \text{Yrs} - 1.67\% \times \text{Yrs}30 \times \text{PIA}$

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

Benefit Formula:

<i>PEPRA General Tiers 4 and 5</i> (§7522.20(a))	Retirement Age	Benefit Formula
	52	1.00% x FAS3xYrs
	55	1.30% x FAS3xYrs
	60	1.80% x FAS3xYrs
	62	2.00% x FAS3xYrs
	65	2.30% x FAS3xYrs
	67 or later	2.50% x FAS3xYrs
<i>Safety Tier A (Non-enhanced)(§31664)</i>	50	2.00% x FAS1xYrs
	55 or later	2.62% x FAS1xYrs
<i>Safety Tier A (Enhanced)(§31664.1)</i>	50 or later	3.00% x FAS1xYrs
<i>Safety Tier C (Enhanced)(§31664.1)</i>	50 or later	3.00% x FAS3xYrs
<i>PEPRA Safety Tiers D and E</i> (§7522.25(d))	50	2.00% x FAS3xYrs
	55	2.50% x FAS3xYrs
	57 or later	2.70% x FAS3xYrs

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

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

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 (§31789.12).

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 (§31789.12).

General Tier 2

Service or

Disability Retirement

60% of member's unmodified allowance continued to eligible spouse plus 10% of allowance to each minor child. Minimum benefit is 60% of allowance. Maximum benefit is 100% of allowance. \$7,000 lump sum benefit, less any Social Security Lump sum payment 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).

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

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 PEPRA Tier 5 disability benefits have a maximum of 4% per year, excess "banked." Benefits for PEPRA 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.

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

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 Amendments:

All members with membership dates on or after January 1, 2013 enter either PEPRA General Tier 4, General Tier 5, Safety Tier D or Safety Tier E.

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.

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, 2011

General Tier 1 (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 2% at 55 Formula (Expressed as a Percentage of Monthly Payroll) For Members with Membership Dates before January 1, 2011

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	4.05%	6.07%	2.15%	3.23%	6.20%	9.30%
16	4.10%	6.15%	2.18%	3.27%	6.28%	9.42%
17	4.16%	6.24%	2.21%	3.32%	6.37%	9.56%
18	4.22%	6.33%	2.25%	3.37%	6.47%	9.70%
19	4.27%	6.41%	2.27%	3.41%	6.54%	9.82%
20	4.33%	6.50%	2.31%	3.46%	6.64%	9.96%
21	4.39%	6.59%	2.34%	3.51%	6.73%	10.10%
22	4.46%	6.69%	2.37%	3.56%	6.83%	10.25%
23	4.52%	6.78%	2.41%	3.61%	6.93%	10.39%
24	4.58%	6.87%	2.44%	3.66%	7.02%	10.53%
25	4.65%	6.97%	2.47%	3.71%	7.12%	10.68%
26	4.71%	7.06%	2.51%	3.76%	7.22%	10.82%
27	4.77%	7.16%	2.54%	3.81%	7.31%	10.97%
28	4.84%	7.26%	2.57%	3.86%	7.41%	11.12%
29	4.91%	7.36%	2.61%	3.92%	7.52%	11.28%
30	4.97%	7.46%	2.65%	3.97%	7.62%	11.43%
31	5.04%	7.56%	2.68%	4.02%	7.72%	11.58%
32	5.11%	7.67%	2.72%	4.08%	7.83%	11.75%
33	5.18%	7.77%	2.76%	4.14%	7.94%	11.91%
34	5.25%	7.88%	2.79%	4.19%	8.04%	12.07%
35	5.33%	8.00%	2.84%	4.26%	8.17%	12.26%
36	5.41%	8.11%	2.88%	4.32%	8.29%	12.43%
37	5.49%	8.23%	2.92%	4.38%	8.41%	12.61%

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

**General Tier 1 (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under
2% at 55 Formula (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
38	5.56%	8.34%	2.96%	4.44%	8.52%	12.78%
39	5.64%	8.46%	3.00%	4.50%	8.64%	12.96%
40	5.73%	8.59%	3.05%	4.57%	8.78%	13.16%
41	5.81%	8.72%	3.09%	4.64%	8.90%	13.36%
42	5.90%	8.85%	3.14%	4.71%	9.04%	13.56%
43	5.99%	8.99%	3.19%	4.79%	9.18%	13.78%
44	6.09%	9.13%	3.24%	4.86%	9.33%	13.99%
45	6.19%	9.29%	3.30%	4.95%	9.49%	14.24%
46	6.31%	9.47%	3.36%	5.04%	9.67%	14.51%
47	6.41%	9.62%	3.41%	5.12%	9.82%	14.74%
48	6.53%	9.80%	3.48%	5.22%	10.01%	15.02%
49	6.63%	9.94%	3.53%	5.29%	10.16%	15.23%
50	6.74%	10.11%	3.59%	5.38%	10.33%	15.49%
51	6.76%	10.14%	3.60%	5.40%	10.36%	15.54%
52	6.80%	10.20%	3.62%	5.43%	10.42%	15.63%
53	6.71%	10.07%	3.57%	5.36%	10.28%	15.43%
54	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
55	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
56	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
57	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
58	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
59	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%
60	6.47%	9.70%	3.44%	5.16%	9.91%	14.86%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 53.23%
 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 Tier 1 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	3.54%	5.31%	2.23%	3.34%	5.77%	8.65%
16	3.59%	5.39%	2.26%	3.39%	5.85%	8.78%
17	3.65%	5.47%	2.29%	3.44%	5.94%	8.91%
18	3.69%	5.54%	2.33%	3.49%	6.02%	9.03%
19	3.75%	5.62%	2.36%	3.54%	6.11%	9.16%
20	3.80%	5.70%	2.39%	3.59%	6.19%	9.29%
21	3.85%	5.78%	2.43%	3.64%	6.28%	9.42%
22	3.91%	5.86%	2.46%	3.69%	6.37%	9.55%
23	3.96%	5.94%	2.49%	3.74%	6.45%	9.68%
24	4.01%	6.02%	2.53%	3.79%	6.54%	9.81%
25	4.07%	6.11%	2.57%	3.85%	6.64%	9.96%
26	4.13%	6.19%	2.60%	3.90%	6.73%	10.09%
27	4.19%	6.28%	2.63%	3.95%	6.82%	10.23%
28	4.25%	6.37%	2.67%	4.01%	6.92%	10.38%
29	4.30%	6.45%	2.71%	4.06%	7.01%	10.51%
30	4.36%	6.54%	2.75%	4.12%	7.11%	10.66%
31	4.42%	6.63%	2.78%	4.17%	7.20%	10.80%
32	4.48%	6.72%	2.82%	4.23%	7.30%	10.95%
33	4.55%	6.82%	2.86%	4.29%	7.41%	11.11%
34	4.61%	6.91%	2.90%	4.35%	7.51%	11.26%
35	4.67%	7.01%	2.94%	4.41%	7.61%	11.42%
36	4.73%	7.10%	2.98%	4.47%	7.71%	11.57%
37	4.80%	7.20%	3.02%	4.53%	7.82%	11.73%
38	4.87%	7.30%	3.06%	4.59%	7.93%	11.89%
39	4.93%	7.40%	3.11%	4.66%	8.04%	12.06%
40	5.01%	7.51%	3.15%	4.73%	8.16%	12.24%

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

**General Tier 1 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
41	5.07%	7.61%	3.19%	4.79%	8.26%	12.40%
42	5.15%	7.73%	3.24%	4.86%	8.39%	12.59%
43	5.22%	7.83%	3.29%	4.93%	8.51%	12.76%
44	5.30%	7.95%	3.33%	5.00%	8.63%	12.95%
45	5.38%	8.07%	3.39%	5.08%	8.77%	13.15%
46	5.46%	8.19%	3.43%	5.15%	8.89%	13.34%
47	5.54%	8.31%	3.49%	5.23%	9.03%	13.54%
48	5.63%	8.44%	3.54%	5.31%	9.17%	13.75%
49	5.72%	8.58%	3.60%	5.40%	9.32%	13.98%
50	5.82%	8.73%	3.66%	5.49%	9.48%	14.22%
51	5.93%	8.90%	3.73%	5.60%	9.66%	14.50%
52	6.03%	9.04%	3.79%	5.69%	9.82%	14.73%
53	6.13%	9.20%	3.86%	5.79%	9.99%	14.99%
54	6.23%	9.34%	3.92%	5.88%	10.15%	15.22%
55	6.33%	9.49%	3.98%	5.97%	10.31%	15.46%
56	6.35%	9.52%	3.99%	5.99%	10.34%	15.51%
57	6.39%	9.58%	4.02%	6.03%	10.41%	15.61%
58	6.30%	9.45%	3.97%	5.95%	10.27%	15.40%
59	6.07%	9.11%	3.82%	5.73%	9.89%	14.84%
60	6.07%	9.11%	3.82%	5.73%	9.89%	14.84%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 62.93%
 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 Tier 3 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
15	3.54%	5.31%	1.91%	2.86%	5.45%	8.17%
16	3.59%	5.39%	1.94%	2.91%	5.53%	8.30%
17	3.65%	5.47%	1.97%	2.95%	5.62%	8.42%
18	3.69%	5.54%	1.99%	2.99%	5.68%	8.53%
19	3.75%	5.62%	2.02%	3.03%	5.77%	8.65%
20	3.80%	5.70%	2.05%	3.08%	5.85%	8.78%
21	3.85%	5.78%	2.08%	3.12%	5.93%	8.90%
22	3.91%	5.86%	2.11%	3.16%	6.02%	9.02%
23	3.96%	5.94%	2.13%	3.20%	6.09%	9.14%
24	4.01%	6.02%	2.17%	3.25%	6.18%	9.27%
25	4.07%	6.11%	2.20%	3.30%	6.27%	9.41%
26	4.13%	6.19%	2.23%	3.34%	6.36%	9.53%
27	4.19%	6.28%	2.26%	3.39%	6.45%	9.67%
28	4.25%	6.37%	2.29%	3.44%	6.54%	9.81%
29	4.30%	6.45%	2.32%	3.48%	6.62%	9.93%
30	4.36%	6.54%	2.35%	3.53%	6.71%	10.07%
31	4.42%	6.63%	2.39%	3.58%	6.81%	10.21%
32	4.48%	6.72%	2.42%	3.63%	6.90%	10.35%
33	4.55%	6.82%	2.45%	3.68%	7.00%	10.50%
34	4.61%	6.91%	2.49%	3.73%	7.10%	10.64%
35	4.67%	7.01%	2.52%	3.78%	7.19%	10.79%
36	4.73%	7.10%	2.55%	3.83%	7.28%	10.93%
37	4.80%	7.20%	2.59%	3.88%	7.39%	11.08%
38	4.87%	7.30%	2.63%	3.94%	7.50%	11.24%
39	4.93%	7.40%	2.66%	3.99%	7.59%	11.39%

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

**General Tier 3 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011**

Calculated Under Recommended Assumptions

Entry Age	Basic		COLA		Total	
	First \$350	Over \$350	First \$350	Over \$350	First \$350	Over \$350
40	5.01%	7.51%	2.70%	4.05%	7.71%	11.56%
41	5.07%	7.61%	2.74%	4.11%	7.81%	11.72%
42	5.15%	7.73%	2.78%	4.17%	7.93%	11.90%
43	5.22%	7.83%	2.81%	4.22%	8.03%	12.05%
44	5.30%	7.95%	2.86%	4.29%	8.16%	12.24%
45	5.38%	8.07%	2.90%	4.35%	8.28%	12.42%
46	5.46%	8.19%	2.95%	4.42%	8.41%	12.61%
47	5.54%	8.31%	2.99%	4.48%	8.53%	12.79%
48	5.63%	8.44%	3.03%	4.55%	8.66%	12.99%
49	5.72%	8.58%	3.09%	4.63%	8.81%	13.21%
50	5.82%	8.73%	3.14%	4.71%	8.96%	13.44%
51	5.93%	8.90%	3.20%	4.80%	9.13%	13.70%
52	6.03%	9.04%	3.25%	4.88%	9.28%	13.92%
53	6.13%	9.20%	3.31%	4.96%	9.44%	14.16%
54	6.23%	9.34%	3.36%	5.04%	9.59%	14.38%
55	6.33%	9.49%	3.41%	5.12%	9.74%	14.61%
56	6.35%	9.52%	3.43%	5.14%	9.78%	14.66%
57	6.39%	9.58%	3.45%	5.17%	9.84%	14.75%
58	6.30%	9.45%	3.40%	5.10%	9.70%	14.55%
59	6.07%	9.11%	3.27%	4.91%	9.34%	14.02%
60	6.07%	9.11%	3.27%	4.91%	9.34%	14.02%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 53.95%
 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 Tier A (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 3% at 50
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.90%	5.83%	14.73%
16	8.90%	5.83%	14.73%
17	8.90%	5.83%	14.73%
18	8.90%	5.83%	14.73%
19	8.90%	5.83%	14.73%
20	8.90%	5.83%	14.73%
21	8.90%	5.83%	14.73%
22	9.02%	5.91%	14.93%
23	9.15%	5.99%	15.14%
24	9.27%	6.07%	15.34%
25	9.40%	6.16%	15.56%
26	9.53%	6.24%	15.77%
27	9.66%	6.33%	15.99%
28	9.80%	6.42%	16.22%
29	9.94%	6.51%	16.45%
30	10.07%	6.60%	16.67%
31	10.21%	6.69%	16.90%
32	10.36%	6.79%	17.15%
33	10.50%	6.88%	17.38%
34	10.66%	6.98%	17.64%
35	10.81%	7.08%	17.89%
36	10.98%	7.19%	18.17%
37	11.14%	7.30%	18.44%
38	11.31%	7.41%	18.72%
39	11.50%	7.53%	19.03%
40	11.70%	7.66%	19.36%
41	11.90%	7.80%	19.70%
42	12.13%	7.95%	20.08%

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

**Safety Tier A (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 3% at 50
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
43	12.38%	8.11%	20.49%
44	12.65%	8.29%	20.94%
45	12.86%	8.42%	21.28%
46	12.86%	8.42%	21.28%
47	12.87%	8.43%	21.30%
48	12.80%	8.39%	21.19%
49	12.51%	8.20%	20.71%
50	12.51%	8.20%	20.71%
51	12.51%	8.20%	20.71%
52	12.51%	8.20%	20.71%
53	12.51%	8.20%	20.71%
54	12.51%	8.20%	20.71%
55	12.51%	8.20%	20.71%
56	12.51%	8.20%	20.71%
57	12.51%	8.20%	20.71%
58	12.51%	8.20%	20.71%
59	12.51%	8.20%	20.71%
60	12.51%	8.20%	20.71%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 65.51%
 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 Tier A (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.90%	7.00%	15.90%
16	8.90%	7.00%	15.90%
17	8.90%	7.00%	15.90%
18	8.90%	7.00%	15.90%
19	8.90%	7.00%	15.90%
20	8.90%	7.00%	15.90%
21	8.90%	7.00%	15.90%
22	9.02%	7.09%	16.11%
23	9.15%	7.20%	16.35%
24	9.27%	7.29%	16.56%
25	9.40%	7.39%	16.79%
26	9.53%	7.50%	17.03%
27	9.66%	7.60%	17.26%
28	9.80%	7.71%	17.51%
29	9.94%	7.82%	17.76%
30	10.07%	7.92%	17.99%
31	10.21%	8.03%	18.24%
32	10.36%	8.15%	18.51%
33	10.50%	8.26%	18.76%
34	10.66%	8.38%	19.04%
35	10.81%	8.50%	19.31%
36	10.98%	8.64%	19.62%
37	11.14%	8.76%	19.90%
38	11.31%	8.90%	20.21%
39	11.50%	9.04%	20.54%
40	11.70%	9.20%	20.90%
41	11.90%	9.36%	21.26%
42	12.13%	9.54%	21.67%

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

**Safety Tier A (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
43	12.38%	9.74%	22.12%
44	12.65%	9.95%	22.60%
45	12.86%	10.11%	22.97%
46	12.86%	10.11%	22.97%
47	12.87%	10.12%	22.99%
48	12.80%	10.07%	22.87%
49	12.51%	9.84%	22.35%
50	12.51%	9.84%	22.35%
51	12.51%	9.84%	22.35%
52	12.51%	9.84%	22.35%
53	12.51%	9.84%	22.35%
54	12.51%	9.84%	22.35%
55	12.51%	9.84%	22.35%
56	12.51%	9.84%	22.35%
57	12.51%	9.84%	22.35%
58	12.51%	9.84%	22.35%
59	12.51%	9.84%	22.35%
60	12.51%	9.84%	22.35%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 78.65%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.
 These rates exclude up to an extra 9% of compensation (depending on their MOU) that most Safety Tier A (Enhanced) members contribute that reduces the employer's contribution rate.

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

**Safety Tier C (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.50%	4.10%	12.60%
16	8.50%	4.10%	12.60%
17	8.50%	4.10%	12.60%
18	8.50%	4.10%	12.60%
19	8.50%	4.10%	12.60%
20	8.50%	4.10%	12.60%
21	8.50%	4.10%	12.60%
22	8.62%	4.16%	12.78%
23	8.74%	4.22%	12.96%
24	8.86%	4.27%	13.13%
25	8.98%	4.33%	13.31%
26	9.11%	4.40%	13.51%
27	9.23%	4.45%	13.68%
28	9.36%	4.52%	13.88%
29	9.49%	4.58%	14.07%
30	9.62%	4.64%	14.26%
31	9.76%	4.71%	14.47%
32	9.90%	4.78%	14.68%
33	10.04%	4.84%	14.88%
34	10.18%	4.91%	15.09%
35	10.33%	4.98%	15.31%
36	10.49%	5.06%	15.55%
37	10.64%	5.13%	15.77%
38	10.81%	5.22%	16.03%
39	10.99%	5.30%	16.29%
40	11.17%	5.39%	16.56%
41	11.38%	5.49%	16.87%
42	11.57%	5.58%	17.15%

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

**Safety Tier C (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates before January 1, 2011**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
43	11.76%	5.67%	17.43%
44	11.87%	5.73%	17.60%
45	11.89%	5.74%	17.63%
46	11.80%	5.69%	17.49%
47	11.51%	5.55%	17.06%
48	11.90%	5.74%	17.64%
49	12.51%	6.04%	18.55%
50	12.51%	6.04%	18.55%
51	12.51%	6.04%	18.55%
52	12.51%	6.04%	18.55%
53	12.51%	6.04%	18.55%
54	12.51%	6.04%	18.55%
55	12.51%	6.04%	18.55%
56	12.51%	6.04%	18.55%
57	12.51%	6.04%	18.55%
58	12.51%	6.04%	18.55%
59	12.51%	6.04%	18.55%
60	12.51%	6.04%	18.55%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 48.25%
 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, 2011 and before January 1, 2013

**General Tier 1 (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under
2% at 55 Formula (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and 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	4.05%	6.07%	1.90%	2.85%	5.95%	8.92%
16	4.10%	6.15%	1.93%	2.89%	6.03%	9.04%
17	4.16%	6.24%	1.95%	2.93%	6.11%	9.17%
18	4.22%	6.33%	1.99%	2.98%	6.21%	9.31%
19	4.27%	6.41%	2.01%	3.01%	6.28%	9.42%
20	4.33%	6.50%	2.04%	3.06%	6.37%	9.56%
21	4.39%	6.59%	2.07%	3.10%	6.46%	9.69%
22	4.46%	6.69%	2.09%	3.14%	6.55%	9.83%
23	4.52%	6.78%	2.13%	3.19%	6.65%	9.97%
24	4.58%	6.87%	2.15%	3.23%	6.73%	10.10%
25	4.65%	6.97%	2.19%	3.28%	6.84%	10.25%
26	4.71%	7.06%	2.21%	3.32%	6.92%	10.38%
27	4.77%	7.16%	2.25%	3.37%	7.02%	10.53%
28	4.84%	7.26%	2.27%	3.41%	7.11%	10.67%
29	4.91%	7.36%	2.31%	3.46%	7.22%	10.82%
30	4.97%	7.46%	2.34%	3.51%	7.31%	10.97%
31	5.04%	7.56%	2.37%	3.55%	7.41%	11.11%
32	5.11%	7.67%	2.40%	3.60%	7.51%	11.27%
33	5.18%	7.77%	2.43%	3.65%	7.61%	11.42%
34	5.25%	7.88%	2.47%	3.70%	7.72%	11.58%
35	5.33%	8.00%	2.51%	3.76%	7.84%	11.76%
36	5.41%	8.11%	2.54%	3.81%	7.95%	11.92%
37	5.49%	8.23%	2.58%	3.87%	8.07%	12.10%

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

**General Tier 1 (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under
2% at 55 Formula (Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and 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
38	5.56%	8.34%	2.61%	3.92%	8.17%	12.26%
39	5.64%	8.46%	2.65%	3.98%	8.29%	12.44%
40	5.73%	8.59%	2.69%	4.04%	8.42%	12.63%
41	5.81%	8.72%	2.73%	4.10%	8.54%	12.82%
42	5.90%	8.85%	2.77%	4.16%	8.67%	13.01%
43	5.99%	8.99%	2.82%	4.23%	8.81%	13.22%
44	6.09%	9.13%	2.86%	4.29%	8.95%	13.42%
45	6.19%	9.29%	2.91%	4.37%	9.10%	13.66%
46	6.31%	9.47%	2.97%	4.45%	9.28%	13.92%
47	6.41%	9.62%	3.01%	4.52%	9.42%	14.14%
48	6.53%	9.80%	3.07%	4.61%	9.60%	14.41%
49	6.63%	9.94%	3.11%	4.67%	9.74%	14.61%
50	6.74%	10.11%	3.17%	4.75%	9.91%	14.86%
51	6.76%	10.14%	3.18%	4.77%	9.94%	14.91%
52	6.80%	10.20%	3.19%	4.79%	9.99%	14.99%
53	6.71%	10.07%	3.15%	4.73%	9.86%	14.80%
54	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
55	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
56	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
57	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
58	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
59	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%
60	6.47%	9.70%	3.04%	4.56%	9.51%	14.26%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 47.00%
 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 Tier 1 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and 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	3.54%	5.31%	2.11%	3.17%	5.65%	8.48%
16	3.59%	5.39%	2.14%	3.21%	5.73%	8.60%
17	3.65%	5.47%	2.17%	3.26%	5.82%	8.73%
18	3.69%	5.54%	2.20%	3.30%	5.89%	8.84%
19	3.75%	5.62%	2.23%	3.35%	5.98%	8.97%
20	3.80%	5.70%	2.27%	3.40%	6.07%	9.10%
21	3.85%	5.78%	2.30%	3.45%	6.15%	9.23%
22	3.91%	5.86%	2.33%	3.49%	6.24%	9.35%
23	3.96%	5.94%	2.36%	3.54%	6.32%	9.48%
24	4.01%	6.02%	2.39%	3.59%	6.40%	9.61%
25	4.07%	6.11%	2.43%	3.64%	6.50%	9.75%
26	4.13%	6.19%	2.46%	3.69%	6.59%	9.88%
27	4.19%	6.28%	2.49%	3.74%	6.68%	10.02%
28	4.25%	6.37%	2.53%	3.80%	6.78%	10.17%
29	4.30%	6.45%	2.56%	3.84%	6.86%	10.29%
30	4.36%	6.54%	2.60%	3.90%	6.96%	10.44%
31	4.42%	6.63%	2.63%	3.95%	7.05%	10.58%
32	4.48%	6.72%	2.67%	4.01%	7.15%	10.73%
33	4.55%	6.82%	2.71%	4.07%	7.26%	10.89%
34	4.61%	6.91%	2.75%	4.12%	7.36%	11.03%
35	4.67%	7.01%	2.79%	4.18%	7.46%	11.19%
36	4.73%	7.10%	2.82%	4.23%	7.55%	11.33%
37	4.80%	7.20%	2.86%	4.29%	7.66%	11.49%
38	4.87%	7.30%	2.90%	4.35%	7.77%	11.65%
39	4.93%	7.40%	2.94%	4.41%	7.87%	11.81%
40	5.01%	7.51%	2.99%	4.48%	8.00%	11.99%

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

**General Tier 1 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and 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
41	5.07%	7.61%	3.03%	4.54%	8.10%	12.15%
42	5.15%	7.73%	3.07%	4.61%	8.22%	12.34%
43	5.22%	7.83%	3.11%	4.67%	8.33%	12.50%
44	5.30%	7.95%	3.16%	4.74%	8.46%	12.69%
45	5.38%	8.07%	3.21%	4.81%	8.59%	12.88%
46	5.46%	8.19%	3.25%	4.88%	8.71%	13.07%
47	5.54%	8.31%	3.30%	4.95%	8.84%	13.26%
48	5.63%	8.44%	3.35%	5.03%	8.98%	13.47%
49	5.72%	8.58%	3.41%	5.11%	9.13%	13.69%
50	5.82%	8.73%	3.47%	5.20%	9.29%	13.93%
51	5.93%	8.90%	3.54%	5.31%	9.47%	14.21%
52	6.03%	9.04%	3.59%	5.39%	9.62%	14.43%
53	6.13%	9.20%	3.65%	5.48%	9.78%	14.68%
54	6.23%	9.34%	3.71%	5.57%	9.94%	14.91%
55	6.33%	9.49%	3.77%	5.66%	10.10%	15.15%
56	6.35%	9.52%	3.78%	5.67%	10.13%	15.19%
57	6.39%	9.58%	3.81%	5.71%	10.20%	15.29%
58	6.30%	9.45%	3.75%	5.63%	10.05%	15.08%
59	6.07%	9.11%	3.62%	5.43%	9.69%	14.54%
60	6.07%	9.11%	3.62%	5.43%	9.69%	14.54%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 59.61%
 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 Tier 3 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and 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	3.54%	5.31%	1.74%	2.61%	5.28%	7.92%
16	3.59%	5.39%	1.77%	2.65%	5.36%	8.04%
17	3.65%	5.47%	1.79%	2.69%	5.44%	8.16%
18	3.69%	5.54%	1.82%	2.73%	5.51%	8.27%
19	3.75%	5.62%	1.84%	2.76%	5.59%	8.38%
20	3.80%	5.70%	1.87%	2.80%	5.67%	8.50%
21	3.85%	5.78%	1.89%	2.84%	5.74%	8.62%
22	3.91%	5.86%	1.92%	2.88%	5.83%	8.74%
23	3.96%	5.94%	1.95%	2.92%	5.91%	8.86%
24	4.01%	6.02%	1.97%	2.96%	5.98%	8.98%
25	4.07%	6.11%	2.01%	3.01%	6.08%	9.12%
26	4.13%	6.19%	2.03%	3.04%	6.16%	9.23%
27	4.19%	6.28%	2.06%	3.09%	6.25%	9.37%
28	4.25%	6.37%	2.09%	3.13%	6.34%	9.50%
29	4.30%	6.45%	2.11%	3.17%	6.41%	9.62%
30	4.36%	6.54%	2.15%	3.22%	6.51%	9.76%
31	4.42%	6.63%	2.17%	3.26%	6.59%	9.89%
32	4.48%	6.72%	2.21%	3.31%	6.69%	10.03%
33	4.55%	6.82%	2.23%	3.35%	6.78%	10.17%
34	4.61%	6.91%	2.27%	3.40%	6.88%	10.31%
35	4.67%	7.01%	2.30%	3.45%	6.97%	10.46%
36	4.73%	7.10%	2.33%	3.49%	7.06%	10.59%
37	4.80%	7.20%	2.36%	3.54%	7.16%	10.74%
38	4.87%	7.30%	2.39%	3.59%	7.26%	10.89%
39	4.93%	7.40%	2.43%	3.64%	7.36%	11.04%

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

**General Tier 3 (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 2% at 55 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013**

Calculated Under Recommended Assumptions

<u>Entry Age</u>	<u>Basic</u>		<u>COLA</u>		<u>Total</u>	
	<u>First \$350</u>	<u>Over \$350</u>	<u>First \$350</u>	<u>Over \$350</u>	<u>First \$350</u>	<u>Over \$350</u>
40	5.01%	7.51%	2.46%	3.69%	7.47%	11.20%
41	5.07%	7.61%	2.49%	3.74%	7.56%	11.35%
42	5.15%	7.73%	2.53%	3.80%	7.68%	11.53%
43	5.22%	7.83%	2.57%	3.85%	7.79%	11.68%
44	5.30%	7.95%	2.61%	3.91%	7.91%	11.86%
45	5.38%	8.07%	2.65%	3.97%	8.03%	12.04%
46	5.46%	8.19%	2.69%	4.03%	8.15%	12.22%
47	5.54%	8.31%	2.73%	4.09%	8.27%	12.40%
48	5.63%	8.44%	2.77%	4.15%	8.40%	12.59%
49	5.72%	8.58%	2.81%	4.22%	8.53%	12.80%
50	5.82%	8.73%	2.86%	4.29%	8.68%	13.02%
51	5.93%	8.90%	2.92%	4.38%	8.85%	13.28%
52	6.03%	9.04%	2.97%	4.45%	9.00%	13.49%
53	6.13%	9.20%	3.02%	4.53%	9.15%	13.73%
54	6.23%	9.34%	3.06%	4.59%	9.29%	13.93%
55	6.33%	9.49%	3.11%	4.67%	9.44%	14.16%
56	6.35%	9.52%	3.12%	4.68%	9.47%	14.20%
57	6.39%	9.58%	3.14%	4.71%	9.53%	14.29%
58	6.30%	9.45%	3.10%	4.65%	9.40%	14.10%
59	6.07%	9.11%	2.99%	4.48%	9.06%	13.59%
60	6.07%	9.11%	2.99%	4.48%	9.06%	13.59%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 49.19%
 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 Tier A (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 3% at 50
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.90%	5.36%	14.26%
16	8.90%	5.36%	14.26%
17	8.90%	5.36%	14.26%
18	8.90%	5.36%	14.26%
19	8.90%	5.36%	14.26%
20	8.90%	5.36%	14.26%
21	8.90%	5.36%	14.26%
22	9.02%	5.44%	14.46%
23	9.15%	5.51%	14.66%
24	9.27%	5.59%	14.86%
25	9.40%	5.66%	15.06%
26	9.53%	5.74%	15.27%
27	9.66%	5.82%	15.48%
28	9.80%	5.91%	15.71%
29	9.94%	5.99%	15.93%
30	10.07%	6.07%	16.14%
31	10.21%	6.15%	16.36%
32	10.36%	6.24%	16.60%
33	10.50%	6.33%	16.83%
34	10.66%	6.42%	17.08%
35	10.81%	6.51%	17.32%
36	10.98%	6.62%	17.60%
37	11.14%	6.71%	17.85%
38	11.31%	6.82%	18.13%
39	11.50%	6.93%	18.43%
40	11.70%	7.05%	18.75%
41	11.90%	7.17%	19.07%
42	12.13%	7.31%	19.44%
43	12.38%	7.46%	19.84%

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

**Safety Tier A (Non-enhanced) Members' Contribution Rates for Members Not Receiving Benefits under 3% at 50
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
44	12.65%	7.62%	20.27%
45	12.86%	7.75%	20.61%
46	12.86%	7.75%	20.61%
47	12.87%	7.76%	20.63%
48	12.80%	7.71%	20.51%
49	12.51%	7.54%	20.05%
50	12.51%	7.54%	20.05%
51	12.51%	7.54%	20.05%
52	12.51%	7.54%	20.05%
53	12.51%	7.54%	20.05%
54	12.51%	7.54%	20.05%
55	12.51%	7.54%	20.05%
56	12.51%	7.54%	20.05%
57	12.51%	7.54%	20.05%
58	12.51%	7.54%	20.05%
59	12.51%	7.54%	20.05%
60	12.51%	7.54%	20.05%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 60.26%
 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 Tier A (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.90%	6.53%	15.43%
16	8.90%	6.53%	15.43%
17	8.90%	6.53%	15.43%
18	8.90%	6.53%	15.43%
19	8.90%	6.53%	15.43%
20	8.90%	6.53%	15.43%
21	8.90%	6.53%	15.43%
22	9.02%	6.62%	15.64%
23	9.15%	6.71%	15.86%
24	9.27%	6.80%	16.07%
25	9.40%	6.90%	16.30%
26	9.53%	6.99%	16.52%
27	9.66%	7.09%	16.75%
28	9.80%	7.19%	16.99%
29	9.94%	7.29%	17.23%
30	10.07%	7.39%	17.46%
31	10.21%	7.49%	17.70%
32	10.36%	7.60%	17.96%
33	10.50%	7.70%	18.20%
34	10.66%	7.82%	18.48%
35	10.81%	7.93%	18.74%
36	10.98%	8.06%	19.04%
37	11.14%	8.17%	19.31%
38	11.31%	8.30%	19.61%
39	11.50%	8.44%	19.94%
40	11.70%	8.59%	20.29%
41	11.90%	8.73%	20.63%
42	12.13%	8.90%	21.03%
43	12.38%	9.08%	21.46%

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

**Safety Tier A (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
44	12.65%	9.28%	21.93%
45	12.86%	9.44%	22.30%
46	12.86%	9.44%	22.30%
47	12.87%	9.44%	22.31%
48	12.80%	9.39%	22.19%
49	12.51%	9.18%	21.69%
50	12.51%	9.18%	21.69%
51	12.51%	9.18%	21.69%
52	12.51%	9.18%	21.69%
53	12.51%	9.18%	21.69%
54	12.51%	9.18%	21.69%
55	12.51%	9.18%	21.69%
56	12.51%	9.18%	21.69%
57	12.51%	9.18%	21.69%
58	12.51%	9.18%	21.69%
59	12.51%	9.18%	21.69%
60	12.51%	9.18%	21.69%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 73.38%
 Mortality: RP-2000 Combined Healthy Mortality Table Projected to 2030 with Scale AA, set back two years, weighted 85% Male and 15% Female.
 These rates exclude up to an extra 9% of compensation (depending on their MOU) that most Safety Tier A (Enhanced) members contribute that reduces the employer's contribution rate.

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

**Safety Tier C (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
15	8.50%	3.93%	12.43%
16	8.50%	3.93%	12.43%
17	8.50%	3.93%	12.43%
18	8.50%	3.93%	12.43%
19	8.50%	3.93%	12.43%
20	8.50%	3.93%	12.43%
21	8.50%	3.93%	12.43%
22	8.62%	3.99%	12.61%
23	8.74%	4.04%	12.78%
24	8.86%	4.10%	12.96%
25	8.98%	4.15%	13.13%
26	9.11%	4.21%	13.32%
27	9.23%	4.27%	13.50%
28	9.36%	4.33%	13.69%
29	9.49%	4.39%	13.88%
30	9.62%	4.45%	14.07%
31	9.76%	4.51%	14.27%
32	9.90%	4.58%	14.48%
33	10.04%	4.64%	14.68%
34	10.18%	4.71%	14.89%
35	10.33%	4.78%	15.11%
36	10.49%	4.85%	15.34%
37	10.64%	4.92%	15.56%
38	10.81%	5.00%	15.81%
39	10.99%	5.08%	16.07%
40	11.17%	5.17%	16.34%
41	11.38%	5.26%	16.64%
42	11.57%	5.35%	16.92%

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

**Safety Tier C (Enhanced) Members' Contribution Rates for Members Receiving Benefits under 3% at 50 Formula
(Expressed as a Percentage of Monthly Payroll)
For Members with Membership Dates on or after January 1, 2011 and before January 1, 2013**

Calculated Under Recommended Assumptions

Entry Age	Basic	COLA	Total
43	11.76%	5.44%	17.20%
44	11.87%	5.49%	17.36%
45	11.89%	5.50%	17.39%
46	11.80%	5.46%	17.26%
47	11.51%	5.32%	16.83%
48	11.90%	5.50%	17.40%
49	12.51%	5.79%	18.30%
50	12.51%	5.79%	18.30%
51	12.51%	5.79%	18.30%
52	12.51%	5.79%	18.30%
53	12.51%	5.79%	18.30%
54	12.51%	5.79%	18.30%
55	12.51%	5.79%	18.30%
56	12.51%	5.79%	18.30%
57	12.51%	5.79%	18.30%
58	12.51%	5.79%	18.30%
59	12.51%	5.79%	18.30%
60	12.51%	5.79%	18.30%

Interest: 7.25%
 Salary Increase: See Exhibit V.
 COLA Loading: 46.26%
 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

Appendix C

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
PEPRA General Tier 4 (3% COLA)	8.03%	2.97%	11.00%
PEPRA General Tier 4 (2% COLA)	7.96%	1.79%	9.75%
PEPRA General Tier 5 (3%/4% COLA)	7.75%	2.75%	10.50%
PEPRA General Tier 5 (2% COLA)	7.61%	1.64%	9.25%

The PEPRA member contribution rate is 50% of the Normal Cost rate. These rates have changed from the prior report since the total Normal Cost rate increased by greater than 1% of payroll for these PEPRA Tiers.

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 2013 is equal to the Social Security Taxable Wage Base or \$113,700. (For an employer that is not enrolled in Social Security, the maximum amount is \$136,440 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 2013. (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
PEPRA Safety Tier D	12.00%	5.25%	17.25%
PEPRA Safety Tier E	11.66%	3.09%	14.75%

The PEPRA member contribution rate is 50% of the Normal Cost rate. These rates have changed from the prior report since the total Normal Cost rate increased by greater than 1% of payroll for these PEPRA Tiers.

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 2013 is equal to the Social Security Taxable Wage Base or \$113,700. (For an employer that is not enrolled in Social Security, the maximum amount is \$136,440 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 2013. (reference: Section 7522.10(d))