



Beverly Hills Unified School District

Actuarial Valuation of the Other  
Post-Employment Benefit Programs  
As of June 30, 2017

Submitted September 2017



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## A. Executive Summary

This report presents the results of the June 30, 2017 actuarial valuation of the Beverly Hills Unified School District (the District) 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.

- An “explicit subsidy” exists when the employer contributes directly toward retiree healthcare premiums. In this program, benefits include a monthly subsidy toward medical, dental and/or vision 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 liability under GASB 45.

The discount rate used to “present value” (discount) each benefit payment from its future payment date back to the valuation date is to be based on the long term expected rate of return on the assets expected to be used to pay those benefits. Assets set aside in an irrevocable OPEB trust are generally expected to earn a higher rate of return, as compared to local agency investments. The District has established a PARS OPEB trust account, employing the Balanced Multi-Manager Strategy, with a 6.85% expected long term rate of return, net of expenses. With the District’s approval, we have assumed a 4.0% long term rate of return on District investments. Please recognize that these rates are assumptions and not guarantees of future investment performance.

It is our understanding that the District does not intend to contribute additional amounts to the OPEB trust in the upcoming two fiscal years. In this report, we assumed that all trust assets will be allocated toward funding of the explicit subsidy liability and we determined a “blended” discount rate of 4.22% to develop this liability, reflecting the relative portion of future benefits expected to be paid from the trust and those expected to be paid directly by the District. The implicit subsidy liability is expected to be financed exclusively on a pay-as-you-go basis and thus was developed using a 4.0% discount rate.

The results of this valuation are expected to be applied for the District’s fiscal years ending June 30, 2017 and 2018. The Actuarial Accrued Liability and Assets as of June 30, 2017 are shown below:

| Subsidy                              | Explicit      | Implicit     | Total         |
|--------------------------------------|---------------|--------------|---------------|
| Discount Rate                        | 4.22%         | 4.0%         |               |
| Actuarial Accrued Liability          | \$ 12,275,418 | \$ 3,672,905 | \$ 15,948,323 |
| Actuarial Value of Assets            | 1,007,126     | -            | 1,007,126     |
| Unfunded Actuarial Accrued Liability | 11,268,292    | 3,672,905    | 14,941,197    |
| Funded Ratio                         | 8.2%          | 0.0%         | 6.3%          |

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.



## Executive Summary (Concluded)

Results for the fiscal year ending June 30, 2017 are summarized below. Detailed results are shown in tables beginning on page 14. Additional information to facilitate OPEB reporting in the District's financial statements is provided in the Appendices.

| Subsidy                                         | Explicit     | Implicit   | Total        |
|-------------------------------------------------|--------------|------------|--------------|
| Annual Required Contribution (ARC) for FYE 2017 | \$ 1,606,775 | \$ 612,814 | \$ 2,219,589 |
| Expected employer paid benefits for retirees    | 499,131      | -          | 499,131      |
| Current year's implicit subsidy credit          | -            | 145,708    | 145,708      |
| Expected contribution to OPEB trust             | -            | -          | -            |
| Expected net OPEB obligation at June 30, 2017   | 4,793,838    | 1,279,768  | 6,073,606    |

An exhibit comparing current valuation results to those from the prior valuation is provided on page 7, 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 District 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 or contribution levels other than were assumed; and
- Implementation of GASB 75, the new OPEB accounting standard, for the District's fiscal year ending June 30, 2018.

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 June 30, 2019. 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. The date of the next following actuarial valuation should be reviewed for suitability with GASB 75 requirements and the best timing to meet the District's needs. We would be happy to review this with the District on request.

### Important Notices

This report is intended to be used only to present the actuarial information relating to other postemployment benefits for the District's financial statements and to provide the annual contribution information with respect to the District'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 District 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 District 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 District 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 District's OPEB contributions had been equal to the ARC each year, the net OPEB obligation would equal \$0.
- If the District'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 Table 1B).

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 District'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 District, as are the manner and term for paying down the unfunded actuarial accrued liability. Once a funding policy has been established, however, the District'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 expenses developed in future valuations and require changes beginning with the District's fiscal year end 2018 reporting. Those calculations are outside the scope of this report.*



## C. Sources of OPEB Liabilities

### General Types of OPEB

Post-employment benefits other than pensions (OPEB) comprise a part of compensation that employers offer for services received. The most common OPEB are medical, prescription drug, dental, vision, and/or life insurance coverage. Other OPEB 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<sup>1</sup> 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”. Upcoming excise tax exposure under the Affordable Care Act for retirees covered by high cost plans is another potential source of OPEB liability for the District.

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.

*This chart shows the sources of funds needed to cover expected claims for pre-Medicare retirees.*

| Expected retiree claims              |                                               |                                   |
|--------------------------------------|-----------------------------------------------|-----------------------------------|
| Premium charged for retiree coverage |                                               | Covered by higher active premiums |
| Retiree portion of premium           | Agency portion of premium<br>Explicit subsidy | Implicit subsidy                  |

*From this illustration, we can see that how much or little of the premium is paid by the Agency does not impact the amount of the implicit subsidy.*

The implicit subsidy liability was first recognized in the June 30, 2015 actuarial valuation. The same methodology was applied to develop the implicit subsidy liability in this June 30, 2017 valuation.

### OPEB Obligations of the District

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

- **Explicit subsidy liabilities:** The District contributes directly to the cost of retiree health coverage, 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; 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 projected difference between (a) retiree medical claim costs by age and (b) premiums charged for retiree coverage. See Table 4 and Addendum 1: Bickmore Healthcare Claims Age Rating Methodology.

<sup>1</sup> Unless unused sick leave credits are converted to provide or enhance a defined benefit OPEB.



## Sources of OPEB Liability (Concluded)

### *Implicit Subsidy Liability - continued*

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.

We believe no implicit liability exists with respect to dental or vision benefits provided to retirees, or that it is insignificant.

- **Excise tax liability for “high cost” plans:** The Patient Protection and Affordable Care Act (ACA) includes a 40% excise tax on high-cost employer-sponsored health coverage. The tax was to be implemented beginning in 2018; however, implementation has been delayed by subsequent legislation until 2020. The tax applies to the aggregate cost of an employee’s applicable coverage that exceeds a dollar limit. While there are discussions in Congress of eliminating or again delaying this tax, this report assumes that it will take effect as current law provides.

For those current and future retirees assumed to retain coverage in the District’s medical plan, we determined the excess, if any, of projected annual plan premiums for the retiree and his or her covered dependents over the projected applicable excise tax threshold beginning in the year 2020. The excise tax burden will ultimately fall on either the District or a combination of the District and plan participants. To the extent that the excise tax is reflected as an addition to premiums, at least part of the retiree tax will be borne by the District. If the District is able to and ultimately does pass the retiree tax burden to retirees, then no part of the excise tax reflected in this report would be retained by the District. *For financial reporting purposes, this report assumes that 100% of any excise tax liability for high cost retiree coverage will be borne by the District.*

## D. Valuation Process

The valuation has been based on employee census data and benefits initially submitted to us by the District in May 2017 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 District 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 District to receive benefits.
- To the extent assumed to retire from the District, the probability of various possible retirement dates for each retiree, based on current age, service and employee type; 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          | Actives and Retirees |
| <i>plus</i> Normal Cost                           | Current Year's Cost Allocation        | Actives only         |
| <u>plus Present Value of Future Normal Costs</u>  | <u>Future Years' Cost Allocations</u> | <u>Actives only</u>  |
| <i>equals</i> Present Value of Projected Benefits | Total Benefit Costs                   | Actives and Retirees |

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 District's irrevocable OPEB trust account. The market value reported as of June 30, 2017 was \$1,007,126. 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 June 30, 2017 valuation of OPEB liabilities to the results of the June 30, 2015 valuation.

| Funding Policy                                       | Split Funding Basis |              |               |               |              |               |
|------------------------------------------------------|---------------------|--------------|---------------|---------------|--------------|---------------|
| Valuation date                                       | 6/30/2015           |              |               | 6/30/2017     |              |               |
|                                                      | Explicit            | Implicit     | Total         | Explicit      | Implicit     | Total         |
| Subsidy                                              |                     |              |               |               |              |               |
| Discount rate                                        | 7.40%               | 4.00%        |               | 4.22%         | 4.00%        |               |
| <b>Number of Covered Employees</b>                   |                     |              |               |               |              |               |
| Actives                                              | 494                 | 470          | 494           | 491           | 469          | 491           |
| Retirees                                             | 153                 | 42           | 153           | 159           | 27           | 159           |
| Total Participants                                   | 647                 | 512          | 647           | 650           | 496          | 650           |
| <b>Actuarial Present Value of Projected Benefits</b> |                     |              |               |               |              |               |
| Actives                                              | \$ 9,176,333        | \$ 8,847,287 | \$ 18,023,620 | \$ 18,433,340 | \$ 8,254,823 | \$ 26,688,163 |
| Retirees                                             | 3,633,154           | 553,664      | 4,186,818     | 4,885,936     | 437,331      | 5,323,267     |
| Total APVPB                                          | 12,809,487          | 9,400,951    | 22,210,438    | 23,319,276    | 8,692,154    | 32,011,430    |
| <b>Actuarial Accrued Liability (AAL)</b>             |                     |              |               |               |              |               |
| Actives                                              | 5,850,253           | 4,265,874    | 10,116,127    | 7,389,482     | 3,235,574    | 10,625,056    |
| Retirees                                             | 3,633,154           | 553,664      | 4,186,818     | 4,885,936     | 437,331      | 5,323,267     |
| Total AAL                                            | 9,483,407           | 4,819,538    | 14,302,945    | 12,275,418    | 3,672,905    | 15,948,323    |
| Actuarial Value of Assets                            | 880,711             | -            | 880,711       | 1,007,126     | -            | 1,007,126     |
| <b>Unfunded AAL (UAAL)</b>                           |                     |              |               |               |              |               |
| Normal Cost                                          | 8,602,696           | 4,819,538    | 13,422,234    | 11,268,292    | 3,672,905    | 14,941,197    |
| Percent funded                                       | 630,111             | 351,739      | 981,850       | 888,936       | 390,977      | 1,279,913     |
| Reported covered payroll                             | 34,416,538          | 34,416,538   | 34,416,538    | 38,813,985    | 38,813,985   | 38,813,985    |
| UAAL as percent of payroll                           | 25.0%               | 14.0%        | 39.0%         | 29.0%         | 9.5%         | 38.5%         |

*Note: The Explicit Subsidy AAL as of June 30, 2017 includes approximately \$391,000 in projected excise tax liability for retirees expected to be covered by "high cost" plans under the Affordable Care Act.*



## Basic Valuation Results (Concluded)

### Changes Since the Prior Valuation

Even if all of our previous assumptions were met exactly as projected, liabilities often 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, however, our prior assumptions are not likely 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 on the preceding page, we can see that the Unfunded Actuarial Accrued Liability (UAAL) increased by \$1.52 million (from \$13.42 to \$14.94 million) between June 30, 2015 and June 30, 2017. Over this two year period, we expected some increase in the UAAL, from the excess of additional costs accrued for active employees and the passage of time (present value adjustment) offset by additional trust contributions, earnings and benefits paid to retirees. Other changes impacting the UAAL include some assumption changes, benefit changes and plan experience (i.e., differences between what we assumed previously and what actually occurred during these two years).

The primarily factors impacting the UAAL are summarized here:

| Source of Change                                              | Increase<br>(decrease)<br>in UAAL |
|---------------------------------------------------------------|-----------------------------------|
| Change in discount rate for the explicit subsidy liability    | \$ 4,390,000                      |
| Update to assumed future healthcare trend                     | 560,000                           |
| Update to basis for mortality projection                      | (70,000)                          |
| CSEA MOU retiree benefit caps lower than \$8,500 expected     | (30,000)                          |
| Reduced Medicare participation rates existing pre-65 retirees | (180,000)                         |
| Increased Medicare participation rates for future retirees    | 140,000                           |
| Passage of time (adjustment to previously discounted values)  | 1,090,000                         |
| Favorable plan experience relative to that expected*          | (4,380,000)                       |
| Change in Actual UAAL between June 2015 and June 2017         | \$ 1,520,000                      |

\* 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 as well as the addition of new employees hired since June 30, 2015. Plan experience also includes asset performance relative to the expected contributions and rate of return.

## 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); see illustration in Appendix 3.
2. *Pay-As-You-Go financing*: Contributing only the amounts needed to pay retiree benefits in the current year; generally requires a lower discount rate, such as the 4.0% rate used to develop the implicit subsidy liability and expense.
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. Partial prefunding results for the explicit subsidy liability were developed using a discount rate of 4.22%.
4. *Split funding*: A combination of the above, e.g., Approach 1 or 3 above for funding the Explicit Subsidy liability but pay-as-you-go financing of the implicit subsidy liability (Approach 2.)

### Determination of the ARC

The Annual Required Contribution (ARC) consists of two basic components:

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

The ARC for fiscal year end June 30, 2017 is developed in Table 1A. Results to be reported in the District financial statements for fiscal year end June 30, 2018 will be developed in a later report.

### 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

We assumed that the District would continue the previously established basis of amortizing the unfunded AAL. A closed 30-year period was initially established effective June 30, 2009; the remaining period applicable in determining the ARC for the fiscal year ending June 30, 2017 is 23 years. Amortization payments are determined as level dollar amounts.



## Funding Policy (Concluded)

### Funding of the Implicit Subsidy

The implicit subsidy liability created when expected retiree medical claims exceed the retiree premiums was described earlier in Section C. In practical terms, when the District 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 implicit subsidy funding requirement (see Table 1B).

The following hypothetical example illustrates this treatment:

| Hypothetical Illustration<br>Of Implicit Subsidy Recognition | For Active<br>Employees | For Retired<br>Employees | Total        |
|--------------------------------------------------------------|-------------------------|--------------------------|--------------|
| Annual Agency Contribution Toward Premiums                   | \$ 3,485,000            | \$ 499,000               | \$ 3,984,000 |
| Current Year's Implicit Subsidy Adjustment                   | \$ (146,000)            | \$ 146,000               | \$ -         |
| Adjusted contributions reported in Financial Stmts           | \$ 3,339,000            | \$ 645,000               | \$ 3,984,000 |

While total Agency contributions paid toward active and retired employee healthcare premiums in this example are the same, by shifting the recognition of the current year's implicit subsidy from actives to retirees, this amount may be recognized as a contribution toward the OPEB ARC.

There is a larger question about whether or not the District would 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.
- Split funding, by prefunding 100% of the ARC relating to the explicit subsidy, but continue funding the implicit subsidy liabilities on a pay-as-you-go basis.
- Split funding, by (1) *partially* prefunding the explicit subsidy ARC, contributing an amount greater than the current retiree benefits but less than 100% of the explicit subsidy ARC (requiring a blended discount rate to be used such as the 4.29% in this report) and (2) financing the implicit subsidy liability strictly on a pay-as-you-go basis (using the 4.0% pay-as-you-go discount rate). ***Exhibits shown in this report reflect our understanding that the District will follow this approach.***

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



## **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.

### **Factors Affecting the Selection of Assumptions**

Special considerations apply to the selection of actuarial funding methods and assumptions for the District. The actuarial assumptions 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 District 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 appropriate discount rate(s), GASB states that the rate(s) should be based on the expected long-term yield of investments used to finance the benefits. *For purposes of this report, we have assumed that:*

- The District will make no further contributions to its OPEB trust with PARS and that all existing trust assets will be applied toward funding of the explicit subsidy liability. Based on the expected contribution level, and the assumed returns on OPEB trust and District investments described earlier, we developed a blended discount rate of 4.22% to determine the explicit subsidy liability (see Appendix 1).
- The District will make no contributions to the OPEB trust toward prefunding of the implicit subsidy liability; instead this will be financed with District assets with a lower long term expected return. A 4.0% discount rate was assumed to develop the implicit subsidy liability.

## H. Certification

This report presents the results of our actuarial valuation of the other post-employment benefits provided by the Beverly Hills Unified School District. The purpose of this valuation was to provide the actuarial information required for the District'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.

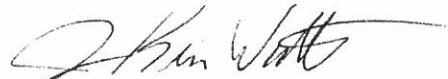
We certify that this report has been prepared in accordance with our understanding of GASB 45. To the best of our knowledge, the report is complete and accurate, based upon the data and plan provisions provided to us by the District. We believe the assumptions and method used are reasonable and appropriate 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: September 28, 2017



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



J. Kevin Watts, FSA, FCA, MAAA



## Table 1

**Results for fiscal year 2017:** The basic results of our June 30, 2017 valuation of OPEB liabilities for the District calculated under GASB 45 were summarized in Section E. Those results are applied to develop the ARC, AOE and the net OPEB obligation (NOO) or net OPEB asset (NOA) to be reported by the District for its fiscal year ending June 30, 2017.

As noted earlier in this report, the development of the ARC reflects the assumption that the District will contribute as follows:

- Payments toward retiree healthcare costs, comprising PEMHCA payments as billed by CalPERS and reimbursements paid directly to retirees
- The current year's implicit subsidy

While current trust assets have been recognized as an offset against the Actuarial Accrued Liability, no future contributions to the OPEB trust have been anticipated. If this understanding is incorrect or if actual District contributions differ by more than an immaterial amount, some of the results in this report should be revised.

**Results for fiscal year end June 30, 2018:** The liability and expense to be reported in the District's financial statements and note disclosures for the fiscal year ending June 30, 2018 will be developed under GASB 75. This information will be provided in a separate report.

To assist the District in understanding the general OPEB contribution levels required to fully prefund the liability, we have illustrated an Actuarially Determined Contribution approach in Appendix 3.

**Employees reflected in future years' costs:** The liabilities and costs developed for future years 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 June 2015 in this June 2017 valuation.

We also note that the number of active and retired employees 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 retirees over age 65 and covered by Supplemental Medicare plans are not subsidized by active employee medical premiums, so do not create an implicit subsidy liability.



**Table 1A**  
**ARC Calculation for FYE 2017**

This table develops the ARC for the District's fiscal year ending June 30, 2017 assuming partial prefunding of the Explicit Subsidy liability and pay-as-you-go financing of the Implicit Subsidy liability. Some values below have been adjusted from the results shown in Section E to reflect cost and benefit payment accruals prior to the valuation date to avoid double counting of costs or contributions.

| Funding Policy<br>Valuation date                     | Split Funding Basis |               |               |
|------------------------------------------------------|---------------------|---------------|---------------|
|                                                      | 6/30/2017           |               |               |
| 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                  | 6.85%               | 4.00%         |               |
| Discount rate                                        | 4.22%               | 4.00%         |               |
| <b>Number of Covered Employees</b>                   |                     |               |               |
| Actives                                              | 491                 | 469           | 491           |
| Retirees                                             | 159                 | 27            | 159           |
| Total Participants                                   | 650                 | 496           | 650           |
| <b>Actuarial Present Value of Projected Benefits</b> |                     |               |               |
| Actives                                              | \$ 18,433,340       | \$ 8,276,800  | \$ 26,710,140 |
| Retirees                                             | 5,385,067           | 561,061       | 5,946,128     |
| Total APVPB                                          | 23,818,407          | 8,837,862     | 32,656,268    |
| <b>Actuarial Accrued Liability (AAL)</b>             |                     |               |               |
| Actives                                              | 6,500,546           | 2,866,574     | 9,367,120     |
| Retirees                                             | 5,385,067           | 561,061       | 5,946,128     |
| Total AAL                                            | 11,885,613          | 3,427,635     | 15,313,248    |
| Actuarial Value of Assets                            | 1,007,126           | -             | 1,007,126     |
| <b>Unfunded AAL (UAAL)</b>                           | 10,878,487          | 3,427,635     | 14,306,122    |
| Amortization method                                  | Level Dollar        | Level Dollar  | Level Dollar  |
| Initial amortization period (in years)               | 30                  | 30            | 30            |
| Remaining period (in years)                          | 23                  | 23            | 23            |
| <b>Determination of Amortization Payment</b>         |                     |               |               |
| UAAL                                                 | \$ 10,878,487       | \$ 3,427,635  | \$ 14,306,122 |
| Factor                                               | 15.1545             | 15.4511       | 15.2245       |
| Payment                                              | 717,839             | 221,837       | 939,676       |
| <b>Annual Required Contribution (ARC)</b>            |                     |               |               |
| Normal Cost                                          | 888,936             | 390,977       | 1,279,913     |
| Amortization of UAAL                                 | 717,839             | 221,837       | 939,676       |
| Interest to fiscal year end                          | -                   | -             | -             |
| <b>Total ARC at fiscal year end</b>                  | 1,606,775           | 612,814       | 2,219,589     |
| Projected covered payroll                            | \$ 38,813,985       | \$ 38,813,985 | \$ 38,813,985 |
| Normal Cost as a percent of payroll                  | 2.3%                | 1.0%          | 3.3%          |
| ARC as a percent of payroll                          | 4.1%                | 1.6%          | 5.7%          |

**Table 1B**  
**Expected OPEB Disclosures for FYE 2017**

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

| Fiscal Year End                                           | Split Funding Basis |            |              |
|-----------------------------------------------------------|---------------------|------------|--------------|
|                                                           | 6/30/2017           | 6/30/2017  | 6/30/2017    |
| Subsidy                                                   | Explicit            | Implicit   | Total        |
| <b>1. Calculation of the Annual OPEB Expense</b>          |                     |            |              |
| a. ARC for current fiscal year                            | \$ 1,606,775        | \$ 612,814 | \$ 2,219,589 |
| b. Interest on Net OPEB Obligation (Asset)                | 159,735             | 33,419     | 193,154      |
| c. Adjustment to the ARC                                  | (260,426)           | (56,235)   | (316,661)    |
| d. <b>Annual OPEB Expense (a. + b. + c.)</b>              | 1,506,084           | 589,998    | 2,096,082    |
| <b>2. Calculation of Expected Contribution</b>            |                     |            |              |
| a. Estimated payments on behalf of retirees               | 499,131             | -          | 499,131      |
| b. Estimated current year's implicit subsidy              | -                   | 145,708    | 145,708      |
| c. Estimated contribution to OPEB trust                   | -                   | -          | -            |
| d. <b>Total Expected Employer Contribution</b>            | 499,131             | 145,708    | 644,839      |
| <b>3. Change in Net OPEB Obligation (1.d. minus 2.d.)</b> | 1,006,953           | 444,290    | 1,451,243    |
| Net OPEB Obligation (Asset), beginning of fiscal year     | 3,786,885           | 835,478    | 4,622,363    |
| <b>Net OPEB Obligation (Asset) at fiscal year end</b>     | 4,793,838           | 1,279,768  | 6,073,606    |

In the table above, we assumed that the District will report OPEB contributions equal to the sum of:

- 1) Retiree benefit paid during this period, reported to be \$145,708; plus
- 2) The current year's implicit subsidy of \$499,131.

No other OPEB contributions were projected to be made.

Additional notes on the calculations above:

- Interest on the net OPEB obligation (or asset), shown above in item 1.b. is equal to the applicable discount rate (4.22% or 4.0%, as applicable) 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. We calculated this adjustment 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 District reported 491 active employees in the data provided to us for the June 2017 valuation. Of these, 410 were reported to be currently participating in the medical program, while 81 employees were waiving coverage but potentially eligible for benefits upon retirement.

| 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                                           | 10               | 29         | 2          |           |           |           | 41          | 8%          |
| 30 to 34                                           | 7                | 27         | 27         |           |           |           | 61          | 12%         |
| 35 to 39                                           | 6                | 17         | 40         | 3         |           |           | 66          | 13%         |
| 40 to 44                                           | 7                | 13         | 41         | 4         | 6         | 1         | 72          | 15%         |
| 45 to 49                                           | 2                | 11         | 40         | 11        | 3         | 7         | 74          | 15%         |
| 50 to 54                                           | 6                | 14         | 35         | 4         | 4         | 11        | 74          | 15%         |
| 55 to 59                                           |                  | 8          | 24         | 2         | 3         | 3         | 40          | 8%          |
| 60 to 64                                           | 2                | 2          | 23         | 3         | 6         | 4         | 40          | 8%          |
| 65 to 69                                           |                  | 1          | 7          | 1         | 2         | 2         | 13          | 3%          |
| 70 & Up                                            |                  |            | 3          | 2         | 2         | 2         | 9           | 2%          |
| <b>Total</b>                                       | <b>41</b>        | <b>122</b> | <b>242</b> | <b>30</b> | <b>26</b> | <b>30</b> | <b>491</b>  | <b>100%</b> |
| <b>Percent</b>                                     | <b>8%</b>        | <b>25%</b> | <b>49%</b> | <b>6%</b> | <b>5%</b> | <b>6%</b> | <b>100%</b> |             |

| Valuation                        | June 2015    | June 2017    |
|----------------------------------|--------------|--------------|
| Annual Covered Payroll           | \$34,416,538 | \$38,813,985 |
| Average Attained Age for Actives | 45.7         | 45.7         |
| Average Years of Service         | 11.6         | 7.2          |

The current number of active employees (491) is quite close to that two years ago (494), however, the average years of District service per employee has decreased significantly. This suggests that an unusually high number of employees leaving the District, either by termination or retirement, were long service employees.

There are also 159 retirees or their survivors currently receiving benefits under this program. Their ages are summarized in this chart.

| Retirees by Age     |              |            |            |             |
|---------------------|--------------|------------|------------|-------------|
| Current Age         | MOU plus MEC | MEC Only   | Total      | Percent     |
| Below 50            |              | 1          | 1          | 1%          |
| 50 to 54            |              |            | 0          | 0%          |
| 55 to 59            | 3            | 2          | 5          | 3%          |
| 60 to 64            | 23           | 1          | 24         | 15%         |
| 65 to 69            |              | 41         | 41         | 26%         |
| 70 to 74            |              | 22         | 22         | 14%         |
| 75 to 79            |              | 22         | 22         | 14%         |
| 80 & up             |              | 44         | 44         | 28%         |
| <b>Total</b>        | <b>26</b>    | <b>133</b> | <b>159</b> | <b>100%</b> |
| <b>Average Age:</b> |              |            |            |             |
| On 6/30/2017        | 62.4         | 76.0       | 73.3       |             |
| At retirement       | 59.7         | 63.6       | 62.7       |             |

**Table 2- Summary of Employee Data  
(Concluded)**

The chart below reconciles the number of actives and retirees included in the June 30, 2015 valuation of the District plan with those included in the June 30, 2017 valuation:

| Reconciliation of District Plan Members Between Valuation Dates |                 |                 |                  |                           |            |
|-----------------------------------------------------------------|-----------------|-----------------|------------------|---------------------------|------------|
| Status                                                          | Covered Actives | Waiving Actives | Covered Retirees | Covered Surviving Spouses | Total      |
| Number reported as of June 30, 2015                             | 425             | 69              | 143              | 10                        | 647        |
| New employees (or newly eligible)                               | 59              | 49              |                  |                           | 108        |
| Terminated employees                                            | (39)            | (35)            |                  |                           | (74)       |
| New retiree, elected coverage                                   | (18)            |                 | 18               |                           | 0          |
| New retiree, waiving coverage                                   | (4)             | (2)             |                  |                           | (6)        |
| Previously covered, now waiving                                 | (12)            | 12              | (6)              |                           | (6)        |
| Previously waiving, now covered                                 | 4               | (4)             |                  |                           | 0          |
| Deceased                                                        | (1)             |                 | (4)              | 1                         | (4)        |
| Data corrections                                                | (4)             | (8)             | (3)              |                           | (15)       |
| <b>Number reported as of June 30, 2017</b>                      | <b>410</b>      | <b>81</b>       | <b>148</b>       | <b>11</b>                 | <b>650</b> |

The reconciliation above shows that during the past 2 years, there were 108 new employees hired or moved in to benefits eligible positions. There were also 75 employees who left employment with the District prior to retirement (including 1 death) and 26 new retirements reported.

Of the 24 new retirees:

- 8 were under age 65 and qualified for the District “MOU” benefit of up to \$8,000 per year. 7 of these retirees (88%) elected to continue their coverage and receive this benefit, while 1 waived coverage for reasons unknown to us.
- 16 were eligible only for the PEMHCA minimum benefit (\$128 per month). 7 of these retirees (44%) elected to continue their coverage and receive this benefit. The remaining 9 waived the coverage.<sup>2</sup>

Of the 153 retirees and survivors covered under this program on June 30, 2015,

- 4 passed away; the spouse of one of these retirees remains covered by the plan; and
- 9 others ended coverage between 2015 and 2017; 6 reached age 65 and their higher MOU benefits ended; 1 other retiree under age 65 and 2 others over age 80 ended their coverage for reasons unknown to us.
- The rest remain covered and continue to receive benefits under this program.

We consider this experience in setting our assumptions regarding future retiree coverage elections.

<sup>2</sup> Retirees waiving coverage retain the right to rejoin the CalPERS medical program at their discretion during any future open enrollment cycle. Based on prior experience, however, we have assumed that none of the currently waiving retirees will do so.



**Table 3A**  
**Summary of Retiree Benefit Provisions**

**OPEB provided:** The District reported the following OPEB: retiree medical, dental & vision 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.

The employee must begin his or her retirement benefit within 120 days of terminating employment with the District to be eligible to continue medical coverage through the agency and be entitled to the benefits described below. 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. *In other words, it is the timing of initiating retirement benefits and not timing of enrollment in the CalPERS medical program which determines whether or not a District retiree qualifies for lifetime medical coverage and benefits.* Once eligible, 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.

**Benefits provided:** As a participating PEMHCA employer, the District is obligated to contribute toward the cost of retiree medical coverage for all employees who retire from the District for the retiree's lifetime or until coverage is discontinued.

- All employees who retire from the District and continue their medical coverage in retirement will receive the required PEMHCA minimum employer contribution (MEC).<sup>3</sup> Benefits continue to a covered surviving spouse as well, if eligible for survivor benefits under the retirement program. The MEC is \$128 per month in 2017 and increases to \$133 per month in 2018.
- Employees who retire at age 55 or older having worked at least 10 years with the District are eligible to receive enhanced benefits, *inclusive of* the MEC benefit described above. The District will pay the retiree's medical and/or dental premiums for a limited period of time and up to a maximum Annual Cap, which is \$8,000 during 2017. The length of this enhanced benefit depends on years of District service.
  - For employees with at least 10 but less than 20 years of service, the benefit is payable for up to 8 years, but not beyond the retiree's age 65.
  - For employees with at least 20 years of service, the benefit is payable for up to 10 years, but not beyond the retiree's age 65.

**Current premium rates:** The 2017 CalPERS monthly medical plan rates in the Los Angeles rate group are shown in the table on the following page. 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.

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<sup>3</sup> It is our understanding that the District currently maintains (or intends to establish) a pre-tax flexible benefit plan for active employees to provide healthcare benefits in excess of the MEC; these additional payments are not (or will not be) required to be provided to retired employees to meet PEMHCA requirements.

**Summary of Retiree Benefit Provisions  
(Concluded)**

| Los Angeles Area 2017 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 Select HMO                       | \$592.78                     | \$1,185.56 | \$1,541.23 | Not Available              |        |          |
| Anthem Traditional HMO                  | 713.69                       | 1,427.38   | 1855.59    | Not Available              |        |          |
| Blue Shield Access+ HMO                 | 675.98                       | 1,351.96   | 1757.55    | Not Available              |        |          |
| Health Net SmartCare HMO                | 526.73                       | 1,053.46   | 1369.50    | Not Available              |        |          |
| Kaiser HMO                              | 573.89                       | 1,147.78   | 1492.11    | \$300.48                   | 600.96 | 945.29   |
| UnitedHealthcare HMO                    | 545.71                       | 1,091.42   | 1418.85    | 324.21                     | 648.42 | 975.85   |
| PERS Choice PPO                         | 637.53                       | 1,275.06   | 1,657.58   | 353.63                     | 707.26 | 1,089.78 |
| PERS Select PPO                         | 565.33                       | 1,130.66   | 1,469.86   | 353.63                     | 707.26 | 1,046.46 |
| PERSCare PPO                            | 715.88                       | 1,431.76   | 1,861.29   | 389.76                     | 779.52 | 1,209.05 |



**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, 2016, issued January 2017, 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             | June 30, 2017                                                                                                                                  |
| Funding Method             | Entry Age Normal Cost, level percent of pay <sup>4</sup>                                                                                       |
| Asset Valuation Method     | Market value of assets                                                                                                                         |
| Long Term Return on Assets | 6.85%                                                                                                                                          |
| Discount Rate              | 4.22% for explicit subsidy liability calculations;<br>4.0% for implicit subsidy liability calculations                                         |
| 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                                                               |
| General Inflation Rate     | 2.75% per year                                                                                                                                 |

*Demographic actuarial assumptions used in this valuation are those used in the most recent (June 30, 2015) valuation of the retirement plans covering District employees, and 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 in their 2014 study, adjusted to back out 20 years of Scale BB to central year 2008.*

Mortality Improvement Bickmore Scale 2017 applied generationally.

Mortality Before Retirement  
(before improvement applied)

| CalPERS Public Agency<br>Miscellaneous<br>Non-Industrial |         |         | CalSTRS<br>PreRetirement Member<br>Mortality |         |         |
|----------------------------------------------------------|---------|---------|----------------------------------------------|---------|---------|
| Age                                                      | Male    | Female  | Age                                          | Male    | Female  |
| 20                                                       | 0.00033 | 0.00021 | 15                                           | 0.00017 | 0.00011 |
| 30                                                       | 0.00052 | 0.00027 | 20                                           | 0.00018 | 0.00011 |
| 40                                                       | 0.00080 | 0.00053 | 30                                           | 0.00033 | 0.00014 |
| 50                                                       | 0.00165 | 0.00106 | 40                                           | 0.00057 | 0.00034 |
| 60                                                       | 0.00354 | 0.00223 | 50                                           | 0.00103 | 0.00063 |
| 70                                                       | 0.00709 | 0.00467 | 60                                           | 0.00238 | 0.00179 |
| 80                                                       | 0.01339 | 0.01036 | 70                                           | 0.00907 | 0.00677 |
|                                                          |         |         | 80                                           | 0.02815 | 0.02145 |

<sup>4</sup> 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  
(before improvement applied)

| CalPERS Public Agency<br>Healthy<br>Miscellaneous, Police & Fire |         |         |
|------------------------------------------------------------------|---------|---------|
| Age                                                              | Male    | Female  |
| 40                                                               | 0.00117 | 0.00097 |
| 50                                                               | 0.00532 | 0.00495 |
| 60                                                               | 0.00817 | 0.00533 |
| 70                                                               | 0.01766 | 0.01264 |
| 80                                                               | 0.05275 | 0.03695 |
| 90                                                               | 0.16186 | 0.12335 |
| 100                                                              | 0.34551 | 0.31876 |
| 110                                                              | 1.00000 | 1.00000 |

| CalPERS Public Agency<br>Disabled<br>Miscellaneous |         |         |
|----------------------------------------------------|---------|---------|
| Age                                                | Male    | Female  |
| 20                                                 | 0.00641 | 0.00395 |
| 30                                                 | 0.00736 | 0.00455 |
| 40                                                 | 0.01008 | 0.00642 |
| 50                                                 | 0.01784 | 0.01230 |
| 60                                                 | 0.02634 | 0.01510 |
| 70                                                 | 0.03890 | 0.02815 |
| 80                                                 | 0.08230 | 0.06015 |
| 90                                                 | 0.18469 | 0.16082 |

| CalSTRS Retired and<br>Beneficiary Mortality -<br>Healthy |         |         |
|-----------------------------------------------------------|---------|---------|
| Age                                                       | Male    | Female  |
| 50                                                        | 0.00114 | 0.00073 |
| 55                                                        | 0.00164 | 0.00118 |
| 60                                                        | 0.00300 | 0.00254 |
| 65                                                        | 0.00596 | 0.00468 |
| 70                                                        | 0.01095 | 0.00864 |
| 75                                                        | 0.01886 | 0.01451 |
| 80                                                        | 0.03772 | 0.02758 |
| 85                                                        | 0.07619 | 0.05596 |
| 90                                                        | 0.14212 | 0.11702 |

| CalSTRS Retired and<br>Beneficiary Mortality -<br>Disabled |         |         |
|------------------------------------------------------------|---------|---------|
| Age                                                        | Male    | Female  |
| 50                                                         | 0.02400 | 0.01750 |
| 55                                                         | 0.02600 | 0.01875 |
| 60                                                         | 0.02800 | 0.02000 |
| 65                                                         | 0.03000 | 0.02125 |
| 70                                                         | 0.03054 | 0.02331 |
| 75                                                         | 0.04972 | 0.03334 |
| 80                                                         | 0.07285 | 0.04477 |
| 85                                                         | 0.09797 | 0.08367 |
| 90                                                         | 0.17639 | 0.14007 |

Termination Rates

| Miscellaneous Employees: Sum of Vested Terminated & Refund Rates From<br>CalPERS Experience Study Report Issued January 2014 |                  |        |        |        |        |        |
|------------------------------------------------------------------------------------------------------------------------------|------------------|--------|--------|--------|--------|--------|
| Attained<br>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)**

Termination Rates - *continued*

| Miscellaneous employees: CalSTRS Rates |         |         |          |         |         |
|----------------------------------------|---------|---------|----------|---------|---------|
| Years of                               | Male    | Female  | Years of | Male    | Female  |
| 0                                      | 0.16000 | 0.15000 | 10       | 0.01800 | 0.01800 |
| 1                                      | 0.13000 | 0.12000 | 15       | 0.00900 | 0.00900 |
| 2                                      | 0.09000 | 0.08500 | 20       | 0.00500 | 0.00500 |
| 3                                      | 0.06400 | 0.06400 | 25       | 0.00340 | 0.00340 |
| 4                                      | 0.04600 | 0.04600 | 30       | 0.00240 | 0.00240 |
| 5                                      | 0.03940 | 0.03940 | or more  |         |         |

Service Retirement Rates

The following miscellaneous retirement formulas apply:

If hired prior to 1/1/2013 or later with reciprocity (PERS): 2% @ 55

If hired prior to 1/1/2013 or later with reciprocity (STRS): 2% @ 55

If hired on or after 1/1/2013, PEPR: 2% @ 62

Sample rates of assumed future retirements for each of these retirement benefit formulas are shown in the table to the right and on the top of the following page. Rates shown reflect the probability that an employee at that age and service will retire in the next 12 months.

| Miscellaneous Employees: 2% at 55 formula<br>From CalPERS Experience Study Report Issued January 2014 |                  |        |        |        |        |        |
|-------------------------------------------------------------------------------------------------------|------------------|--------|--------|--------|--------|--------|
| Current Age                                                                                           | Years of Service |        |        |        |        |        |
|                                                                                                       | 5                | 10     | 15     | 20     | 25     | 30     |
| 50                                                                                                    | 0.0140           | 0.0180 | 0.0210 | 0.0250 | 0.0270 | 0.0310 |
| 55                                                                                                    | 0.0480           | 0.0610 | 0.0740 | 0.0880 | 0.1000 | 0.1170 |
| 60                                                                                                    | 0.0670           | 0.0860 | 0.1030 | 0.1230 | 0.1390 | 0.1640 |
| 65                                                                                                    | 0.1550           | 0.1970 | 0.2380 | 0.2850 | 0.3250 | 0.3860 |
| 70                                                                                                    | 0.1300           | 0.1650 | 0.2000 | 0.2400 | 0.2720 | 0.3230 |
| 75 & over                                                                                             | 1.0000           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

| Miscellaneous "PEPR" Employees: 2% at 62 formula<br>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 |

| CalSTRS Males - Illustrative rates (assumed 0% until age 55): |                  |        |        |        |        |        |
|---------------------------------------------------------------|------------------|--------|--------|--------|--------|--------|
| Current Age                                                   | Years of Service |        |        |        |        |        |
|                                                               | 5                | 10     | 15     | 20     | 25     | 30     |
| 50                                                            | 0.0000           | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0150 |
| 55                                                            | 0.0270           | 0.0270 | 0.0270 | 0.0270 | 0.0540 | 0.0800 |
| 60                                                            | 0.0630           | 0.0630 | 0.0630 | 0.0630 | 0.1260 | 0.2700 |
| 65                                                            | 0.1350           | 0.1350 | 0.1350 | 0.1350 | 0.2700 | 0.3250 |
| 70                                                            | 0.1080           | 0.1080 | 0.1080 | 0.1080 | 0.2160 | 0.3000 |
| 75                                                            | 1.0000           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |



**Table 4 - Actuarial Methods and Assumptions  
(Continued)**

Service retirement rates - *continued*

| CalSTRS Females - Illustrative rates (assumed 0% until age 55): |                  |        |        |        |        |        |
|-----------------------------------------------------------------|------------------|--------|--------|--------|--------|--------|
| Current Age                                                     | Years of Service |        |        |        |        |        |
|                                                                 | 5                | 10     | 15     | 20     | 25     | 30     |
| 50                                                              | 0.0000           | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0250 |
| 55                                                              | 0.0450           | 0.0450 | 0.0450 | 0.0450 | 0.0900 | 0.0900 |
| 60                                                              | 0.0900           | 0.0900 | 0.0900 | 0.0900 | 0.1800 | 0.3100 |
| 65                                                              | 0.1440           | 0.1440 | 0.1440 | 0.1440 | 0.2880 | 0.3750 |
| 70                                                              | 0.1350           | 0.1350 | 0.1350 | 0.1350 | 0.2700 | 0.3500 |
| 75                                                              | 1.0000           | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

Disability Retirement Rates

| CalPERS Public Agency<br>Miscellaneous Disability<br>From Jan 2014 Experience<br>Study Report |         |         | CalPERS Public Agency<br>Fire Combined Disability<br>From Jan 2014<br>Experience Study Report |         | CalPERS Public Agency<br>Police Combined Disability<br>From Jan 2014<br>Experience Study Report |         |
|-----------------------------------------------------------------------------------------------|---------|---------|-----------------------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------|---------|
| Age                                                                                           | Male    | Female  | Age                                                                                           | Unisex  | Age                                                                                             | Unisex  |
| 20                                                                                            | 0.00017 | 0.00010 | 20                                                                                            | 0.00017 | 20                                                                                              | 0.00010 |
| 25                                                                                            | 0.00017 | 0.00010 | 25                                                                                            | 0.00035 | 25                                                                                              | 0.00175 |
| 30                                                                                            | 0.00019 | 0.00024 | 30                                                                                            | 0.00084 | 30                                                                                              | 0.00496 |
| 35                                                                                            | 0.00049 | 0.00081 | 35                                                                                            | 0.00168 | 35                                                                                              | 0.00818 |
| 40                                                                                            | 0.00122 | 0.00155 | 40                                                                                            | 0.00310 | 40                                                                                              | 0.01140 |
| 45                                                                                            | 0.00191 | 0.00218 | 45                                                                                            | 0.00550 | 45                                                                                              | 0.01461 |
| 50                                                                                            | 0.00213 | 0.00229 | 50                                                                                            | 0.02821 | 50                                                                                              | 0.01925 |
| 55                                                                                            | 0.00221 | 0.00179 | 55                                                                                            | 0.04184 | 55                                                                                              | 0.04909 |
| 60                                                                                            | 0.00222 | 0.00135 | 60                                                                                            | 0.05974 | 60                                                                                              | 0.06212 |

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 |
|---------------------|------------------|---------------------|------------------|
| 2018                | 8.00%            | 2022                | 6.00%            |
| 2019                | 7.50%            | 2023                | 5.50%            |
| 2020                | 7.00%            | 2024                | 5.00%            |
| 2021                | 6.50%            | & later             | 5.00%            |

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

Employer Cost Sharing

When payable, we assumed the higher temporary Annual Cap benefits will increase at 3% per year.

**Table 4 - Actuarial Methods and Assumptions  
(Continued)**

Participation Rate

*Active employees eligible for the PEMHCA MEC only:* 50% are assumed to elect coverage in retirement and continue coverage until the retiree's death.

*Active employees eligible for the annual cap benefit:* 100% are assumed to elect coverage in retirement. When the Annual Cap benefit ends, we assume 75% will continue coverage until the retiree's death.

*Retirees under age 65 and receiving the annual cap benefit:* When the Annual Cap benefit ends, we assume 75% will continue coverage until the retiree's death.

*All other retirees:* All (100%) are assumed to continue their current CalPERS medical coverage until their death.

Spouse Coverage

*Active employees:* 25% are assumed to be married and elect coverage for their spouse in retirement. Surviving spouses are assumed to continue 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 continue 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.

Medicare Eligibility

Absent contrary data, all individuals are assumed to be eligible for Medicare Parts A and B at age 65.

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) are shown below. 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         |

*Note: Thresholds for disability retirements are assumed to be set at a level high enough to prevent taxation on disabled retiree benefits.*

The actual 2018 limits may be higher, depending on cost increases prior to the effective date. The actual thresholds are scheduled to increase by CPI plus 1% in 2019 and by CPI annually thereafter.



**Table 4 - Actuarial Methods and Assumptions  
(Concluded)**

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.

**Changes Since the Prior Valuation:**

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Expected return on trust assets | Changed from 7.4% to 6.85%, net of trust/investment expenses                                                                                                                                                                                                                                                                                                                                    |
| Discount rate                   | Changed from 7.4% to 4.22% for the explicit subsidy liability, reflecting a change in the expected future level of OPEB contributions.                                                                                                                                                                                                                                                          |
| Mortality improvement           | We updated the projection scale used to project future mortality improvement from Bickmore Scale 2014 to Bickmore Scale 2017, based on new data provided by the Society of Actuaries and the Social Security Administration.                                                                                                                                                                    |
| Healthcare trend                | Medical plan premium rates and projected claim costs are assumed to increase at somewhat higher rates than were assumed in the prior valuation.                                                                                                                                                                                                                                                 |
| Participation Rate              | The percentage of future retirees expected to qualify for the enhanced benefits assumed to <i>continue</i> medical coverage after the enhanced MOU benefits end was increased from 70% to 75%. Similarly, the percentage of retirees currently receiving the enhanced MOU benefits assumed to <i>continue</i> medical coverage once these enhanced benefits end was decreased from 100% to 75%. |

**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 |        |        |        |          |          |        |        |          |          |          |  |
|-----------------------------------------------------------|--------|--------|--------|----------|----------|--------|--------|----------|----------|----------|--|
| Medical Plan                                              | Male   |        |        |          |          |        | Female |          |          |          |  |
|                                                           | 50     | 53     | 56     | 59       | 62       | 50     | 53     | 56       | 59       | 62       |  |
| Blue Shield Access+: Los Angeles                          | \$ 697 | \$ 822 | \$ 954 | \$ 1,094 | \$ 1,244 | \$ 864 | \$ 948 | \$ 1,021 | \$ 1,103 | \$ 1,216 |  |
| HMO: Los Angeles                                          | 583    | 688    | 799    | 916      | 1,041    | 723    | 794    | 854      | 923      | 1,018    |  |
| HMO: Other Southern California                            | 625    | 737    | 856    | 981      | 1,115    | 774    | 850    | 915      | 989      | 1,090    |  |
| Kaiser: Los Angeles                                       | 580    | 684    | 795    | 911      | 1,035    | 719    | 790    | 850      | 918      | 1,012    |  |
| Kaiser: Other Southern California                         | 595    | 702    | 815    | 935      | 1,063    | 738    | 810    | 872      | 942      | 1,039    |  |
| Kaiser: Out of State                                      | 715    | 843    | 979    | 1,122    | 1,276    | 886    | 973    | 1,047    | 1,132    | 1,248    |  |
| Kaiser: Sacramento                                        | 685    | 808    | 939    | 1,076    | 1,223    | 849    | 933    | 1,004    | 1,085    | 1,196    |  |
| PERS Choice: Los Angeles                                  | 575    | 678    | 787    | 903      | 1,026    | 713    | 783    | 842      | 910      | 1,003    |  |
| PERS Choice: Other Northern California                    | 776    | 915    | 1,063  | 1,218    | 1,385    | 962    | 1,056  | 1,136    | 1,228    | 1,354    |  |
| PERS Choice: Other Southern California                    | 612    | 721    | 838    | 960      | 1,091    | 758    | 832    | 896      | 968      | 1,067    |  |
| PERS Choice: Out of State                                 | 428    | 505    | 586    | 672      | 764      | 530    | 582    | 627      | 677      | 746      |  |
| PERS Select: Los Angeles                                  | 605    | 714    | 829    | 950      | 1,080    | 750    | 824    | 886      | 958      | 1,056    |  |
| PERS Select: Sacramento                                   | 684    | 806    | 937    | 1,074    | 1,220    | 848    | 931    | 1,002    | 1,082    | 1,193    |  |
| PERSCare: Bay Area                                        | 675    | 796    | 925    | 1,060    | 1,205    | 837    | 919    | 989      | 1,068    | 1,178    |  |
| PERSCare: Los Angeles                                     | 551    | 649    | 754    | 864      | 982      | 682    | 749    | 806      | 871      | 960      |  |
| PERSCare: Other Southern California                       | 573    | 676    | 785    | 900      | 1,023    | 711    | 780    | 840      | 907      | 1,000    |  |
| PERSCare: Out of State                                    | 431    | 509    | 591    | 677      | 770      | 535    | 587    | 632      | 683      | 753      |  |



**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 District. 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<br>Ending<br>June 30  | Explicit Subsidy    |                    |            | Implicit Subsidy    |                    |            | Total      |
|                                   | Current<br>Retirees | Future<br>Retirees | Total      | Current<br>Retirees | Future<br>Retirees | Total      |            |
| 2017                              | \$ 499,131          | \$ -               | \$ 499,131 | \$ 145,708          | \$ -               | \$ 145,708 | \$ 644,839 |
| 2018                              | 389,368             | 33,342             | 422,710    | 131,154             | 23,296             | 154,450    | 577,160    |
| 2019                              | 368,257             | 67,910             | 436,167    | 107,146             | 54,820             | 161,966    | 598,133    |
| 2020                              | 338,501             | 94,235             | 432,736    | 79,086              | 75,032             | 154,118    | 586,854    |
| 2021                              | 307,557             | 115,398            | 422,955    | 64,827              | 96,202             | 161,029    | 583,984    |
| 2022                              | 289,052             | 146,442            | 435,494    | 34,087              | 115,464            | 149,551    | 585,045    |
| 2023                              | 292,539             | 202,130            | 494,669    | 30,783              | 161,387            | 192,170    | 686,839    |
| 2024                              | 295,617             | 269,201            | 564,818    | 29,871              | 227,857            | 257,728    | 822,546    |
| 2025                              | 275,646             | 309,627            | 585,273    | 14,942              | 257,259            | 272,201    | 857,474    |
| 2026                              | 261,336             | 368,327            | 629,663    | (4,440)             | 311,933            | 307,493    | 937,156    |
| 2027                              | 262,474             | 445,231            | 707,705    | (4,123)             | 390,139            | 386,016    | 1,093,721  |
| 2028                              | 263,171             | 496,707            | 759,878    | (3,752)             | 417,641            | 413,889    | 1,173,767  |
| 2029                              | 263,419             | 542,857            | 806,276    | (3,324)             | 449,792            | 446,468    | 1,252,744  |
| 2030                              | 263,174             | 599,343            | 862,517    | (2,830)             | 496,726            | 493,896    | 1,356,413  |
| 2031                              | 262,447             | 640,948            | 903,395    | (2,267)             | 501,549            | 499,282    | 1,402,677  |

The amounts shown in the Explicit Subsidy section reflect the expected payment by the District 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 1

### Determination of Blended Discount Rate for Explicit Subsidy Liability

The exhibit below shows the calculation used to determine the partial prefunding discount rate for developing the explicit subsidy liability. This blended rate is based on the assumed 6.85% long term rate of return on trust assets as the discount rate for 100% explicit ARC prefunding, and uses 4.0% as the discount rate for pay-as-you-go financing. The process recognizes the value of funds already accumulated in an irrevocable OPEB trust. Future OPEB contributions to the trust are not planned at this time, so no consideration was made for this possibility in developing the blended discount rate.

As noted earlier in the report, we assumed the District preferred to deploy all OPEB trust assets against liabilities for explicit benefits, since these represent direct benefit payment obligations to retirees.

| Calculation of Blended Discount Rate<br>Based on Funded Ratio |            |
|---------------------------------------------------------------|------------|
| Trust assets, 6/30/2017                                       | 1,007,126  |
| Assumed pay-as-you-go discount rate                           | 4.00%      |
| Assumed prefunding discount rate                              | 6.85%      |
| APVPB on 6/30/2017 determined using pre-funding rate          | 13,160,454 |
| Assets as % of prefunding APVPB                               | 7.65%      |
| Blended discount rate based on funded ratio:                  |            |
| a. 6.85% times 7.65%                                          | 0.52%      |
| b. (100% - 7.65%) times 4.00%                                 | 3.69%      |
| c. Sum of a. plus b.                                          | 4.22%      |



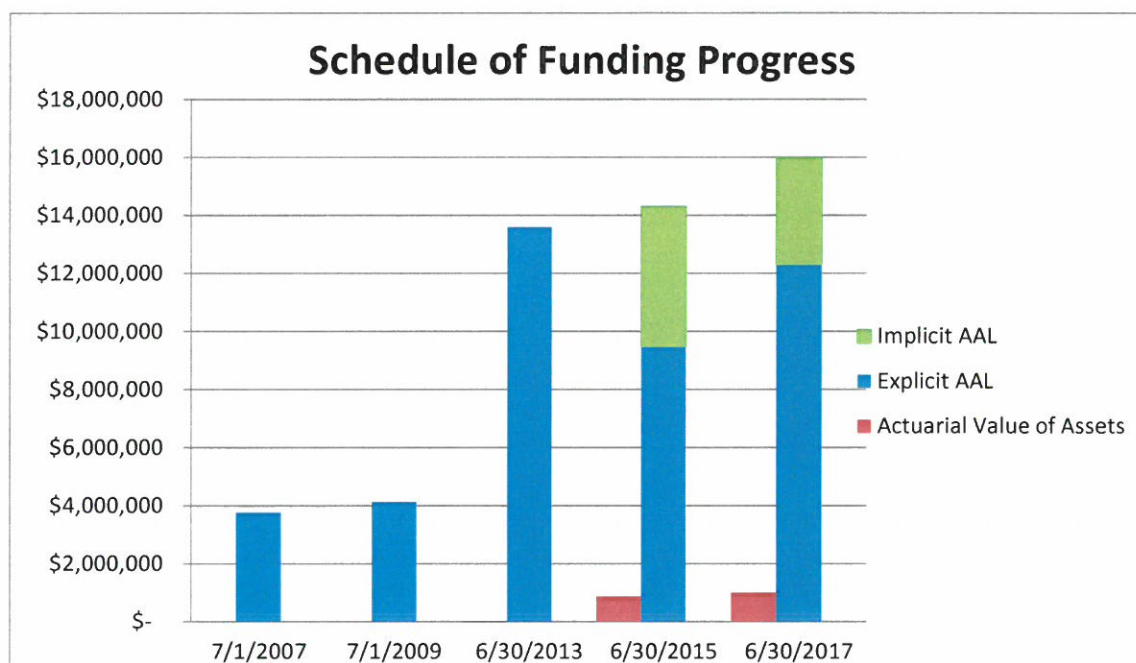
## Appendix 2

### General OPEB Disclosure and Required Supplementary Information

The information necessary to complete the OPEB footnote in the District'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 and Table 1A                            |
| Annual OPEB Cost and Net OPEB Obligation: | See Table 1B                                          |
| Actuarial Methods and Assumptions:        | See Table 4                                           |
| Funding Status and Funding Progress:      | See Section E – Basic Valuation Results & chart below |

| Schedule of Funding Progress |                               |                                 |                                      |                    |                     |                                                   |
|------------------------------|-------------------------------|---------------------------------|--------------------------------------|--------------------|---------------------|---------------------------------------------------|
| Actuarial Valuation Date     | Actuarial Value of Assets (a) | Actuarial Accrued Liability (b) | Unfunded Actuarial Accrued Liability | Funded Ratio (a/b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll ((b-a)/c) |
| 7/1/2007                     | \$ -                          | \$ 3,771,449                    | \$ 3,771,449                         | 0.0%               | \$ 26,649,916       | 14.2%                                             |
| 7/1/2009                     | \$ -                          | \$ 4,140,873                    | \$ 4,140,873                         | 0.0%               | \$ 25,206,465       | 16.4%                                             |
| 6/30/2013                    | \$ 20,000                     | \$ 13,597,760                   | \$ 13,577,760                        | 0.1%               | \$ 29,926,796       | 45.4%                                             |
| 6/30/2015                    | \$ 880,711                    | \$ 14,302,945                   | \$ 13,422,234                        | 6.2%               | \$ 34,416,538       | 39.0%                                             |
| 6/30/2017                    | \$ 1,007,126                  | \$ 15,948,323                   | \$ 14,941,197                        | 6.3%               | \$ 38,813,985       | 38.5%                                             |



Key changes impacting the OPEB liability over the past 8 years include the following:

*June 2013:* PEMHCA minimum lifetime benefits first recognized

*June 2015:* Higher discount rate for explicit liability (set up trust); implicit liability first recognized

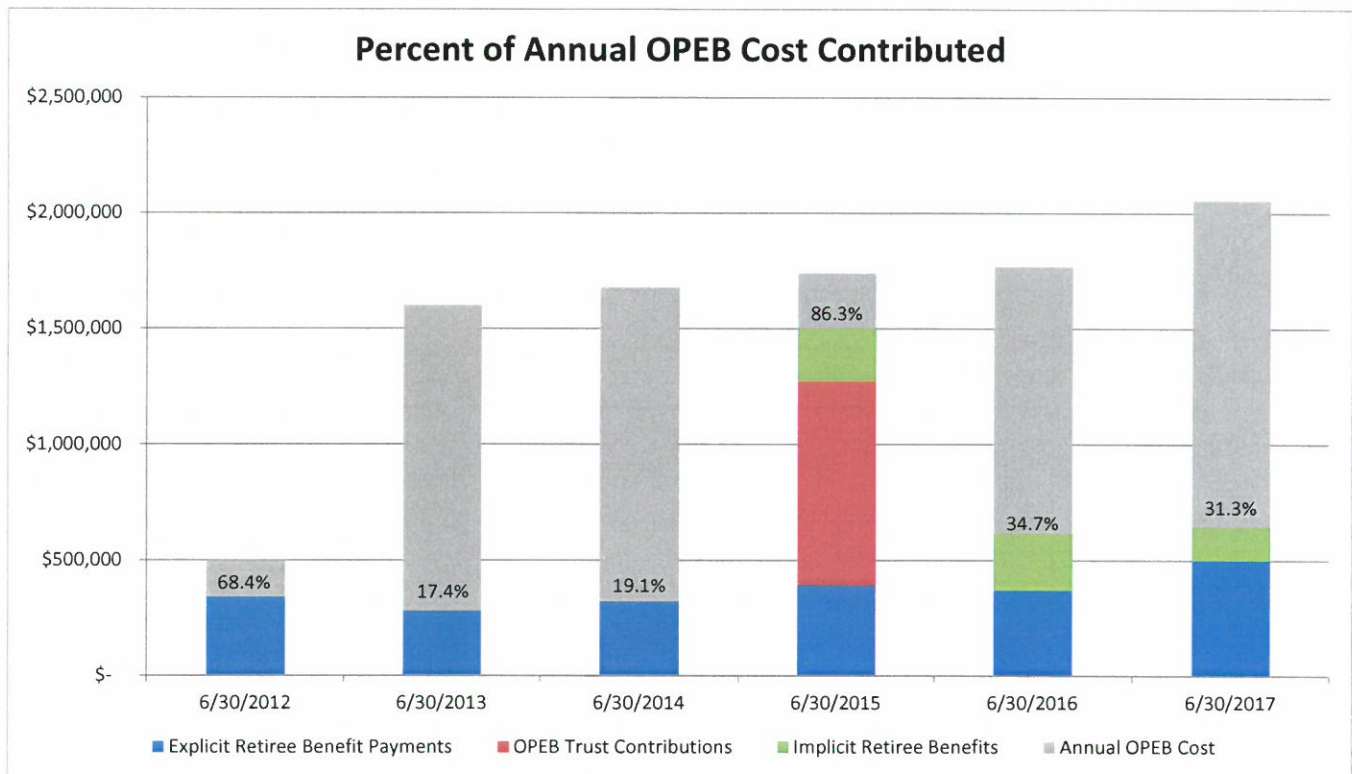
*June 2017:* Lower discount rate resumed for explicit since trust funding has been discontinued

## Appendix 2 – General OPEB Disclosures and Required Supplementary Information (Concluded)

Required Supplementary Information: Recent 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) |
| 6/30/2012             | \$ 496,119       | \$ 339,271                  | 68.4%                                      | \$ 546,445                  |
| 6/30/2013             | \$ 1,599,801     | \$ 278,105                  | 17.4%                                      | \$ 1,868,141                |
| 6/30/2014             | \$ 1,679,085     | \$ 319,906                  | 19.1%                                      | \$ 3,227,320                |
| 6/30/2015             | \$ 1,740,598     | \$ 1,501,561                | 86.3%                                      | \$ 3,466,357                |
| 6/30/2016             | \$ 1,770,445     | \$ 614,439                  | 34.7%                                      | \$ 4,622,363                |
| 6/30/2017             | \$ 2,058,031     | \$ 644,839                  | 31.3%                                      | \$ 7,582,339                |

Values for FYE 2017 are shown separately for explicit and implicit subsidy liabilities-in Table 1B.





### Appendix 3 Prefunding Illustration for Fiscal Year Ending 2017

The following exhibit illustrates the prefunding results for the fiscal year ending June 30, 2017. These results may be appropriate if the District contributes at least 100% of the ARC each year relating to both the explicit and implicit subsidy liabilities. This illustration assumes the same trust rate of return (6.85%) and the amortization basis as described in Section F.

| Funding Policy<br>Valuation date                     | Prefunding Basis |               |               |
|------------------------------------------------------|------------------|---------------|---------------|
|                                                      | 6/30/2017        |               |               |
| 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                  | 6.85%            | 6.85%         | 6.85%         |
| Discount rate                                        | 6.85%            | 6.85%         | 6.85%         |
| <b>Number of Covered Employees</b>                   |                  |               |               |
| Actives                                              | 491              | 469           | 491           |
| Retirees                                             | 159              | 27            | 159           |
| Total Participants                                   | 650              | 496           | 650           |
| <b>Actuarial Present Value of Projected Benefits</b> |                  |               |               |
| Actives                                              | \$ 9,398,709     | \$ 5,027,565  | \$ 14,426,274 |
| Retirees                                             | 4,260,876        | 533,983       | 4,794,859     |
| Total APVPB                                          | 13,659,585       | 5,561,549     | 19,221,133    |
| <b>Actuarial Accrued Liability (AAL)</b>             |                  |               |               |
| Actives                                              | 4,202,841        | 2,222,260     | 6,425,101     |
| Retirees                                             | 4,260,876        | 533,983       | 4,794,859     |
| Total AAL                                            | 8,463,717        | 2,756,243     | 11,219,960    |
| Actuarial Value of Assets                            | 1,007,126        | -             | 1,007,126     |
| <b>Unfunded AAL (UAAL)</b>                           | 7,456,591        | 2,756,243     | 10,212,834    |
| Amortization method                                  | Level Dollar     | Level Dollar  | Level Dollar  |
| Initial amortization period (in years)               | 30               | 30            | 30            |
| Remaining period (in years)                          | 23               | 23            | 23            |
| <b>Determination of Amortization Payment</b>         |                  |               |               |
| UAAL                                                 | \$ 7,456,591     | \$ 2,756,243  | \$ 10,212,834 |
| Factor                                               | 12.2002          | 12.2002       | 12.2002       |
| Payment                                              | 611,187          | 225,918       | 837,105       |
| <b>Annual Required Contribution (ARC)</b>            |                  |               |               |
| Normal Cost                                          | 483,577          | 256,383       | 739,960       |
| Amortization of UAAL                                 | 611,187          | 225,918       | 837,105       |
| Interest to fiscal year end                          | -                | -             | -             |
| <b>Total ARC at fiscal year end</b>                  | 1,094,764        | 482,301       | 1,577,065     |
| Projected covered payroll                            | \$ 38,813,985    | \$ 38,813,985 | \$ 38,813,985 |
| Normal Cost as a percent of payroll                  | 1.2%             | 0.7%          | 1.9%          |
| ARC as a percent of payroll                          | 2.8%             | 1.2%          | 4.1%          |

## 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 principles 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 2017** was developed from a blending of data and methodologies found in two published sources: (1) the Society of Actuaries Mortality Improvement Scale MP-2016 Report, published in October 2016 and (2) the demographic assumptions used in the 2016 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, published June 2016.

Bickmore Scale 2017 is a two-dimensional mortality improvement scale reflecting both age and year of mortality improvement. The underlying base scale is Scale MP-2016 which has two segments – (1) historical improvement rates for the period 1951-2012 and (2) an estimate of future mortality improvement for years 2013-2015 using the Scale MP-2016 methodology but utilizing the assumptions obtained from Scale MP-2015. The Bickmore scale then transitions from the 2015 improvement rate to the Social Security Administration (SSA) Intermediate Scale linearly over the 10 year period 2016-2025. After this transition period, the Bickmore Scale uses the constant mortality improvement rate from the SSA Intermediate Scale from 2025-2039. The SSA's Intermediate Scale has a final step down in 2040 which is reflected in the Bickmore scale for years 2040 and thereafter. Over the ages 100 to 115, the SSA improvement rate is graded to zero.

Scale MP-2016 can be found at the SOA website and the projection scales used in the 2016 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.

Actuarial Value of Assets – The actuarial value of assets is the value used by the actuary to offset the AAL for valuation purposes. The actuarial value of assets may be the market value of assets or may be based on a methodology designed to smooth out short-term fluctuations in market values.

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



## **Glossary (Continued)**

Discount Rate – The rate of return that could be earned on an investment in the financial markets; for GASB 45 purposes, the discount rate should be based on the expected long-term yield of investments used to finance the benefits. The discount rate is used to adjust the dollar value of future projected benefits into a present value equivalent as of the valuation date.

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

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 in 2020.

Explicit Subsidy – The projected dollar value of future retiree healthcare costs expected to be paid directly by the Employer, e.g., the Employer's payment of all or a portion of the monthly retiree premium billed by the insurer for the retiree's coverage

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

Health Care Trend – The assumed rate(s) of increase in future dollar values of premiums or healthcare claims, attributable to increases in the cost of healthcare; contributing factors include medical inflation, frequency or extent of utilization of services and technological developments.

Implicit Subsidy – The projected difference between future retiree claims and the premiums to be charged for retiree coverage; this difference results when the claims experience of active and retired employees are pooled together and a ‘blended’ group premium rate is charged for both actives and retirees; a portion of the active employee premiums subsidizes the retiree premiums.

## **Glossary (Concluded)**

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.

Plan Assets – The value of cash and investments considered as 'belonging' to the plan and permitted to be used to offset the AAL for valuation purposes. To be considered a plan asset, GASB 45 requires (a) the assets to be segregated and restricted in a trust or similar arrangement, (b) employer contributions to the trust to be irrevocable, (c) the assets be dedicated to providing benefits to retirees and their beneficiaries, and (d) that the assets be legally protected from creditors of the employer and/or plan administrator. See also "Actuarial Value of Assets"

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) – 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)

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