California State Teachers' Retirement Plan

GASB 67/68 Reporting

Reporting Date: June 30, 2016

Measurement Date: June 30, 2016

Actuarial Valuation Date: June 30, 2015

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Certification

Actuarial computations presented in this report under Statements No. 67 and 68 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, 2015 to June 30, 2016. The measurement date for determining plan assets and obligations is June 30, 2016. 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.

This report includes contribution rates that are based on the June 30, 2015 CalSTRS funding valuations. CalSTRS funding is based on complex legislation. The funding valuations contain calculations based on our understanding of the relevant law based on our experience working with CalSTRS and other large public retirement systems and has been augmented by consultation with CalSTRS staff.

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, 2015 funding valuation reports 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.

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.

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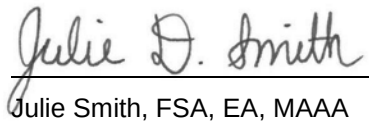
The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

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



Julie Smith, FSA, EA, MAAA
Actuary

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Overview of GASB 67 and GASB 68

In 2012, the Governmental Accounting Standards Board (GASB) released new reporting standards for public pension plans and participating employers. These standards, GASB Statements 67 and 68, substantially changed the reporting requirements previously mandated under GASB Statements 25 and 27. The most notable change is the distinct separation of funding from financial reporting.

GASB 67 applies to financial reporting for public pension plans and is required to be implemented for plan fiscal years beginning after June 15, 2013. Note that a plan's fiscal year might not be the same as the employer's fiscal year.

GASB 68 governs the specifics of accounting for public pension plan obligations for participating employers and is required to be implemented for employer fiscal years beginning after June 15, 2014. GASB 68 requires a liability for pension obligations, known as the Net Pension Liability, to be recognized on the balance sheets of participating employers. Changes in the Net Pension Liability will be immediately recognized as Pension Expense on the income statement or reported as deferred inflows/outflows of resources depending on the nature of the change.

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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. 67 and 68. These statements pertain to accounting and financial reporting for pension plans and employers.

The calculations contained in this analysis have been performed using the results of the June 30, 2015 Defined Benefit (DB) Program, Defined Benefit Supplement (DBS) Program, and Cash Balance Benefit (CBB) Program actuarial valuations, with certain revisions to assumptions and methodology as required by GASB 67 and 68 and described later in this report. The liabilities have been projected to June 30, 2016 and combined with the actual assets of June 30, 2016.

Additionally, GASB 67/68 liabilities for the Supplemental Benefits Maintenance Account (SBMA) Program have been included in the STRP calculations contained in this letter. Per discussions with CalSTRS staff, we have treated future SBMA benefits as substantively automatic at the 85% replacement level under the GASB 67/68 definition.

Our final deliverable product for these GASB 67/68 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, 2016:

1. We have performed an analysis to determine whether the amount of the STRP Fiduciary Net Position is projected to be greater than or equal to the projected STRP benefit payments in every corresponding future year. We have found that the STRP Fiduciary Net Position is projected to be sufficient to pay all projected STRP benefit payments in all future years. This results in a GASB 67/68 discount rate of 7.60% for reporting date June 30, 2016 calculations. The 7.60% discount rate reflects the long-term rate of investment return on total STRP assets, gross of administrative expenses. See the section of this letter entitled "Discount Rate" for details.
2. We have calculated the June 30, 2015 DB Program Total Pension Liability (TPL) and Service Cost for GASB 67/68 purposes using the following assumptions: a discount rate of 7.60%, the Individual Entry Age Normal (EAN) Cost actuarial cost method, and all other assumptions the same as used in the DB Program actuarial valuation as of June 30, 2015.
3. We have calculated the June 30, 2015 DBS and CBB Program Total Pension Liability and Service Cost for GASB 67/68 purposes using the following assumptions: a discount rate of 7.60%, the Individual EAN Cost actuarial cost method, assumed crediting rates of 7.50%, assumed lump sum form of payment for all members, and all other assumptions the same as used in the DB Program actuarial valuation as of June 30, 2015.
4. We have calculated the June 30, 2015 SBMA Program Total Pension Liability and Service Cost for GASB 67/68 purposes using the following assumptions: a discount rate of 7.60%, the Individual EAN Cost actuarial cost method, an assumption for form of payment election consistent with the June 30, 2015 SBMA projection, and all other assumptions the same as used in the DB Program actuarial valuation as of June 30, 2015.

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5. The Total Pension Liability for benefits being paid, or to be paid in the future, from the Replacement Benefit Program (RBP) is included with the TPL for the DB Program, consistent with the funding valuation. Note that it is our understanding that the in-payment data provided to us for DB Program valuation purposes includes benefits payable from the RBP.
6. We have calculated the combined Total Pension Liability results for the STRP (sum of Total Pension Liability results in numbers 2 through 5, above) as of June 30, 2015 and projected these results to the June 30, 2016 reporting date.
7. We have used the projected STRP Total Pension Liability as of June 30, 2016, and the Fiduciary Net Position of the STRP as of June 30, 2016 (as provided to us by CalSTRS staff on August 1, 2016) to calculate the STRP Net Pension Liability as of June 30, 2016.
8. We have performed a discount-rate sensitivity analysis on the STRP Net Pension Liability for +1% (an 8.60% discount rate) and -1% (a 6.60% discount rate) scenarios on the GASB discount rate. In addition to the +/-1% values required under GASB, we have also provided values under +/-2% and +/-3% discount rates as requested by CalSTRS.
9. We have calculated a total average remaining service life for all STRP plan members, rounded to the nearest year. This calculation uses an average remaining service life of 0 years for all inactive members and annuitants. The total average remaining service life for all STRP plan members is 7 years.
10. We have provided the sources of change in the Net Pension Liability between June 30, 2015 and June 30, 2016. These sources of change consist of: changes in benefit terms, differences between actual and expected experience, changes of assumptions, and differences between projected and actual earnings on plan investments. There were no changes in benefit terms or assumptions as of June 30, 2016, so these line items are $0. Note that although additional credits were granted to both the DBS and CBB Programs, these are not considered changes in the benefit terms, since our valuation assumes that additional credits will be granted in the future to make up the difference between the assumed return and the minimum interest credit.

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Statement of Fiduciary Net Position

$ Millions

	June 30, 2016	June 30, 2015
Assets		
Investments at fair value:		
Debt securities	$ 39,877	$ 36,252
Equity securities	99,825	104,580
Alternative investments	50,076	53,090
Derivative instruments	564	9
Securities lending collateral	17,524	18,029
Investment - other	-	-
Total investments at fair value	207,866	211,960
Cash	165	360
Receivables:		
Investments sold	898	2,997
Foreign currency forward contracts (net)	-	87
Interest and dividends	383	378
Member and employer	546	501
Loan receivable	2,132	34
Other	15	10
Total receivables	3,974	4,007
Other assets:		
Capital assets, net of accumulated depreciation	231	226
Other	-	-
Total other assets	231	226
Total assets	$ 212,236	$ 216,553
Deferred outflows of resources	23	16
Total assets and deferred outflow of resources	**$ 212,259**	**$ 216,569**
Liabilities		
Derivative instruments	494	-
Investment purchase payable	1,404	3,726
Foreign currency forward contracts (net)	-	-
Obligation under reverse repurchase agreement	-	-
Loan payable	2,130	1,447
Benefits in process of payment	1,189	1,179
Net pension and OPEB obligation	256	213
Securities lending obligation	17,530	18,043
Other	127	112
Total liabilities	**$ 23,130**	**$ 24,720**
Deferred inflows of resources	16	27
Total assets and deferred outflow of resources	**$ 23,146**	**$ 24,747**
Net position restricted for pensions	**$ 189,113**	**$ 191,822**

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Statement of Changes in Fiduciary Net Position

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	2016	2015
Additions		
Contributions:		
Member contributions	$ 2,957	$ 2,510
Employer contributions	3,391	2,678
State of California/Federal Government	1,940	1,426
Total Contributions	8,288	6,614
Investment income (Loss):		
Net appreciation (depreciation) in fair value of investments	(2,139)	3,130
Interest, dividends and other	4,649	4,675
Securities lending income	112	107
Less investment expenses:		
Cost of lending securities	(23)	(13)
Borrowing costs	(32)	(27)
Reverse repurchase agreement	0	0
Other investment expenses	(262)	(260)
Net investment income	2,305	7,612
Other income	42	4
Total Additions	**$ 10,635**	**$ 14,230**
Deductions		
Retirement, disability, and death benefits	12,892	12,284
Premiums paid	0	0
Distributions and withdrawals	0	0
Purchasing power benefits	173	193
Refunds of member contributions	84	88
Administrative expenses	180	145
Other expenses	15	9
Total Deductions	**$ 13,344**	**$ 12,719**
Transfers in	0	0
Transfers out	0	0
Net increase (decrease)	**($ 2,709)**	**$ 1,511**
Net assets held in trust for pension and other post employment benefits		
Beginning of the year	191,822	190,474
End of the year	**$ 189,113**	**$ 191,822**

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Net Pension Liability

$ Millions

Net Pension Liability	June 30, 2016	June 30, 2015
Total pension liability	$ 269,994	$ 259,146
Fiduciary net position	189,113	191,822
Net pension liability[1]	$ 80,881	$ 67,324
Fiduciary net position as a % of total pension liability	70.04%	74.02%
Covered payroll	$ 31,910	$ 32,026
Net pension liability as a % of covered payroll	253.47%	210.22%

The total pension liability was determined by an actuarial valuation as of the valuation date, calculated based on the discount rate shown below and actuarial assumptions and methods as outlined in this report for GASB purposes.

Discount Rate

Discount rate	7.60%	7.60%
Long-term expected rate of return, net of expenses	7.50%	7.50%
Municipal bond rate	N/A	N/A

The plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active, inactive, and in-payment members and beneficiaries. Therefore, the discount rate for calculating the total pension liability is equal to the long-term expected rate of return, gross of administrative expenses. See details of discount rate determination in this report.

Other Key Actuarial Assumptions

The actuarial assumptions that determined the total pension liability as of June 30, 2016 were based on the results of an actuarial experience study for the period July 1, 2006 - June 30, 2010.

Valuation date	June 30, 2015	June 30, 2014
Measurement date	June 30, 2016	June 30, 2015
Other assumptions and methods	See the 'Actuarial Methods and Assumptions for GASB Valuation' section of this report.	

1. *Numbers may not add due to rounding.*

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Long-Term Expected Rate of Return

The long-term expected rate of return on CalSTRS assets is determined by combining expected inflation with expected long-term real returns, and reflecting expected volatility and correlation. The capital market assumptions and information shown below are provided by CalSTRS. The numbers shown are based on November 2015 information for a 20-year time horizon.

Note that the valuation assumption for long-term expected return is reviewed annually and re-assessed in detail approximately every four years, and is set based on a 30-year time horizon; the most recent detailed analysis was performed in 2011. See Milliman's Experience Analysis report for the period July 1, 2006 – June 30, 2010 for more details.

Asset Class	Target Allocation	Long-Term Arithmetic Expected Real Rate of Return[1]
Global Equity	47.0%	6.30%
Private Equity	13.0%	9.30%
Real Estate	13.0%	5.20%
Inflation Sensitive	4.0%	3.80%
Fixed Income	12.0%	0.30%
Risk Mitigating Strategies	9.0%	2.90%
Cash / Liquidity	2.0%	-1.00%

1. Real return is net of assumed 3.00% inflation.

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Discount Rate

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 pension 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) pension 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 pension plan investments.
2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.

Therefore, if plan investments in a given future year are greater than projected benefit payments in that year and are invested such that they are expected to earn the long-term rate of return, the discount rate applied to projected benefit payments in that year should be the long-term expected rate of return on plan investments. If future years exist where this is not the case, then an index rate reflecting the yield on a 20-year, tax-exempt municipal bond should be used to discount the projected benefit payments for those years.

The determination of a future date when plan investments are not sufficient to pay projected benefit payments is often referred to as a depletion date projection. A depletion date projection compares projections of the pension plan's fiduciary net position to projected benefit payments and aims to determine a future date, if one exists, when the fiduciary net position is projected to be less than projected benefit payments. If an evaluation of the sufficiency of the projected fiduciary net position compared to projected benefit payments can be made with sufficient reliability without performing a depletion date projection, alternative methods to determine sufficiency may be applied.

In order to determine the GASB 67/68 discount rate for the STRP, we have made two separate assessments of projected sufficiency of the Fiduciary Net Position, as follows:

1. For the DB and SBMA Programs, a depletion date projection was performed. This projection shows that the Fiduciary Net Position of the DB and SBMA Programs is not expected to be depleted in any future year; that is, the projected Fiduciary Net Position is always expected to be sufficient to pay projected benefit payments under the assumptions applied in this projection for accounting purposes.
    - A projection of Fiduciary Net Position (plan net assets) was performed. This projection includes all district contributions, as well as all state contributions to the DB and SBMA Programs, intended to fund the benefits of current plan members. Additionally, all projected contributions from, and expected future benefit payments to, current plan members are included. The projection does not include any contributions expected to be made by (or future benefit payments expected to be made to) future DB Program members, nor does it include any district or state contributions expected to be made to fund the cost of benefits for future DB or SBMA Program members. Mid-year timing of cash flows was assumed.
    - We have reflected the projected statutory contribution rates to the DB Program by members, districts, and the state under the law (to the extent allowed under GASB 67/68; see preceding point). These contribution rates are designed to fully fund the DB Program by 2046.
    - For purposes of this depletion date projection, we have treated future SBMA benefits at the 85% purchasing power level as substantively automatic under the GASB 67/68 definition. Note that the DB Program 2% Annual Benefit Adjustment is considered an automatic benefit adjustment and is included in valuation calculations.

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- We have reduced future contributions to the DB Program by the projected amounts expected to be diverted to pay benefits of the Medicare Premium Payment Program in future years.

2. For the DBS and CBB Programs, we have used an alternative method as allowed under GASB 67/68 to determine the sufficiency of Fiduciary Net Position in all future years. These Programs are account balance programs, where a crediting rate to member accounts is defined, and additional earnings credits may be granted to member accounts if investment earnings meet certain thresholds.

   The investments for these plans are assumed to earn more than the statutory crediting rate for each plan (i.e., investment income is always assumed to exceed crediting to member accounts). Moreover, as of the June 30, 2015 actuarial valuations for these Programs, each Program was more than 100% funded on an actuarial valuation basis.

   Due to the nature of the plan design and the strong funding status of these plans, by definition the Fiduciary Net Position of these plans will always be projected to be sufficient to pay projected benefit payments for both the DBS and CBB Programs.

Based on the results of the depletion date projection performed for the DB and SBMA Programs, and the alternative method used to determine ongoing sufficiency of projected Fiduciary Net Position for the DBS and CBB Programs, we have concluded that the Fiduciary Net Position of the STRP, when projected in accordance with GASB 67/68 standards and using the assumptions and methods outlined above, is projected to be sufficient to pay projected benefit payments in all future years.

Since the projected Fiduciary Net Position of the STRP is projected to be sufficient to pay projected benefit payments in all future years, the GASB 67/68 discount rate for purposes of calculating the STRP liabilities is set equal to the long-term assumed rate of return on STRP investments. This long-term assumed rate of return should be net of investment expenses, but gross of administrative expenses, for GASB 67/68 purposes. Therefore, we have used a discount rate of 7.60% for all calculations for the STRP under GASB 67/68. This rate reflects the long-term assumed rate of return on assets for funding purposes of 7.50% net of all expenses, increased by 0.10% to be gross of administrative expenses. If future years exist in which the Fiduciary Net Position is projected to be insufficient to pay projected benefit payments, an index rate reflecting the yield on a 20-year, tax-exempt municipal bond must be used to discount the payments for years that the FNP is insufficient; however, this does not apply to CalSTRS for this reporting period.

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Projection of Fiduciary Net Position

Fiscal Year Ending	Projected Beginning Fiduciary Net Position (DB + SBMA)	Projected Total Contributions	Projected Benefit Payments	Projected Adminstrative Expenses[1]	Projected Investment Earnings	Projected Ending Fiduciary Net Position (DB + SBMA)
2017	$ 177,443	$ 8,928	$ 14,032	$ 177	$ 13,289	$ 185,451
2018	185,451	9,326	14,642	183	13,889	193,841
2019	193,841	10,225	15,259	188	14,537	203,156
2020	203,156	11,146	15,890	193	15,256	213,475
2021	213,475	11,784	16,548	199	16,039	224,551
2022	224,551	11,892	17,227	205	16,859	235,870
2023	235,870	12,158	17,935	211	17,703	247,585
2024	247,585	12,417	18,683	217	18,575	259,677
2025	259,677	12,666	19,466	223	19,473	272,127
2026	272,127	12,908	20,272	230	20,398	284,931
:						
2036	405,028	14,574	31,770	302	30,129	417,659
:						
2046	522,978	16,218	42,629	389	38,747	534,925
:						
2056	526,442	4,814	42,524	388	38,588	526,932
:						
2066	596,238	6,847	31,767	285	44,374	615,407
:						
2076	980,791	9,890	14,913	140	74,348	1,049,976
:						
2086	2,068,121	14,292	3,138	33	157,592	2,236,834

Note: Only select years have been shown for formatting purposes.

1. *Administrative expenses allocated to current employees based on proportion of benefit payments.*

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Total Pension Liability and Net Pension Liability

After determining the STRP GASB discount rate as of June 30, 2015, the June 30, 2015 actuarial valuations were recalculated using the 7.60% discount rate. These recalculations are sometimes referred to as “financial reporting actuarial valuations” to indicate differences in methodology from regular (funding) actuarial valuation calculations. All Programs were valued using the Individual Entry Age Normal Cost (EAN) actuarial cost method as specified under GASB 67/68. Note that for purposes of GASB 67/68 calculations, future SBMA Program benefits were considered to be substantively automatic and have been included for future years in all liability calculations.

The resulting liabilities were allocated to past and future service using the EAN cost method. The Total Pension 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, 2015 actuarial valuation reports. However, it will differ from those figures due to discount rate, cost method changes for the DBS and CBB Programs, inclusion of the SBMA liabilities, and exclusion of the MPP Program obligation (which is included in DB Program liabilities for funding purposes).

The June 30, 2015 Total Pension Liability was then projected forward to the June 30, 2016 reporting date. The June 30, 2016 Net Pension Liability is equal to the Total Pension Liability as of that date, less the Fiduciary Net Position for the STRP as of that date. The following exhibit shows the changes in the Total Pension Liability, Fiduciary Net Position, and Net Pension Liability between June 30, 2015 and June 30, 2016.

In accordance with the requirements of GASB 67/68, we have performed a sensitivity analysis of the STRP Net Pension Liability to changes in the GASB discount rate. The two scenarios specified in the GASB statements are +1% and -1% adjustments to the calculated GASB discount rate. Additionally, per CalSTRS’ request, we have shown +/-2% and +/-3% scenarios.

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

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Schedule of Changes in Net Pension Liability

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Net Pension Liability	Increase (Decrease) Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances as of June 30, 2015	$ 259,146	$ 191,822	$ 67,324
Changes for the year:			
Service cost	5,874		5,874
Interest on total pension liability	19,332		19,332
Effect of plan changes	0		0
Effect of economic/demographic gains or losses	(1,209)		(1,209)
Effect of assumptions changes	0		0
Benefit payments	(13,065)	(13,065)	0
Refunds of contributions	(84)	(84)	0
Administrative expenses		(180)	180
Member contributions		2,957	(2,957)
Employer contributions (District)		3,391	(3,391)
Nonemployer contributions (State)		1,940	(1,940)
Net investment income		2,347	(2,347)
Other changes		(15)	15
Balances as of June 30, 2016	$ 269,994	$ 189,113	$ 80,881 [1]

Sensitivity Analysis

The following presents the Net Pension Liability (NPL) of the STRP, calculated using the discount rate of 7.60%, as well as what the STRP's NPL would be if it were calculated using a discount rate that is 1, 2, or 3 percentage points lower (6.60%, 5.60%, 4.60%) or 1, 2, or 3 percentage points higher (8.60%, 9.60%, 10.60%) than the current rate.

	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
3% Decrease (4.60%)	$401,134	$189,113	$212,021
2% Decrease (5.60%)	348,602	189,113	159,489
1% Decrease (6.60%)	305,519	189,113	116,406
Current Discount Rate	269,994	189,113	80,881
1% Increase (8.60%)	240,490	189,113	51,377
1% Increase (9.60%)	215,677	189,113	26,564
1% Increase (10.60%)	194,717	189,113	5,604

1. *Numbers may not add due to rounding*

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Schedule of Changes in Net Pension Liability and Related Ratios

$ Millions

	Fiscal Year Ending June 30									
	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Total Pension Liability										
Service cost	$ 5,874	$ 5,556	$ 5,338	$0	$0	$0	$0	$0	$0	$0
Interest on total pension liability	19,332	18,556	17,823	0	0	0	0	0	0	0
Effect of plan changes	0	0	0	0	0	0	0	0	0	0
Effect of assumption changes	0	0	0	0	0	0	0	0	0	0
Effect of economic/demographic (gains) or losses	(1,209)	(1,312)	0	0	0	0	0	0	0	0
Benefit payments and refund of contributions	(13,149)	(12,565)	(12,036)	0	0	0	0	0	0	0
Net change in total pension liability	10,848	10,235	11,125	0	0	0	0	0	0	0
Total pension liability, beginning	259,146	248,911	237,786	0	0	0	0	0	0	0
Total pension liability, ending (a)	$ 269,994	$ 259,146	$ 248,911	$0	$0	$0	$0	$0	$0	$0
Fiduciary Net Position										
Employer contributions (District)	$ 3,391	$ 2,678	$ 2,272	$0	$0	$0	$0	$0	$0	$0
Nonemployer contributions (State)	1,940	1,426	1,383	0	0	0	0	0	0	0
Member contributions	2,957	2,510	2,264	0	0	0	0	0	0	0
Investment income net of investment expenses	2,347	7,615	30,405	0	0	0	0	0	0	0
Benefit payments and refund of contributions	(13,149)	(12,565)	(12,036)	0	0	0	0	0	0	0
Administrative (and other non-investment) expenses	(195)	(154)	(163)	0	0	0	0	0	0	0
Adjustments	0	(162)	0	0	0	0	0	0	0	0
Net change in plan fiduciary net position	(2,709)	1,348	24,125	0	0	0	0	0	0	0
Fiduciary net position, beginning	191,822	190,474	166,349	0	0	0	0	0	0	0
Fiduciary net position, ending (b)	189,113	191,822	190,474	0	0	0	0	0	0	0
Net pension liability, ending = (a) - (b)	$ 80,881	$ 67,324	$ 58,437	$0	$0	$0	$0	$0	$0	$0
Fiduciary net position as a % of total pension liability	70.04%	74.02%	76.52%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Covered payroll	$ 31,910	$ 32,026	$ 27,486	$0	$0	$0	$0	$0	$0	$0
Net pension liability as a % of covered payroll	253.47%	210.22%	212.61%	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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. Note: Numbers may not add due to rounding.

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Schedule of Employer Contributions

$ Millions

Fiscal Year Ending June 30	Actuarially Determined Contribution[1]	Actual Employer Contribution[2]	Contribution Deficiency (Excess)	Covered Payroll	As a % of Covered Payroll: Actuarially Determined Contribution	As a % of Covered Payroll: Actual Employer Contribution
2014	$ 7,158	$ 3,641	$ 3,517	$ 27,486	26.04%	13.25%
2015	7,707	4,093	3,614	32,026	24.06%	12.78%
2016	7,748 [3]	5,318	2,430	31,910	24.28%	16.67%

1. *For the DB Program, the ADC for the year ending June 30, 2016 is the statutorily required contribution rate as of the June 30, 2014 actuarial valuation (the required rate to fully fund the DB Program over a closed period ending June 30, 2046), applied to actual DB Program payroll for the fiscal year ended June 30, 2016 as provided to us by CalSTRS. For the DBS, CBB, and SBMA Programs, the ADC reflects the actual dollar amounts contributed for these plans in the fiscal year ended June 30, 2016.*
2. *Actual Employer Contribution includes contributions from non-employer contributing entities (which for CalSTRS is the state) and excludes contributions for separately financed liabilities of individual employers.*
3. *Unrounded FYE2016 numbers are as follows:*
   Actuarially Determined Contribution = $7,748,191,983.64

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Notes to Schedule of Employer Contributions

Valuation Date	Actuarially determined contributions are calculated each June 30, two years prior to the end of the fiscal year in which contributions are reported for DB Program.

Methods and assumptions used to determine contribution rates[1]:

Actuarial Cost Method	Individual Entry Age Normal
Amortization Method	Level percentage of payroll, closed
Amortization Period	Ending June 30, 2046
Asset Valuation Method	The actuarial value of assets is equal to the expected actuarial value of assets plus one-third of the difference between the expected actuarial value of assets and the Fair Market Value of assets
Limitation of Contribution Rate Changes[2]	State: 1) fixed schedule with graded increases until fiscal year beginning in 2017; and 2) maximum increase of 0.5% of pay per year. Districts: 1) fixed schedule with graded increases until fiscal year beginning in 2021; and 2) maximum change of 1.0% of pay per year.
Inflation	3.00%
Payroll Growth	3.75%
Salary Increases	Varies by age and service. Approximately 6% average over career including inflation.
Investment Rate of Return	7.50%, net of investment and administrative expenses, including inflation
Retirement Age	Members who are eligible for service retirement are assumed to commence receiving benefit payments based on age, service, and gender. The average age at service retirement for recent retirees is approximately 63.
Mortality	Custom CalSTRS rates. See June 30, 2015 DB Program funding valuation for details.
Changes in Plan Provisions Reflected in the Schedule	None.
Changes in Assumptions and Methods Reflected in the Schedule	None.

1. *Assumptions and methods are for the Actuarially Determined Contribution for the DB Program. For the DBS, CBB and SBMA programs, actual contributions are used. The sum of the values for the individual programs is reported.*
2. *Contribution limitations apply to the Actual Employer Contribution, but not the Actuarially Determined Contribution.*

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Allocable Pension Expense

$ Millions

Pension Expense	July 1, 2015 to June 30, 2016	July 1, 2014 to June 30, 2015
Service cost	$ 5,874	$ 5,556
Interest on total pension liability	19,332	18,556
Effect of plan changes	0	0
Administrative (and other non-investment) expenses	195	154
Member contributions	(2,957)	(2,510)
Expected investment return net of investment expenses	(14,390)	(14,236)
Recognition of Deferred Inflows/Outflows of Resources		
Recognition of economic/demographic (gains) or losses	(360)	(187)
Recognition of assumption changes or inputs	0	0
Recognition of investment (gains) or losses	140	(2,271)
Pension Expense	$ 7,834	$ 5,062

The discount rate and long-term expected rate of return assumptions used in the calculation of pension expense are the same as used to calculate total pension liability as of the end of the prior period.

As of June 30, 2016, 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	$ 1,973	$ 0
Changes of assumptions	0	0
Net difference between projected and actual earnings	0	6,430
Contributions made subsequent to measurement date	Employer Determined	Employer Determined
Total	$ 1,973	$ 6,430

Other amounts currently reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows (additional detail on following page):

Year ended June 30:[1]	
2017	($ 220)
2018	(220)
2019	3,378
2020	2,052
2021	(360)
Thereafter[2]	(173)

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

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

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Schedule of Deferred Inflows and Outflows of Resources

$ Millions

	Original Amount	Date Established	Original Recognition Period[1]	Amount Recognized in 06/30/2016 Expense	Balance of Deferred Inflows 06/30/2016	Balance of Deferred Outflows 06/30/2016
Investment (gains) or losses	$ 12,059	06/30/2016	5	$ 2,411	$ 0	$ 9,648
	6,630	06/30/2015	5	1,326	0	3,978
	(17,987)	06/30/2014	5	(3,597)	7,196	0
		Total		$ 140	$ 7,196	$ 13,626
Economic/demographic (gains) or losses	(1,209)	06/30/2016	7	($ 173)	$ 1,036	$ 0
	(1,312)	06/30/2015	7	(187)	937	0
	0	06/30/2014	7	0	0	0
		Total		($ 360)	$ 1,973	$ 0
Assumption changes	0	06/30/2016	7	$ 0	$ 0	$ 0
	0	06/30/2015	7	0	0	0
	0	06/30/2014	7	0	0	0
		Total		$ 0	$ 0	$ 0

Future Deferred Inflow/Outflow Recognition

Year ended June 30:[1]	Investment (Gains) or Losses	Economic/ Demographic (Gains) or Losses	Assumption Changes
2017	$ 140	($ 360)	$ 0
2018	140	(360)	0
2019	3,737	(360)	0
2020	2,411	(360)	0
2021	0	(360)	0
Thereafter[2]	0	(173)	0

1. Investment (gains)/losses are recognized in pension 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 total average remaining service life for STRP members based on the June 30, 2015 GASB actuarial valuations is 7 years (as rounded to the nearest whole number of years). This calculation assumes a remaining service life of 0 years for retired, disabled, beneficiary, and inactive members.

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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, 2015 funding valuations, 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.

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
Recognition of assumptions changes or inputs	Straight-Line amortization over Expected Working Life
Asset Valuation Method	
Fair Value	
Inflation	3.00%
Salary Increases	Same as funding valuation
Investment Rate of Return	7.60%(1)
Cost of Living Adjustments	DB Program: 2% simple annual benefit adjustment SBMA Program: 85% purchasing power level DBS & CBB Programs: 0% post-retirement, but additional credits up to the assumed return are assumed to be granted on non-retired accounts.
Retirement Age	Same as funding valuation
Turnover	Same as funding valuation
Mortality	Custom CalSTRS rates (same as funding valuation). See June 30, 2015 DB Program funding valuation for details.

1. Differs from funding valuation due to addition of administrative expense load of 0.10%.

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Glossary

Actuarially Determined Contribution	A target or recommended contribution to a defined benefit pension 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.
Deferred Inflows/Outflows of Resources	Portion of changes in net pension liability that is not immediately recognized in Pension Expense. These changes include differences between expected and actual experience, changes in assumptions, and differences between expected and actual earnings on plan investments.
Discount Rate	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: 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. 2) The actuarial present value of projected benefit payments not included in (1), calculated using the Municipal Bond Rate.
Fiduciary Net Position	Equal to market value of assets.
Long-Term Expected Rate of Return	Long-term expected rate of return on pension plan investments expected to be used to finance the payment of benefits, net of investment expenses.
Money-Weighted Rate of Return	The internal rate of return on pension plan investments, net of investment expenses.
Municipal Bond Rate	Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.
Net Pension Liability	Total Pension Liability minus the Plan's Fiduciary Net Position.
Projected Benefit Payments	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and expected future service.
Service Cost	The portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
Total Pension Liability	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 67 and 68.

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