Contra Costa County

GASB 45 Actuarial Valuation of Post Employment
Benefits Other than Pensions as of January 1, 2016

Prepared by:

John R. Botsford
FSA, MAAA

Milliman, Inc.
650 California Street, 17th Floor
San Francisco, California 94108
Tel 415 403 1333 Fax 415 403 1334
milliman.com

October 18, 2016

650 California Street, 17th Floor
San Francisco, CA 94108-2702
USA

Tel +1 415 403 1333
Fax +1 415 403 1334

milliman.com

October 18, 2016

Contra Costa County
651 Pine Street
Martinez, CA 94553

Contra Costa County –
GASB 45 Actuarial Valuation of Post Employment Benefits as of January 1, 2016

At the request of the Contra Costa County, we have completed an actuarial valuation of other post employment benefits as of January 1, 2016.

The purpose of this report is to determine the Annual Required Contribution and required financial disclosures under the Governmental Accounting Standards Board Statement No. 45 – *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions* (GASB 45). Our determinations reflect the procedures and methods prescribed in GASB 45.

In preparing our report, we relied, without audit, on information supplied by Contra Costa County's staff. This information includes but not limited to employee census data, financial information and the County's other post employment benefit (OPEB) provisions. While Milliman has not audited the financial and census data, they have been reviewed for reasonableness and are, in our opinion, sufficient and reliable for the purposes of our calculations. If any of this information as summarized in this report is inaccurate or incomplete, the results shown could be materially affected and this report may need to be revised.

All costs, liabilities, rates of interest, and other factors for the County have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the County and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the County. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the County and to reasonable expectations which, in combination, represent our best estimate of anticipated experience for the County.

This valuation report is only an estimate of the County's other post employment benefit liability as of a single date. It can neither predict the future condition of the County's other post employment benefit liability nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of other post employment benefits. They may affect the timing of County contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: County 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 other post employment benefit provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The County has the final decision regarding the appropriateness of the assumptions and actuarial cost methods.

Actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting the County in fulfilling its financial accounting requirements. The computations prepared for this purpose may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the County's funding policy and goals. The calculations in this report have been made on a basis consistent with our understanding of the County's current other post employment benefits described in Appendix A of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of the Contra Costa County. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions:

a) Contra Costa County may provide a copy of Milliman's work, in its entirety, to the County's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the County.

b) Contra Costa County may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuary is independent of the County. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, the report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the applicable Actuarial Standards of Practice of the American Academy of Actuaries. The undersigned is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,

John R. Botsford, FSA, MAAA
Principal and Consulting Actuary

JRB:dyu

TABLE OF CONTENTS

Introduction

Milliman, Inc. ("Milliman") has been retained by Contra Costa County ("County") to provide a GASB 45 actuarial valuation of its other post employment benefits (OPEB). In our valuation we:

- Project expected payouts
- Calculate the present value of total benefits
- Calculate the actuarial accrued liability (present value of benefits attributable to past service)
- Determine the Annual Required Contribution (ARC) and annual OPEB expense under GASB Statement No. 45
- Prepare the financial statement disclosures relating to the funded status of the plan

Background

Currently, employees who retire directly from the County may receive certain retiree health benefits if they meet certain eligibility requirements. The County may contribute an amount toward the cost of retiree health benefits for some retirees consistent with the bargaining agreement between the County and various bargaining units. Appendix A provides a detailed summary of benefits.

Assumptions

With any valuation of future benefits, assumptions of anticipated future events are required. If actual events differ from the assumptions made, the actual cost of the County's OPEB will vary as well.

***Discount Rate*.** GASB 45 requires that the interest rate used to discount future benefit payments back to the present be based on the expected rate of return on any investments set aside to pay for these benefits. The County's OPEB Irrevocable Trust assets are invested in the Public Agency Retirement Services' Highmark Diversified Portfolio.

We have used a discount rate of 5.70% for this valuation. This rate represents a "blended" rate assuming the County partially funds its ARC each year. The County's current funding policy is to fund the pay-as-you-go costs for retirees, plus $20 million into the OPEB Trust each year. GASB 45 states that the discount rate used to calculate the present value of future benefits be derived based on the Trust's investment policy and the County's funding policy. Based on the Trust's asset allocation, the average return over the next 50 years for assets invested in the Trust is expected to be 6.13%. This would be an appropriate discount rate if the County's annual contribution were equal to the ARC. However, the County is currently funding only a portion of the ARC. Therefore, the discount rate should be a blend between the expected return on assets held in the Trust and the expected return of the County's general fund (we have assumed a long term return of 3.50% for the County's general fund for this purpose). For this valuation we used a blended discount rate of 5.70%.

***Health Cost Trend*.** We have assumed overall health costs of the medical benefits will increase according to the health cost inflation trend derived by using the "Getzen" model developed by the Society of Actuaries. Under the Patient Protection and Affordable Care Act of 2010, including changes passed into law on December 18, 2015, a Federal excise tax will apply for high cost health benefits beginning in 2020. A margin to reflect to impact of the excise tax in future years is reflected in the assumed trend.

***Demographic Rates*.** The assumptions for turnover and retirement used in this valuation are based on the latest pension actuarial report from the Contra Costa County Employees' Retirement Association (CCCERA).

A complete summary of the actuarial assumptions is presented in Appendix B.

Changes in Benefit Provisions since Last Valuation

Since the last valuation, benefit changes were made for several bargaining groups. Summaries of the benefit changes for affected bargaining groups (DAIA, PDOCC, Local 1230, UCOA, SEIU Local 1021, AFSCME Local 2700, Western Council of Engineers, AFSCME Local 512, CCC Defenders Association, CCC Deputy District Attorneys, Probation Peace Officers, IFPTE/AFL-CIO Local 21, and Management Classified & Exempt) are described in Appendix B. The effect of the changes on plan liabilities is shown in Exhibit 8.

Results of Study

The valuation results are summarized in the following exhibit and use the following terms:

The **Present Value of Benefits** is the present value of projected benefits (projected claims less retiree contributions) discounted at the valuation interest rate (5.70%).

The **Actuarial Accrued Liability (AAL)** is the present value of benefits that are attributed to past service only. The portion attributed to future employee service is excluded. For retirees, this is equal to the present value of benefits. For active employees, this is equal to the present value of benefits less the present value of future normal costs.

The **Normal Cost** is that portion of the County provided benefit attributable to employee service in the current year. The Normal Cost remains level as a percentage of pay throughout the participant's assumed working lifetime. Since retirees are not accruing any more service, their normal cost is zero.

The **Annual Required Contribution (ARC)** is equal to the Normal Cost plus an amount to amortize the unfunded AAL as a level dollar amount over a period of 30 years on a "closed" basis starting January 1, 2008. There are 22 years remaining as of January 1, 2016.

	January 1, 2016	January 1, 2014
Active Employees	8,645	8,089
Retirees	6,396	6,206
Total Participants	15,041	14,295
Present Value of Benefits	$ 1,180,984,000	$ 1,193,162,000
Actuarial Accrued Liability	$ 939,053,000	$ 923,848,000
Assets	174,724,000	129,426,000
Unfunded Actuarial Accrued Liability	$ 764,329,000	$ 794,422,000
Normal Cost as of valuation date	$ 28,239,000	$ 27,882,000
Annual Required Contribution (ARC)	$ 89,170,000	$ 88,538,000

Variability of Results

The results contained in this report represent our best estimates. However, variation from these or any other estimates of future retiree medical costs is not only possible but probable. Actual future costs may vary significantly from estimates in this report.

Exhibit 1. Projected Benefit Payments

The table below illustrates the projected annual County costs of providing retiree health benefits. The projections only consider the closed group of existing employees and retirees.

	Explicit County Subsidy		Implicit Rate Subsidy		
Year	Current Retirees	Future Retirees	Current Retirees	Future Retirees	Total
2016	$44,444,000	$1,958,000	$9,146,000	$496,000	$56,044,000
2017	43,540,000	5,456,000	8,956,000	1,494,000	59,446,000
2018	42,425,000	8,691,000	8,504,000	2,623,000	62,243,000
2019	41,221,000	11,560,000	8,125,000	3,683,000	64,589,000
2020	40,150,000	14,156,000	7,889,000	4,694,000	66,889,000
2021	39,922,000	16,533,000	7,496,000	5,693,000	69,644,000
2022	38,696,000	18,721,000	7,189,000	6,640,000	71,246,000
2023	37,496,000	21,020,000	6,724,000	7,786,000	73,026,000
2024	36,345,000	23,328,000	6,465,000	8,930,000	75,068,000
2025	35,063,000	25,493,000	5,933,000	10,278,000	76,767,000
2026	33,748,000	27,438,000	5,445,000	11,356,000	77,987,000
2027	32,397,000	29,305,000	4,933,000	12,474,000	79,109,000
2028	31,032,000	30,989,000	4,318,000	13,368,000	79,707,000
2029	29,608,000	32,668,000	3,586,000	14,304,000	80,166,000
2030	28,376,000	34,315,000	3,122,000	15,372,000	81,185,000
2031	26,998,000	35,632,000	2,640,000	15,879,000	81,149,000
2032	25,699,000	36,962,000	2,292,000	16,196,000	81,149,000
2033	24,521,000	38,264,000	2,074,000	16,942,000	81,801,000
2034	23,363,000	39,184,000	1,860,000	17,263,000	81,670,000
2035	22,226,000	40,177,000	1,687,000	17,127,000	81,217,000
2036	20,995,000	41,271,000	1,366,000	17,613,000	81,245,000
2037	19,818,000	42,049,000	1,128,000	18,055,000	81,050,000
2038	18,769,000	42,851,000	1,077,000	18,111,000	80,808,000
2039	17,649,000	43,325,000	982,000	18,053,000	80,009,000
2040	16,601,000	43,582,000	905,000	17,908,000	78,996,000
2041	15,503,000	43,872,000	799,000	17,806,000	77,980,000
2042	14,443,000	43,907,000	678,000	17,470,000	76,498,000
2043	13,384,000	44,072,000	501,000	17,508,000	75,465,000
2044	12,427,000	44,049,000	447,000	17,236,000	74,159,000
2045	11,432,000	43,338,000	335,000	15,901,000	71,006,000

Exhibit 2. Liabilities and Normal Cost

The **Present Value of Benefits** is the actuarial present value of benefits expected to be paid for all eligible retirees and covered employees.

The **Actuarial Accrued Liability (AAL)** is the present value of benefits that are attributed to past service only. The portion attributed to future employee service is excluded. For retirees, this is equal to the present value of benefits. For active employees, this is equal to the present value of benefits less the present value of future normal costs

The **Normal Cost** is that portion of the County provided benefit attributable to employee service in the current year. The Normal Cost remains level as a percentage of pay throughout the participant's assumed working lifetime. Since retirees are not accruing any more service, their normal cost is zero.

	January 1, 2016	January 1, 2014
Present Value of Benefits		
Actives	$ 613,108,000	$ 625,243,000
Retirees	567,876,000	567,919,000
Total	$ 1,180,984,000	$ 1,193,162,000
Actuarial Accrued Liability		
Actives	$ 371,177,000	$ 355,929,000
Retirees	567,876,000	567,919,000
Total	$ 939,053,000	$ 923,848,000
Normal Cost as of valuation date	$ 28,239,000	$ 27,882,000

Exhibit 3. Unfunded Actuarial Accrued Liability

The Unfunded Actuarial Accrued Liability (UAAL) is the actuarial liability offset by any assets set-aside in a trust to fund future retiree health benefits. The amortization of UAAL shown in the exhibit below is based on a level dollar amount over a period of 30 years on a closed basis from January 1, 2008. There are 22 years remaining as of the valuation date of January 1, 2016.

	January 1, 2016	January 1, 2014
Unfunded Actuarial Accrued Liability (UAAL)		
Actuarial Accrued Liability	$ 939,053,000	$ 923,848,000
Reserve Fund	174,724,000	129,426,000
Unfunded Actuarial Accrued Liability	$ 764,329,000	$ 794,422,000
Funded Percentage	18.6%	14.0%
Amortization of UAAL for ARC		
UAAL	$ 764,329,000	$ 794,422,000
Amortization Period	22 years	24 years
Level Dollar Amortization Factor	13.0668	13.6416
Amortization Amount – January 1	$ 58,494,000	$ 58,235,000
Interest to June 30	1,644,000	1,637,000
Amortization Amount – June 30	$ 60,138,000	$ 59,872,000

Exhibit 4. Required Financial Statement Disclosures

The following table shows the calculation of the Annual Required Contribution and Net OPEB Obligation.

	June 30, 2016	June 30, 2015
Determination of Annual Required Contribution		
Normal Cost at Fiscal Year End	$ 29,032,000	
Amortization of UAAL	60,138,000	
Annual Required Contribution (ARC)	$ 89,170,000	
Determination of Net OPEB Obligation		
Annual Required Contribution	$ 89,170,000	$ 88,538,000
Interest on Prior Year Net OPEB Obligation	28,203,000	28,063,000
Adjustment to ARC	(37,867,000)	(36,845,000)
Annual OPEB Cost	$ 79,506,000	$ 79,756,000
County Contributions Made	(76,279,000)	(77,288,000)
Increase in Net OPEB Obligation	$ 3,227,000	$ 2,468,000
Net OPEB Obligation – Beginning of Year	$ 494,795,000	$ 492,327,000
Net OPEB Obligation – End of Year	$ 498,022,000	$ 494,795,000

The following table shows the annual OPEB cost and net OPEB obligation for the prior years.

Fiscal Year Ended	Annual OPEB Cost	Percentage Of OPEB Cost Contributed	Net OPEB Obligation
06/30/2014	$ 80,575,000	95.1%	$ 492,327,000
06/30/2015	$ 79,756,000	96.9%	$ 494,795,000
06/30/2016	$ 79,506,000	95.9%	$ 498,022,000

Funded Status and Funding Progress. As of January 1, 2016, the most recent actuarial valuation date, the County's OPEB was 18.6% funded. The actuarial accrued liability for benefits was $939 million, and the actuarial value of assets was $175 million, resulting in an unfunded actuarial accrued liability of $764 million.

Exhibit 5. Required Supplementary Information

The following table shows a schedule of Funding Progress required under GASB 45.

(Figures in millions)

Actuarial Valuation Date	Actuarial Value of Assets	AAL	UAAL	Funded Ratio	Covered Payroll	UAAL as % of Covered Payroll
01/01/2012*	$ 65	$ 1,034	$ 969	6.3%	$ 624	155.3%
01/01/2014	129	924	794	14.0%	614	129.4%
01/01/2016	175	939	764	18.6%	696	109.8%

* *Figures taken from Contra Costa County's CAFR as of June 30, 2013. Due to rounding figures may not add up.*

Exhibit 6. Results by County's Entities

The following table shows the breakdown of valuation results by various entities within the County.

ENTITY	AAL	NC [1]	ARC [2]
Safety Non-Fire	$ 221,891,000	$ 6,456,000	$ 20,666,000
CCC Fire	104,517,000	2,548,000	9,241,000
Hospital	180,151,000	7,355,000	18,892,000
CCHP	8,231,000	410,000	937,000
Airport	2,076,000	20,000	153,000
CCC Retirement System [3]	1,770,000	0	113,000
All Other CCC Departments	420,417,000	12,243,000	39,168,000
Total	$ 939,053,000	$ 29,032,000	$ 89,170,000

1. Normal Cost includes interest to June 30, 2016.
2. We allocated the assets used to calculate the Annual Required Contribution for each entity based on their AAL relative to the total AAL.
3. As of January 1, 2015, CCC Retirement System became its own independent entity. The AAL shown is for CCC Retirement System employees who retired as County employees before January 1.

Exhibit 7. Value of Subsidized Early Retiree Health Premium

Currently, the County charges early retirees not yet eligible for Medicare a health premium based on the claims experience of both actives and retirees. Since health claim costs generally increase with age, retiree health premiums would be significantly higher if they were determined without regard to active claims experience. GASB 45 requires that the portion of age-adjusted expected retiree health claim costs that exceed the carrier premiums (known as an “implicit rate subsidy”) be recognized as a liability for accounting purposes. Implicit rate subsidies for spouses of retirees must also be valued in determining the ARC under GASB 45. The following table shows the County’s GASB 45 liability broken down by the County’s actual payments toward retiree premiums and the “subsidized” value of retiree health premiums.

	County’s Payment	Implicit Rate Subsidy	Total
Present Value of Benefits			
Active Employees	$ 451,815,000	$ 161,293,000	$ 613,108,000
Retirees	490,608,000	77,268,000	567,876,000
Total	$ 942,423,000	$ 238,561,000	$ 1,180,984,000
Actuarial Accrued Liability			
Active Employees	$ 282,564,000	$ 88,613,000	$ 371,177,000
Retirees	490,608,000	77,268,000	567,876,000
Total	$ 773,172,000	$ 165,881,000	$ 939,053,000
Normal Cost as of Valuation Date	$ 20,910,000	$ 7,329,000	$ 28,239,000

Exhibit 8. Valuation Results – Changes from Prior Valuation

The following exhibit shows changes of Actuarial Accrued Liability (AAL) from the prior valuation:

		In Millions
Actuarial Accrued Liability (AAL) as of January 1, 2014		924
Increase due to benefit accrued from January 1, 2014 to December 31, 2015	$	57
Decrease due to expected benefit payments made from January 1, 2014 to December 31, 2015		(114)
Increase due to decrease in the discount period from January 1, 2014 to December 31, 2015		105
Decrease due to benefit changes for DAIA, L1230, PDOCC, and UCOA since last valuation		(33)
Decrease due to health cost increases less than expected		(26)
Increase due to assumption changes [1]		4
Increase due to change in Actuarial Cost Method from PUC to Individual Entry Age Normal [2]		11
Increase due to plan changes to current retirees with benefit frozen at the 2011 level		8
Increases due to other changes [3]		3
Total change in Actuarial Accrued Liability	$	15
Actuarial Accrued Liability (AAL) as of January 1, 2016	$	939

1. *We updated the coverage election assumptions and health cost inflation assumptions. See Appendix C for a summary of the changes.*
2. *This change was made to align the actuarial cost method with the method prescribed under GASB 75.*
3. *Includes changes in census data and other experience.*

Appendix A. Summary of Benefits

The following description of retiree health benefits is intended to be only a brief summary and is not complete information.

Eligibility

Currently, employees may receive retiree health benefits if they retire from the County, are receiving a pension from CCCERA, and meet certain eligibility requirements as follows:

General employees - age 50 with 10 years of pension service or age 70 with a vested pension, or after 30 years of pension service with no age requirement.

Safety employees - age 50 with 10 years of pension service or age 70 with a vested pension, or after 20 years of pension service with no age requirement.

Employees hired after December 31, 2006 and represented by the following bargaining groups (AFSCME, California Nurses Association, Deputy District Attorneys' Association, Public Defenders Association, IFPTE, Western Council of Engineers, SEIU, PEU, Probation Peace Officers Association, and Unrepresented) also must have 15 years of County service.

Employees hired on or after October 1, 2005, and represented by the Physicians' and Dentists' Organization also must have 15 years of County service.

Health Benefits

Currently, eligible retirees and their dependents are covered either under the Contra Costa Health Plans, Health Net plans, Kaiser plans, or health plans sponsored by CalPERS (PEMHCA). Coverage may be provided for a retiree and surviving spouse as long as retiree and surviving spouse monthly premium contributions are paid. The County may pay a subsidy toward eligible retirees' monthly medical and dental premiums. This subsidy may vary by bargaining unit and date of hire as described in this appendix. Employees hired on or after dates described in the table below and represented by the following bargaining groups must pay the entire cost of premiums to maintain coverage.

Bargaining Unit Name	Hire Date on or after which eligible retirees must pay entire cost of premiums
IFPTE, Unrepresented	January 1, 2009
AFSCME, Western Council of Engineers, SEIU, and PEU	January 1, 2010
Deputy District Attorneys Association	December 14, 2010
Probation Peace Officers Association of CCC	January 1, 2011
CCC Public Defenders Association	March 1, 2011

All surviving spouses must pay the entire cost of premiums to maintain coverage, with the exception of the following bargaining groups for whom the surviving spouse receives the same County subsidy as the retiree (covered by CalPERS health plans): Sheriff (A8), Fire Chief (BD), Sworn Exec. Mgmt. (BS), Fire Management (HA), Deputy Sheriffs (V#, VH, VN), Fire Suppression and Prevention (4N), Fire District Safety Management (BF), and D.A. Investigators (XJ).

Bargaining Units V#, VH, VN, F8 and FW

Currently, for eligible retirees from the bargaining units listed in the table below, the County will contribute toward the cost of monthly premiums (medical and dental) an amount equal to the actual dollar monthly premium amount paid by the County as of November 30, 2013, at each coverage level, plus 50% of the actual premium increase for 2014 and all future years.

Retirees who elected dental coverage without health coverage will pay one cent ($0.01) per month for 2013, plus 50% of the actual premium increase for 2014 and all future years.

Bargaining Unit Code	Bargaining Unit Name	General / Safety
F8	Unrep Classified & Exempt-Othr	General
FW	Unrep Cl & Ex-Sworn Peace Offc	Safety
V#	Sheriff's Sworn Mgmt Unit	Safety
VH	Deputy Sheriff's Unit-Sworn	Safety
VN	Deputy Sheriff's Unit-NonSworn	General

For employees hired between January 2, 2007, and September 30, 2011, and represented by the Deputy Sheriffs' Association, the County subsidy is subject to a vesting schedule as shown in the table below.

Credited Years of Service	Percentage of Employer Contribution
10	50
11	55
12	60
13	65
14	70
15	75
16	80
17	85
18	90
19	95
20 or more	100

Bargaining Unit HA – Fire Management

Currently, for eligible Fire Management retirees represented by United Chief Officers Association (UCOA) with bargaining unit code HA, the County will subsidize an amount equal to 80% of the CalPERS Kaiser Bay Area premium at each coverage level (employee only, employee + one, employee + two or more) for any region in which the retiree resides, but the County's subsidy will not exceed the total premium of a lower cost plan.

Health Premium Subsidy on or after December 1, 2016: For the plan year that begins on January 1, 2017 and each calendar year thereafter, the maximum monthly premium subsidy the District will pay for each health plan is equal to the actual dollar monthly premium subsidy that is paid by the District for that plan as of November 30, 2016. In addition, if there is an increase in the monthly premium charged by a health plan for 2017, the District and the employee will each pay fifty percent (50%) of that increase. For each plan year thereafter, and for each plan, the District and the employee will each pay fifty (50%) of the monthly premium increase above the 2016 plan premiums.

Dental Subsidy for Retirees with Medical Coverage: For eligible retirees from bargaining unit HA enrolled in both a medical and dental plan, for the plan year that begins on January 1, 2016, the District will pay a monthly premium subsidy for each dental plan that is equal to the actual dollar monthly premium subsidy that is paid by the District as of November 30, 2015. In addition, if there is an increase in the monthly premium charged by a dental plan for 2016, the District and the employee will each pay fifty percent (50%) of that increase. For each plan year thereafter, the District and the employee will each pay fifty percent (50%) of the monthly premium increase above the 2015 plan premium.

Dental Subsidy for Retirees without Medical Coverage: For eligible retirees from bargaining unit HA enrolled in a dental plan only without health coverage, beginning on January 1, 2016, the District will pay a monthly dental premium subsidy for each dental plan that is equal to the actual dollar monthly premium subsidy that is paid by the District for 2015. If there is an increase in the premium charged by a dental plan for 2016, the District and the employee will each pay fifty percent (50%) of the increase. For each plan year thereafter, the District and the employee will each pay fifty percent (50%) of the premium increase that is above the 2015 plan premium.

Bargaining Unit XJ – D.A. Investigators

Health Premium Subsidy: For the plan year that begins on January 1, 2015, the County will pay the following monthly medical premium subsidy:

Coverage	Monthly Premium Subsidy
Employee/Retiree/Survivor Only	$ 608.87
Employee/Retiree/Survivor & One Dependent	1,217.74
Employee/Retiree/Survivor & Two or more Dependents	1,583.07

In addition, if there is an increase in the monthly premium charged by a health plan for 2015 that exceeds the above stated amounts, the County and the retiree will each pay fifty percent (50%) of that increase. For 2016, the County premium subsidy varies by plan depending on the actual premium increase that occurred for each plan. For each calendar year thereafter, the County and the retiree will each pay fifty percent (50%) of any premium increase for each health plan.

Dental Premium Subsidy: For the plan year that begins on January 1, 2015, the County will pay the following monthly dental premium subsidy:

	With Health		Without Health	
Coverage	Delta Dental	DeltaCare (PMI)	Delta Dental	DeltaCare (PMI)
Single	$ 32.69	$ 22.30	$ 42.44	$ 28.91
Family	73.64	48.19	95.62	61.49

In addition, if there is an increase in the monthly premium charged by a health plan for 2015 that exceeds the above stated amounts, the County and the retiree will each pay fifty percent (50%) of that increase. For each calendar year thereafter, the County and the retiree will each pay fifty percent (50%) of any premium increase for each dental plan.

Bargaining Unit 4N - Fire Suppression and Prevention

Health Premium Subsidy: For 2016 and each calendar year thereafter, the prior year's District subsidy for each medical plan and rate tier will increase by 50% of the actual premium increase in the medical plan and rate tier in which the member is enrolled.

Dental Premium Subsidy: For eligible retirees from bargaining unit 4N enrolled in both a medical and dental plan, the District will pay a subsidy equal to 50% of the cost of monthly dental premiums in 2016 and later. For retirees enrolled only in a dental plan, retirees are required to pay $0.01 per month for dental coverage. For 2016 and later, the required monthly contribution from retirees would increase each year by 50% of the dental premium increase.

Bargaining Units 1P and 1R – Physicians & Dentists

Beginning on January 1, 2015, and for each calendar year thereafter, the County will pay a monthly dollar premium subsidy for each health and dental plan (County Premium Subsidy) as defined for each plan in the table below.

Health Plan	Frozen Subsidy Amount
Contra Costa Health Plan A	
Retiree on Basic Plan	$ 600.51
Retiree & 1 or more dependents on Basic Plan	1,430.76
Retiree on Medicare COB Plan	279.22
Retiree & Spouse on Medicare COB Plan	558.44
Family, 1 on Medicare COB Plan, and 1 or more on Basic Plan	1,234.35
Contra Costa Health Plan B	
Retiree on Basic Plan	$ 611.34
Retiree & 1 or more dependents on Basic Plan	1,452.65
Retiree on Medicare COB Plan	287.59
Retiree & Spouse on Medicare COB Plan	575.18
Family, 1 on Medicare COB Plan, and 1 or more on Basic Plan	1,271.37
Kaiser Permanente	
Retiree on Basic Plan	$ 614.78
Retiree & 1 or more dependents on Basic Plan	1,432.42
Retiree on Medicare Senior Advantage Plan	295.00
Retiree & 1 dependent on Medicare Senior Advantage Plan	796.70
Retiree on Medicare Sr. Adv. Plan, and 1 or more dependents on Basic Plan	1,158.55
Health Net HMO	
Retiree on Basic Plan	$ 853.92
Retiree & 1 or more dependents on Basic Plan	2,094.74
Retiree on Medicare Seniority Plus Plan	514.27
Retiree & 1 dependent on Medicare Seniority Plus Plan	1,028.55
Retiree on Medicare Sr. Plus Plan, and 1 or more dependents on Basic Plan	1,370.24
Health Net Medicare COB	
Retiree only	$ 563.32
Retiree & spouse	1,126.65
Health Net CA & Nat'l PPO – Basic Plan A	
Retiree on PPO	$ 753.81
Retiree & 1 or more dependents on PPO Basic Plan	1,790.70
Retiree on PPO Medicare Plan with Medicare Part A & B	618.43
Retiree & 1 or more dependents on PPO Medicare Plan with Medicare Part A & B	1,236.73

The amount of the County subsidy that is paid for employees and eligible family members for these plans will thereafter be a set dollar amount and will not be a percentage of the premium charged by the health or dental plan. Retirees must pay for 100% of any premium increases after 2015.

Bargaining Unit L3 – Registered Nurses Unit

Currently, for eligible retirees from the bargaining unit L3, the County subsidizes a percentage of monthly premiums that varies depending on the medical and dental plan elected. Retirees retired on or before 06/30/2012 and age 65 on or before 10/31/2012 also receive reimbursement of their Medicare Part B premiums as long as the total County subsidy does not exceed 100% of the medical plan premium.

Retirees receive the following County subsidy based on the medical plan elected:

Medical Plan	County Subsidy % (Medical)	County Subsidy % (Dental)
Contra Costa Health Plan A and B		
Without Dental	98%	0%
With Delta Dental	98%	98%
With PMI Delta Dental	98%	98%
Kaiser, Health Net HMO		
Without Dental	80%	0%
With Delta Dental	80%	78%
With PMI Delta Dental	80%	78%
Health Net PPO		
Without Dental	54%*	0%
With Delta Dental	54%*	78%
With PMI Delta Dental	54%*	78%
Dental Only	0%	All but $0.01 / month

* *Approximately 54% for 2016. Future increases are split evenly between the County and the retiree.*

All other Bargaining Units - County Subsidy Frozen at the 2011 Level

Currently, eligible retirees from the following bargaining units listed may receive County subsidies towards medical and dental premiums. The subsidies are frozen at the 2011 levels shown in the tables on pages 19-20. There are no future increases to these subsidy amounts except as defined on page 19 for certain retirees who retired before January 1, 2016.

Bargaining Unit Code	Bargaining Unit Name	General / Safety
1X	Phys & Dnts & Optometrist Unit	General
25	Social Services Unit	General
51	Professional Engineers Unit	General
99	DEFAULT BARGAINING UNIT	General
2D	Community Aide Unit	General
2I	Service Line Supervisors Unit	General
2R	Superior Court Reporters-Ex	General
3A	Superior Court Clerical Unit	General
3B	Superior Court Barg Unit-Loc1	General
3G	Deputy Clerks Unit	General
3R	General Clerical Unit	General
A8	Elected Department Heads	General
AJ	Elected Superior Court Judges	General
AM	Elected Municipal Court Judges	General
AS	Elected Board of Supvs Members	General
B8	Mgmt Classes-Classified & Exem	General
BA		General
BC	Superior Court Exempt Mgmt Gen	General
BD	Mgmt Classified & Ex Dept Head	General
BF	Fire District (MS) Safety Mgmt	Safety
BH	Superior Ct Exempt Mgmt-DH	General
BJ	Sup Ct Judicial Ofcrs Ex-Mgmt	General
BS	Sheriff's Sworn Executive Mgmt	Safety
C8	Management Project-Other	General
CH	CS Head Start Mgmt-Project	General
D8	Unrepresented Proj Class-Other	General
F8	Unrep Classified & Exempt-Other	General
FC	Unrep Superior Ct Clerical Exempt	General
FD	Unrep Superior Ct Other Exempt	General
FM	Unrep Muni Ct Reporter-Exempt	General
FR	Unrep Superior Ct Reptrs-Exempt	General
FS	Unrep Cl & Ex Student Workers	General
FX	Unrep Exempt Medical Staff	General
JD	CCC Defenders/Attorneys	General
JF	CCC Defenders/Investigators	General
K2	Property Appraisers Unit	General
K5	Court Professional Svcs Unit	General
K6	Supervisory Clerical Unit	General
KK	Income Maintence Program Unit	General
KL	Engineering Technician Unit	General
KM	Sheriff's Non-Sworn Mgmt Unit	General
KU	Probation Supervisors Unit	Safety
KZ	Social Svcs Staff Special Unit	General
MA	District Attorneys' Unit	General
N2	Property Appraisers Unit	General
PP	Probation Unit of CCC	Safety
QA	Agriculture & Animal Ctrl Unit	General
QB	LVN/Aide Unit	General
QC	Fam/Chld Svs Site Supv Unit	General
QE	Building Trades Unit	General
QF	Deputy Public Defender Unit/At	General
QG	Deputy Public Defender Unit-In	General
QH	Family and Children Services	General
QM	Engineering Unit	General
QP		General
QS	General Services & Mtce Unit	General
QT	Health Services Unit	General
QV	Investigative Unit	General
QW	Legal & Court Clerk Unit	General
QX	Library Unit	General
QY	Probation Unit	General
S2		General
Z1	Supervisory Project	General
Z2	Non-Supervisory Project	General
ZA	Supervisory Management	General
ZB	Non-Supervisory Management	General
ZL	Supervisory Nurse	General
ZN	Non-Supervisory Nurse	General

Health Insurance Premium Rates (non-PEMHCA)

The following table shows monthly retiree health insurance premiums for the 2016 calendar year for coverage under various health plans sponsored by Contra Costa County, and the County's subsidies as frozen at the 2011 level.

Effective January 1, 2017, the medical premium tier structure is expected to change from two tiers (retiree only, retiree plus one or more dependents) to three tiers (retiree only, retiree plus one dependent, and retiree plus two or more dependents) for Non-Medicare Retirees. Effective when the three tier system goes into effect for Non-Medicare retirees, the County's premium caps established in 2011 will continue to apply for single and two party coverage: "retiree only" cap for single coverage and retiree plus one or more dependent cap applies for the retiree plus one dependent tier. For certain retirees who retired before January 1, 2016, the County will increase the monthly medical plan premium subsidies for the new non-Medicare Retiree plus Two or More Dependents tier (defined as Tier III) by $150. For retirees retiring on or after January 1, 2016, the County subsidy for Tier III will be the same as for Tier II as shown in the table below.

Effective January 1, 2021 for certain retirees who retired before January 1, 2016, the amount of the County monthly medical plan premium subsidy will increase by $25 for the Medicare retiree only tier and for the retiree plus one or more dependents on Medicare tier.

Medical Plan	County's Subsidy (Frozen in 2011)	2016 Premium Rate	County's Subsidy for 2016	Retiree's Share for 2016
Contra Costa Health Plan A				
Retiree on Basic Plan	$ 509.92	$ 709.06	$ 509.92	$ 199.14
Retiree & 1 or more dependents on Basic Plan	1,214.90	1,689.37	1,214.90	474.47
Retiree on Medicare Coordination of Benefits (COB) Plan	420.27	326.13	326.12	0.01
Retiree & 1 or more dependents on Medicare COB Plan	1,035.60	652.26	652.25	0.01
Contra Costa Health Plan B				
Retiree on Basic Plan	528.50	786.01	528.50	257.51
Retiree & 1 or more dependents on Basic Plan	1,255.79	1,867.68	1,255.79	611.89
Retiree on Medicare COB Plan	444.63	335.91	335.90	0.01
Retiree & 1 or more dependents on Medicare COB Plan	1,088.06	671.82	671.81	0.01
Kaiser Permanente – Plan A				
Retiree on Basic Plan	478.91	819.43	478.91	340.52
Retiree & 1 or more dependents on Basic Plan	1,115.84	1,910.33	1,115.84	794.49
Retiree on Medicare COB Plan	263.94	296.67	263.94	32.73
Retiree & 1 dependent on Medicare COB Plan	712.79	802.02	712.79	89.23
Retiree & 2 dependents on Medicare COB Plan	1,161.65	1,305.13	1,161.65	143.48
Kaiser Permanente – Plan B				
Retiree on Basic Plan	478.91	656.63	478.91	177.72
Retiree & 1 or more dependents on Basic Plan	1,115.84	1,529.95	1,115.84	414.11
Retiree on Medicare COB Plan	263.94	225.18	225.17	0.01
Retiree & 1 dependent on Medicare COB Plan	712.79	608.00	607.99	0.01
Retiree & 2 dependents on Medicare COB Plan	1,161.65	988.89	988.88	0.01

Health Insurance Premium Rates (continued)

Medical Plan	County's Subsidy (Frozen in 2011)	2016 Premium Rate	County's Subsidy for 2016	Retiree's Share for 2016
Health Net HMO – Plan A				
Retiree on Basic Plan	627.79	1,294.30	627.79	666.51
Retiree & 1 or more dependents on Basic Plan	1,540.02	3,175.02	1,540.02	1,635.00
Retiree on Medicare Seniority Plus Plan	409.69	545.59	409.69	135.90
Retiree & 1 dependent on Medicare Seniority Plus Plan	819.38	1,091.18	819.38	271.80
Retiree & 2 dependents on Medicare Seniority Plus Plan	1,229.07	1,636.76	1,229.07	407.69
Health Net HMO – Plan B				
Retiree on Basic Plan	627.79	900.03	627.79	272.24
Retiree & 1 or more dependents on Basic Plan	1,540.02	2,207.86	1,540.02	667.84
Retiree on Medicare Seniority Plus Plan	409.69	458.02	409.69	48.33
Retiree & 1 dependent on Medicare Seniority Plus Plan	819.38	916.04	819.38	96.66
Retiree & 2 dependents on Medicare Seniority Plus Plan	1,229.07	1,374.06	1,229.07	144.99
Health Net Medicare COB				
Retiree only	$ 467.13	$ 659.04	$ 467.13	$ 191.91
Retiree & spouse	934.29	1,318.08	934.29	383.79
Health Net CA & Nat'l PPO – Basic Plan A				
Retiree on PPO	604.60	1,699.52	604.60	1,094.92
Retiree & 1 or more dependents on PPO Basic Plan	1,436.25	4,037.34	1,436.25	2,601.09
Retiree on PPO Medicare Plan with Medicare Part A & B	563.17	987.65	563.17	424.48
Retiree & 1 or more dependents on PPO Medicare Plan with Medicare Part A & B	1,126.24	1,975.31	1,126.24	849.07
Health Net CA & Nat'l PPO – Basic Plan B				
Retiree on PPO	604.60	1,529.99	604.60	925.39
Retiree & 1 or more dependents on PPO Basic Plan	1,436.25	3,634.58	1,436.25	2,198.33
Retiree on PPO Medicare Plan with Medicare Part A & B	563.17	897.02	563.17	333.85
Retiree & 1 or more dependents on PPO Medicare Plan with Medicare Part A & B	1,126.24	1,794.04	1,126.24	667.80

PEMHCA Health Plan Premium Rates

Eligible retirees from the bargaining units 4N, A8, B8, BD, BF, BS, F8, FW, HA, V#, VH, VN, and XJ can choose to enroll in health plans sponsored by CalPERS based on their residence region (Bay Area, Sacramento, Los Angeles, Northern California, Southern California and Out of State of California). The following table shows the monthly Bay Area retiree health insurance premiums for the 2016 calendar year:

	Monthly Premium Rates – 2016					
	Single		2-Party		Family	
	Under 65	Over 65	Under 65	Over 65	Under 65	Over 65
Blue Shield	$ 1,016.18	n/a	$ 2,032.36	n/a	$ 2,642.07	n/a
Blue Shield NetValue	1,033.86	n/a	2,067.72	n/a	2,688.04	n/a
Kaiser	746.47	297.23	1,492.94	594.46	1,940.82	891.69
PERSCare	889.27	408.04	1,778.54	816.08	2,312.10	1,224.12
PERS Choice	798.36	366.38	1,596.72	732.76	2,075.74	1,099.14
PERS Select	730.07	366.38	1,460.14	732.76	1,898.18	1,099.14
Anthem HMO Select	721.79	n/a	1,443.58	n/a	1,876.65	n/a
Anthem HMO Traditional	855.42	n/a	1,710.84	n/a	2,224.09	n/a
Health Net SMARTCare	808.44	n/a	1,616.88	n/a	2,101.94	n/a
United Healthcare	955.44	320.98	1,910.88	641.96	2,484.14	962.94
PORAC	699.00	442.00	1,399.00	881.00	1,789.00	1,408.00
CCHP	837.46	716.08	1,674.92	1,432.16	2,177.40	2,148.24

Effective January 1, 2016, CalPERS no longer offer Medicare Advantage plan coverage through Anthem Blue Shield, and added HealthNet as a new carrier to offer non-Medicare coverage.

Dental Plan Premiums

The following table shows monthly retiree dental insurance premiums for the 2016 calendar year. County subsidies vary based on retiree's medical plan enrollment election and bargaining unit upon retirement.

Plan	Monthly Premiums
Delta Dental - $1,800 Annual Maximum	
Retiree	$ 44.27
Family	100.00
Delta Dental - $1,600 Annual Maximum	
Retiree	$ 42.45
Family	95.63
Delta Care (PMI)	
Retiree	$ 29.06
Family	62.81

Appendix B. Actuarial Cost Method and Assumptions

Actuarial Cost Method The actuarial cost method used for determining the benefit obligations is the individual Entry Age Normal Cost Method. Under the principles of this method, the actuarial present value of the projected benefits of each individual included in the valuation is allocated as a level percentage of expected salary for each year of employment between entry age (defined as age at hire) and assumed exit.

The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets, and (b) the actuarial present value of future normal costs is called the Unfunded Actuarial Accrued Liability (UAAL).

The Actuarial Value of Assets is equal to the market value of assets as of the valuation date. In determining the Annual Required Contribution, the Unfunded AAL is amortized as a level dollar amount over 30 years on a “closed” basis. There are 22 years remaining in the amortization period as of January 1, 2016. The actuarial assumptions are summarized below.

Economic Assumptions

Discount Rate (Liabilities) 5.70%

We have used a discount rate of 5.70% in this valuation to reflect the County’s current policy of partially funding its OPEB liabilities. This rate is derived based on the fund’s investment policy, level of partial funding, and includes a 2.50% long-term inflation assumption. County OPEB Irrevocable Trust assets are invested in the Public Agency Retirement Services’ Highmark Portfolio. Based on the portfolio’s target allocation (shown below), the average return of Trust assets over the next 50 years is expected to be 6.13%, which would be an appropriate discount rate if the County’s annual contribution is equal to the ARC. If the County were to elect not to fund any amount to a Trust, the discount rate would be based on the expected return of the County’s general fund (we have assumed a long term return of 3.50% for the County’s general fund). Since the County is partially funding the Trust with a contribution of $20 million per year, we used a blended discount rate of 5.70%. This is the same discount rate used in the January 1, 2014 actuarial valuation.

Asset Class	Expected 1-Year Nominal Return	Targeted Asset Allocation
Domestic Equity Large Cap	7.63%	17.0%
Domestic Equity Mid Cap	8.21%	6.0%
Domestic Equity Small Cap	8.81%	8.0%
U.S. Fixed Income	5.00%	38.0%
International	8.60%	9.0%
Global Equity (Developed)	8.21%	7.0%
Real Estate	7.71%	4.0%
Cash	3.27%	1.0%
Alternatives	4.57%	10.0%
Expected Geometric Median Annual Return (50 years)		6.13%

Assumed Salary Increases (Applied to Individual Entry Age Normal Cost Method)

The assumed annual rates of compensation increases used for the EAN actuarial cost method are the same as the assumption used in the December 31, 2014 CCCERA Actuarial Valuation.

Years of Service	General	Safety
Less than 1	13.50%	14.00%
1	10.50%	10.50%
2	8.75%	9.25%
3	7.25%	8.00%
4	6.25%	6.25%
5	5.50%	5.00%
6	5.25%	4.75%
7	5.00%	4.75%
8 or more	4.75%	4.75%

Demographic Assumptions

Below is a summary of the assumed rates for mortality, retirement, disability and withdrawal, which are consistent with assumptions used in the December 31, 2014 CCCERA Actuarial Valuation. These assumptions were adopted by CCCERA in connection with a study of experience during 2010-2012.

Pre / Post Retirement Mortality

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 had taken a service (non-disability) retirement.

Disability

Age	General Tier 3 / PEPRA	Safety (All Tiers)
20	0.01%	0.02%
25	0.02%	0.22%
30	0.03%	0.42%
35	0.05%	0.56%
40	0.08%	0.66%
45	0.13%	0.94%
50	0.17%	2.54%

Retirement – For this valuation, we have applied the Tier 3 rates for all General employees and Tier A rates for all Safety employees since nearly all current employees are in these two pension tiers, with the exception of those who were hired after January 1, 2013 as the PEPRA tiers.

Age	General Tier 3	General PEPRA	Safety Tier A	Safety PEPRA
45	0%	0%	2%	0%
46	0%	0%	2%	0%
47	0%	0%	7%	0%
48	0%	0%	7%	0%
49	0%	0%	20%	0%
50	4%	0%	25%	5%
51	3%	0%	25%	4%
52	3%	2%	25%	4%
53	5%	3%	25%	5%
54	5%	3%	25%	5%
55	10%	5%	30%	6%
56	10%	5%	25%	8%
57	10%	6%	25%	12%
58	12%	8%	35%	18%
59	12%	9%	35%	20%
60	15%	10%	40%	20%
61	20%	14%	40%	20%
62	27%	21%	40%	20%
63	27%	21%	40%	20%
64	30%	21%	40%	100%
65	40%	27%	100%	100%
66 – 69	40%	33%	100%	100%
70 – 74	40%	50%	100%	100%
75	100%	100%	100%	100%

Withdrawal – Sample probabilities of terminating employment with the County are shown below for selected years of County service.

Years of Service	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%
10	2.75%	1.90%
15	2.10%	1.40%
20 or more	2.00%	1.00%

Coverage Election Assumptions

Retiree Coverage – We have assumed 90% of new retirees hired before the exclusion date stated in Appendix A will elect medical and dental coverage at retirement. For employees hired after the exclusion date stated in Appendix A, we assumed 50% will elect to enroll in the health plans without any County subsidy.

Spouse Coverage – We have assumed 50% of new General retirees and 60% of new Safety retirees electing coverage will elect spouse medical and dental coverage at retirement.

Spouse Age – Female spouses are assumed to be three years younger than male spouses.

Dependent Coverage – We have assumed 30% of retirees with no spouse coverage will elect coverage for a dependent child until age 65 and 50% of retirees with spouse coverage will elect coverage for a dependent child until age 65.

Health Plan Election – We have assumed that new retirees will remain enrolled in the same plan they were enrolled in as actives. For actives who waived coverage, we have assumed that they will elect Kaiser plan coverage. For retirees enrolled in either the CalPERS Anthem or Blue Shield plans, we assumed they will transfer to the United Health Care Medicare Supplement plan upon reaching age 65, as the CalPERS health plan no longer offers Anthem or Blue Shield coverage for Medicare eligible retirees.

Valuation of Retiree Premium Subsidy Due to Active Health Costs

Currently, the County and California PERS (PEMHCA) health plans charge the same premiums for retirees who are not yet eligible for Medicare as for active employees. Therefore, the retiree premium rates are being subsidized by the inclusion of active lives in setting rates. (Premiums calculated only based on retiree health claims experience would have resulted in higher retiree premiums.) GASB 45 requires that the value of this subsidy be recognized as a liability in valuations of OPEB costs.

To account for the fact that per member health costs vary depending on age (higher health costs at older ages), we calculated equivalent per member per month (PMPM) costs that vary by age based on the age distribution of covered members, and based on relative cost factors by age. The relative cost factors were developed from the Milliman Health Cost Guidelines™. Based on the carrier premium rates and relative age cost factors assumptions, we developed age adjusted monthly PMPM health costs for 2016 to be used in valuing the implicit rate subsidy.

Effective January 1, 2017, the medical premium tier structure will change from two tiers (retiree only, retiree plus one or more dependents) to three tiers (retiree only, retiree plus one dependent, and retiree plus two or more dependents) for certain Non-Medicare Retirees. We assume no change in the value of the implicit premium rate subsidy for retirees not yet eligible for Medicare due to this change. Under the new tier structure, the active and non-Medicare retiree premium rates would remain pooled and blended meaning an implicit rate subsidy would continue under the proposed plan. However, the liability associated with the implicit rate subsidy could increase, decrease, or stay approximately the same depending on the relative premium costs by rate tier for the new three tier premium structure. Since new relative costs by tier for the proposed three tier structure are not yet known, we could not value the effect the proposed three tier structure would have on the implicit rate subsidy liability in this valuation until the actual rate premiums are known.

The following tables show the age adjusted expected monthly claims cost for a male participant at age 64 for each health plan and relative age factors compared to a male age 64.

Plan	Monthly Age Adjusted Claims Cost for Age 64 Male	Dependent Child Cost Load
CCHP A	$ 1,311	$ 209
CCHP B	1,596	252
Kaiser A	1,441	300
Kaiser B	1,401	339
Health Net HMO A	1,950	412
Health Net HMO B	1,702	439
Health Net PPO	1,913	555
California PERS Plans (average)	1,504	0

Relative Claims Cost Factor Compared to Male age 64

Age	Male	Female
50	0.463	0.578
55	0.609	0.674
60	0.790	0.794
64	1.000	0.916

Since retirees eligible for Medicare (age 65 and beyond) are enrolled in Medicare supplemental plans, the premiums for retirees with Medicare are determined without regard to active employee claims experience and no such subsidy exists for this group for medical cost.

Medical Cost Inflation Assumption

We assumed future increases to the health costs and premiums are based on the "Getzen" model published by the Society of Actuaries for purposes of evaluating long term medical trend. Under the Patient Protection and Affordable Care Act of 2010, a Federal excise tax will apply for high cost health plans beginning in 2020. A margin to reflect the impact of the excise tax in future years is reflected in the assumed trend. The following table shows the assumed rate increases in future years for Medical premiums.

Calendar Year	County Plans Pre 65	Calendar Year	County Plans Post 65	Calendar Year	PEMHCA Plans Pre 65	Calendar Year	PEMHCA Plans Post 65
2016	4.50%	2016	5.25%	2016	4.50%	2016	5.00%
2017	8.00%	2017	8.25%	2017	8.00%	2017	8.25%
2018	5.50%	2018 – 2021	5.50%	2018 – 2021	5.50%	2018 – 2020	5.50%
2019 – 2020	5.25%	2022 – 2036	5.75%	2022 – 2036	6.25%	2021 – 2036	5.75%
2021 – 2023	5.50%	2037 – 2040	5.50%	2037 – 2038	6.00%	2037 – 2041	5.50%
2024 – 2025	5.75%	2041 – 2043	6.00%	2039 – 2044	5.75%	2042 – 2048	5.25%
2026	6.25%	2044 – 2046	5.75%	2045 – 2057	5.50%	2049 – 2053	5.75%
2027	6.50%	2047	6.00%	2058 – 2063	5.25%	2054 – 2060	5.50%
2028	6.25%	2048	6.25%	2064 – 2065	5.00%	2061 – 2062	5.75%
2029 - 2030	6.50%	2049 – 2053	6.00%	2066 – 2069	4.75%	2063 – 2064	5.50%
2031 – 2036	6.25%	2054 – 2060	5.75%	2070 +	4.50%	2065 – 2067	5.25%
2037 – 2039	6.00%	2061 – 2063	5.50%			2068 – 2069	5.00%
2040 – 2046	5.75%	2064 – 2065	5.25%			2070 – 2091	4.75%
2047 – 2059	5.50%	2066 – 2068	5.00%			2092 +	4.50%
2060 – 2063	5.25%	2069 – 2075	4.75%				
2064 – 2066	5.00%	2076 +	4.50%				
2067 – 2069	4.75%						
2070 +	4.50%						

Dental Cost We assumed Dental costs will increase 4.0% annually.

Appendix C. Changes in Actuarial Cost Method and Assumptions

The following is a list of assumption and method changes from the prior actuarial valuation. The Board adopted the changes in April 2016.

Actuarial Cost Method

The actuarial cost method used for determining the benefit obligations was changed from the Projected Unit Credit cost method to the individual Entry Age Normal cost method. This is the actuarial cost method adopted by the GASB board in June 2015 for the upcoming GASB 74/75 standards in which the implementation date for the OPEB Fund under GASB 74 will be for the fiscal year ending June 30, 2017, and for the County under GASB 75 will be for the fiscal year ending June 30, 2018.

Spouse Coverage Election Assumption

The spouse coverage election assumption was changed from 50% for all new retirees electing coverage to 50% for all new General retirees electing coverage and 60% for all new Safety retirees electing coverage. The assumption is based on a review of the County experience from 2012 to 2015.

Health Cost Inflation Assumption

We developed the medical cost trend for the prior valuation based on the “Getzen” model published by the Society of Actuaries for purposes of evaluating long term medical trend. The medical trend includes the effect of the Patient Protection and Affordable Care Act of 2010, on future health costs. The Consolidated Appropriations Act of 2016 delayed the excise tax on high cost plans from 2018 to 2020, and eliminated the Health Insurer Fee for calendar year 2017 only. The Health Insurer Fee will be assessed again in calendar year 2018. The medical trend was updated to reflect these recent legislative changes.

Retirement Rates for PEPRA Tier Employees

The PEPRA Tier retirement rates developed by CCCERA was used for employees hired on or after January 1, 2013. The rates are shown in Appendix B.

Appendix D. Summary of Participant Data

The following census of participants was used in the actuarial valuation and provided by Contra Costa County.

Active Employees

Age	General	Safety	Total
Under 25	110	22	132
25 – 29	490	157	647
30 – 34	816	162	978
35 – 39	952	192	1,144
40 – 44	951	229	1,180
45 – 49	1,064	231	1,295
50 – 54	1,148	105	1,253
55 – 59	999	35	1,034
60 – 64	687	20	707
65 & Over	273	2	275
Total	7,490	1,155	8,645

Average Age on Valuation Date: 45.25
Average Service on Valuation Date: 10.04

Current Retirees

Age	General	Safety	Total
Under 50	23	67	90
50 – 54	101	153	254
55 – 59	367	188	555
60 – 64	778	201	979
65 – 69	1,248	258	1,506
70 – 74	953	169	1,122
75 – 79	615	90	705
80 – 84	457	69	526
85 & Over	592	67	659
Total	5,134	1,262	6,396

Average Age on Valuation Date: 70.03