



---

## California State Teachers' Retirement Plan

### GASB 74/75 Reporting

Reporting Date: June 30, 2018

Measurement Date: June 30, 2018

Actuarial Valuation Date: June 30, 2017

**Prepared by:**

**Mark Olleman**

FSA, EA, MAAA

**Nick Collier**

ASA, EA, MAAA

**Daniel Wade**

FSA, EA, MAAA

**Julie Smith**

FSA, EA, MAAA

Milliman, Inc.  
1301 Fifth Avenue, Suite 3800  
Seattle WA 98101-2605  
Tel +1 206 624 7940  
milliman.com

## Table of Contents

Certification .....	1
Overview of GASB 74 and GASB 75 .....	3
Summary of Analysis Performed .....	4
Statement of Fiduciary Net Position.....	5
Statement of Changes in Fiduciary Net Position .....	6
Net OPEB Liability.....	7
Discount Rate and Depletion Date Projection.....	8
Total OPEB Liability and Net OPEB Liability .....	9
Schedule of Changes in Net OPEB Liability .....	10
Schedule of Changes in Net OPEB Liability and Related Ratios .....	11
Allocable OPEB Expense.....	12
Schedule of Deferred Inflows and Outflows of Resources .....	13
Actuarial Methods and Assumptions for GASB Valuation .....	14
MPP Program Member Data.....	16
Glossary .....	17

## Certification

Actuarial computations presented in this report under Statements No. 74 and 75 of the Governmental Accounting Standards Board are for purposes of assisting CalSTRS and its employers in fulfilling their financial accounting requirements. No attempt is being made to offer any accounting opinion or advice. This report is for fiscal year July 1, 2017 to June 30, 2018. The measurement date for determining plan assets and obligations is June 30, 2018. The calculations enclosed in this report have been made on a basis consistent with our understanding of the plan provisions. Determinations for purposes other than meeting financial reporting requirements may be significantly different than the results contained in this report. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security or meeting employer funding requirements.

In preparing this report, we relied, without audit, on information furnished by the California State Teachers' Retirement System (CalSTRS). This information includes, but is not limited to, statutory provisions, member census data, and financial information. Please see Milliman's June 30, 2017 Medicare Premium Payment Program funding valuation report for more information on the data used in the valuation, as well as a summary of the plan provisions and actuarial methods and assumptions.

We performed a limited review of the census and financial information used directly in our analysis and have found them to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the Plan have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Plan and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the Plan. The Teachers' Retirement Board adopted the actuarial methods and assumptions used in the financial reporting valuation. We believe they are reasonable for these purposes.

This report is only an estimate of the Plan's financial condition as of a single date. It can neither predict the Plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of Plan benefits, only the timing of Plan contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions (except for the alternate discount rates shown in this report) is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurements.

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

- a) the plan sponsor may provide a copy of Milliman's work, in its entirety, to the plan sponsor's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Fund; and
- b) the plan sponsor may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

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

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

The signing actuaries are independent of CalSTRS and the plan sponsors. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and has been prepared in accordance with generally recognized accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.



Mark Olleman, FSA, EA, MAAA  
Consulting Actuary



Nick Collier, ASA, EA, MAAA  
Consulting Actuary



Daniel Wade, FSA, EA, MAAA  
Consulting Actuary



Julie Smith, FSA, EA, MAAA  
Consulting Actuary

## Overview of GASB 74 and GASB 75

The Governmental Accounting Standards Board (GASB) released new accounting standards for public postemployment benefit plans other than pension (OPEB) and participating employers in 2015. These standards, GASB Statements No. 74 and 75, have substantially revised the accounting requirements previously mandated under GASB Statements No. 43 and 45. The most notable change is that the Annual Required Contribution (ARC) has been eliminated and the Net OPEB Liability will be an item on the employer's financial statement rather than a footnote entry.

GASB 74 applies to financial reporting for public OPEB plans and is required to be implemented for plan fiscal years beginning after June 15, 2016. Note that a plan's fiscal year might not be the same as the employer's fiscal year. Even if the plan does not issue standalone financial statements, but rather is considered a trust fund of a government, it is subject to GASB 74. Under GASB 74, enhancements to the financial statement disclosures are required, along with certain required supplementary information.

GASB 75 governs the specifics of accounting for public OPEB plan obligations for participating employers and is required to be implemented for employer fiscal years beginning after June 15, 2017. GASB 75 requires a liability for OPEB obligations, known as the Net OPEB Liability (Total OPEB Liability for unfunded plans), to be recognized on the balance sheets of participating employers. Changes in the Net OPEB Liability (Total OPEB Liability for unfunded plans) will be immediately recognized as OPEB Expense on the income statement or reported as deferred inflows/outflows of resources depending on the nature of the change.

## Summary of Analysis Performed

We have calculated certain requested actuarial figures for the California State Teachers' Retirement Plan (the STRP) per the Governmental Accounting Standards Board (GASB) Statements No. 74 and 75. These statements pertain to accounting and financial reporting for OPEB plans and employers.

The calculations contained in this analysis have been performed using the results of the June 30, 2017 Medicare Premium Payment (MPP) Program actuarial funding valuation (report to be issued in August of 2018), with certain revisions to assumptions as required by GASB 74 and 75 and described later in this report. The liabilities have been projected to June 30, 2018 and combined with the actual Teachers' Health Benefit Fund (THBF) assets of June 30, 2018.

Our final deliverable product for these GASB 74/75 calculations is a formatted .CSV file with data format specifications provided by CalSTRS accounting staff. We have provided an electronic copy of this file to you, in addition to this report. Please note that all certifications and limitations contained or referenced in this letter also apply to this electronic deliverable file. Staff should verify consistency of numbers in the .CSV file with numbers contained in this letter prior to use.

Per discussions with CalSTRS, we have performed the following analysis for the GASB Reporting Date of June 30, 2018:

1. The MPP Program benefits are effectively funded on a pay-as-you-go basis through the THBF. Therefore, we have used a discount rate of 3.58% for June 30, 2017 and 3.87% for June 30, 2018. The discount rates are based on the rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher as specified in GASB. The Teachers' Retirement Board has adopted the 20-Bond GO Bond Buyer Index for these purposes.
2. We have calculated the June 30, 2017 MPP Program Total OPEB Liability (TOL) and Service Cost for GASB 74/75 purposes using the following assumptions: a discount rate of 3.58%, the Individual Entry Age Normal (EAN) Cost actuarial cost method, and all other assumptions the same as used in the MPP Program actuarial funding valuation as of June 30, 2017 (report to be issued in August of 2018).
3. We have projected these results to the June 30, 2018 reporting date. As part of the projection, we have adjusted the Total OPEB Liability as of June 30, 2018 to reflect the 3.87% discount rate in effect for that date.
4. We have performed a discount-rate sensitivity analysis on the Net OPEB Liability for +1% (a 4.87% discount rate) and -1% (a 2.87% discount rate) scenarios on the GASB discount rate. In addition, we have calculated the values using the 3.87% discount rate but with +/-1% added to the assumed trend rate.
5. We have calculated a total average remaining service life for all MPP Program members as 1.0, since all current and potential future Program members are currently retired.
6. We have provided the sources of change in the Net OPEB Liability between June 30, 2017 and June 30, 2018. These sources of change consist of: changes in benefit terms, differences between actual and expected experience (including difference in actual and expected trend), changes of assumptions, and differences between projected and actual earnings on plan investments. There is no service cost as there are no active members accruing benefits and there were no changes in benefit terms in the last year so these line items are \$0.

Assets are based on information provided by CalSTRS, which reflect the application of GASB 75 to CalSTRS as an employer participating in the State's retiree health plan.

## Statement of Fiduciary Net Position

	June 30, 2018	June 30, 2017
<b>Assets</b>		
Investments at fair value:		
Debt securities	\$604,865	\$606,357
Equity securities	0	0
Alternative investments	0	0
Derivative instruments	0	0
Securities lending collateral	0	0
Total investments	<u>604,865</u>	<u>606,357</u>
Cash	<u>123</u>	<u>289</u>
Receivables:		
Investments sold	0	0
Interest and dividends	6,207	2,495
Member and employer	0	0
Loans receivable	0	0
Other	0	(485)
Total receivables	<u>6,207</u>	<u>2,010</u>
Other assets:		
Capital assets, net of accumulated depreciation	0	0
Other	0	0
Total other assets	<u>0</u>	<u>0</u>
<b>Total assets</b>	<u>611,195</u>	<u>608,656</u>
<b>Deferred outflows of resources</b>	191,062	88,012
<b>Total assets and deferred outflow of resources</b>	<u>802,257</u>	<u>696,668</u>
<b>Liabilities</b>		
Derivative instruments	0	0
Investment purchase payable	0	0
Loan payable	0	0
Benefits in process of payment	0	482
Net pension and OPEB obligation	1,792,732	624,780
Securities lending obligation	0	0
Other	402,601	17,591
<b>Total liabilities</b>	<u>2,195,333</u>	<u>642,853</u>
<b>Deferred inflows of resources</b>	147,571	12,208
<b>Total assets and deferred inflow of resources</b>	<u>2,342,904</u>	<u>655,061</u>
<b>Net position restricted for postemployment benefits other than pensions</b>	<u>(\$1,540,647)</u>	<u>\$41,607</u>

## Statement of Changes in Fiduciary Net Position

	<b>June 30, 2018</b>
<b>Additions</b>	
Contributions:	
Member contributions	\$0
Employer contributions	28,217,547
State of California/Federal Government	0
Total contributions	28,217,547
Investment income (Loss):	
Net appreciation (depreciation) in fair value of investments	(492)
Interest, dividends and other	18,313
Securities lending income	0
Less investment expenses:	
Cost of lending securities	0
Reverse repurchase agreement	0
Other investment expenses	0
Net investment income	17,821
Other income	0
<b>Total Additions</b>	<b>28,235,368</b>
<b>Deductions</b>	
Premiums paid	28,034,532
Administrative expenses	578,031
<b>Total Deductions</b>	<b>28,612,563</b>
<b>Adjustments</b>	
Adjustment for application of GASB 75	(1,205,059)
<b>Net increase (decrease)</b>	<b>(1,582,254)</b>
<b>Net position restricted for postemployment benefits other than pensions</b>	
Beginning of year (June 30, 2017)	41,607
End of year (June 30, 2018)	<b>(\$1,540,647)</b>



## Net OPEB Liability

Net OPEB Liability	June 30, 2018	June 30, 2017
Total OPEB liability	\$381,228,475	\$420,749,494
Fiduciary net position	(1,540,647)	41,607
Net OPEB liability	382,769,122	420,707,887
Fiduciary net position as a % of total OPEB liability	-0.40%	0.01%
Covered payroll <sup>1</sup>	\$0	\$0
Net OPEB liability as a % of covered payroll <sup>1</sup>	N/A	N/A

1. There are no active employees eligible to be provided benefits through the MPP Program. Therefore, the covered payroll is \$0. If expressed as a percentage of the total covered payroll for the State Teachers' Retirement Program, the net OPEB liability would be 1.10% as of June 30, 2018 and 1.23% as of June 30, 2017.

The total OPEB liability was determined by an actuarial valuation as of the valuation date, calculated based on the discount rate and actuarial assumptions below, and was then projected forward to the measurement date.

### Discount Rate

Discount rate	3.87%	3.58%
Long-term expected rate of return, net of investment expense	3.87%	3.58%
Municipal bond rate	3.87%	3.58%

The plan's fiduciary net position was not projected to be sufficient to make more than one month of future benefit payments. Therefore, the municipal bond rate is applied to all future benefit payments.

### Other Key Actuarial Assumptions

The actuarial assumptions that determined the total OPEB liability as of June 30, 2017 were based on the results of an actuarial experience study for the period July 1, 2010 - June 30, 2015.

Valuation date	June 30, 2017	June 30, 2016
Measurement date	June 30, 2018	June 30, 2017
Other assumptions and methods	See the 'Actuarial Methods and Assumptions for GASB Valuation' section of this report.	

Note: Numbers may not add due to rounding.

## Discount Rate and Depletion Date Projection

The discount rate is the single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:

1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the OPEB plan's fiduciary net position is projected to be greater than the benefit payments that are projected to be made in that period and (b) OPEB plan assets up to that point are expected to be invested using a strategy to achieve the long-term rate of return, calculated using the long-term expected rate of return on OPEB plan investments.
2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.

The MPP Program benefits are effectively funded on a pay-as-you-go basis through the THBF. As the THBF has effectively been depleted as of the measurement date, the discount rate has been set to the municipal bond index because the expected long-term rate of return of the invested assets is not expected to be materially better than the municipal bond index rate. We have used a discount rate of 3.58% for June 30, 2017 and 3.87% for June 30, 2018. The discount rates are based on the municipal bond index previously discussed.

### Total OPEB Liability and Net OPEB Liability

The June 30, 2017 MPP Program actuarial funding valuation was recalculated using the GASB discount rate of 3.58% effective as of that date. These recalculations are sometimes referred to as “financial reporting actuarial valuation” to indicate differences in methodology from regular (funding) actuarial valuation calculations. The MPP Program was valued using the Individual Entry Age Normal Cost (EAN) actuarial cost method as specified under GASB 74/75 which is consistent with the method used for funding purposes.

The resulting liabilities were allocated to past and future service using the EAN cost method. Since all MPP Program members are retirees, all liabilities were allocated to past service. The Total OPEB Liability is the amount of GASB valuation liability allocated to past service; therefore, it is somewhat analogous to the Actuarial Obligation figures shown in the June 30, 2017 actuarial funding valuation report (report to be issued in August of 2018). However, it will differ from those figures due to the different discount rate.

The June 30, 2017 Total OPEB Liability was then projected forward to the June 30, 2018 reporting date. An adjustment was made to the Total OPEB Liability as part of the roll-forward projection to reflect the discount rate effective June 30, 2018 of 3.87%.

The Total OPEB Liability is made up of two groups:

Current Members of the MPP Program:	\$ 344,634,354
Current Retirees who are Expected to Join the MPP Program in the Future:	<u>36,594,121</u>
Total OPEB Liability:	\$ 381,228,475

The June 30, 2018 Net OPEB Liability is equal to the Total OPEB Liability as of that date, less the Fiduciary Net Position for the THBL as of that date. The following exhibit shows the changes in the Total OPEB Liability, Fiduciary Net Position, and Net OPEB Liability between June 30, 2017 and June 30, 2018.

We have performed a discount-rate sensitivity analysis on the Net OPEB Liability for +1% (a 4.87% discount rate) and -1% (a 2.87% discount rate) scenarios on the GASB discount rate. In addition, we have calculated the values using the 3.87% discount rate but with +/-1% added to the assumed trend rate.

The results of the sensitivity analysis shown in the following exhibit.

## Schedule of Changes in Net OPEB Liability

Changes in Net OPEB Liability	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) - (b)
Balances as of June 30, 2017	\$420,749,494	\$41,607	\$420,707,887
Adjustment to Beginning Balance <sup>1</sup>		(1,205,059)	1,205,059
Changes for the year:			
Service cost	0		0
Interest on total OPEB liability	14,565,426		14,565,426
Effect of plan changes	0		0
Effect of economic/demographic gains or losses	(15,759,324)		(15,759,324)
Effect of assumptions changes or inputs	(10,292,589)		(10,292,589)
Benefit payments	(28,034,532)	(28,034,532)	0
Employer contributions		28,217,547	(28,217,547)
Member contributions		0	0
Net investment income		17,821	(17,821)
Administrative expenses		(578,031)	578,031
Balances as of June 30, 2018	381,228,475	(1,540,647)	382,769,122 <sup>2</sup>

### Sensitivity Analysis

The following presents the net OPEB liability of the MPP Program, calculated using the discount rate of 3.87%, as well as what the MPP Program's net OPEB liability would be if it were calculated using a discount rate that is 1 percentage point lower (2.87%) or 1 percentage point higher (4.87%) than the current rate.

	Current		
	1% Decrease 2.87%	Discount Rate 3.87%	1% Increase 4.87%
Total OPEB liability	421,820,923	\$381,228,475	344,576,674
Fiduciary net position	(1,540,647)	(1,540,647)	(1,540,647)
Net OPEB liability	423,361,570	382,769,122	346,117,321

The following presents the net OPEB liability of the MPP Program, calculated using the current healthcare cost trend rates as well as what the MPP Program's net OPEB liability would be if it were calculated using trend rates that are 1 percentage point lower or 1 percentage point higher than the current trend rates.

	Current		
	1% Decrease	Trend Rate	1% Increase
Total OPEB liability	\$347,506,046	\$381,228,475	\$417,496,401
Fiduciary net position	(1,540,647)	(1,540,647)	(1,540,647)
Net OPEB liability	349,046,693	382,769,122	419,037,048

1. An adjustment for the recognition of the GASB 75 liability related to CalSTRS staff resulted in a net decrease to the beginning fund balance of \$1,205,059.

2. Numbers may not add due to rounding.

Schedule of Changes in Net OPEB Liability and Related Ratios

\$ Thousands

	Fiscal Year Ending June 30									
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>Total OPEB Liability</b>										
Service cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Interest on total OPEB liability	14,565	12,930	0	0	0	0	0	0	0	0
Changes of benefit terms	0	0	0	0	0	0	0	0	0	0
Effect of economic/demographic (gains) or losses	(15,759)	(41)	0	0	0	0	0	0	0	0
Effect of assumption changes or inputs	(10,293)	(31,240)	0	0	0	0	0	0	0	0
Benefit payments	(28,035)	(28,929)	0	0	0	0	0	0	0	0
Net change in total OPEB liability	(39,521)	(47,281)	0	0	0	0	0	0	0	0
Total OPEB liability, beginning	420,749	468,031	0	0	0	0	0	0	0	0
Total OPEB liability, ending (a)	\$ 381,228	\$ 420,749	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Fiduciary Net Position</b>										
Employer contributions	\$28,218	\$29,117	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Investment income	18	12	0	0	0	0	0	0	0	0
Benefit payments	(28,035)	(28,929)	0	0	0	0	0	0	0	0
Administrative expenses	(578)	(167)	0	0	0	0	0	0	0	0
Adjustments	(1,205)	0	0	0	0	0	0	0	0	0
Net change in plan fiduciary net position	(1,582)	32	0	0	0	0	0	0	0	0
Fiduciary net position, beginning	42	10	0	0	0	0	0	0	0	0
Fiduciary net position, ending (b)	(1,541)	42	0	0	0	0	0	0	0	0
Net OPEB liability, ending = (a) - (b)	\$ 382,769	\$ 420,708	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fiduciary net position as a % of total OPEB liability	-0.40%	0.01%	NA	NA	NA	NA	NA	NA	NA	NA
Covered payroll	-	-	-	-	-	-	-	-	-	-
Net OPEB liability as a % of covered payroll	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA

This schedule is presented to illustrate the requirement to show information for 10 years. However, recalculations of prior years are not required, and if prior years are not reported in accordance with the current GASB standards, they should not be reported.

Notes to Schedule:

Changes of benefit terms: None

Changes of assumptions: In 2017 and in 2018, the discount rate was changed to reflect the current municipal bond rate.

Note: Numbers may not add due to rounding.

### Allocable OPEB Expense

OPEB Expense	July 1, 2017 to June 30, 2018	July 1, 2016 to June 30, 2017
Service cost	\$0	N/A
Interest on total OPEB liability	14,565,426	N/A
Effect of plan changes	0	N/A
Administrative expenses	578,031	N/A
Member contributions	0	N/A
Expected investment return net of investment expenses	48,660	N/A
Recognition of Deferred Inflows/Outflows of Resources		
Recognition of economic/demographic gains or losses	(15,759,324)	N/A
Recognition of assumption changes or inputs	(10,292,589)	N/A
Recognition of investment gains or losses	(13,296)	N/A
OPEB Expense	(10,873,092)	N/A

As of June 30, 2018, the deferred inflows and outflows of resources are as follows:

Deferred Inflows / Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources
Differences between expected and actual experience	\$0	\$0
Changes of assumptions	0	0
Net difference between projected and actual earnings	53,185	0
Contributions made subsequent to measurement date	<u>Employer Determined</u>	<u>Employer Determined</u>
Total	\$ 53,185	\$ 0

Other amounts currently reported as deferred outflows of resources and deferred inflows of resources related to other postemployment benefits will be recognized in OPEB expense as follows:

Year ended June 30: <sup>1</sup>	
2019	(\$13,296)
2020	(13,296)
2021	(13,296)
2022	(13,296)
2023	0
Thereafter <sup>2</sup>	0

1. Note that additional future deferred inflows/outflows may impact these numbers.

2. Reflects remaining balance of total deferred (inflows)/outflows, if any.

Schedule of Deferred Inflows and Outflows of Resources

	Original Amount	Date Established	Original Recognition Period <sup>1</sup>	Amount Recognized in 06/30/2018 Expense	Balance of Deferred Inflows 06/30/2018	Balance of Deferred Outflows 06/30/2018
<b>Investment (gains) or losses</b>	(\$ 66,481)	06/30/2018	5.0	(\$ 13,296)	\$ 53,185	\$ 0
		Total		(13,296)	53,185	0
<b>Economic/demographic (gains) or losses</b>	(15,759,324)	06/30/2018	1.0	(15,759,324)	0	0
		Total		(15,759,324)	0	0
<b>Assumption changes or inputs</b>	(10,292,589)	06/30/2018	1.0	(10,292,589)	0	0
		Total		(10,292,589)	0	0

Future Deferred Inflow/Outflow Recognition

	Investment (Gains) or Losses	Economic/ Demographic (Gains) or Losses	Assumption Changes
Year ended June 30: <sup>2</sup>			
2019	(\$ 13,296)	\$ 0	\$ 0
2020	(13,296)	0	0
2021	(13,296)	0	0
2022	(13,296)	0	0
2023	0	0	0
Thereafter <sup>3</sup>	0	0	0

1. Investment (gains)/losses are recognized in OPEB expense over a period of five years; economic/demographic (gains)/losses and assumption changes or inputs are recognized over the average remaining service life for all active and inactive members. The average remaining service life for all MPP Program members is set to 1.0, since all current and future Program members are currently retired.

2. Note that additional future deferred inflows/outflows may impact these numbers.

3. Reflects remaining balance of total deferred (inflows)/outflows, if any.

## Actuarial Methods and Assumptions for GASB Valuation

All actuarial methods and assumptions used for this GASB analysis were the same as those used in the June 30, 2017 MPP Program funding valuation (report to be issued in August of 2018), except as noted below and throughout this report. Please see the valuation reports for further details.

Following are the key assumptions and methods used in this GASB analysis.

**Valuation Timing** Actuarial valuations are performed annually as of June 30. The most recent valuation was performed as of June 30, 2017.

**Actuarial Cost Method** Individual Entry Age Normal

**Amortization Method**

Recognition of investment gains or losses	Straight-Line amortization over 5 years
Recognition of economic/demographic gains or losses	Straight-Line amortization over Expected Working Life (immediate full recognition, since all plan members are retired)
Recognition of assumptions changes or inputs	Straight-Line amortization over Expected Working Life (immediate full recognition, since all plan members are retired)

**Asset Valuation Method**  
Fair Value

**Inflation** 2.75%

**Salary Increases** Not applicable

**Discount Rate** 3.87% as of June 30, 2018

**Healthcare Cost Trend Rates**

Years <sup>(1)</sup>	Trend Assumption	
	Assumed Annual Increase	
	Part A	Part B
2017 - 2026	3.4%	4.0%
2027 - 2036	4.6%	5.2%
2037 - 2046	4.1%	4.7%
2047 & Later	3.9%	4.5%

*1. Trend rates indicate medical inflation in the specific year and therefore affect the premiums for the following year. For example, the projected 2018 premium is the 2017 premium increased by the assumed 2017 trend rate.*

**MPP Program Participation Rates** See exhibit on following page

**Retirement** Not Applicable

**Turnover** Not Applicable

**Mortality** Custom CalSTRS rates (same as funding valuation).  
See June 30, 2017 MPP Program funding valuation for details.



**Part A Enrollment Rates<sup>(1)</sup>**

<b>Assumption</b>	<b>Best Estimate</b>
% of Actives and Under 65 Retirees Enrolling (Retired on or After 2001) <sup>(2)</sup>	2.50%
% of Under 65 Retirees Enrolling (Retired Before 2001)	3.50%
% of Over 65 Retirees Enrolling (for those not Currently Enrolled) at Age: <sup>(3)</sup>	
65	0.60%
66	0.06
67	0.04
68	0.03
69	0.03
70-84	0.02
85 & Above	0.00
% of Over 65 Retirees Enrolling (for those Already Enrolled)	100.0%

1. Only current enrollees are assumed to receive Part B payments.
2. For under age 65 retirees, the enrollment percent applies upon reaching age 65. No enrollment is assumed after age 65 for retirees currently under age 65.
3. For over 65 retirees, the enrollment percent applies in each future year.

## MPP Program Member Data

June 30, 2017

### Number of Enrolled Members

Retirees with Part A Premium	6,163
Retirees with Part B Penalty	617

### Average CalSTRS Payment for Enrolled Members (for current calendar year)

Retirees with Part A Premium	\$	387.91
Retirees with Part B Penalty		66.35

## Glossary

<b>Actuarially Determined Contribution</b>	A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined based on the funding policy and most recent measurement available when the contribution for the reporting period was adopted.
<b>Deferred Inflows/Outflows of Resources</b>	Portion of changes in Net OPEB Liability that is not immediately recognized in OPEB Expense. These changes include differences between expected and actual experience, changes in assumptions, and differences between expected and actual earnings on plan investments.
<b>Discount Rate</b>	Single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the sum of: <ol style="list-style-type: none"><li>1) The actuarial present value of benefit payments projected to be made in future periods where the plan assets are projected to be sufficient to meet benefit payments, calculated using the Long-Term Expected Rate of Return.</li><li>2) The actuarial present value of projected benefit payments not included in (1), calculated using the Municipal Bond Rate.</li></ol>
<b>Fiduciary Net Position</b>	Equal to market value of assets.
<b>Municipal Bond Rate</b>	Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.
<b>Net OPEB Liability</b>	Total OPEB Liability minus the Plan's Fiduciary Net Position.
<b>Projected Benefit Payments</b>	All benefits estimated to be payable through the OPEB plan to current active and inactive employees as a result of their past service and expected future service.
<b>Service Cost</b>	The portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<b>Total OPEB Liability</b>	The portion of actuarial present value of projected benefit payments that is attributable to past periods of member service using the Entry Age Normal cost method based on the requirements of GASB 74 and 75.