County Connection

INTER OFFICE MEMO

To: Board of Directors Date: April 13, 2016

From: Erick Cheung, Director of Finance Reviewed by:

SUBJECT: OPEB Actuarial Valuation

SUMMMARY OF ISSUES:

The Government Accounting Standards Board (GASB) issued reporting standards that require County Connection to prepare an actuarial valuation of our Other Post-Employment Benefits (OPEB) under GASB Statement No. 45 (GASB 45). The valuation assesses our OPEB liabilities that are recorded in the financial statements along with additional disclosure information as required by GASB 45. An OPEB actuarial valuation is required by GASB 45 to be updated every two years with the last one completed in Fiscal Year (FY) 2014. The OPEB Actuarial Valuation report attached is for FY 2016 and FY 2017.

County Connection's Unfunded Actuarial Accrued Liability (UAAL) as of July 1, 2015 is $6.75 million, an increase of $2.1 million since the last valuation. The main reason for the increase is a change in actuarial standards which now requires the implicit subsidy be factored as part of the calculation. Implicit subsidy exists when the premiums charged for retiree coverage are lower than the expected retiree claims for that coverage. Pre-Medicare retirees are able to continue medical coverage at the same premium rates being charged to active employees, and this difference creates an implicit benefit subsidy. There is also a credit for current employees paying higher premiums based on rates including retirees that are Pre-Medicare age. The net impact of implicit subsidy is an additional $2.1 million in accrued liability that is required to be accounted for beginning this fiscal year.

Consider this simplified example in a plan for one month with one active employee and one retiree.

	Estimated Premiums Based on Claims	Actual Premium Paid	Total Subsidy Received (Provided)
Current Employee	$500	$600	($100)
Retiree Pre-Medicare Age	$800	$600	$200
Recognized Expense/Liability			**$100**

The Annual Required Contribution (ARC) for FY 2016 is $726,531 (see PP.1 of Bickmore Report), but County Connection gets credit under implicit subsidy of $121,739 for current employees, therefore the amount paid to retirees and the trust should amount to $604,792.

This amount is $39,792 over the original FY 2016 Budget of $565,000. The ARC for FY 2017 is $749,220 (see PP.16 of Bickmore Report) and the amount net of credit paid to retirees and trust should be $601,501. The FY 2017 Proposed Budget presented in the prior month included $789,930 based on preliminary information. The current version has been reduced by $188,429 due to agree with the actuarial report.

Catherine L. MacLeod, Director of Health and Benefit Actuarial Services of Bickmore will be present to review the report with the committee members and answer questions. Bickmore is a risk management company for public entities and provides a wide variety of services. Bickmore also provides management services for the two insurance pools in which County Connection is a member – CalTIP (liability and property) and LAWCX (excess workers compensation).

RECOMMENDATION:

The A&F Committee recommends that the Board accept the OPEB Actuarial Valuation and continue to follow best practice and County Connection's past practice to fund the Annual Required Contribution as stated in the actuarial report.

FINANCIAL IMPLICATION:

Based on Bickmore’s actuarial valuation, the ARC net of credits for FY 2016 and FY 2017 amounts to $604,792 and $601,501, respectively and incorporated in the FY 2017 Proposed Budget.

Bickmore

February 26, 2016

Mr. Erick Cheung
Director of Finance
Central Contra Costa Transit Authority
2477 Arnold Industrial Way
Concord, CA 94520

Re: July 1, 2015 Actuarial Report on GASB 45 Retiree Benefit Valuation

Dear Mr. Cheung:

We are pleased to enclose our report providing the results of the July 1, 2015 actuarial valuation of other post-employment benefit (OPEB) liabilities for the Central Contra Costa Transit Authority (the Authority). The report's text describes our analysis and assumptions in detail. *This report should be considered a draft until the Authority has had an opportunity to review and comment. Once any issues have been discussed and resolved, we will issue our final report.*

The primary purposes of the report are to develop the value of future OPEB expected to be provided by the Authority, and the current OPEB liability and the annual OPEB expense to be reported in the Authority's financial statements for the fiscal years ending June 30, 2016 and June 30, 2017.

This valuation was prepared with the understanding that the Authority will continue:

- To contribute 100% of the total ARC each year, including trust contributions, as applicable, to the irrevocable OPEB trust account with Public Agency Retirement Services (PARS).
- To follow the terms of its current PEMHCA resolution on file with CalPERS. There have been no changes to the benefits provided since the 2013 valuation was prepared.
- To provide medical and other healthcare contributions for active employees in addition to those provided by the PEMHCA resolutions through a pre-tax flexible benefit plan in order maintain compliance with PEMHCA requirements.

We appreciate the opportunity to work on this analysis and acknowledge the efforts of the Authority's staff, who provided valuable information and assistance to enable us to perform this valuation. Please let us know if we can be of further assistance.

Sincerely,

Catherine L. MacLeod, FSA, FCA, EA, MAAA
Director, Health and Benefit Actuarial Services

Enclosure

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A. Executive Summary

This report presents the results of the July 1, 2015 actuarial valuation of the Central Contra Costa Transit Authority (the Authority) other post-employment benefit (OPEB) programs. The purposes of this valuation are to assess the OPEB liabilities and provide disclosure information as required by Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). This report reflects the valuation of two distinct types of OPEB liability; additional information is provided in Section C.

- An "explicit subsidy" exists when the employer contributes directly toward retiree healthcare premiums. In this program, benefits may include a monthly subsidy toward medical premiums for eligible retirees. Future excise taxes expected to be paid for "high cost" coverage are also explicit costs and are included with explicit liabilities.
- An "implicit subsidy" exists when the premiums charged for retiree coverage are lower than the expected retiree claims for that coverage. Pre-Medicare retirees able to continue medical coverage at the same premium rates as are charged for active employees creates an implicit benefit subsidy under GASB 45. *This is the first valuation required to include the implicit subsidy liability.*

How much the Authority contributes each year affects the calculation of liabilities. The Authority has been prefunding its OPEB obligations by consistently making contributions greater than or equal to the Annual Required Contribution (ARC) each year and is expected to continue doing so. Trust assets are currently invested in PARS. With the Authority's approval, this valuation was prepared using a 5.1% discount rate, the same rate used in the prior valuation. Please note that use of this rate is an assumption and is not a guarantee of future investment performance.

Exhibits presented in this report reflect Bickmore's understanding that the results of this July 1, 2015 valuation will be applied in determining the annual OPEB expense for the fiscal years ending June 30, 2016 and 2017.

The Actuarial Accrued Liability and Assets as of July 1, 2015 are shown below:

Subsidy	Explicit	Implicit	Total
Discount Rate	5.1%	5.1%	5.1%
Actuarial Accrued Liability	$ 6,682,227	$ 2,103,420	$ 8,785,647
Actuarial Value of Assets	2,032,180	-	2,032,180
Unfunded Actuarial Accrued Liability	4,650,047	2,103,420	6,753,467
Funded Ratio	30.4%	0.0%	23.1%

Assuming the Authority continues to follow its previously established policy of prefunding its OPEB liabilities, the following summarizes results for the fiscal year ending June 30, 2016:

Subsidy	Explicit	Implicit	Total
Annual Required Contribution (ARC) for FYE 2016	$ 491,829	$ 234,702	$ 726,531
Expected employer paid benefits for retirees	208,258	-	208,258
Current year's implicit subsidy credit	-	121,739	121,739
Expected contribution to OPEB trust	283,571	112,963	396,534
Expected net OPEB obligation at June 30, 2016	(7,476)	-	(7,476)

Executive Summary (Concluded)

Detailed results for the fiscal years ending June 30, 2016 and 2017 are shown in tables beginning on page 13. A breakout of results by group is provided in Appendix 1 and additional information to facilitate OPEB reporting in the Authority's financial statements is provided in Appendix 3.

The liabilities shown in the report reflect assumptions regarding continued future employment, rates of retirement and survival, and elections by future retirees to retain coverage for themselves and their dependents. Please note that this valuation has been prepared on a closed group basis; no provision is generally made for new employees until the valuation date following their employment.

An exhibit comparing current valuation results to those from the prior valuation is provided on page 6, followed by a description of changes. An actuarial valuation is, by its nature, a projection and to the extent that actual experience is not what we assumed, future results will be different. Some possible sources of future differences may include:

- A significant change in the number of covered or eligible plan members;
- A significant increase or decrease in the future medical premium rates or in the subsidy provided by the Authority toward retiree medical premiums;
- Longer life expectancies of retirees;
- Significant changes in expected retiree healthcare claims by age, relative to healthcare claims for active employees and their dependents;
- Higher or lower returns on plan assets than were assumed; and
- Implementation of GASB 75, the new OPEB accounting standard, which should be not later than the Authority's fiscal year ending June 30, 2018. One key change moves reporting of the unfunded OPEB liability from a footnote to the balance sheet.

Details of our valuation process and the various disclosures required by GASB 45 are provided on the succeeding pages. The next valuation is scheduled to be prepared as of July 1, 2017. If there are any significant changes in the employee data, benefits provided or the funding policy, please contact us to discuss whether an earlier valuation is appropriate.

Important Notices

This report is intended to be used only to present the actuarial information relating to other postemployment benefits for the Authority's financial statements and to provide the annual contribution information with respect to the Authority's current OPEB funding policy. The results of this report may not be appropriate for other purposes, where other assumptions, methodology and/or actuarial standards of practice may be required or more suitable. We note that various issues in this report may involve legal analysis of applicable law or regulations. The Authority should consult counsel on these matters; Bickmore does not practice law and does not intend anything in this report to constitute legal advice. In addition, we recommend the Authority consult with their internal accounting staff or external auditor or accounting firm about the accounting treatment of OPEB liabilities.

B. Requirements of GASB 45

The Governmental Accounting Standards Board (GASB) issued GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. This Statement establishes standards for the measurement, recognition, and display of OPEB expense/expenditures and related liabilities (assets), note disclosures, and, if applicable, required supplementary information (RSI) in the financial reports of state and local governmental employers. The underlying intent of GASB 45 is to systematically recognize the projected cost of OPEB during the years employees are working, rather than over the years when the benefits would be paid.

We understand that the Authority implemented GASB 45 for the fiscal year ended June 30, 2009. For agencies with 200 or more members covered by or eligible for plan benefits, GASB 45 requires that a valuation be prepared no less frequently than every two years. GASB 45 disclosures include the determination of an annual OPEB cost. For the first year, the annual OPEB cost is equal to the annual required contribution (ARC) as determined by the actuary.

- If the Authority's OPEB contributions had been equal to the ARC each year, the net OPEB obligation would equal $0.
- If the Authority's actual contribution is less than (greater than) the ARC, then a net OPEB obligation (asset) amount is established. In subsequent years, the annual OPEB expense will reflect adjustments made to the net OPEB obligation, in addition to the ARC (see Tables 1B and 1D).

GASB 45 provides for recognition of payments as contributions if they are made (a) directly to retirees or beneficiaries, (b) to an insurer, e.g., for the payment of premiums, or (c) to an OPEB fund set aside toward the cost of future benefits. Funds set aside for future benefits should be considered contributions to an OPEB plan only if the vehicle established is one that is capable of building assets that are separate from and independent of the control of the employer and legally protected from its creditors. Furthermore, the sole purpose of the assets should be to provide benefits under the plan. These conditions generally require the establishment of a legal trust, such as the Authority's OPEB trust account with PARS. Earmarked assets or reserves may be an important step in financing future benefits, but they may not be recognized as an asset for purposes of reporting under GASB 45.

We reiterate that GASB 45 applies only to the expense to be charged to an agency's income statements and to providing other related liability disclosures. While the Annual Required Contribution typically comprises the majority of the annual OPEB expense, it is a theoretical, not a required contribution amount. The decision whether or not to prefund, and at what level, is at the discretion of the Authority, as are the manner and term for paying down the unfunded actuarial accrued liability. Once a funding policy has been established, however, the Authority's auditor may have an opinion as to the timing and manner of any change to such policy in future years. The level of prefunding also affects the selection of the discount rate used for valuing the liabilities.

New GASB Statement 75, issued in June 2015, will impact the liabilities and/or expense developed in future valuations and will require new information to be reported beginning with the Authority's fiscal year ending June 30, 2018.

C. Sources of OPEB Liabilities

General Types of OPEB

In general, post-employment benefits other than pensions (OPEB) comprise a part of compensation that employers offer for services received. The most common OPEB are:

- Medical
- Vision
- Dental
- Life Insurance
- Prescription drug

Other possible post-employment benefits may include outside group legal, long-term care, or disability benefits outside of a pension plan. OPEB does not generally include COBRA, vacation, sick leave[1] or other direct retiree payments which fall under other GASB accounting statements.

A direct employer payment toward the cost of OPEB benefits is referred to as an "explicit subsidy". In addition, if claims experience of employees and retirees are pooled when determining premiums, the retirees pay a premium based on a pool of members that, on average, are younger and healthier. For certain types of coverage, such as medical insurance, this results in an "implicit subsidy" of retiree premiums by active employee premiums since the retiree premiums are lower than they would have been if retirees were insured separately. Paragraph 13.a. of GASB 45 generally requires an implicit subsidy of retiree premium rates be valued as an OPEB liability.

For actuarial valuations dated prior to March 31, 2015, an exception existed for plan employers with a very small membership in a large "community-rated" healthcare program. Following a change in Actuarial Standards of Practice, GASB no longer offers this exception. *This change had a significant impact on this valuation of the Authority's OPEB liability*.

OPEB Obligations of the Authority

The Authority provides continuation of medical coverage to its retiring employees, which may create one or both of the following types OPEB liabilities:

- **Explicit subsidy liabilities**: The Authority contributes directly toward retiree medical premiums, as described in Table 3A. Liabilities relating to these benefits are included in this valuation.
- **Implicit subsidy liabilities**: Employees are covered by the CalPERS medical program. The same monthly premiums are charged for active employees and for pre-Medicare retirees and CalPERS has confirmed that the claims experience of these members is considered together in setting these premium rates. We determine the implicit rate subsidy for pre-Medicare retirees as the difference between (a) projected retiree medical claim costs by age and (b) premiums expected to be charged for retirees. For details, see Table 4 and Addendum 1: Bickmore Healthcare Claims Age Rating Methodology.

  Different monthly premiums are charged for Medicare-eligible members and CalPERS has confirmed that only the claims experience of these Medicare eligible members is considered in setting these premium rates. We have assumed that this premium structure is adequate to cover the expected claims of these retirees and believe that there is no implicit subsidy of premiums for these members by active employees.

[1] When a terminating employee's unused sick leave credits are converted to provide or enhance a defined benefit OPEB, e.g., healthcare benefits, such converted sick leave credits should be valued under GASB 45.

D. Valuation Process

The valuation has been based on employee census data and benefits initially submitted to us by the Authority in December 2015 and clarified in various related communications. A summary of the employee data is provided in Table 2 and a summary of the benefits provided under the Plan is provided in Table 3A. While individual employee records have been reviewed to verify that they are reasonable in various respects, the data has not been audited and we have otherwise relied on the Authority as to its accuracy. The valuation described below has been performed in accordance with the actuarial methods and assumptions described in Table 4.

In projecting benefit values and liabilities, we first determine an expected premium or benefit stream over the employee's future retirement. Benefits may include both direct employer payments (explicit subsidies) and/or an implicit subsidy, arising when retiree premiums are expected to be subsidized by active employee premiums. The projected benefit streams reflect assumed trends in the cost of those benefits and assumptions as to the expected date(s) when benefits will end. We then apply assumptions regarding:

- The probability that each individual employee will or will not continue in service with the Authority to receive benefits.
- To the extent assumed to retire from the Authority, the probability of various possible retirement dates for each retiree, based on current age and service; and
- The likelihood that future retirees will or will not elect retiree coverage (and benefits) for themselves and/or their dependents.

We then calculate a present value of these benefits by discounting the value of each future expected benefit payment, multiplied by the assumed expectation that it will be paid, back to the valuation date using the discount rate. These benefit projections and liabilities have a very long time horizon. The final payments for currently active employees may not be made for 70 years or more.

The resulting present value for each employee is allocated as a level percent of payroll each year over the employee's career using the entry age normal cost method and the amounts for each individual are then summed to get the results for the entire plan. This creates a cost expected to increase each year as payroll increases. Amounts attributed to prior fiscal years form the "actuarial accrued liability" (AAL). The amount of future OPEB cost allocated for active employees in the current year is referred to as the "normal cost". The remaining active cost to be assigned to future years is called the "present value of future normal costs".

In summary:

Actuarial Accrued Liability	Past Years' Cost Allocations	$ 8,785,647
plus Normal Cost	Current Year's Cost Allocation	339,806
plus Present Value of Future Normal Costs	Future Years' Cost Allocations	2,070,798
equals Present Value of Projected Benefits	Total Benefit Costs	$ 11,196,251

Where contributions have been made to an irrevocable OPEB trust, the accumulated value of trust assets is applied to offset the AAL. In this valuation, we set the Actuarial Value of Assets equal to the market value of assets invested in in the Authority's irrevocable OPEB trust account invested with PARS. The market value reported as of June 30, 2015 was $2,032,180. The portion of the AAL not covered by assets is referred to as the unfunded actuarial accrued liability (UAAL).

E. Basic Valuation Results

The following chart compares the results of the July 1, 2015 valuation of OPEB liabilities to the results of the July 1, 2013 valuation.

Funding Policy	**Prefunding Basis**			
Valuation date	**7/1/2013**	**7/1/2015**		
Subsidy	Explicit	Explicit	Implicit	Total
Discount rate	5.5%	5.1%	5.1%	5.1%
Number of Covered Employees				
Actives	233	227	212	227
Retirees	38	48	12	48
Total Participants	271	275	224	275
Actuarial Present Value of Projected Benefits				
Actives	$ 5,647,516	$ 5,966,253	$ 2,738,279	$ 8,704,532
Retirees	1,691,697	2,248,616	243,103	2,491,719
Total APVPB	7,339,213	8,214,869	2,981,382	11,196,251
Actuarial Accrued Liability (AAL)				
Actives	4,184,245	4,433,611	1,860,317	6,293,928
Retirees	1,691,697	2,248,616	243,103	2,491,719
Total AAL	5,875,942	6,682,227	2,103,420	8,785,647
Actuarial Value of Assets	1,165,830	2,032,180	-	2,032,180
Unfunded AAL (UAAL)	4,710,112	4,650,047	2,103,420	6,753,467
Normal Cost	227,211	225,961	113,845	339,806
Percent funded	19.8%	30.4%	0.0%	23.1%
Reported covered payroll	12,017,071	13,209,132	13,209,132	13,209,132
UAAL as percent of payroll	39.2%	35.2%	15.9%	51.1%

Note: Authority explicit liabilities shown above as of July 1, 2015 include approximately $61,000 in projected excise tax liability for retirees expected to be covered by "high cost" plans under the Affordable Care Act.

The funded ratio (the ratio of the Actuarial Value of Assets divided by the Actuarial Accrued Liability) is 23.1% as of July 1, 2015. Covered payroll as of July 1, 2015 was reported to be $13,209,132. The Unfunded Actuarial Accrued Liability, expressed as a percentage of payroll, is 51.1% as of this date.

Changes Since the Prior Valuation

Even if all of our previous assumptions were met exactly as projected, liabilities generally increase over time as active employees get closer to the date their benefits are expected to begin. Given the uncertainties involved and the long term nature of these projections, our prior assumptions were not and are not likely to ever to be exactly realized. Nonetheless, it is helpful to review why results are different than we anticipated.

In comparing results shown in the exhibit above, we can see that the Unfunded Actuarial Accrued Liability (UAAL) increased by roughly $2,043,000, between July 1, 2013 and July 1, 2015, from about $4,710,000 to $6,753,000. We expected the UAAL to decrease by about $82,000 over this two year

Basic Valuation Results (Concluded)

period, from the excess of new contributions and trust earnings over additional costs accrued for active employees, benefits paid to retirees and the passage of time. Thus, the actual UAAL is $2,125,000 higher than expected. This difference is primarily a result of the following:

- A $2,103,000 increase in the AAL to begin recognizing the implicit subsidy of medical coverage for current and future retirees prior to becoming eligible for Medicare; in developing this liability, we added assumptions regarding expected claims cost by age and gender (see Addendum 1 for a description of this methodology);
- A $329,000 increase in the AAL due to a change in the discount rate, from 5.5% to 5.1%; this change reflects the expected long term return on investments of 5.7% reduced by .6% to cover estimated trust administration and investment fees;
- A $161,000 increase in the AAL due to revised assumptions for future disability and service retirements, based on the 2014 CalPERS retirement plan experience study covering City employees; we also updated our projection of future improvements in future mortality rates which results in longer life expectancies (see Addendum 2 for a description of this methodology);
- A $207,000 decrease in the AAL relating to a decrease in the percentage of married employees we assumed will cover a spouse on a Authority medical plan in retirement; while we continue to assumed that 85% of future retirees will be married, we decreased the percentage of married retirees assumed to cover their spouse to 60%, down from 70%, based on a review of recent plan experience; and
- A $261,000 decrease in the UAAL from plan experience relative to prior assumptions. Plan experience includes factors such as changes in plan membership, retiree elections and changes in medical premiums and limits on benefits other than previously projected. Plan experience would include a small experience loss for new employees hired since July 2013.

  Plan experience also includes asset performance relative to the expected contributions and rate of return. Actual plan assets are about $21,000 higher than projected, primarily because contributions to PARS were about $63,000 higher than we projected during this two year period. These higher contributions were offset by $42,000 less than expected in net return on assets. The actual rate of return was about 4.1% per year, somewhat less than the 5.5% assumed long term rate of return assumed over the prior two years.

F. Funding Policy

The specific calculation of the ARC and annual OPEB expense for an employer depends on how the employer elects to fund these benefits. The funding levels can generally be categorized as follows:

1. *Prefunding* - contributing an amount greater than or equal to the ARC each year. Prefunding generally allows the employer to have the liability calculated using a higher discount rate, which in turn lowers the liability. In addition, following a prefunding policy does not build up a net OPEB obligation (or gradually reduces it to $0). Prefunding results in this report were developed using a discount rate of 5.1%.
2. *Pay-As-You-Go funding* – contributing only the amounts needed to pay retiree benefits in the current year; generally requires a lower discount rate, such as 4.0%.
3. *Partial prefunding* – contributing more than the current year's retiree payments but less than 100% of the ARC; requires that liabilities be developed using a discount rate that "blends" the relative portions of benefits that are prefunded and those not.

Determination of the ARC

The Annual Required Contribution (ARC) consists of two basic components, which have been adjusted with interest to the Authority's fiscal year end:

- The amounts attributed to service performed in the current fiscal year (the normal cost) and
- Amortization of the unfunded actuarial accrued liability (UAAL).

ARCs for the fiscal years ending June 30, 2016 and June 30, 2017 are developed in Tables 1A and 1C.

Decisions Affecting the Amortization Payment

The period and method for amortizing the AAL can significantly affect the ARC. GASB 45:

- Prescribes a maximum amortization period of 30 years and requires no minimum amortization period (except 10 years for certain actuarial gains). Immediate full funding of the liability is also permitted.
- Allows amortization payments to be determined (a) as a level percentage of payroll, designed to increase over time as payroll increases, or (b) as a level dollar amount much like a conventional mortgage, so that this component of the ARC does not increase over time. Where a plan is closed and has no ongoing payroll base, a level percent of payroll basis is not permitted.
- Allows the amortization period to decrease annually by one year (closed basis) or to be maintained at the same number of years (open basis).

Funding Policy Illustrated in This Report

It is our understanding that the Authority's prefunding policy includes amortization of the unfunded AAL over a closed 30-year period initially effective July 1, 2009. As of July 1, 2015, 6 years of amortization have occurred and 24 years remain. Amortization payments are determined on a level percent of pay basis.[2]

[2] Where the UAAL is amortized on a level percent of pay basis, if all assumptions are met, the UAAL may increase, rather than decrease, in the earlier years of the amortization period.

Funding Policy (Concluded)

Funding of the Implicit Subsidy

The implicit subsidy liability created when expected retiree medical insurance claims exceed the retiree premiums was described earlier in Section C. In practical terms, when the Authority pays the premiums for active employees each year, their premiums include an amount expected to be transferred to cover the portion of the retirees' claims not covered by their premiums. This transfer represents the current year's implicit subsidy. Paragraph 13.g. of GASB 45 allows for recognition of payments to an irrevocable trust *or directly to the insurer* as an employer's contribution to the ARC. We have estimated the portion of this year's premium payment attributable to the implicit subsidy and recommend netting this amount against the funding requirement for the implicit subsidy (see Tables 1B and 1D).

There is a larger question about whether or not the Authority will want to prefund the implicit subsidy liability. Some possible options include:

- Prefunding 100% of the ARC relating to both the explicit subsidy and implicit subsidy liabilities. *For purposes of this draft report, this is the approach we assumed the Authority would follow.*
- Prefunding 100% of the ARC relating to both the explicit subsidy and implicit subsidy liabilities, but intentionally allocate the entire trust contribution to more quickly pay-off the explicit subsidy liability, rather than allocating any toward the implicit subsidy liability. We believe this would allow the implicit subsidy liability to be developed using the prefunding discount rate of 5.1%.
- Prefunding 100% of the ARC developed for the explicit subsidy liability, but financing the implicit subsidy liability on a pay-as-you-go basis. We believe this approach would require determining the implicit subsidy liability using a pay-as-you-go discount rate (e.g., 4.0% rather than the 5.1%).

We are available to review these options further with the Authority.

G. Choice of Actuarial Funding Method and Assumptions

The ultimate real cost of an employee benefit plan is the value of all benefits and other expenses of the plan over its lifetime. These expenditures are dependent only on the terms of the plan and the administrative arrangements adopted, and as such are not affected by the actuarial funding method. The actuarial funding method attempts to spread recognition of these expected costs on a level basis over the life of the plan, and as such sets the "incidence of cost". Methods that produce higher initial annual (prefunding) costs will produce lower annual costs later. Conversely, methods that produce lower initial costs will produce higher annual costs later relative to the other methods. GASB 45 allows the use of any of six actuarial funding methods; a brief description of each is in the glossary.

Factors Impacting the Selection of Funding Method

While the goal of GASB 45 is to match recognition of retiree medical expense with the periods during which the benefit is earned, the funding methods differ because they focus on different financial measures in attempting to level the incidence of cost. Appropriate selection of a funding method contributes to creating intergenerational equity between generations of taxpayers. The impact of potential new employees entering the plan may also affect selection of a funding method, though this is not a factor in this plan.

We believe it is most appropriate for the plan sponsor to adopt a theory of funding and consistently apply the funding method representing that theory. This valuation was prepared using the entry age normal cost method with normal cost determined on a level percent of pay basis. The entry age normal cost method often produces initial contributions between those of the other more common methods and is generally regarded by pension actuaries as the most stable of the funding methods and is one of the most commonly used methods for GASB 45 compliance.

Factors Affecting the Selection of Assumptions

Special considerations apply to the selection of actuarial funding methods and assumptions for the Authority. The demographic actuarial assumptions (such as rates of retirement, disability, termination and mortality) used in this report were chosen, for the most part, to be the same as the actuarial assumptions used for the most recent actuarial valuations of the retirement plans covering Authority employees. Other assumptions, such as healthcare trend, age related healthcare claims, retiree participation rates and spouse coverage, were selected based on demonstrated plan experience and/or our best estimate of expected future experience. We will continue to gather information and monitor these assumptions for future valuations, as more experience develops.

In selecting an appropriate discount rate, GASB states that the discount rate should be based on the expected long-term yield of investments used to finance the benefits. As requested by the Authority, the discount rate used in this valuation is 5.1%. Information received from PARS Investment advisors, regarding the long term expected return of the trust account's portfolio and investment strategy, supports use of this discount rate.

H. Certification

This report presents the results of our actuarial valuation of the other post-employment benefits provided by the Central Contra Costa Transit Authority. The purpose of this valuation was to provide the actuarial information required for the Authority's reporting under Statement 45 of the Governmental Accounting Standards Board. The calculations were focused on determining the plan's funded status as of the valuation date, developing the Annual Required Contribution and projecting the Net OPEB Obligations for the years to which this report is expected to be applied.

We certify that this report has been prepared in accordance with our understanding of GASB 45. To the best of our knowledge, the report is complete and accurate, based upon the data and plan provisions provided to us by the Authority. We believe the assumptions and method used are reasonable and appropriate for purposes of the financial reporting required by GASB 45. The results may not be appropriate for other purposes.

Each of the undersigned individuals is a Fellow in the Society of Actuaries and Member of the American Academy of Actuaries who satisfies the Academy Qualification Standards for rendering this opinion.

Signed: February 26, 2016

Catherine L. MacLeod, FSA, FCA, EA, MAAA

Francis M. Schauer Jr., FSA, FCA, EA, MAAA

Table 1

Results for fiscal year ending 2015: The ARC and AOE for the Authority's fiscal year ending June 30, 2015 were developed as part of the July 2013 valuation. We used the net OPEB obligation reported in the Authority's June 30, 2015 financial statements as the starting point for developing the net OPEB obligation as of June 30, 2016, shown in Table 1B.

Results for fiscal years 2016 and 2017: The basic results of our July 1, 2015 valuation of OPEB liabilities for the Authority calculated under GASB 45 were summarized in Section E. Those results are applied to develop the annual required contribution (ARC), annual OPEB expense (AOE) and the net OPEB obligation (NOO) or net OPEB asset (NOA) to be reported by the Authority for its fiscal years ending June 30, 2016 and June 30, 2017.

As noted earlier in this report, the development of the ARC reflects the assumption that the Authority will contribute at least 100% of the total ARC each year, with contributions comprised of (a) direct payments to insurers toward retiree premiums, (b) recognition of the current year's implicit subsidy as a contribution, and (c)) contributions to the OPEB trust. If this understanding is incorrect or if actual Authority contributions differ by more than an immaterial amount, some of the results in this report will need to be revised.

Employees reflected in future years' costs: The counts of active employees and retirees shown in Tables 1A and 1C are the same as the counts of active and retired employees on the valuation date. While we do not adjust these counts between valuation dates, the liabilities and costs developed for those years already anticipate the likelihood that some active employees may leave employment forfeiting benefits, some may retire and elect benefits and coverage for some of the retired employees may cease. However, because this valuation has been prepared on a closed group basis, no potential future employees are included. We will incorporate any new employees in the next valuation, in the same way we included new employees hired after July 2013 in this July 2015 valuation.

We also note that the number of active employees and retirees expected to create an implicit subsidy OPEB liability are lower than the number of those which create an explicit subsidy liability. CalPERS medical premiums for those over age 65 (active or retired) and expected to be eligible for Medicare are not subsidized by active employee medical premiums, so do not create an implicit subsidy liability.

Table 1A
ARC Calculation for FYE 2016

The table below develops the ARC for the Agency's fiscal year ending June 30, 2016 determined on a prefunding basis. Calculations are shown separately, and in total, relating to Explicit and Implicit OPEB benefits.

Funding Policy	**Prefunding Basis**		
Valuation date	**7/1/2015**		
Subsidy	Explicit	Implicit	Total
For fiscal year beginning	7/1/2015	7/1/2015	7/1/2015
For fiscal year ending	6/30/2016	6/30/2016	6/30/2016
Expected long-term return on assets	5.1%	5.1%	5.1%
Discount rate	5.1%	5.1%	5.1%
Number of Covered Employees			
Actives	227	212	227
Retirees	48	12	48
Total Participants	275	224	275
Actuarial Present Value of Projected Benefits			
Actives	$ 5,966,253	$ 2,738,279	$ 8,704,532
Retirees	2,248,616	243,103	2,491,719
Total APVPB	8,214,869	2,981,382	11,196,251
Actuarial Accrued Liability (AAL)			
Actives	4,433,611	1,860,317	6,293,928
Retirees	2,248,616	243,103	2,491,719
Total AAL	6,682,227	2,103,420	8,785,647
Actuarial Value of Assets	2,032,180	-	2,032,180
Unfunded AAL (UAAL)	4,650,047	2,103,420	6,753,467
Normal Cost	225,961	113,845	339,806
Amortization method	Level % of Pay	Level % of Pay	Level % of Pay
Initial amortization period (in years)	30	30	30
Remaining period (in years)	24	24	24
Determination of Amortization Payment			
UAAL	$ 4,650,047	$ 2,103,420	$ 6,753,467
Factor	19.2149	19.2149	19.2149
Payment	242,002	109,468	351,470
Annual Required Contribution (ARC)			
Normal Cost	225,961	113,845	339,806
Amortization of UAAL	242,002	109,468	351,470
Interest to fiscal year end	23,866	11,389	35,255
Total ARC at fiscal year end	491,829	234,702	726,531
Projected covered payroll	$ 13,209,132	$ 13,209,132	$ 13,209,132
Normal Cost as a percent of payroll	1.7%	0.9%	2.6%
ARC as a percent of payroll	3.7%	1.8%	5.5%
ARC per active ee	2,167	1,107	3,201

Table 1B
Expected OPEB Disclosures for FYE 2016

The following exhibit develops the annual OPEB expense, estimates the expected OPEB contributions and projects the net OPEB obligation as of June 30, 2016 reflecting the assumed prefunding policy described in this report.

	Prefunding Basis		
Fiscal Year End	**6/30/2016**	**6/30/2016**	**6/30/2016**
Subsidy	Explicit	Implicit	Total
1. Calculation of the Annual OPEB Expense			
a. ARC for current fiscal year	$ 491,829	$ 234,702	$ 726,531
b. Interest on Net OPEB Obligation (Asset)	(383)	-	(383)
c. Adjustment to the ARC	410	-	410
d. **Annual OPEB Expense (a. + b. + c.)**	491,856	234,702	726,558
2. Calculation of Expected Contribution			
a. Estimated payments on behalf of retirees	208,258	-	208,258
b. Estimated current year's implicit subsidy	-	121,739	121,739
c. Estimated contribution to OPEB trust	283,571	112,963	396,534
d. **Total Expected Employer Contribution**	491,829	234,702	726,531
3. Change in Net OPEB Obligation *(1.d. minus 2.d.)*	27	-	27
Net OPEB Obligation (Asset), beginning of fiscal year	(7,503)	-	(7,503)
Net OPEB Obligation (Asset) at fiscal year end	(7,476)	-	(7,476)

In the table above, we assumed that the Authority's contributions would equal 100% of the total ARC of $726,531. This may require adjusting the projected $396,534 contribution to the trust if actual retiree benefit payments are higher or lower than the estimate of $208,258 shown above. We also assumed that the Authority would take credit for the current year's implicit subsidy as an OPEB contribution toward the implicit subsidy ARC.

Notes on calculations above:

- Interest on the net OPEB obligation (or asset), shown above in item 1.b. is equal to the applicable discount rate (5.1%) multiplied by the net OPEB obligation (or asset) at the beginning of the year.
- The Adjustment to the ARC, shown above in item 1.c., is always the opposite sign of the net OPEB obligation or asset and exists to avoid double-counting of the amounts previously expensed but imbedded in the current ARC. This adjustment is calculated as *the opposite of* the net OPEB obligation (or asset) at the beginning of the year, plus interest on that amount (item 1.b.) with the sum then divided by the same amortization factor used to determine the ARC for this year (see the prior page for these factors).

Table 1C
ARC Calculation for FYE 2017

In the following exhibit, the July 1, 2015 valuation results have been adjusted (rolled forward) two years based on the underlying actuarial assumptions. These results are used to develop the annual required contribution (ARC) for the fiscal year ending June 30, 2017.

Funding Policy	**Prefunding Basis**		
Valuation date	**7/1/2015**		
Subsidy	Explicit	Implicit	Total
For fiscal year beginning	7/1/2016	7/1/2016	7/1/2016
For fiscal year ending	6/30/2017	6/30/2017	6/30/2017
Expected long-term return on assets	5.1%	5.1%	5.1%
Discount rate	5.1%	5.1%	5.1%
Number of Covered Employees			
Actives	227	212	227
Retirees	48	12	48
Total Participants	275	224	275
Actuarial Present Value of Projected Benefits			
Actives	$ 6,230,385	$ 2,832,142	$ 9,062,527
Retirees	2,195,184	179,551	2,374,735
Total APVPB	8,425,569	3,011,693	11,437,262
Actuarial Accrued Liability (AAL)			
Actives	4,857,063	2,029,055	6,886,118
Retirees	2,195,184	179,551	2,374,735
Total AAL	7,052,247	2,208,606	9,260,853
Actuarial Value of Assets	2,419,392	112,963	2,532,355
Unfunded AAL (UAAL)	4,632,855	2,095,643	6,728,498
Normal Cost	233,305	117,545	350,850
Amortization method	Level % of Pay	Level % of Pay	Level % of Pay
Initial amortization period (in years)	30	30	30
Remaining period (in years)	23	23	23
Determination of Amortization Payment			
UAAL	$ 4,632,855	$ 2,095,643	$ 6,728,498
Factor	18.5863	18.5863	18.5863
Payment	249,262	112,752	362,014
Annual Required Contribution (ARC)			
Normal Cost	233,305	117,545	350,850
Amortization of UAAL	249,262	112,752	362,014
Interest to fiscal year end	24,611	11,745	36,356
Total ARC at fiscal year end	507,178	242,042	749,220
Projected covered payroll	$ 13,638,429	$ 13,638,429	$ 13,638,429
Normal Cost as a percent of payroll	1.7%	0.9%	2.6%
ARC as a percent of payroll	3.7%	1.8%	5.5%
ARC per active ee	2,234	1,142	3,301

Table 1D
Expected OPEB Disclosures for FYE 2017

The following exhibit develops the annual OPEB expense, estimates the expected OPEB contributions and projects the net OPEB obligation as of June 30, 2017 reflecting the assumed prefunding policy described earlier in this report.

	Prefunding Basis		
Fiscal Year End	**6/30/2017**	**6/30/2017**	**6/30/2017**
Subsidy	Explicit	Implicit	Total
1. Calculation of the Annual OPEB Expense			
a. ARC for current fiscal year	$ 507,178	$ 242,042	$ 749,220
b. Interest on Net OPEB Obligation (Asset)	(381)	-	(381)
c. Adjustment to the ARC	423	-	423
d. **Annual OPEB Expense (a. + b. + c.)**	507,220	242,042	749,262
2. Calculation of Expected Contribution			
a. Estimated payments on behalf of retirees	250,200	-	250,200
b. Estimated current year's implicit subsidy	-	147,719	147,719
c. Estimated contribution to OPEB trust	256,978	94,323	351,301
d. **Total Expected Employer Contribution**	507,178	242,042	749,220
3. Change in Net OPEB Obligation *(1.d. minus 2.d.)*	42	-	42
Net OPEB Obligation (Asset), beginning of fiscal year	(7,476)	-	(7,476)
Net OPEB Obligation (Asset) at fiscal year end	(7,434)	-	(7,434)

In the table above, we assumed that the Authority's contributions would equal 100% of the total ARC of $749,220. This may require adjusting the projected $351,301 contribution to the trust if actual retiree benefit payments are higher or lower than the estimate of $250,200 shown above. We also assumed that the Authority would take credit for the current year's implicit subsidy of $147,719 as an OPEB contribution toward funding the implicit subsidy ARC.

Notes on calculations above:

- Interest on the net OPEB obligation (or asset), shown above in item 1.b. is equal to the applicable discount rate (5.1%) multiplied by the net OPEB obligation (or asset) at the beginning of the year.
- The Adjustment to the ARC, shown above in item 1.c., is always the opposite sign of the net OPEB obligation or asset and exists to avoid double-counting of the amounts previously expensed but imbedded in the current ARC. This adjustment is calculated as *the opposite of* the net OPEB obligation (or asset) at the beginning of the year, plus interest on that amount (item 1.b.) with the sum then divided by the same amortization factor used to determine the ARC for this year (see the prior page for these factors).

Table 2
Summary of Employee Data

The Authority reported 227 active employees; of these, 171 are currently participating in the medical program while 56 employees were waiving coverage as of the valuation date. Age and service information for the reported individuals is provided below:

Distribution of Benefits-Eligible Active Employees

Current Age	Years of Service						Total	Percent
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 & Up		
Under 25		1					1	0%
25 to 29		3					3	1%
30 to 34	3	5	3				11	5%
35 to 39		11	7	6	2		26	11%
40 to 44	1	2	6	5	4		18	8%
45 to 49		6	8	6	8	4	32	14%
50 to 54	4	2	7	4	11	13	41	18%
55 to 59	2	6	7	6	5	16	42	19%
60 to 64		1	3	7	5	16	32	14%
65 to 69		1	3	2	3	10	19	8%
70 & Up						2	2	1%
Total	10	38	44	36	38	61	**227**	**100%**
Percent	4%	17%	19%	16%	17%	27%	**100%**	

	July 2013 Valuation	July 2015 Valuation
Annual Covered Payroll	$12,017,071	$13,209,132
Average Attained Age for Actives	52.1	51.6
Average Years of Service	14.5	12.9

There are also 48 retirees or their beneficiaries currently receiving benefits under this program, whose ages are summarized below.

Retirees by Age		
Current Age	**Number**	**Percent**
Below 50	0	0%
50 to 54	0	0%
55 to 59	1	2%
60 to 64	8	17%
65 to 69	17	35%
70 to 74	11	23%
75 to 79	8	17%
80 & up	3	6%
Total	**48**	**100%**
Average Attained Age for Retirees:		70.5

The chart below summarizes the number of active and retired employees by group:

Participants by Group				
		Retired		
Group	Active	Under age 65	Over age 65	Total
Administration	47	3	16	66
ATU	167	6	21	194
Teamsters	13	0	2	15
Total	**227**	**9**	**39**	**275**

Table 2- Summary of Employee Data (Continued)

The chart below reconciles the number of actives and retirees included in the July 1, 2013 valuation of the Authority plan with those included in the July 1, 2015 valuation:

Reconciliation of Authority Plan Members Between Valuation Dates					
Status	Covered Actives	Waiving Actives	Covered Retirees	Covered Surviving Spouses	Total
Number reported as of July 1, 2013	178	55	35	3	271
New employees	16	16			32
Terminated employees	(12)	(8)			(20)
New retiree, elected coverage	(14)		14		0
New retiree, waiving coverage	(4)	(3)			(7)
Previously covered, now waiving	(4)	4			0
Previously waiving, now covered	10	(10)			0
Deceased or dropped coverage			(4)		(4)
Data corrections	1	2			3
Number reported as of July 1, 2015	**171**	**56**	**45**	**3**	**275**

Overall, the total population was stable over the prior two years, increasing by only 4 members. The active population decreased by 6, while the number of retirees receiving benefits increased by 10.

Of the 21 new retirements reported since July 1, 2013, 14 (2/3^{rds}) elected to continue coverage while 7 waived coverage (1/3rd). As expected, we observed some differences in the percentages of ATU and non-ATU retirees electing coverage as well as differences for retirees under and over age 65.

Plan elections: The charts below and on the following page summarize the plans (and associated caps) chosen by employees in the Administrative, ATU, and Teamsters groups.

Administrative Employees						
Frozen Active & Retiree Caps						
	Single Party Coverage		Two Party Coverage		Family Coverage	
Plan	Caps	Number of Participants	Caps	Number of Participants	Caps	Number of Participants
Anthem HMO Traditional	$ 494.86	9	$989.71	3	$ 1,286.63	5
Anthem HMO Select	270.71		541.42		703.85	
Blue Shield HMO	329.08	4	658.10		855.60	
Blue Shield NetValue	329.08	4	658.10		855.60	1
Kaiser	303.56	14	607.12	8	789.26	2
PERS Care	494.86	2	989.71		1,286.63	
PERS Choice	289.98	2	579.96		753.95	
PERS Select	270.71		541.42		703.85	
United Healthcare	303.56		607.12		789.26	
Waiving Coverage		12				
Total		**47**		**11**		**8**

Table 2- Summary of Employee Data (Concluded)

Amalgamated Transit Union (ATU)						
Frozen Active Caps (Retirees receive 75% of caps below in 2016)						
	Single Party Coverage		Two Party Coverage		Family Coverage	
Plan	Caps	Number of Participants	Caps	Number of Participants	Caps	Number of Participants
Anthem HMO Traditional	$ 374.92	5	$ 749.83	2	$ 974.78	5
Anthem HMO Select	233.59		467.18	1	607.34	
Blue Shield HMO	266.47	4	532.93	4	692.81	
Blue Shield NetValue	266.47	4	532.93	3	692.81	2
Kaiser	235.34	53	470.67	31	611.87	32
PERS Care	374.92	1	749.83		974.78	
PERS Choice	241.24	1	482.48	2	627.23	
PERS Select	233.59		467.18		607.34	
United Healthcare	235.34		470.67		611.87	
Waiving Coverage		44				
Total		**112**		**43**		**39**

Teamsters, Local 856						
Frozen Active and Retiree Caps						
	Single Party Coverage		Two Party Coverage		Family Coverage	
Plan	Caps	Number of Participants	Caps	Number of Participants	Caps	Number of Participants
Anthem HMO Traditional	$ 374.92	1	$ 749.83	1	$ 974.78	1
Anthem HMO Select	226.58		453.16		589.11	
Blue Shield HMO	280.29		560.57		728.74	
Blue Shield NetValue	280.29	1	560.57	1	728.74	1
Kaiser	254.15	3	508.30	3	660.79	3
PERS Care	374.92		749.83		974.78	
PERS Choice	241.24		482.48		627.23	
PERS Select	226.58		453.16		589.11	
United Healthcare	254.15		508.30		660.79	
Waiving Coverage						
Total		**5**		**5**		**5**

Table 3A
Summary of Retiree Benefit Provisions

OPEB provided: The Authority reported that the only OPEB provided is medical coverage.

Access to coverage: Medical coverage is currently provided through CalPERS as permitted under the Public Employees' Medical and Hospital Care Act (PEMHCA). This coverage requires the employee to satisfy the requirements for retirement under CalPERS, which requires attainment of age 50 (age 52, if a new to PERS on or after January 1, 2013) with 5 years of State or public agency service or approved disability retirement.

If an eligible employee is not already enrolled in the medical plan, he or she may enroll within 60 days of retirement or during any future open enrollment period. Coverage may be continued at the retiree's option for his or her lifetime. A surviving spouse and other eligible dependents may also continue coverage.

The employee must begin his or her retirement warrant within 120 days of terminating employment with the Authority to be eligible to continue medical coverage through the Authority and be entitled to the employer subsidy described below.

Benefits provided: As a condition of participation in the CalPERS medical program, the Authority is obligated to contribute toward the cost of retiree medical coverage for the retiree's lifetime or until coverage is discontinued. The Authority maintains three resolutions, executed at differing dates, for the Administrative, Amalgamated Transit Union (ATU) and Teamster employee groups, respectively. For each of these groups, the Authority maintains an "unequal" resolution with CalPERS defining the level of the Authority's contribution toward the cost of medical plan premiums.

- Under the unequal resolution, the employer's contribution toward *retiree* medical benefits is determined as follows: (1) 5% *multiplied by* (2) the number of prior years the agency group has been contracted with PEMHCA *multiplied by* (3) the contribution the employer makes toward active employee health benefits for that group.
- Note, however, that the monthly benefit may not be less than the required PEMHCA minimum employer contribution (MEC). The MEC was $122 per month in 2015 and increased to $125 per month in 2016. If the current benefits are not increased in the future, eventually the MEC will overtake the fixed subsidies and become the operative benefit. In Appendix 2, we have provided a projection of the years in which this is expected to occur.

Continued on the following page

Table 3A – Summary of Retiree Benefit Provisions (Continued)

The Administrative and Teamster groups have each participated in the Authority's unequal resolutions for over 20 years. Therefore, the Authority contributes 100% of the applicable active subsidy to retirees in the Administrative and Teamster groups. The following two charts describe the subsidies provided to Administrative and Teamster actives and retirees, varying by group and CalPERS medical plan:

Administrative Group			
Active and Retiree Monthly Subsidies by Plan			
Plan	Self	Self + 1	Self + Family
Anthem HMO Traditional	$494.86	$989.71	$1,286.63
Anthem HMO Select	270.71	541.42	703.85
Blue Shield Access	329.08	658.10	855.60
Blue Shield Access Advantage	329.08	658.10	855.60
Blue Shield NetValue	329.08	658.10	855.60
Blue Shield NetValue Advantage	329.08	658.10	855.60
Kaiser	303.56	607.12	789.26
PERS Care	494.86	989.71	1,286.63
PERS Choice	289.98	579.96	753.95
PERS Select	270.71	541.42	703.85
United Healthcare	303.56	607.12	789.26

Teamsters			
Active and Retiree Monthly Subsidies by Plan			
Plan	Self	Self + 1	Self + Family
Anthem HMO Traditional	$374.92	$749.83	$974.78
Anthem HMO Select	226.58	453.16	589.11
Blue Shield Access	280.29	560.57	728.74
Blue Shield Access Advantage	280.29	560.57	728.74
Blue Shield NetValue	280.29	560.57	728.74
Blue Shield NetValue Advantage	280.29	560.57	728.74
Kaiser	254.15	508.30	660.79
PERS Care	374.92	749.83	974.78
PERS Choice	241.24	482.48	627.23
PERS Select	226.58	453.16	589.11
United Healthcare	254.15	508.30	660.79

Continued on the following page

Table 3A – Summary of Retiree Benefit Provisions (Concluded)

ATU's unequal resolution was executed in 2002; therefore, ATU has completed only 14 of the 20 year unequal phase-in period as of the valuation date. Thus, in 2015 the Authority contributed 70% of the active ATU subsidies to ATU retirees, which increased to 75% in 2016. The active subsidies for ATU employees, varying by plan are shown below:

Amalgamated Transit Union (ATU)			
Active Monthly Subsidies by Plan			
Plan	Self	Self + 1	Self + Family
Anthem HMO Traditional	$374.92	$749.83	$974.78
Anthem HMO Select	233.59	467.18	607.34
Blue Shield Access	266.47	532.93	692.81
Blue Shield Access Advantage	266.47	532.93	692.81
Blue Shield NetValue	266.47	532.93	692.81
Blue Shield NetValue Advantage	266.47	532.93	692.81
Kaiser	235.34	470.67	611.87
PERS Care	374.92	749.83	974.78
PERS Choice	241.24	482.48	627.23
PERS Select	233.59	467.18	607.34
United Healthcare	235.34	470.67	611.87

Current premium rates: The 2016 CalPERS monthly medical plan rates in the Bay Area rate group are shown in the table below. If different rates apply where the member resides outside of this area, those rates are reflected in the valuation, but not listed here. The additional CalPERS administration fee is assumed to be separately expensed each year and has not been projected as an OPEB liability in this valuation.

Bay Area 2016 Health Plan Rates						
	Actives and Pre-Med Retirees			Medicare Eligible Retirees		
Plan	Ee Only	Ee & 1	Ee & 2+	Ee Only	Ee & 1	Ee & 2+
Anthem HMO Select HMO	$721.79	$1,443.58	$1,876.65	*Not Available*		
Anthem HMO Traditional HMO	855.42	1,710.84	2,224.09	*Not Available*		
Blue Shield Access+ HMO	1,016.18	2,032.36	2,642.07	*Not Available*		
Blue Shield NetValue HMO	1,033.86	2,067.72	2,688.04	*Not Available*		
Kaiser HMO	746.47	1,492.94	1,940.82	297.23	594.46	1,042.34
UnitedHealthcare HMO	955.44	1,910.88	2,484.14	320.98	641.96	1,215.22
PERS Choice PPO	798.36	1,596.72	2,075.74	366.38	732.76	1,211.78
PERSCare PPO	889.27	1,778.54	2,312.10	408.04	816.08	1,349.64

Table 3B
General CalPERS Annuitant Eligibility Provisions

The content of this section has been drawn from Section C, Summary of Plan Provisions, of the State of California OPEB Valuation as of June 30, 2014, issued December 2014, to the State Controller from Gabriel Roeder & Smith. It is provided here as a brief summary of general annuitant and survivor coverage.

Health Care Coverage

Retired Employees

A member is eligible to enroll in a CalPERS health plan if he or she retires within 120 days of separation from employment and receives a monthly retirement allowance. If the member meets this requirement, he or she may continue his or her enrollment at retirement, enroll within 60 days of retirement, or enroll during any Open Enrollment period. If a member is currently enrolled in a CalPERS health plan and wants to continue enrollment into retirement, the employee will notify CalPERS and the member's coverage will continue into retirement.

Eligibility Exceptions: Certain family members are not eligible for CalPERS health benefits:

- Children age 26 or older
- Children's spouses
- Former spouses
- Disabled children over age 26 who were never enrolled or were deleted from coverage
- Grandparents
- Parents
- Children of former spouses
- Other relatives

Coordination with Medicare

CalPERS retired members who qualify for premium-free Part A, either on their own or through a spouse (current, former, or deceased), must sign up for Part B as soon as they qualify for Part A. A member must then enroll in a CalPERS sponsored Medicare plan. The CalPERS-sponsored Medicare plan will pay for costs not paid by Medicare, by coordinating benefits.

Survivors of an Annuitant

If a CalPERS annuitant satisfied the requirement to retire within 120 days of separation, the survivor may be eligible to enroll within 60 days of the annuitant's death or during any future Open Enrollment period. Note: A survivor cannot add any new dependents; only dependents that were enrolled or eligible to enroll at the time of the member's death qualify for benefits.

Surviving registered domestic partners who are receiving a monthly annuity as a surviving beneficiary of a deceased employee or annuitant on or after January 1, 2002, are eligible to continue coverage if currently enrolled, enroll within 60 days of the domestic partner's death, or enroll during any future Open Enrollment period.

Surviving enrolled family members who do not qualify to continue their current coverage are eligible for continuation coverage under COBRA.

Table 4
Actuarial Methods and Assumptions

Valuation Date	July 1, 2015
Funding Method	Entry Age Normal Cost, level percent of pay[3]
Asset Valuation Method	Market value of assets
Long Term Return on Assets	5.1%
Discount Rate	5.1%
Participants Valued	Only current active employees and retired participants and covered dependents are valued. No future entrants are considered in this valuation.
Salary Increase	3.25% per year, used only to allocate the cost of benefits between service years
Assumed Wage Inflation	3.0% per year; used to determine amortization payments if developed on a level percent of pay basis
General Inflation Rate	2.75% per year

Demographic actuarial assumptions used in this valuation are based on the 2014 experience study of the California Public Employees Retirement System using data from 1997 to 2011, except for a different basis used to project future mortality improvements. Rates for selected age and service are shown below and on the following pages. The representative mortality rates were those published by CalPERS adjusted to back out 20 years of Scale BB to central year 2008 and then projected forward 6 years using Bickmore Scale 2014 to year 2014.

Mortality Before Retirement

Mortality rates in the table below are from the CalPERS experience study, adjusted as described above.

These rates were then adjusted on a generational basis by Bickmore Scale 2014 to anticipate future mortality improvement.

CalPERS Public Agency Miscellaneous Non-Industrial Deaths		
Age	Male	Female
15	0.00020	0.00015
20	0.00028	0.00018
30	0.00051	0.00027
40	0.00070	0.00047
50	0.00147	0.00103
60	0.00340	0.00201
70	0.00619	0.00408
80	0.01157	0.00918

[3] The level percent of pay aspect of the funding method refers to how the normal cost is determined. Use of level percent of pay cost allocations in the funding method is separate from and has no effect on a decision regarding use of a level percent of pay or level dollar basis for determining amortization payments.

Table 4 - Actuarial Methods and Assumptions (Continued)

Mortality After Retirement

Representative mortality rates for 2014 are shown in the charts below. The rates were then adjusted on a generational basis by Bickmore Scale 2014 to anticipate future mortality improvement.

Healthy Lives

CalPERS Public Agency Miscellaneous, Police & Fire Post Retirement Mortality		
Age	Male	Female
40	0.00103	0.00085
50	0.00475	0.00480
60	0.00785	0.00481
70	0.01541	0.01105
80	0.04556	0.03271
90	0.14423	0.10912
100	0.32349	0.29541
110	0.97827	0.97516
115	1.00000	1.00000

Disabled Miscellaneous

CalPERS Public Agency Disabled Miscellaneous Post-Retirement Mortality From Jan 2014 Experience Study Report		
Age	Male	Female
20	0.00548	0.00339
30	0.00717	0.00469
40	0.00887	0.00565
50	0.01594	0.01192
60	0.02530	0.01363
70	0.03394	0.02460
80	0.07108	0.05326
90	0.16458	0.14227

Termination Rates

Miscellaneous Employees: Sum of Vested Terminated & Refund Rates From CalPERS Experience Study Report Issued January 2014						
Attained Age	Years of Service					
	0	3	5	10	15	20
15	0.1812	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.1742	0.1193	0.0946	0.0000	0.0000	0.0000
25	0.1674	0.1125	0.0868	0.0749	0.0000	0.0000
30	0.1606	0.1055	0.0790	0.0668	0.0581	0.0000
35	0.1537	0.0987	0.0711	0.0587	0.0503	0.0450
40	0.1468	0.0919	0.0632	0.0507	0.0424	0.0370
45	0.1400	0.0849	0.0554	0.0427	0.0347	0.0290

Table 4 - Actuarial Methods and Assumptions (Continued)

Service Retirement Rates

Miscellaneous Employees: 2% at 60 formula From CalPERS Experience Study Report Issued January 2014						
Current Age	Years of Service					
	5	10	15	20	25	30
50	0.0100	0.0130	0.0150	0.0180	0.0190	0.0210
55	0.0220	0.0290	0.0350	0.0400	0.0450	0.0490
60	0.0560	0.0770	0.0920	0.1050	0.1170	0.1300
65	0.1500	0.2090	0.2550	0.2870	0.3210	0.3580
70	0.1170	0.1620	0.1970	0.2220	0.2480	0.2770
75 & over	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Miscellaneous "PEPRA" Employees: 2% at 62 formula From CalPERS Experience Study Report Issued January 2014						
Current Age	Years of Service					
	5	10	15	20	25	30
52	0.0103	0.0132	0.0160	0.0188	0.0216	0.0244
55	0.0440	0.0560	0.0680	0.0800	0.0920	0.1040
60	0.0616	0.0784	0.0952	0.1120	0.1288	0.1456
65	0.1287	0.1638	0.1989	0.2340	0.2691	0.3042
70	0.1254	0.1596	0.1938	0.2280	0.2622	0.2964
75 & over	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Disability Retirement Rates

CalPERS Public Agency Miscellaneous Disability From Jan 2014 Experience Study Report		
Age	Male	Female
20	0.00017	0.00010
25	0.00017	0.00010
30	0.00019	0.00024
35	0.00049	0.00081
40	0.00122	0.00155
45	0.00191	0.00218
50	0.00213	0.00229
55	0.00221	0.00179
60	0.00222	0.00135

Table 4 - Actuarial Methods and Assumptions (Continued)

Healthcare Trend

Medical plan premiums and claims costs by age are assumed to increase once each year. The increases over the prior year's levels are assumed to be effective on the dates shown below:

Effective January 1	Premium Increase	Effective January 1	Premium Increase
2016	Actual	2020	6.00%
2017	7.50%	2021	5.50%
2018	7.00%	2022	5.00%
2019	6.50%	2023 & later	4.50%

The PEMHCA minimum required contribution (MEC) is assumed to increase annually by 4.5%.

Employer Cost Sharing

We have assumed no increase in the fixed dollar amounts contributed by the Authority for active employees.

Participation Rate

Participating actives: The following chart shows the percent of current active employees who are assumed to elect medical coverage in retirement:

Percent of Current Active Employees Assumed to Elect Medical Coverage in Retirement				
Group	Age at Retirement	With Medical Coverage & Retiring in 2014	Annual Decrease in Percent Electing Coverage	Minimum Percent Electing
Admin	Under 65	80%	2.0%	45%
Admin	65 or older	100%	1.5%	60%
ATU	Under 65	65%	2.0% *	45%
ATU	65 or older	80%	1.5% *	60%
Teamster	Under 65	75%	2.0%	45%
Teamster	65 or older	100%	1.5%	60%

*Decreased election percentages for future ATU retirees are assumed to begin in 2020, since the retiree benefit level gradually increases until then.

The applicable percentages above are multiplied by .75 to arrive at the percentages for future retirees currently waiving medical coverage through CCCTA.

Retired participants: Existing medical plan elections are assumed to be continued until the retiree's death.

Table 4 - Actuarial Methods and Assumptions (Continued)

Spouse Coverage	*Active employees:* 85% are assumed to be married at retirement and 60% of married employees are assumed to elect coverage for their spouse in retirement. Surviving spouses are assumed to retain coverage until their death. Husbands are assumed to be 3 years older than their wives. *Retired participants*: Existing elections for spouse coverage are assumed to be continued until the spouse's death. Actual spouse ages are used, where known; if not, husbands are assumed to be 3 years older than their wives. Spouse gender is assumed to be the opposite of the employee.
Dependent Coverage	*Active employees*: 30% are assumed to cover dependents other than a spouse under age 26 at retirement; eligibility for coverage for the youngest dependent is assumed to end at the retiree's age 63. *Retired participants* covering dependent children are assumed to end such coverage when the youngest currently covered dependent reaches age 26.
Medicare Eligibility	Absent contrary data, all individuals are assumed to be eligible for Medicare Parts A and B at age 65.
Development of Age-related Medical Premiums	Actual premium rates for retirees and their spouses were adjusted to an age-related basis by applying medical claim cost factors developed from the data presented in the report, "Health Care Costs – From Birth to Death", sponsored by the Society of Actuaries. A description of the use of claims cost curves can be found in Bickmore's Age Rating Methodology provided in Addendum 1 to this report. Representative claims costs derived from the dataset provided by CalPERS for retirees not currently covered or not expected to be eligible for Medicare appear on the following page: All current and future Medicare-eligible retirees are assumed to be covered by plans that are rated based solely on the experience of Medicare retirees. Therefore, no implicit subsidy is calculated for Medicare-eligible retirees.

Table 4 - Actuarial Methods and Assumptions (Continued)

The chart below summarizes the expected monthly claims by medical plan and gender for selected ages.

Expected Monthly Claims by Medical Plan for Selected Ages										
	Male					Female				
Medical Plan	50	53	56	59	62	50	53	56	59	62
Blue Shield Access+ Bay Area	$ 947	$ 1,116	$ 1,296	$ 1,486	$ 1,689	$ 1,173	$ 1,288	$ 1,386	$ 1,498	$ 1,651
Blue Shield NetValue Bay Area	1,024	1,207	1,402	1,607	1,827	1,269	1,393	1,499	1,620	1,786
Kaiser Bay Area	732	863	1,002	1,149	1,306	907	996	1,072	1,158	1,277
Kaiser Other Southern California	601	709	823	943	1,072	745	818	880	951	1,048
Kaiser Out of State	707	834	969	1,110	1,262	876	962	1,036	1,119	1,234
Kaiser Sacramento	690	814	945	1,083	1,231	855	939	1,011	1,092	1,204
PERS Choice Bay Area	716	844	981	1,124	1,278	887	974	1,049	1,133	1,249
PERS Choice Out of State	396	467	542	622	707	491	539	580	627	691
PERSCare Bay Area	644	759	882	1,011	1,149	798	876	943	1,019	1,123
PERSCare Los Angeles	513	605	702	805	915	636	698	751	812	895
PERSCare Out of State	396	467	543	622	707	491	539	580	627	691
Other HMO Bay Area	816	962	1,117	1,280	1,455	1,011	1,110	1,194	1,291	1,423

Table 4 - Actuarial Methods and Assumptions (Concluded)

Excise tax on high-cost plans	The expected value of excise taxes for high cost plan coverage for retirees, now expected to be effective in the year 2020, was included in this valuation. Annual threshold amounts for 2018 under the Affordable Care Act (ACA) were assumed to increase at the General Inflation Rate. A 40% excise tax rate was applied to the portion of premiums projected to exceed the threshold.

2018 Thresholds	Ages 55-64	All Other Ages
Single	$ 11,850	$ 10,200
Other than Single	$ 30,950	$ 27,500

Changes Since the Prior Valuation:

Discount Rate	Decreased from 5.5% to 5.1%
Assumed Wage Inflation	Decreased from 3.25% to 3.0%
General Inflation Rate	Decreased from 3.0% to 2.75%
Demographic assumptions	Assumed mortality and disability and service retirement rates were updated from those provided in the CalPERS 2010 experience study report to those provided in the CalPERS 2014 experience study report. Rates of mortality were updated to the rates in the midpoint year of the CalPERS 2014 experience study (2008), then projected on a generational basis by Bickmore Scale 2014.
Healthcare trend	Medical plan premium rates are assumed to increase at a slightly lower rate in 2025 and later years than was assumed in the prior valuation, the result of a change in our methodology for estimating the potential impact of the excise tax for high cost plans under the Affordable Care Act.
Spouse Coverage	The percentage of married active employees who are assumed to elect coverage for their spouse in retirement was decreased to 60%, from 70%.
Age-Related Medical Premiums	We introduced methodology for developing age-related medical premiums based on updated research and data sponsored by the Society of Actuaries. We added an implicit subsidy analysis for pre-Medicare retirees covered by the CalPERS medical program.
Excise Tax Impact	We directly projected the potential impact of the excise tax attributable to retirees for high cost healthcare plans for retirees, as provided by the Affordable Care Act.

Table 5
Projected Benefit Payments

The following is an estimate of other post-employment benefits to be paid on behalf of current retirees and current employees expected to retire from the Authority. Expected annual benefits have been projected on the basis of the actuarial assumptions outlined in Table 4.

These projections do not include any benefits expected to be paid on behalf of current active employees *prior to* retirement, nor do they include any benefits for potential *future employees* (i.e., those who might be hired in future years).

Projected Annual Benefit Payments							
Fiscal Year Ending June 30	Explicit Subsidy			Implicit Subsidy			Total
	Current Retirees	Future Retirees	Total	Current Retirees	Future Retirees	Total	
2016	$ 168,111	$ 40,147	$ 208,258	$ 75,950	$ 45,789	$ 121,739	$ 329,997
2017	172,103	78,097	250,200	55,612	92,107	147,719	397,919
2018	173,320	117,574	290,894	55,258	129,752	185,010	475,904
2019	175,363	154,082	329,445	54,571	149,407	203,978	533,423
2020	176,734	191,341	368,075	28,465	172,914	201,379	569,454
2021	177,526	232,038	409,564	-	201,089	201,089	610,653
2022	177,817	271,546	449,363	-	223,317	223,317	672,680
2023	172,817	302,752	475,569	-	219,016	219,016	694,585
2024	167,531	329,986	497,517	-	236,349	236,349	733,866
2025	161,973	348,778	510,751	-	278,651	278,651	789,402
2026	156,168	367,169	523,337	-	253,675	253,675	777,012
2027	150,124	381,270	531,394	-	215,193	215,193	746,587
2028	143,856	393,204	537,060	-	237,622	237,622	774,682
2029	137,368	401,784	539,152	-	230,979	230,979	770,131
2030	130,677	409,206	539,883	-	214,410	214,410	754,293

The amounts shown in the Explicit Subsidy section reflect the expected payment by the Authority toward retiree medical premiums in each of the years shown. The amounts are shown separately, and in total, for those retired on the valuation date ("current retirees") and those expected to retire after the valuation date ("future retirees").

The amounts shown in the Implicit Subsidy section reflect the expected excess of retiree medical (and prescription drug) claims over the premiums expected to be charged during the year for retirees' coverage. These amounts are also shown separately and in total for those currently retired on the valuation date and for those expected to retire in the future.

Appendix 1A
Breakout of Valuation Results by Group FYE June 30, 2016

The chart below breaks out the valuation results for 3 employee groups for the fiscal year ending June 30, 2016. Amortization of the unfunded actuarial accrued liability is on the same basis as described in Section F.

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Appendix 1B
Breakout of Valuation Results by Group FYE June 30, 2017

The chart below breaks out the valuation results for 3 employee groups for the fiscal year ending June 30, 2017. Amortization of the unfunded actuarial accrued liability is on the same basis as described in Section F.

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Appendix 2
Summary of Caps and Expected PEMHCA MEC Increases

The chart below summarizes each of the current single party coverage caps and provides the year in which the PEMHCA Minimum Employer Contribution (MEC) is expected to exceed the cap, based on the assumed annual increase in the MEC of 4.5%.

Single Party Coverage Caps & Years When MEC is Expected to Exceed the Cap						
Group	**Administrative**		**ATU**		**Teamsters**	
Plan	Single Party Subsidies	Year when MEC is proj to exceed subsidy	Single Party Subsidies	Year when MEC is proj to exceed subsidy	Single Party Subsidies	Year when MEC is proj to exceed subsidy
Anthem HMO Traditional	$ 494.86	2048	$ 374.92	2041	$ 374.92	2041
Anthem HMO Select	270.71	2034	233.59	2031	226.58	2030
Blue Shield	329.08	2038	266.47	2034	280.29	2035
Blue Shield Advantage	329.08	2038	266.47	2034	280.29	2035
Blue Shield NetValue	329.08	2038	266.47	2034	280.29	2035
Blue Shield NetValue Advantage	329.08	2038	266.47	2034	280.29	2035
Kaiser	303.56	2037	235.34	2031	254.15	2033
PERS Care	494.86	2048	374.92	2041	374.92	2041
PERS Choice	289.98	2036	241.24	2031	241.24	2031
PERS Select	270.71	2034	233.59	2031	226.58	2030
United Healthcare	305.56	2037	235.34	2031	254.15	2033

Appendix 3
Comparison of Valuation Results at Alternate Discount Rates

The exhibit below compares the results of this valuation at 5.1%, 4.35% and 5.88% developed for the fiscal year ending June 30, 2016.

Discount Rate	Moderately Conservative Option			Conservative Option				Moderate Option			
	5.10%			4.35%			Percentage Cost Increase from 5.1%	5.88%			Percentage Cost Decrease from 5.1%
Subsidy	**Explicit**	**Implicit**	**Total**	**Explicit**	**Implicit**	**Total**		**Explicit**	**Implicit**	**Total**	
Actuarial Present Value of Future Benefits											
Actives	$ 5,966,253	$ 2,738,279	$ 8,704,532	$ 6,879,650	2,989,165	$ 9,868,815	13%	$ 5,191,869	2,509,244	7,701,113	-12%
Retirees	2,248,616	243,103	2,491,719	2,414,659	246,717	2,661,376	7%	2,095,987	239,451	2,335,438	-6%
Total	8,214,869	2,981,382	11,196,251	9,294,309	3,235,882	12,530,191	12%	7,287,856	2,748,695	10,036,551	-10%
Actuarial Accrued Liability											
Actives	4,433,611	1,860,317	6,293,928	4,965,662	1,953,702	6,919,364	10%	3,962,653	1,767,182	5,729,835	-9%
Retirees	2,248,616	243,103	2,491,719	2,414,659	246,717	2,661,376	7%	2,095,987	239,451	2,335,438	-6%
Total	6,682,227	2,103,420	8,785,647	7,380,321	2,200,419	9,580,740	9%	6,058,640	2,006,633	8,065,273	-8%
Actuarial Value of Assets	2,032,180	-	2,032,180	2,032,180	-	2,032,180		2,032,180	-	2,032,180	
Unfunded Actuarial Accrued Liability (UAAL)	4,650,047	2,103,420	6,753,467	5,348,141	2,200,419	7,548,560		4,026,460	2,006,633	6,033,093	
Amortization factor *	19.2149	19.2149	19.2149	20.7462	20.7462	20.7462		17.7977	17.7977	17.7977	
Normal Cost	225,961	113,845	339,806	268,147	127,084	395,231	16%	190,431	101,596	292,027	-14%
Amortization of UAAL	242,002	109,468	351,470	257,789	106,064	363,853		226,235	112,747	338,982	
Interest to fiscal year end	23,866	11,389	35,255	22,878	10,142	33,020		24,500	12,603	37,103	
Annual Required Contribution (ARC)	491,829	234,702	726,531	548,814	243,290	792,104	9%	441,166	226,946	668,112	-8%
Estimated retiree benefits	208,258	121,739	329,997	208,258	121,739	329,997		208,258	121,739	329,997	
Estimated Contributions to PARS	283,571	112,963	396,534	340,556	121,551	462,107		232,908	105,207	338,115	
Total Estimated Contributions	491,829	234,702	726,531	548,814	243,290	792,104		441,166	226,946	668,112	

* Amortization payments were developed with 24 years remaining with payments determined on a level percent of pay basis

Appendix 4
General OPEB Disclosure and Required Supplementary Information

The Information necessary to complete the OPEB footnote in the Authority's financial reports is summarized below, or we note the location of the information contained elsewhere in this report:

Summary of Plan Provisions:	See Table 3A
OPEB Funding Policy:	See Section F; details are also provided in Tables 1A and 1C
Annual OPEB Cost and Net OPEB Obligation:	See Table 1B and 1D
Actuarial Methods and Assumptions:	See Table 4
Funding Status and Funding Progress:	See Section E – Basic Valuation Results

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
7/1/2009	$ -	$ 4,534,658	$ 4,534,658	0.0%	$ 15,219,990	29.8%
7/1/2011	$ 790,158	$ 7,322,135	$ 6,531,977	10.8%	$ 13,510,453	48.3%
7/1/2013	$ 1,165,830	$ 5,875,942	$ 4,710,112	19.8%	$ 12,017,071	39.2%
7/1/2015	$ 2,032,180	$ 8,785,647	$ 6,753,467	23.1%	$ 13,209,132	51.1%

Required Supplementary Information: Three Year History of Amounts Funded
See chart below:

OPEB Cost Contributed

Fiscal Year Ended	Annual OPEB Cost	Employer OPEB Contributions	Percentage of Annual OPEB Cost Contributed	Net OPEB Obligation (Asset)
6/30/2014	$ 485,538	$ 484,379	99.8%	$ 4,368
6/30/2015	$ 502,513	$ 514,384	102.4%	$ (7,503)
6/30/2016	*$ 726,558*	*$ 726,531*	*100.0%*	*$ (7,476)*
6/30/2017	*$ 749,262*	*$ 749,220*	*100.0%*	*$ (7,434)*

Italicized values above are estimates which may change if contributions are other than projected.

To see these values separately for explicit and implicit subsidy liabilities, please refer to Section E of the report or to Tables 1B and 1D.

Addendum 1: Bickmore Age Rating Methodology

Both accounting standards (e.g. GASB 45) and actuarial standards (e.g. ASOP 6) require that expected retiree claims, not just premiums paid, be reflected in most situations where an actuary is calculating retiree healthcare liabilities. Unfortunately the actuary is often required to perform these calculations without any underlying claims information. In most situations, the information is not available, but even when available, the information may not be credible due to the size of the group being considered.

Actuaries have developed methodologies to approximate healthcare claims from the premiums being paid by the plan sponsor. Any methodology requires adopting certain assumptions and using general studies of healthcare costs as substitutes when there is a lack of credible claims information for the specific plan being reviewed.

Premiums paid by sponsors are often uniform for all employee and retiree ages and genders, with a drop in premiums for those participants who are Medicare-eligible. While the total premiums are expected to pay for the total claims for the insured group, on average, the premiums charged would not be sufficient to pay for the claims of older insureds, and would be expected to exceed the expected claims of younger insureds. An age-rating methodology takes the typically uniform premiums paid by plan sponsors and spreads the total premium dollars to each age and gender intended to better approximate what the insurer might be expecting in actual claims costs at each age and gender.

The process of translating premiums into expected claims by age and gender generally follows the steps below.

1. *Obtain or Develop Relative Medical Claims Costs by Age, Gender, or other categories that are deemed significant*. For example, a claims cost curve might show that, if a 50 year old male has $1 in claims, then on average a 50 year old female has claims of $1.25, a 30 year male has claims of $0.40, and an 8 year old female has claims of $0.20. The claims cost curve provides such relative costs for each age, gender, or any other significant factor the curve might have been developed to reflect. Table 4 provides the source of information used to develop such a curve and shows sample relative claims costs developed for the plan under consideration.
2. *Obtain a census of participants, their chosen medical coverage, and the premium charged for their coverage.* An attempt is made to find the group of participants that the insurer considered in setting the premiums they charge for coverage. That group includes the participant and any covered spouses and children. When information about dependents is unavailable, assumptions must be made about spouse age and the number and age of children represented in the population. These assumptions are provided in Table 4.
3. *Spread the total premium paid by the group to each covered participant or dependent based on expected claims.* The medical claims cost curve is used to spread the total premium dollars paid by the group to each participant reflecting their age, gender, or other relevant category. After this step, the actuary has a schedule of expected claims costs for each age and gender for the current premium year. It is these claims costs that are projected into the future by medical cost inflation assumptions when valuing expected future retiree claims.

The methodology described above is dependent on the data and methodologies used in whatever study might be used to develop claims cost curves for any given plan sponsor. These methodologies and assumptions can be found in the referenced paper cited as a source in the valuation report.

Addendum 2: Bickmore Mortality Projection Methodology

Actuarial standards of practice (e.g., ASOP 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations, and ASOP 6, Measuring Retiree Group Benefits Obligations) indicate that the actuary should reflect the effect of mortality improvement (i.e., longer life expectancies in the future), both before and after the measurement date. The development of credible mortality improvement rates requires the analysis of large quantities of data over long periods of time. Because it would be extremely difficult for an individual actuary or firm to acquire and process such extensive amounts of data, actuaries typically rely on large studies published periodically by organizations such as the Society of Actuaries or Social Security Administration.

As noted in a recent actuarial study on mortality improvement, key principals in developing a credible mortality improvement model would include the following:

(1) Short-term mortality improvement rates should be based on recent experience.
(2) Long-term mortality improvement rates should be based on expert opinion.
(3) Short-term mortality improvement rates should blend smoothly into the assumed long-term rates over an appropriate transition period.

The **Bickmore Scale 2014** was developed from a blending of data and methodologies found in two published sources: (1) the Society of Actuaries Mortality Improvement Scale MP-2014 Report, published in October 2014 and (2) the demographic assumptions used in the 2015 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, published July 2015.

Bickmore Scale 2014 is a two-dimensional mortality improvement scale reflecting both age and year of mortality improvement. The underlying base scale is Scale MP-2014 which has two segments – (1) historical improvement rates for the period 1951-2007 and (2) Scale MP-2014's best estimate of future mortality improvement for years 2008 and thereafter. The Bickmore scale uses the same improvement rates as the MP-2014 scale during the historical period 1951-2007. In addition, the Bickmore scale uses Scale MP-2014's best estimate of future mortality improvement for years 2008-2010. The Bickmore scale then transitions from the last used MP-2014 improvement rate in 2010 to the Social Security Administration (SSA) Intermediate Scale. This transition to the SSA Intermediate Scale occurs linearly over the 10 year period 2011-2020. After this transition period, the Bickmore Scale uses the constant mortality improvement rate from the SSA Intermediate Scale from 2020-2038. The SSA's Intermediate Scale has a final step down in 2039 which is reflected in the Bickmore scale for years 2039 and thereafter. Over the ages 100 to 115, the SSA improvement rate is graded to zero.

Scale MP-2014 can be found at the SOA website and the projection scales used in the 2015 Social Security Administrations Trustees Report at the Social Security Administration website.

Glossary

Actuarial Accrued Liability (AAL) – Total dollars required to fund all plan benefits attributable to service rendered as of the valuation date for current plan members and vested prior plan members; see "Actuarial Present Value"

Actuarial Funding Method – A procedure which calculates the actuarial present value of plan benefits and expenses, and allocates these expenses to time periods, typically as a normal cost and an actuarial accrued liability

Actuarial Present Value Projected Benefits (APVPB) – The amount presently required to fund all projected plan benefits in the future, it is determined by discounting the future payments by an appropriate interest rate and the probability of nonpayment.

Aggregate – An actuarial funding method under which the excess of the actuarial present value of projected benefits over the actuarial accrued liability is levelly spread over the earnings or service of the group forward from the valuation date to the assumed exit date, based not on individual characteristics but rather on the characteristics of the group as a whole

Annual Required Contribution (ARC) – The amount the employer would contribute to a defined benefit OPEB plan for a given year, it is the sum of the normal cost and some amortization (typically 30 years) of the unfunded actuarial accrued liability

Annual OPEB Expense – The OPEB expense reported in the Agency's financial statement, which is comprised of three elements: the ARC, interest on the net OPEB obligation at the beginning of the year and an ARC adjustment.

Attained Age Normal Cost (AANC) – An actuarial funding method where, for each plan member, the excess of the actuarial present value of benefits over the actuarial accrued liability (determined under the unit credit method) is levelly spread over the individual's projected earnings or service forward from the valuation date to the assumed exit date

CalPERS – Many state governments maintain a public employee retirement system; CalPERS is the California program, covering all eligible state government employees as well as other employees of other governments within California who have elected to join the system

Defined Benefit (DB) – A pension or OPEB plan which defines the monthly income or other benefit which the plan member receives at or after separation from employment

Defined Contribution (DC) – A pension or OPEB plan which establishes an individual account for each member and specifies how contributions to each active member's account are determined and the terms of distribution of the account after separation from employment

Entry Age Normal Cost (EANC) – An actuarial funding method where, for each individual, the actuarial present value of benefits is levelly spread over the individual's projected earnings or service from entry age to the last age at which benefits can be paid

Glossary (Continued)

Excise Tax – The Affordable Care Act created a 40% excise tax on the value of "employer sponsored coverage" that exceeds certain thresholds. The tax is first effective is 2020.

Frozen Attained Age Normal Cost (FAANC) – An actuarial funding method under which the excess of the actuarial present value of projected benefits over the actuarial accrued liability (determined under the unit credit method) is levelly spread over the earnings or service of the group forward from the valuation date to the assumed exit date, based not on individual characteristics but rather on the characteristics of the group as a whole

Frozen Entry Age Normal Cost (FEANC) – An actuarial funding method under which the excess of the actuarial present value of projected benefits over the actuarial accrued liability (determined under the entry age normal cost method) is levelly spread over the earnings or service of the group forward from the valuation date to the assumed exit date, based not on individual characteristics but rather on the characteristics of the group as a whole

Financial Accounting Standards Board (FASB) – A private, not-for-profit organization designated by the Securities and Exchange Commission (SEC) to develop generally accepted accounting principles (GAAP) for U.S. public corporations

Government Accounting Standards Board (GASB) – A private, not-for-profit organization which develops generally accepted accounting principles (GAAP) for U.S. state and local governments; like FASB, it is part of the Financial Accounting Foundation (FAF), which funds each organization and selects the members of each board

Net OPEB Obligation (Asset) - The net OPEB obligation (NOO) represents the accumulated shortfall of OPEB funding since GASB 45 was implemented. If cumulative contributions have exceeded the sum of the prior years' annual OPEB expenses, then a net OPEB asset results.

Non-Industrial Disability (NID) – Unless specifically contracted by the individual Agency, PAM employees are assumed to be subject to only non-industrial disabilities.

Normal Cost – Total dollar value of benefits expected to be earned by plan members in the current year, as assigned by the chosen funding method; also called current service cost

Other Post-Employment Benefits (OPEB) – Post-employment benefits other than pension benefits, most commonly healthcare benefits but also including life insurance if provided separately from a pension plan

Pay-As-You-Go (PAYGO) – Contributions to the plan are made at about the same time and in about the same amount as benefit payments and expenses coming due

PEMHCA – The Public Employees' Medical and Hospital Care Act, established by the California legislature in 1961, provides community-rated medical benefits to participating public employers. Among its extensive regulations are the requirements that a contracting Agency contribute toward medical insurance premiums for retired annuitants and that a contracting Agency file a resolution, adopted by its governing body, with the CalPERS Board establishing any new contribution.

Glossary (Concluded)

Projected Unit Credit (PUC) – An actuarial funding method where, for each individual, the projected plan benefit is allocated by a consistent formula from entry date to assumed exit date

Public Agency Miscellaneous (PAM) – Actuarial assumptions used by CalPERS for most non-safety public employees.

Select and Ultimate – Actuarial assumptions which contemplate rates which differ by year initially (the select period) and then stabilize at a constant long-term rate (the ultimate rate)

Trend – The healthcare cost trend rate, defined as the rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design and technological developments

Unfunded Actuarial Accrued Liability (UAAL) – The excess of the actuarial accrued liability over the actuarial value of plan assets

Unit Credit (UC) -- An actuarial funding method where, for each individual, the unprojected plan benefit is allocated by a consistent formula from entry date to assumed exit date

Vesting – As defined by the plan, requirements which when met make a plan benefit nonforfeitable on separation of service before retirement eligibility