City of Sacramento
Annual Continuing Disclosure Report
Fiscal Year 2014/15

Issue	Sacramento Public Financing Authority 2015 Lease Revenue Bonds (Golden 1 Center) (Federally Taxable)
Par	$ 272,870,000
Issued	September 24, 2015
CUSIP Numbers	78605QAC1 78605QAD9 78605QAE7 78605QAF4 78605QAG2 78605QAH0 78605QAJ6

<u>**Content of Annual Report.**</u>

The City's Annual Report shall contain or incorporate by reference the following:

A. The City's comprehensive audited financial report for the prior fiscal year.

The City's Comprehensive Annual Financial Report (CAFR) for the prior fiscal year has been uploaded as a separate document to EMMA. The CAFR is also available on the city's website at: http://www.cityofsacramento.org/Finance/Accounting/Reporting

B. The Annual Budget of the City for the current fiscal year.

The City's Approved Budget for the current fiscal year has been uploaded as a separate document to EMMA and is also available on-line at: http://www.cityofsacramento.org/Finance/Budget

C. An update of the information contained in Tables entitled "STATEMENT OF GENERAL FUND REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE," "GROSS ASSESSED VALUES FOR ALL TAXABLE PROPERTY," "CITY OF SACRAMENTO LARGEST LOCAL SECURED TAXPAYERS", "GENERAL FUND OBLIGATION DEBT SERVICE", and "NOTICES OF DEFAULT AND FORECLOSURES OF PROPERTY WITHIN THE CITY" in the Official Statement substantially in the form of the table by that name included in Appendix A to the Official Statement, for the most recently completed fiscal year.

See Exhibit A – Statement of General Fund Revenues, Expenditures and Changes in Fund Balance
See Exhibit B – Gross Assessed Values for all Taxable Property
See Exhibit C – Largest Local Secured Taxpayers
See Exhibit D – General Fund Obligation Debt Service as of December 31, 2015*

* Due to the issuance of various refunding bonds and the issuance of the 2015 Remarketing Lease Revenue Bonds, Series 2015 (Golden 1 Center) (Federally Taxable) Exhibit D – General Fund Obligation Debt Service as of December 31, 2015 is provided. In future years this table will be reported as of June 30.

The information that would have been available in Exhibit E – Notices of Default and Foreclosures of Property within the City of Sacramento is no longer prepared by the County of Sacramento, Office of the Assessor. At this time the City of Sacramento is not aware of another reliable source to obtain notice of default and foreclosure information within the City of Sacramento in the same format as is presented on page 8 in Appendix A.

D. The actuarial valuation report for the Miscellaneous Employees Plan and Safety Employees Plan most recently provided to the City by CalPERs as of the date the City files the Annual Report and the actuarial valuation report for SCERS most recently provided to the City by SCERS as of the date the City files the Annual Report.

See Exhibit E – Actuarial Valuation Report – Miscellaneous as of June 30, 2014
See Exhibit F – Actuarial Valuation Report – Safety as of June 30, 2014
See Exhibit G – GASB 68 Report – Miscellaneous as of June 30, 2014
See Exhibit H – GASB 68 Report – Safety as of June 30, 2014
See Exhibit I – GASB 45 Actuarial Valuation Final Results as of June 30, 2015

Exhibit A

STATEMENT OF GENERAL FUND REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE

(in thousands)

	Actual 2010-11	Actual 2011-12	Actual 2012-13	Actual 2013-14	Actual 2014-15
Revenues:					
Property Taxes	$ 133,099	$ 130,287	$ 129,370	$ 138,224	$ 145,285
Sales and Use Taxes	47,680	50,683	52,301	56,575	58,876
Utilities Use Tax	58,887	58,787	59,066	59,613	59,948
Other Taxes	14,461	16,386	17,633	20,319	22,677
Licenses and Permits	13,582	12,124	12,688	12,996	14,322
Fines, Forfeitures and Penalties	10,134	11,020	9,165	10,567	10,782
Interest, Rents and Concessions	1,927	1,702	1,788	2,206	1,707
Intergovernmental Revenues	15,516	12,021	11,108	9,300	13,363
Charges, Fees and Services	41,486	38,157	47,392	51,422	57,261
Other Revenues	411	2,090	3,440	281	426
Total Revenues	337,183	333,257	343,951	361,503	384,647
Expenditures:					
General Government	22,453	21,250	19,073	22,623	24,842
Public Safety	218,984	210,124	216,760	218,911	226,802
Public Works	15,204	16,082	16,353	15,301	16,169
Neighborhood Services	51,499	46,334	48,350	48,447	52,071
Citywide and Community Support	32,247	31,957	32,945	36,965	37,216
Capital Improvements	6,068	2,151	5,755	9,672	8,901
Debt Service	1,970	1,839	2,187	3,140	3,219
Total Expenditures	348,425	329,737	341,423	355,059	369,220
Excess of Revenues over Expenditures	(11,242)	3,520	2,528	6,444	15,427
Other Financing Sources (Uses):					
Transfers from Other Funds	31,937	28,679	28,541	29,924	31,275
Transfers to Other Funds	(22,878)	(24,055)	(23,530)	(23,418)	(25,265)
Proceeds from Long-Term Debt	-	-	2,818	5,998	-
Special Items	-	-	8,534	-	-
Proceeds from Sale of Capital Assets	-	-	-	-	3,100
Total Other Financing Sources (Uses)	9,059	4,624	16,363	12,504	9,110
Net Change In Fund Balance	(2,183)	8,144	18,891	18,948	24,537
Fund Balance, beginning of year	55,107	52,924	61,068	79,959	98,907
Fund Balance, end of year	52,924	61,068	79,959	98,907	123,444
Less Reserves and Commitments:					
Reserved / Nonspendable	308	94	72	66	11
Restricted	86	64	40	3,422	3,654
Designated / Committed:					
Economic Uncertainty	14,340	20,263	27,765	33,714	38,967
Capital Projects	19,612	21,542	21,789	21,728	32,987
Balanced Budget	-	-	-	-	-
Communtiy Center Theater renovation			8,500	8,500	8,500
Homeless programs				1,000	750
OPEB trust fund			2,000	-	-
Other Programs	12,468	9,349	9,347	12,909	22,497
Assigned:					
Next Year's Budget	5,138	9,354	10,446	-	-
Unrealized Investment Gains	972	402	-	173	50
Fund Balance Available for Appropriation	$ -	$ -	$ -	$ 17,395	$ 16,028

Certain amounts in the prior year columns have been reclassified for presentation consistent with GASB Statement No. 54.

Exhibit B

City of Sacramento
Assessed Value and Estimated Actual Value of Taxable Property
Last Ten Fiscal Years
(in thousands)

Fiscal Year End June 30	Gross Assessed Value [1] Real Property	Personal Property	Public Utility	Total	Exemptions	Net Assessed Taxable Value	Total Direct Tax Rate [2]
2006	31,112,448	1,374,566	56,950	32,543,964	506,813	32,037,151	1.00
2007	35,687,712	1,441,042	54,611	37,183,365	509,257	36,674,108	1.00
2008	39,286,839	1,548,914	15,371 [3]	40,851,124	505,519	40,345,605	1.00
2009	40,360,550	1,691,096	11,948	42,063,594	503,159	41,560,435	1.00
2010	37,446,222	1,819,726	11,937	39,277,885	499,878	38,778,007	1.00
2011	36,388,660	1,742,824	11,977	38,143,461	496,459	37,647,002	1.00
2012	35,267,406	1,711,462	12,132	36,991,000	488,888	36,502,112	1.00
2013	34,332,037	1,626,943	13,157	35,972,137	477,326	35,494,811	1.00
2014	35,829,529	1,546,891	12,381	37,388,801	464,546	36,924,255	1.00
2015	37,918,666	1,585,876	18,173	39,522,715	455,212	39,067,503	1.00

Notes: (1) Article XIII A, added to California Constitution by Proposition 13 in 1978, fixed the base for valuation of property subject to taxes at the full cash value appeared on the Assessor's 1975-76 assessment roll. Therefore, full cash value can be increased to reflect:

a) annual inflation up to 2%
b) current market value at time of ownership change
c) market value for new construction.

Estimated actual value of taxable property cannot easily determined as the property in the City is not reassessed annually. Reassessment normally occurs when ownership changes

(2) This 1.00% is shared by all taxing agencies for which the subject property resides within.

(3) The decrease in public utility assessed value is primarily due to the transfer of the downtown railyards from a railroad company to a private developer and the City.

Source: County of Sacramento, Office of Auditor/Controller

Exhibit C

City of Sacramento
Principal Property Taxpayers
Current Fiscal Year and Nine Years Ago
(in thousands)

	2015			2006		
Taxpayer	Assessed Valuation	Rank	Percentage of Total Assessed Valuation	Assessed Valuation	Rank	Percentage of Total Assessed Valuation
Hines VAF II Sacramento	$ 389,398	1	1.00 %	$ -		- %
CIM Sacramento LLC	216,695	2	0.55	-		-
Arden Fair Associates	136,662	3	0.35	121,983	3	0.38
Verizon Wireless	135,889	4	0.35	117,263	4	0.37
621 Capitol Mall LLC	125,470	5	0.32	-		-
500 Capitol Mall LLC	118,033	6	0.30	-		-
300 Capitol Association NF LP	109,000	7	0.28	-		-
KW Captowers LLC	95,659	8	0.24	-		-
HP Hood LLC	84,970	9	0.22	-		-
Target Corp	81,000	10	0.21	-		-
400 Capital Mall Venture	-		-	143,439	1	0.45
Downtown Plaza LLC	-		-	133,592	2	0.42
AG Touchstone Natomas LLC	-		-	82,361	7	0.26
SRI Six USBP LLC	-		-	116,532	5	0.36
Sacramento Hotel Corporation	-		-	90,559	6	0.28
McClatchy Newspaper Inc.	-		-	74,777	9	0.23
VV USA City LP	-		-	76,913	8	0.24
Natomas Investors LLC	-		-	73,800	10	0.23
	1,492,776		3.82	1,031,219		3.22
All other taxpayers	37,574,727		96.18	31,005,932		96.78
Total	$ 39,067,503		100.00 %	$ 32,037,151		100.00 %

Source: County of Sacramento, Office of Auditor/Controller

Exhibit D

Fiscal Year	1993 Lease Revenue Bonds, Series A&B[1]	1997 Lease Revenue Bonds (2007 Remarketing)[2]	1999 CFD 2A Lease Portion	2002 Certificates of Participation[3,4]	2006 Capital Improvement Revenue Bonds, Series B[5,*]	2006 Capital Improvement Revenue Bonds, Series D,E[6,*]	2015 Golden 1 Center Bonds[7]	2015 Revenue Refunding Bonds[8]	Total Equipment Leases & Loans Amount[9]	Total Debt Service Obligations Amount	Percentage of Budgeted Fiscal Year General Fund Revenues[10]	Total Offset Debt Service Amount	Total General Fund Debt Service Amount	Percentage of Budgeted Fiscal Year General Fund Revenues
FY16	1,821,420	1,597,899	50,313	291,081	1,402,552	4,555,605	7,229,367	4,213,106	3,019,266	24,180,609	6.1%	15,588,769	8,591,841	2.2%
FY17	15,430,735	5,758,070	245,938	1,051,938	3,955,738	9,573,955	14,871,842	24,772,613	5,759,074	81,419,901	20.4%	53,714,290	27,705,611	6.9%
FY18	15,408,975	5,953,976	251,094	1,051,108	3,954,413	9,086,700	18,296,842	23,714,463	3,776,079	81,493,649	20.4%	51,715,873	29,777,777	7.5%
FY19	15,391,035	6,086,638	255,313	1,048,918	3,958,138	9,534,625	18,295,874	22,218,713	2,293,928	79,083,180	19.8%	42,842,700	36,240,480	9.1%
FY20	15,369,890	6,209,110	253,750	1,050,215	3,952,298	9,568,900	18,299,225	21,259,138	1,554,750	77,517,274	19.4%	42,631,021	34,886,253	8.7%
FY21	15,348,515	6,400,018	256,406	1,044,958	3,942,040	9,035,250	18,378,689	21,082,763	555,039	76,043,677	19.0%	42,641,187	33,402,490	8.4%
FY22	-	6,446,610	262,969	1,047,831	3,941,923	10,749,050	18,378,701	19,645,288	138,659	60,611,030	15.2%	32,742,236	27,868,794	7.0%
FY23	-	6,648,342	263,438	1,043,975	3,940,606	20,588,900	18,289,067	9,928,813	69,330	60,772,469	15.2%	32,644,172	28,128,298	7.0%
FY24	-	6,796,051	262,969	1,043,000	3,937,750	20,121,670	18,289,067	9,922,438	-	60,372,944	15.1%	32,923,041	27,449,903	6.9%
FY25	-	6,956,041	-	1,044,625	3,933,765	20,020,670	18,289,286	9,925,688	-	60,170,074	15.1%	33,283,115	26,886,959	6.7%
FY26	-	7,124,005	-	1,044,500	3,928,351	20,036,857	18,286,258	9,898,313	-	60,318,284	15.1%	33,684,358	26,633,926	6.7%
FY27	-	7,305,017	-	1,042,625	3,926,060	20,030,900	18,289,420	9,904,438	-	60,498,458	15.2%	34,110,919	26,387,539	6.6%
FY28	-	7,461,356	-	1,039,000	3,926,294	20,031,226	18,287,643	9,909,388	-	60,654,906	15.2%	34,534,144	26,120,762	6.5%
FY29	-	-	-	1,038,500	3,923,604	20,127,976	18,285,364	9,896,838	-	53,272,282	13.3%	27,358,236	25,914,046	6.5%
FY30	-	-	-	1,036,000	3,917,692	20,128,788	18,286,739	9,897,256	-	53,266,475	13.3%	27,618,964	25,647,511	6.4%
FY31	-	-	-	1,036,375	3,908,259	20,128,795	18,285,638	5,854,175	-	49,213,241	12.3%	24,876,977	24,336,265	6.1%
FY32	-	-	-	1,034,500	3,909,556	20,130,500	18,286,217	5,844,050	-	49,204,823	12.3%	25,166,541	24,038,282	6.0%
FY33	-	-	-	1,035,250	3,900,987	20,136,150	18,282,349	5,394,175	-	48,748,911	12.2%	25,460,565	23,288,346	5.8%
FY34	-	-	-	-	3,892,251	3,632,925	18,283,188	5,384,550	-	31,192,914	7.8%	13,359,709	17,833,204	4.5%
FY35	-	-	-	-	3,892,453	-	18,282,324	5,130,175	-	27,304,951	6.8%	12,165,390	15,139,561	3.8%
FY36	-	-	-	-	3,880,993	-	18,283,630	5,120,800	-	27,285,423	6.8%	12,493,832	14,791,591	3.7%
FY37	-	-	-	-	3,872,424	-	18,280,697	5,120,400	-	27,273,521	6.8%	12,833,792	14,439,729	3.6%
FY38	-	-	-	-	-	-	18,282,397		-	18,282,397	4.6%	12,089,056	6,193,341	1.6%
FY39	-	-	-	-	-	-	18,282,040		-	18,282,040	4.6%	12,451,728	5,830,312	1.5%
FY40	-	-	-	-	-	-	18,278,216		-	18,278,216	4.6%	12,825,279	5,452,937	1.4%
FY41	-	-	-	-	-	-	18,279,516		-	18,279,516	4.6%	13,210,038	5,069,478	1.3%
FY42	-	-	-	-	-	-	18,278,967		-	18,278,967	4.6%	13,606,339	4,672,628	1.2%
FY43	-	-	-	-	-	-	18,279,878		-	18,279,878	4.6%	14,014,529	4,265,349	1.1%
FY44	-	-	-	-	-	-	18,275,276		-	18,275,276	4.6%	14,434,965	3,840,311	1.0%
FY45	-	-	-	-	-	-	18,273,469		-	18,273,469	4.6%	14,868,014	3,405,455	0.9%
FY46	-	-	-	-	-	-	18,277,204		-	18,277,204	4.6%	15,314,054	2,963,150	0.7%
FY47	-	-	-	-	-	-	18,273,943		-	18,273,943	4.6%	15,773,476	2,500,467	0.6%
FY48	-	-	-	-	-	-	18,271,713		-	18,271,713	4.6%	16,246,680	2,025,033	0.5%
FY49	-	-	-	-	-	-	18,272,978		-	18,272,978	4.6%	16,734,081	1,538,897	0.4%
FY50	-	-	-	-	-	-	18,269,919		-	18,269,919	4.6%	17,236,103	1,033,816	0.3%
Total	78,770,570	80,743,134	2,102,188	18,024,398	83,798,142	287,219,442	625,632,942	254,037,575	17,166,124	1,447,494,514		853,194,174	594,300,341	
Offset	73.7%	100.0%	0.0%	100.0%	28.3%	63.2%	65.1%	35.7%	36.0%	58.9%				

The figures above do not reflect the release of respective reserves for final debt service payment if cash reserves are held.

* These bond issues have been partially refunded since June 30, 2015.

(1) 1993 Lease A: 80.5% Community Center Fund, 11.5% General Fund, and 8.0% Golf Fund
1993 Lease B: 47.8% General Fund, 30.2 % Parking Fund, 13.0% Storm Drainage Fund, and 9.0% Community Center Fund

(2) 1997 Lease (ARCO Sublease): Assumes the fixed-rate established in the 2007 remarketing is in effect for the remaining term of the bonds.

(3) 2002 COP: payable from H Street Theatre Revenues (The City of Sacramento and the County of Sacramento are each responsible for 50% of any shortfall in debt service payments made by the CA Musical Theater.)

(4) The 2002 COP is currently scheduled to be refunded on January 28th, 2016 at which time the full amount of the refunding will become backed by the City of Sacramento's General Fund, payments will be continued to be made by CMT. Debt service payments will

(5) 2006 Capital Improvement Revenue Bonds, Series A were fully refunded by the 2015 Refunding Revenue Bonds. 2006 Capital Improvement Revenue Bonds Series B: 71.7% General Fund and 28.3% RASA Master Lease (65th Street, Army Depot, North Sacramento,

(6) 2006 Capital Improvement Revenue Bonds, Series C were fully refunded by the 2015 Refunding Revenue Bonds. 2006 Capital Improvement Revenue Bonds, Series D and E: 53.2% Water Fund, 36.9% General Fund, 7.9% North Natomas Fund, 1.1% RASA Master Lea

(7) The debt service for the 2015 Golden 1 Center Lease Revenue Bonds is offset by a Lease Rental Payment from the Sacramento Kings or it's affiliates as well as Capitalized interest through October 2017. Other revenue sources may further offset required debt servi

(8) 2015 Refunding Revenue Bonds: 64.3% General Fund, 16.6% Water Fund, 8.8% Solid Waste Fund, 8.3% Parking Fund, 1.8% North Natomas Fund, 0.3% Golf Fund.

(9) Total Leases and Loans: 49.1% General Fund, 24.3% Parking Fund 17.9% Solid Waste Fund, 5.7% Marina Fund, 1.8% RASA (Merged Downtown), and 1.3% Wastewater.

(10) Data Based on Fiscal Year 2016 General Fund Revenue Forecast of $399,329,000

Source: City of Sacramento

Exhibit E

California Public Employees' Retirement System
Actuarial Office
P.O. Box 942701
Sacramento, CA 94229-2701
TTY: (916) 795-3240
(888) 225-7377 phone • (916) 795-2744 fax
www.calpers.ca.gov

October 2015

MISCELLANEOUS PLAN OF THE CITY OF SACRAMENTO (CalPERS ID: 7903930500)
Annual Valuation Report as of June 30, 2014

Dear Employer,

As an attachment to this letter, you will find a copy of the June 30, 2014 actuarial valuation report of your pension plan. Your 2014 actuarial valuation report contains important actuarial information about your pension plan at CalPERS. Your CalPERS staff actuary, whose signature appears in the Actuarial Certification Section on page 1, is available to discuss the report with you after November 30, 2015.

Future Contribution Rates

The exhibit below displays the Minimum Employer Contribution Rate for Fiscal Year 2016-17 and a projected contribution rate for 2017-18, before any cost sharing. The projected rate for 2017-18 is based on the most recent information available, including an estimate of the investment return for Fiscal Year 2014-15, namely 2.4 percent. For a projection of employer rates beyond 2017-18, please refer to the "Projected Rates" in the "Risk Analysis" section, which includes rate projections through 2021-22. The 5-year projection of future employer contribution rates supersedes any previous projections we have provided. The Risk Analysis section of your valuation report also contains estimated employer contribution rates in future years under a variety of investment return scenarios.

Fiscal Year	Employer Contribution Rate
2016-17	16.476%
2017-18	17.5% (projected)

Member contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the above rates. **The employer contribution rates in this report do not reflect any cost sharing arrangement you may have with your employees.**

The estimate for 2017-18 also assumes that there are no future contract amendments and no liability gains or losses (such as larger than expected pay increases, more retirements than expected, etc.). This is a very important assumption because these gains and losses do occur and can have a significant impact on your contribution rate. Even for the largest plans, such gains and losses often cause a change in the employer's contribution rate of one or two percent of payroll and may be even larger in some less common instances. These gains and losses cannot be predicted in advance so the projected employer contribution rates are just estimates. Your actual rate for 2017-18 will be provided in next year's report.

Changes since the Prior Year's Valuation

This actuarial valuation includes Board adopted changes to the demographic assumptions based on the most recent experience study report. The most significant of these is the improvement in post-retirement mortality acknowledging the greater life expectancies we are seeing in our membership and expected continued improvements. The actuarial assumptions and methods used in CalPERS public agency valuations are approved by the Board of Administration upon the recommendation of the Chief Actuary. The individual plan actuary whose signature appears in the actuarial certification in the accompanying report does not set plan specific actuarial assumptions.

Besides the above noted changes, there may also be changes specific to your plan such as contract amendments and funding changes.

Further descriptions of general changes are included in the "Highlights and Executive Summary" section and in Appendix A, "Actuarial Methods and Assumptions." The effect of the changes on your rate is included in the "Reconciliation of Required Employer Contributions" Section.

Effective with the 2014 actuarial valuation, Governmental Accounting Standards Board Statement No. 27 financial reporting information is no longer provided in CalPERS annual actuarial valuation reports. GASB 27 has been replaced with GASB 68 for financial statement reporting purposes. CalPERS is providing separate accounting valuation reports on a fee for service basis for our public agency employers. More details on GASB 68 and instructions for ordering your GASB 68 report are available on our website.

Potential Changes to Future Year Valuations

One of CalPERS strategic goals is to improve the long-term pension benefit sustainability of the system through an integrated view of pension assets and liabilities. The Board of Administration has been engaging in discussions on the funding risks faced by the system and possible risk mitigation strategies to better protect our members. Recent Board actions on a new asset allocation, new actuarial assumptions and new smoothing and amortization policies have already lowered risk. However, future contribution rate volatility is expected as CalPERS pension plans continue to mature. Two approaches under consideration are a flexible glide path methodology, a lowering of the discount rate and expected investment volatility following a great investment return and a blended glide path methodology which is similar to the flexible glide path but with check points over time that would trigger additional asset allocation changes and lowering of the discount rate if investment returns did not result in a sufficient reduction in volatility. Either approach requires thoughtful discussion as it involves tradeoffs between short and long-term system impacts and potential future increases in required contributions. Additional information can be found on the CalPERS website with possible Board action on risk mitigation strategy and policy at the November 2015 Board meeting.

We understand that you might have a number of questions about these results. While we are very interested in discussing these results with your agency, in the interest of allowing us to give every public agency their results, we ask that you wait until after November 30 to contact us with actuarial questions. If you have other questions, you may call the Customer Contact Center at (888)-CalPERS or (**888-225-7377**).

Sincerely,

ALAN MILLIGAN
Chief Actuary

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Exhibit E

ACTUARIAL VALUATION
as of June 30, 2014

for the
MISCELLANEOUS PLAN
of the
CITY OF SACRAMENTO
(CalPERS ID: 7903930500)
(Rate Plan ID: 1209)

REQUIRED CONTRIBUTIONS
FOR FISCAL YEAR
July 1, 2016 – June 30, 2017

TABLE OF CONTENTS

ACTUARIAL CERTIFICATION

To the best of our knowledge, this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the MISCELLANEOUS PLAN OF THE CITY OF SACRAMENTO. This valuation is based on the member and financial data as of June 30, 2014 provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced. It is our opinion that the valuation has been performed in accordance with generally accepted actuarial principles, in accordance with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for this plan, as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

The undersigned is an actuary for CalPERS, who is a member of the American Academy of Actuaries and the Society of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

MAY SHUANG YU, ASA, MAAA
Senior Pension Actuary, CalPERS

HIGHLIGHTS AND EXECUTIVE SUMMARY

- **INTRODUCTION**
- **PURPOSE OF THE REPORT**
- **REQUIRED EMPLOYER CONTRIBUTION**
- **PLAN'S FUNDED STATUS**
- **COST**
- **CHANGES SINCE THE PRIOR YEAR'S VALUATION**
- **SUBSEQUENT EVENTS**

Introduction

This report presents the results of the June 30, 2014 actuarial valuation of the MISCELLANEOUS PLAN OF THE CITY OF SACRAMENTO of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the Fiscal Year 2016-17 required employer contribution rates.

This actuarial valuation includes Board adopted changes to the demographic assumptions based on the most recent experience study report. The most significant of these is the improvement in post-retirement mortality acknowledging the greater life expectancies we are seeing in our membership and expected continued improvements. The actuarial assumptions and methods used in CalPERS public agency valuations are approved by the Board of Administration upon the recommendation of the Chief Actuary. The individual plan actuary whose signature appears in the actuarial certification in this report does not set plan specific actuarial assumptions.

Effective with the 2014 actuarial valuation, Governmental Accounting Standards Board Statement No. 27 financial reporting information is no longer provided in CalPERS annual actuarial valuation reports. GASB 27 has been replaced with GASB 68 for financial statement reporting purposes. CalPERS is providing separate accounting valuation reports on a fee for service basis for our public agency employers. More details on GASB 68 and instructions for ordering your GASB 68 report are available on our website.

Purpose of the Report

The actuarial valuation was prepared by the CalPERS Actuarial Office using data as of June 30, 2014. The purpose of the report is to:

- Set forth the assets and accrued liabilities of this plan as of June 30, 2014;
- Determine the required employer contribution rate for the Fiscal Year July 1, 2016 through June 30, 2017;
- Provide actuarial information as of June 30, 2014 to the CalPERS Board of Administration and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement Number 68 for an Agent Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available from CalPERS and details for ordering are available on our website.

The use of this report for any other purposes may be inappropriate. In particular, this report does not contain information applicable to alternative benefit costs. The employer should contact their actuary before disseminating any portion of this report for any reason that is not explicitly described above.

California Actuarial Advisory Panel Recommendations

This report includes all the basic disclosure elements as described in the *Model Disclosure Elements for Actuarial Valuation Reports* recommended in 2011 by the California Actuarial Advisory Panel (CAAP), with the exception of including the original base amounts of the various components of the unfunded liability in the Schedule of Amortization Bases shown on page 14.

Additionally, this report includes the following "Enhanced Risk Disclosures" also recommended by the CAAP in the Model Disclosure Elements document:

- A "Deterministic Stress Test," projecting future results under different investment income scenarios
- A "Sensitivity Analysis," showing the impact on current valuation results using a 1 percent plus or minus change in the discount rate.

Required Employer Contribution

		Fiscal Year 2015-16		Fiscal Year 2016-17
Actuarially Determined Employer Contributions				
1. Contribution in Projected Dollars				
a) Total Normal Cost	$	24,222,689	$	24,512,809
b) Employee Contribution[1]		11,294,431		11,398,665
c) Employer Normal Cost [(1a) – (1b)]		12,928,258		13,114,144
d) Unfunded Liability Contribution		13,009,349		14,407,710
e) Required Employer Contribution [(1c) + (1d)]	$	25,937,607	$	27,521,854
Projected Annual Payroll for Contribution Year	$	165,534,679	$	167,037,878
2. Contribution as a Percentage of Payroll				
a) Total Normal Cost		14.633%		14.675%
b) Employee Contribution[1]		6.823%		6.824%
c) Employer Normal Cost [(2a) – (2b)]		7.810%		7.851%
d) Unfunded Liability Rate		7.859%		8.625%
e) Required Employer Rate [(2c) + (2d)]		15.669%		16.476%
Minimum Employer Contribution Rate[2]		**15.669%**		**16.476%**
Annual Lump Sum Prepayment Option[3]	$	25,016,450	$	26,544,433

[1] For classic members this is the percentage specified in the Public Employees Retirement Law, net of any reduction from the use of a modified formula or other factors. For PEPRA members, the member contribution rate is based on 50 percent of the normal cost. A development of PEPRA member contribution rates can be found in Appendix D. Employee cost sharing is not shown in this report.

[2] The Minimum Employer Contribution Rate under PEPRA is the greater of the required employer rate or the employer normal cost. The timing of contributions made during the year coincides with the employer's payroll reporting periods. § 20572 of the Public Employees' Retirement Law assesses interest at an annual rate of 10 percent if a contracting agency fails to remit the required contributions when due.

[3] The Annual Lump Sum Prepayment can be made between July 1 and July 15 and should be made before the contributions for the first payroll reporting period of the new fiscal year are due. If there is contractual cost sharing or other change, this amount will change.

Plan's Funded Status

		June 30, 2013		June 30, 2014
1. Present Value of Projected Benefits	$	1,083,266,901	$	1,177,474,929
2. Entry Age Normal Accrued Liability		914,353,322		1,004,412,173
3. Market Value of Assets (MVA)	$	677,151,274	$	795,788,802
4. Unfunded Liability [(2) – (3)]	$	237,202,048	$	208,623,371
5. Funded Ratio [(3) / (2)]		74.1%		79.2%

Cost

Actuarial Cost Estimates in General

What will this pension plan cost? Unfortunately, there is no simple answer. There are two major reasons for the complexity of the answer. First, actuarial calculations, including the ones in this report, are based on a number of assumptions about the future. These assumptions can be divided into two categories.

- Demographic assumptions include the percentage of employees that will terminate, die, become disabled, and retire in each future year.
- Economic assumptions include future salary increases for each active employee, and the assumption with the greatest impact, future asset returns at CalPERS for each year into the future until the last dollar is paid to current members of your plan.

While CalPERS has set these assumptions to reflect our best estimate of the real future of your plan, it must be understood that these assumptions are very long-term predictors and will surely not be realized in any one year. For example, while the asset earnings at CalPERS have averaged more than the assumed return of 7.5 percent for the past twenty year period ending June 30, 2014, returns for each fiscal year ranged from negative -24 percent to +21.7 percent.

Second, the very nature of actuarial funding produces the answer to the question of plan cost as the sum of two separate pieces.

- The Normal Cost (i.e., the annual cost associated with one year of service accrual) expressed as a percentage of total active payroll.
- The Past Service Cost or Accrued Liability (i.e., the current value of the benefit for all credited past service of current members) which is expressed as a lump sum dollar amount.

The cost is the sum of a percent of future pay and a lump sum dollar amount. To communicate the total cost, either the Normal Cost must be converted to a lump sum dollar amount or the Past Service Cost must be converted to a percent of payroll. Converting the Past Service Cost lump sum to a percent of payroll requires a specific amortization period, and the employer rate will vary depending on the amortization period chosen. CalPERS Board amortization and smoothing policies specify the amortization period used for each amortization base. These policies permit a restructuring of the amortization bases (also known as a "fresh start") when the application of the amortization policy would not otherwise achieve the goals of the policy – to eliminate the unfunded liabilities in a manner that maintains benefit security while minimizing substantial variations in employer contribution rates. Currently unfunded liabilities are paid as a percent of payroll. However, in the future, unfunded liabilities may be billed as dollar amounts as is the case for plans that are in risk pools.

Changes since the Prior Year's Valuation

Benefits

The standard actuarial practice at CalPERS is to recognize mandated legislative benefit changes in the first annual valuation following the effective date of the legislation. Voluntary benefit changes by plan amendment are generally included in the first valuation that is prepared after the amendment becomes effective even if the valuation date is prior to the effective date of the amendment.

This valuation generally reflects plan changes by amendments effective before the date of the report. Please refer to the "Plan's Major Benefit Options" and Appendix B for a summary of the plan provisions used in this valuation. The effect of any mandated benefit changes or plan amendments on the unfunded liability is shown in the "(Gain)/Loss Analysis" and the effect on your employer contribution rate is shown in the "Reconciliation of Required Employer Contributions." It should be noted that no change in liability or rate is shown for any plan changes which were already included in the prior year's valuation.

Actuarial Methods and Assumptions

The CalPERS Board of Administration approved several changes to the demographic assumptions that more closely align with actual experience based on the most recent experience study. The most significant of these is mortality improvement to acknowledge the greater life expectancies we are seeing in our membership and expected continued improvements. The new actuarial assumptions are used to set the Fiscal Year 2016-17 contribution rates for public agency employers. The increase in liability due to new actuarial assumptions calculated in this actuarial valuation is amortized over a 20-year period with a 5-year ramp-up/ramp-down in accordance with Board amortization policy.

Subsequent Events

Actuarial Methods and Assumptions

One of CalPERS strategic goals is to improve the long-term pension benefit sustainability of the system through an integrated view of pension assets and liabilities. The Board of Administration has been engaging in discussions on the funding risks faced by the system and possible risk mitigation strategies to better protect our members. Recent Board actions on a new asset allocation, new actuarial assumptions and new smoothing and amortization policies have already lowered risk. However, future contribution rate volatility is expected as CalPERS pension plans continue to mature. Two approaches under consideration are a flexible glide path methodology, a lowering of the discount rate and expected investment volatility following a great investment return and a blended glide path methodology which is similar to the flexible glide path but with check points over time that would trigger additional asset allocation changes and lowering of the discount rate if investment returns did not result in a sufficient reduction in volatility. Either approach requires thoughtful discussion as it involves tradeoffs between short and long-term system impacts and potential future increases in required contributions. Additional information can be found on the CalPERS website with possible Board action on risk mitigation strategy and policy at the November 2015 Board meeting.

ASSETS

- **RECONCILIATION OF THE MARKET VALUE OF ASSETS**
- **ASSET ALLOCATION**
- **CALPERS HISTORY OF INVESTMENT RETURNS**

Reconciliation of the Market Value of Assets

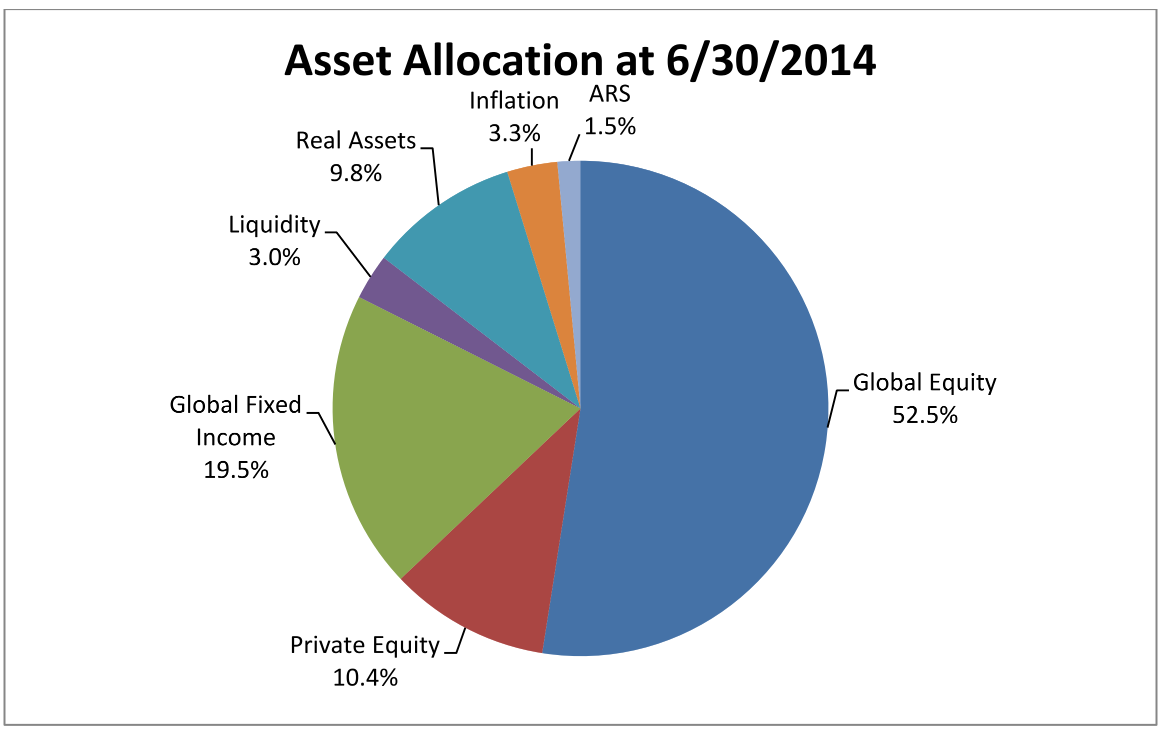
1.	Market Value of Assets as of 6/30/13 Including Receivables	$	677,151,274
2.	Change in Receivables for Service Buybacks as of 6/30/13		(258,714)
3.	Employer Contributions		21,448,508
4.	Employee Contributions		10,159,206
5.	Benefit Payments to Retirees and Beneficiaries		(29,255,674)
6.	Refunds		(977,970)
7.	Lump Sum Payments		0
8.	Transfers and Miscellaneous Adjustments		(820,727)
9.	Investment Return		118,342,899
10.	Market Value of Assets as of 6/30/14 Including Receivables	$	795,788,802

Asset Allocation

CalPERS adheres to an Asset Allocation Strategy which establishes asset class allocation policy targets and ranges, and manages those asset class allocations within their policy ranges. CalPERS Investment Belief No. 6 recognizes that strategic asset allocation is the dominant determinant of portfolio risk and return. On February 19, 2014 the CalPERS Board of Administration adopted changes to the current asset allocation as shown in the Policy Target Allocation below expressed as percentage of total assets. The asset allocation has an expected long term blended rate of return of 7.5 percent.

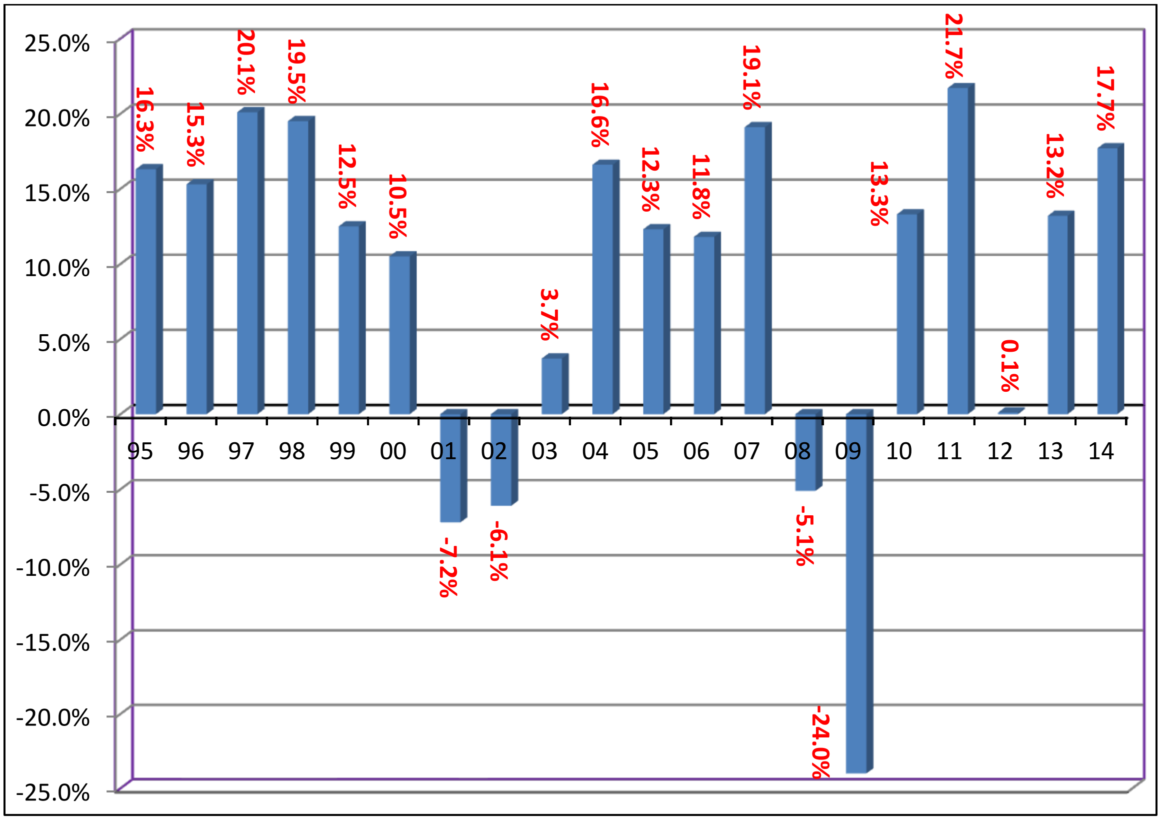
The asset allocation and market value of assets shown below reflect the values of the Public Employees Retirement Fund (PERF) in its entirety as of June 30, 2014. The assets for CITY OF SACRAMENTO MISCELLANEOUS PLAN are part of the Public Employees Retirement Fund (PERF) and are invested accordingly.

(A) Asset Class	**(B) Market Value ($ Billion)**	**(C) Policy Target Allocation**
Global Equity	158.2	50.0%
Private Equity	31.5	14.0%
Global Fixed Income	58.8	17.0%
Liquidity	9.0	4.0%
Real Assets	29.6	11.0%
Inflation Sensitive Assets	9.9	4.0%
Absolute Return Strategy (ARS)	4.5	0.0%
Total Fund	**$301.5**	**100.0%**



CalPERS History of Investment Returns

The following is a chart with the 20-year historical annual returns of the Public Employees Retirement Fund for each fiscal year ending on June 30. Beginning in 2002, the figures are reported as gross of fees.



The table below shows historical geometric mean annual returns of the Public Employees Retirement Fund for various time periods ending on June 30, 2014, (figures are reported as gross of fees). The geometric mean rate of return is the average rate per period compounded over multiple periods. It should be recognized that in any given year the rate of return is volatile. Although the expected rate of return on the recently adopted new asset allocation is 7.5 percent, the portfolio has an expected volatility of 11.76 percent per year. The volatility is a measure of the risk of the portfolio expressed in the standard deviation of the fund's total return distribution, expressed in percent. Consequently when looking at investment returns it is more instructive to look at returns over longer time horizons.

History of CalPERS Geometric Mean Rates of Return and Volatilities					
	1 year	**5 year**	**10 year**	**20 year**	**30 year**
Geometric Return	17.7%	13.0%	7.1%	8.4%	10.1%
Volatility	–	8.1%	14.0%	11.9%	11.4%

LIABILITIES AND RATES

- **DEVELOPMENT OF ACCRUED AND UNFUNDED LIABILITIES**
- **(GAIN) / LOSS ANALYSIS 06/30/13 - 06/30/14**
- **SCHEDULE OF AMORTIZATION BASES**
- **ALTERNATE AMORTIZATION SCHEDULES**
- **RECONCILIATION OF REQUIRED EMPLOYER CONTRIBUTIONS**
- **EMPLOYER CONTRIBUTION RATE HISTORY**
- **FUNDING HISTORY**

Development of Accrued and Unfunded Liabilities

		June 30, 2013	Prior Year Assumptions June 30, 2014	New Assumptions June 30, 2014
1. Present Value of Projected Benefits				
a) Active Members	$	636,367,310	645,924,880	670,764,708
b) Transferred Members		69,718,164	75,315,725	77,156,548
c) Terminated Members		30,108,842	28,615,219	26,542,385
d) Members and Beneficiaries Receiving Payments		347,072,585	385,374,286	403,011,288
e) Total	$	1,083,266,901	1,135,230,110	1,177,474,929
2. Present Value of Future Employer Normal Costs	$	86,796,773	84,627,519	89,114,737
3. Present Value of Future Employee Contributions	$	82,116,806	81,914,690	83,948,019
4. Entry Age Normal Accrued Liability				
a) Active Members [(1a) - (2) - (3)]	$	467,453,731	479,382,671	497,701,952
b) Transferred Members (1b)		69,718,164	75,315,725	77,156,548
c) Terminated Members (1c)		30,108,842	28,615,219	26,542,385
d) Members and Beneficiaries Receiving Payments (1d)		347,072,585	385,374,286	403,011,288
e) Total	$	914,353,322	968,687,901	1,004,412,173
5. Market Value of Assets (MVA)	$	677,151,274	795,788,802	795,788,802
6. Unfunded Liability [(4e) - (5)]	$	237,202,048	172,899,099	208,623,371
7. Funded Ratio [(5) / (4e)]		74.1%	82.2%	79.2%

(Gain) /Loss Analysis 6/30/13 – 6/30/14

To calculate the cost requirements of the plan, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is compared to the expected experience based on the actuarial assumptions. This results in actuarial gains or losses, as shown below.

A	**Total (Gain)/Loss for the Year**		
	1. Unfunded Accrued Liability (UAL) as of 6/30/13	$	236,617,593
	2. Expected Payment on the UAL during 2013/2014		9,826,972
	3. Interest through 6/30/14 [.075 x (A1) - $((1.075)^{1/2}$ - 1) x (A2)]		17,384,470
	4. Expected UAL before all other changes [(A1) - (A2) + (A3)]		244,175,091
	5. Change due to plan changes		0
	6. Change due to assumption change		35,724,272
	7. Expected UAL after all other changes [(A4) + (A5) + (A6)]		279,899,363
	8. Actual UAL as of 6/30/14		208,623,371
	9. Total (Gain)/Loss for 2013/2014 [(A8) - (A7)]	$	(71,275,992)
B	**Contribution (Gain)/Loss for the Year**		
	1. Expected Contribution (Employer and Employee)	$	32,744,941
	2. Interest on Expected Contributions		1,205,736
	3. Actual Contributions		31,607,714
	4. Interest on Actual Contributions		1,163,861
	5. Expected Contributions with Interest [(B1) + (B2)]		33,950,677
	6. Actual Contributions with Interest [(B3) + (B4)]		32,771,575
	7. Contribution (Gain)/Loss [(B5) - (B6)]	$	1,179,102
C	**Asset (Gain)/Loss for the Year**		
	1. Market Value of Assets as of 6/30/13	$	677,151,274
	2. Receivables PY		(2,893,563)
	3. Receivables CY		2,634,849
	4. Contributions Received		31,607,714
	5. Benefits and Refunds Paid		(30,233,644)
	6. Transfers and miscellaneous adjustments		(820,727)
	7. Expected Int. [.075 x (C1 + C2) + $((1.075)^{1/2}$ - 1) x ((C4) + (C5) + (C6))]		50,589,704
	8. Expected Assets as of 6/30/14 [(C1) + (C2) + (C3) + (C4) + (C5) + (C6) + (C7)]		728,035,607
	9. Market Value of Assets as of 6/30/14		795,788,802
	10. Asset (Gain)/Loss [(C8) - (C9)]	$	(67,753,195)
D	**Liability (Gain)/Loss for the Year**		
	1. Total (Gain)/Loss (A9)	$	(71,275,992)
	2. Contribution (Gain)/Loss (B7)		1,179,102
	3. Asset (Gain)/Loss (C10)		(67,753,195)
	4. Liability (Gain)/Loss [(D1) - (D2) - (D3)]	$	(4,701,899)

Schedule of Amortization Bases

There is a two-year lag between the Valuation Date and the Contribution Fiscal Year.

- The assets, liabilities and funded status of the plan are measured as of the valuation date; June 30, 2014.
- The employer contribution rate determined by the valuation is for the fiscal year beginning two years after the valuation date; Fiscal Year 2016-17.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and due to the need to provide public agencies with their employer contribution rates well in advance of the start of the fiscal year.

The Unfunded Liability is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The Unfunded Liability is rolled forward each year by subtracting the expected Payment on the Unfunded Liability for the fiscal year and adjusting for interest. The Expected Payment on the Unfunded Liability for a fiscal year is equal to the Expected Employer Contribution for the fiscal year minus the Expected Normal Cost for the year. The Employer Contribution Rate for the first fiscal year is determined by the actuarial valuation two years ago and the rate for the second year is from the actuarial valuation one year ago. The Normal Cost Rate for each of the two fiscal years is assumed to be the same as the rate determined by the current valuation. All expected dollar amounts are determined by multiplying the rate by the expected payroll for the applicable fiscal year, based on payroll as of the valuation date.

							Amounts for Fiscal 2016-17		
Reason for Base	**Date Established**	**Amortization Period**	**Balance 6/30/14**	**Expected Payment 2014-15**	**Balance 6/30/15**	**Expected Payment 2015-16**	**Balance 6/30/16**	**Scheduled Payment for 2016-17**	**Payment as Percentage of Payroll**
BENEFIT CHANGE	06/30/05	10	$2,740,099	$296,285	$2,638,412	$305,174	$2,519,882	$314,329	0.188%
ASSUMPTION CHANGE	06/30/07	9	$20,851,615	$2,411,816	$19,914,863	$2,484,170	$18,832,835	$2,558,695	1.532%
ARNETT CASE	06/30/07	9	$166,574	$19,267	$159,091	$19,845	$150,447	$20,440	0.012%
ASSETS CHANGE	06/30/07	9	$(140,310)	$(16,229)	$(134,007)	$(16,716)	$(126,726)	$(17,217)	(0.010%)
METHOD CHANGE	06/30/07	10	$(1,509,461)	$(163,217)	$(1,453,443)	$(168,113)	$(1,388,148)	$(173,157)	(0.104%)
BENEFIT CHANGE	06/30/08	13	$(322,001)	$(29,518)	$(315,547)	$(30,403)	$(307,690)	$(31,315)	(0.019%)
ASSUMPTION CHANGE	06/30/09	15	$14,647,622	$1,230,565	$14,470,317	$1,267,482	$14,241,438	$1,305,506	0.782%
SPECIAL (GAIN)/LOSS	06/30/09	25	$21,005,781	$1,331,309	$21,200,884	$1,371,248	$21,369,210	$1,412,386	0.846%
SPECIAL (GAIN)/LOSS	06/30/10	26	$112,798	$7,014	$113,985	$7,224	$115,044	$7,441	0.004%
ASSUMPTION CHANGE	06/30/11	17	$18,478,969	$1,441,858	$18,369,942	$1,485,114	$18,207,889	$1,529,667	0.916%
SPECIAL (GAIN)/LOSS	06/30/11	27	$(3,354,629)	$(204,881)	$(3,393,801)	$(211,027)	$(3,429,539)	$(217,358)	(0.130%)
PAYMENT (GAIN)/LOSS	06/30/12	28	$1,716,879	$103,100	$1,738,750	$106,193	$1,759,053	$109,378	0.065%
(GAIN)/LOSS	06/30/12	28	$81,394,497	$4,887,782	$82,431,323	$5,034,416	$83,393,879	$5,185,448	3.104%
SAFCA FRESH START B	06/30/13	29	$(223,045)	$5,676	$(245,658)	$(3,455)	$(260,500)	$(7,118)	(0.004%)
SAFCA FRESH START A	06/30/13	20	$(321,180)	$(92,595)	$(249,264)	$(18,255)	$(249,031)	$(18,803)	(0.011%)
(GAIN)/LOSS	06/30/13	29	$88,930,881	$(693,610)	$96,319,847	$1,354,742	$102,139,209	$2,790,769	1.671%
ASSUMPTION CHANGE	06/30/14	20	$35,724,272	$(292,856)	$38,707,232	$(301,641)	$41,923,022	$798,537	0.478%
(GAIN)/LOSS	06/30/14	30	$(71,275,990)	$97,924	$(76,723,219)	$(8,958)	$(82,468,173)	$(1,159,918)	(0.694%)
TOTAL			**$208,623,371**	**$10,339,690**	**$213,549,707**	**$12,677,040**	**$216,422,101**	**$14,407,710**	**8.625%**

Alternate Amortization Schedules

The amortization schedule shown on the previous page shows the minimum contribution required according to CalPERS amortization policy. There has been considerable interest from many agencies in paying off these unfunded accrued liabilities sooner and the possible savings in doing so. Therefore, we have provided alternate amortization schedules to help analyze your current amortization schedule and illustrate the advantages of accelerating payments towards your plan's unfunded liability of $216,422,101 as of June 30, 2016, which under the minimum schedule, will require total payments of $477,739,140. Shown below are the level rate payments required to amortize your plan's unfunded liability assuming a fresh start over the various periods noted. Note that the payments under each scenario would increase by 3 percent for each year into the future.

Level Rate of Payroll Amortization

Period	2016-17 Rate	2016-17 Payment	Total Payments	Total Interest	Difference from Current Schedule
20	9.783%	$16,341,043	$439,089,956	$222,667,854	$38,649,184
15	11.877%	$19,839,314	$368,989,685	$152,567,583	$108,749,455

If you are interested in changing your plan's amortization schedule please contact your plan actuary to discuss further.

Reconciliation of Required Employer Contributions

	Percentage of Projected Payroll		Estimated $ Based on Projected Payroll
1. Contribution for 7/1/15 – 6/30/16	15.669%	$	25,937,607
2. Effect of changes since the prior year annual valuation			
a) Effect of changes in demographics and financial results	0.143%		239,579
b) Effect of plan changes	0.000%		0
c) Effect of changes in Assumptions	0.664%		1,109,132
d) Effect of change in payroll	-		235,536
e) Effect of elimination of amortization base	0.000%		0
f) Effect of changes due to Fresh Start	0.000%		0
g) Net effect of the changes above [Sum of (a) through (f)]	0.807%		1,584,247
3. Contribution for 7/1/16 – 6/30/17 [(1)+(2g)]	16.476%		27,521,854

The contribution actually paid (item 1) may be different if a prepayment of unfunded actuarial liability is made or a plan change became effective after the prior year's actuarial valuation was performed.

Employer Contribution Rate History

The table below provides a recent history of the employer contribution rates for your plan, as determined by the annual actuarial valuation. It does not account for prepayments or benefit changes made in the middle of the year.

Required By Valuation

Fiscal Year	Employer Normal Cost	Unfunded Rate	Total Employer Contribution Rate
2011 - 2012	7.517%	5.142%	12.659%
2012 - 2013	7.433%	5.411%	12.844%
2013 - 2014	7.676%	5.969%	13.645%
2014 - 2015	7.582%	6.837%	14.419%
2015 - 2016	7.810%	7.859%	15.669%
2016 - 2017	7.851%	8.625%	16.476%

Funding History

The Funding History below shows the recent history of the actuarial accrued liability, the market value of assets, the funded ratio and the annual covered payroll.

Valuation Date	Accrued Liability	Market Value of Assets (MVA)	Unfunded Liability	Funded Ratio	Annual Covered Payroll
06/30/09	$ 696,454,481	$ 402,507,980	$ 293,946,501	57.8%	$ 175,361,908
06/30/10	750,920,883	477,184,231	273,736,652	63.5%	171,328,547
06/30/11	819,168,698	589,536,663	229,632,035	72.0%	164,638,959
06/30/12	860,874,899	596,115,272	264,759,627	69.2%	151,456,486
06/30/13	914,353,322	677,151,274	237,202,048	74.1%	151,487,681
06/30/14	1,004,412,173	795,788,802	208,623,371	79.2%	152,863,321

RISK ANALYSIS

- **VOLATILITY RATIOS**
- **PROJECTED RATES**
- **ANALYSIS OF FUTURE INVESTMENT RETURN SCENARIOS**
- **ANALYSIS OF DISCOUNT RATE SENSITIVITY**
- **HYPOTHETICAL TERMINATION LIABILITY**

Volatility Ratios

The actuarial calculations supplied in this communication are based on a number of assumptions about very long-term demographic and economic behavior. Unless these assumptions (terminations, deaths, disabilities, retirements, salary growth, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise the employer's rates from one year to the next. Therefore, the rates will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio (AVR)

Plans that have higher asset to payroll ratios produce more volatile employer rates due to investment return. For example, a plan with an asset to payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility, than a plan with an asset to payroll ratio of 4. Below we have shown your asset volatility ratio, a measure of the plan's current rate volatility. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as the plan matures.

Liability Volatility Ratio (LVR)

Plans that have higher liability to payroll ratios produce more volatile employer rates due to investment return and changes in liability. For example, a plan with a liability to payroll ratio of 8 is expected to have twice the contribution volatility of a plan with a liability to payroll ratio of 4. The liability volatility ratio is also included in the table below. It should be noted that this ratio indicates a longer-term potential for contribution volatility and the asset volatility ratio, described above, will tend to move closer to this ratio as the plan matures.

Rate Volatility		**As of June 30, 2014**
1. Market Value of Assets without Receivables	$	793,153,953
2. Payroll		152,863,321
3. Asset Volatility Ratio (AVR = 1. / 2.)		5.2
4. Accrued Liability	$	1,004,412,173
5. Liability Volatility Ratio (LVR = 4. / 2.)		6.6

Projected Rates

The estimated rate for 2017-18 is based on a projection of the most recent information we have available, including an estimated 2.4 percent investment return for Fiscal Year 2014-15.

The table below shows projected employer contribution rates (before cost sharing) for the next five fiscal years, assuming CalPERS earns 2.4 percent for Fiscal Year 2014-15 and 7.50 percent every fiscal year thereafter, and assuming that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. The projected contribution rates do not reflect that the plan's normal cost will decline over time as new employees are hired into PEPRA and other lower cost benefit tiers.

	Required Rate	**Projected Future Employer Contribution Rates**				
	2016-17	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Contribution Rates:	16.476%	17.5%	18.5%	19.5%	19.6%	20.0%

Analysis of Future Investment Return Scenarios

In 2014 CalPERS completed a 2-year asset liability management study incorporating actuarial assumptions and strategic asset allocation. On February 19, 2014 the CalPERS Board of Administration adopted relatively modest changes to the current asset allocation that will reduce the expected volatility of returns. The adopted asset allocation is expected to have a long- term blended return that continues to support a discount rate assumption of 7.5 percent. The newly adopted asset allocation has a lower expected investment volatility which will result in better risk characteristics than an equivalent margin for adverse deviation. The previous asset allocation had an expected standard deviation of 12.45 percent while the current asset allocation has a lower expected standard deviation of 11.76 percent.

The investment return for Fiscal Year 2014-15 was announced July 13, 2015. The investment return in Fiscal Year 2014-15 is 2.4 percent before administrative expenses. This year, there will be no adjustment for real estate and private equities. For purposes of projecting future employer rates, we are assuming a 2.4 percent investment return for Fiscal Year 2014-15.

The investment return realized during a fiscal year first affects the contribution rate for the fiscal year two years later. Specifically, the investment return for 2014-15 will first be reflected in the June 30, 2015 actuarial valuation that will be used to set the 2017-18 employer contribution rates. The 2015-16 investment return will first be reflected in the June 30, 2016 actuarial valuation that will be used to set the 2018-19 employer contribution rates and so forth.

Based on a 2.4 percent investment return for Fiscal Year 2014-15, the April 17, 2013 CalPERS Board-approved amortization and rate smoothing method change, the February 18, 2014 new demographic assumptions including 20-year mortality improvement using Scale BB and assuming that all other actuarial assumptions will be realized, and that no further changes to assumptions, contributions, benefits, or funding will occur between now and the beginning of the Fiscal Year 2017-18, the effect on the 2017-18 Employer Rate is as follows:

Estimated 2017-18 Employer Rate	**Estimated Increase in Employer Rate between 2016-17 and 2017-18**
17.5%	1.0%

As part of this report, a sensitivity analysis was performed to determine the effects of various investment returns during fiscal years 2015-16, 2016-17 and 2017-18 on the 2018-19, 2019-20 and 2020-21 employer rates. Once again, the projected rate increases assume that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur.

Five different investment return scenarios were selected.

- The first scenario is what one would expect if the markets were to give us a 5th percentile return from July 1, 2015 through June 30, 2018. The 5th percentile return corresponds to a -3.8 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.
- The second scenario is what one would expect if the markets were to give us a 25th percentile return from July 1, 2015 through June 30, 2018. The 25th percentile return corresponds to a 2.8 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.
- The third scenario assumed the return for 2015-16, 2016-17, 2017-18 would be our assumed 7.5 percent investment return which represents about a 49th percentile event.
- The fourth scenario is what one would expect if the markets were to give us a 75th percentile return from July 1, 2015 through June 30, 2018. The 75th percentile return corresponds to a 12.0 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.
- Finally, the last scenario is what one would expect if the markets were to give us a 95th percentile return from July 1, 2015 through June 30, 2018. The 95th percentile return corresponds to a 18.9 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.

The table below shows the estimated projected contribution rates and the estimated increases for your plan under the five different scenarios.

2015-18 Investment Return Scenario	Estimated Employer Rate			Estimated Change in Employer Rate between 2017-18 and 2020-21
	2018-19	2019-20	2020-21	
(3.8%) (5th percentile)	19.3%	22.0%	24.5%	7.0%
2.8% (25th percentile)	18.8%	20.5%	21.8%	4.3%
7.5%	18.5%	19.5%	19.6%	2.2%
12.0%(75th percentile)	18.1%	18.4%	17.5%	0.0%
18.9%(95th percentile)	17.6%	16.8%	7.9%	(9.6%)

Analysis of Discount Rate Sensitivity

The following analysis looks at the 2016-17 total normal cost rates and liabilities under two different discount rate scenarios. Shown below are the total normal cost rates assuming discount rates that are 1 percent lower and 1 percent higher than the current valuation discount rate. This analysis gives an indication of the potential plan impacts if the PERF were to realize investment returns of 6.50 percent or 8.50 percent over the long-term.

This type of analysis gives the reader a sense of the long-term risk to the contribution rates.

Sensitivity Analysis			
As of June 30, 2014	6.50% Discount Rate (-1%)	7.50% Discount Rate (assumed rate)	8.50% Discount Rate (+1%)
Total Normal Cost	18.507%	14.675%	11.798%
Accrued Liability	$1,155,625,267	$1,004,412,173	$880,705,017
Unfunded Accrued Liability	$359,836,465	$208,623,371	$84,916,215

Hypothetical Termination Liability

The hypothetical termination liability is an estimate of the financial position of your plan if you had terminated your contract with CalPERS as of June 30, 2014. Your plan liability on a termination basis is calculated differently compared to the plan's ongoing funding liability. For this hypothetical termination liability calculation both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are included.

For the Terminated Agency Pool the CalPERS Board adopted a more conservative investment policy and asset allocation strategy. Since the Terminated Agency Pool has limited funding sources due to the fact that no future employer contributions will be made, expected benefit payments are secured by risk-free assets. With this change, CalPERS increased benefit security for members while limiting its funding risk. However, this asset allocation has a lower expected rate of return than the PERF. Consequently, the lower discount rate for the Terminated Agency pool results in higher liabilities for terminated plans.

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable the table below shows a range for the hypothetical termination liability based on the lowest and highest interest rates observed during the period from July 1, 2013 through June 30, 2015.

Valuation Date	**Market Value of Assets (MVA)**	**Hypothetical Termination Liability[1,2] @ 2.00%**	**Unfunded Termination Liability @ 2.00%**	**Hypothetical Termination Liability[1,2] @ 3.75%**	**Unfunded Termination Liability @ 3.75%**
06/30/14	$ 795,788,802	$ 2,053,353,694	$ 1,257,564,892	$ 1,529,129,312	$ 733,340,510

[1] The hypothetical liabilities calculated above include a 7 percent mortality contingency load in accordance with Board policy. Other actuarial assumptions, such as wage and inflation assumptions, can be found in Appendix A.

[2] The current discount rate assumption used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 3.00% on June 30, 2014.

In order to terminate your plan, you must first contact our Retirement Services Contract Unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow your plan actuary to give you a preliminary termination valuation with a more up-to-date estimate of your plan liabilities. CalPERS strongly advises you to consult with your plan actuary before beginning this process.

Exhibit E

PLAN'S MAJOR BENEFIT PROVISIONS

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which your agency has contracted. A description of principal standard and optional plan provisions is in the following section of this Appendix.

	Contract Package						
Benefit Provision	Active Misc	Active Misc	Active Misc	Active Misc	Inactive Misc	Receiving Misc	
Benefit Formula	2.0% @ 55	2.0% @ 55	2.0% @ 55	2.0% @ 62	2.0% @ 55		
Social Security Coverage	Yes	Yes	No	Yes	No		
Full/Modified	Modified	Modified	Full	Full	Full		
Employee Contribution Rate	7.00%	7.00%	7.00%	6.75%			
Final Average Compensation Period	One Year	One Year	One Year	Three Year	One Year		
Sick Leave Credit	Yes	Yes	Yes	Yes	Yes		
Non-Industrial Disability	Standard	Standard	Standard	Standard	Standard		
Industrial Disability	Yes	Yes	Yes	Yes	Yes		
Pre-Retirement Death Benefits							
Optional Settlement 2W	No	No	No	No	No		
1959 Survivor Benefit Level	No	No	No	No	No		
Special	No	No	No	No	No		
Alternate (firefighters)	No	No	No	No	No		
Post-Retirement Death Benefits							
Lump Sum	$500	$500	$500	$500	$500	$500	
Survivor Allowance (PRSA)	Yes	Yes	Yes	Yes	Yes	Yes	
COLA	2%	2%	2%	2%	2%	2%	

Exhibit E

APPENDICES

- **APPENDIX A – ACTUARIAL METHODS AND ASSUMPTIONS**
- **APPENDIX B – PRINCIPAL PLAN PROVISIONS**
- **APPENDIX C – PARTICIPANT DATA**
- **APPENDIX D – DEVELOPMENT OF PEPRA MEMBER CONTRIBUTION RATES**
- **APPENDIX E – GLOSSARY OF ACTUARIAL TERMS**

APPENDIX A

ACTUARIAL METHODS AND ASSUMPTIONS

- **ACTUARIAL DATA**
- **ACTUARIAL METHODS**
- **ACTUARIAL ASSUMPTIONS**
- **MISCELLANEOUS**

Actuarial Data

As stated in the Actuarial Certification, the data, which serves as the basis of this valuation, has been obtained from the various CalPERS databases. We have reviewed the valuation data and believe that it is reasonable and appropriate in aggregate. We are unaware of any potential data issues that would have a material effect on the results of this valuation, except that data does not always contain the latest salary information for former members now in reciprocal systems and does not recognize the potential for unusually large salary deviation in certain cases such as elected officials. Therefore, salary information in these cases may not be accurate. These situations are relatively infrequent, however, and when they do occur, they generally do not have a material impact on the employer contribution rates.

Actuarial Methods

Funding Method

The actuarial funding method used for the Retirement Program is the Entry Age Normal Cost Method. Under this method, projected benefits are determined for all members and the associated liabilities are spread in a manner that produces level annual cost as a percent of pay in each year from the age of hire (entry age) to the assumed retirement age. The cost allocated to the current fiscal year is called the normal cost.

The actuarial accrued liability for active members is then calculated as the portion of the total cost of the plan allocated to prior years. The actuarial accrued liability for members currently receiving benefits, for active members beyond the assumed retirement age, and for members entitled to deferred benefits, is equal to the present value of the benefits expected to be paid. No normal costs are applicable for these participants.

The excess of the total actuarial accrued liability over the market value of plan assets is called the unfunded actuarial accrued liability (UAL). Funding requirements are determined by adding the normal cost and an amortization of the unfunded liability as a level percentage of assumed future payrolls. Commencing with the June 30, 2013 valuation all new gains or losses are tracked and amortized over a fixed 30-year period with a 5 year ramp up at the beginning and a 5 year ramp down at the end of the amortization period. All changes in liability due to plan amendments (other than golden handshakes), changes in actuarial assumptions, or changes in actuarial methodology are amortized separately over a 20-year period with a 5 year ramp up at the beginning and a 5 year ramp down at the end of the amortization period. Changes in unfunded accrued liability due to a Golden Handshake will be amortized over a period of 5 years.

Additional contributions will be required for any plan or pool if their cash flows hamper adequate funding progress by preventing the expected funded status on a market value of assets basis to either:

- Increase by at least 15 percent by June 30, 2043; or
- Reach a level of 75 percent funded by June 30, 2043

The necessary additional contribution will be obtained by changing the amortization period of the gains and losses, except for those occurring in the fiscal years 2008-2009, 2009-2010, and 2010-2011 to a period, which will result in the satisfaction of the above criteria. CalPERS actuaries will reassess the criteria above when performing each future valuation to determine whether or not additional contributions are necessary.

An exception to the funding rules above is used whenever the application of such rules results in inconsistencies. In these cases, a "fresh start" approach is used. This simply means that the current unfunded actuarial liability is projected and amortized over a set number of years. However, in the case of a 30-year fresh start, just the unfunded liability not already in the (gain)/loss base (which is already amortized over 30 years), will go into the new fresh start base. In addition, a fresh start is needed in the following situations:

1) When a positive payment would be required on a negative unfunded actuarial liability (or conversely a negative payment on a positive unfunded actuarial liability); or

2) When there are excess assets, rather than an unfunded liability. In this situation, a 30-year fresh start is used, unless a longer fresh start is needed to avoid a negative total rate.

It should be noted that the actuary may choose to use a fresh start under other circumstances. In all cases, the fresh start period is set by the actuary at what is deemed appropriate; however, the period will not be greater than 30 years.

Asset Valuation Method

It is the policy of the CalPERS Board of Administration to use professionally accepted amortization methods to eliminate unfunded accrued liabilities or surpluses in a manner that maintains benefit security for the members of the System while minimizing substantial variations in employer contribution rates. On April 17, 2013, the CalPERS Board of Administration approved a recommendation to change the CalPERS amortization and rate smoothing policies. Beginning with the June 30, 2013 valuations that set the 2015-16 rates, CalPERS employs an amortization and smoothing policy that pays for all gains and losses over a fixed 30-year period with the increases or decreases in the rate spread directly over a 5-year period. CalPERS no longer uses an actuarial value of assets and only uses the market value of assets. This direct rate smoothing method is equivalent to a method using a 5 year asset smoothing period with no actuarial value of asset corridor and a 25-year amortization period for gains and losses.

PEPRA Normal Cost Rate Methodology

Per Government Code Section 7522.30(b) the "normal cost rate" shall mean the annual actuarially determined normal cost for the plan of retirement benefits provided to the new member and shall be established based on actuarial assumptions used to determine the liabilities and costs as part of the annual actuarial valuation. The plan of retirement benefits shall include any elements that would impact the actuarial determination of the normal cost, including, but not limited to, the retirement formula, eligibility and vesting criteria, ancillary benefit provisions, and any automatic cost-of-living adjustments as determined by the public retirement system.

Each non-pooled plan is considered to be stable with a sufficiently large demographic of actives. It is preferable to determine normal cost using a large active population ongoing so that this rate remains relatively stable. The total PEPRA normal cost will be calculated using all active members within a non-pooled plan. Accordingly plans will be funded equally between employer and employee based on the demographics of the employees of that employer. As each non-pooled plan builds up to either 100+ active PEPRA members or half of their active population is under the PEPRA formula, the total PEPRA normal cost will be based on the active PEPRA population in the plan.

Actuarial Assumptions

In 2014 CalPERS completed a 2-year asset liability management study incorporating actuarial assumptions and strategic asset allocation. On February 19, 2014 the CalPERS Board of Administration adopted relatively modest changes to the current asset allocation that will reduce the expected volatility of returns. The adopted asset allocation is expected to have a long-term blended return that continues to support a discount rate assumption of 7.5 percent. The Board also approved several changes to the demographic assumptions that more closely align with actual experience. The most significant of these is mortality improvement to acknowledge the greater life expectancies we are seeing in our membership and expected continued improvements. The new actuarial assumptions are used in this valuation to set the Fiscal Year 2016-17 contribution rates for public agency employers. The increase in liability due to new actuarial assumptions is amortized over a 20-year period with a 5-year ramp-up/ramp-down in accordance with Board policy. These new actuarial assumptions are set forth below. For more details, please refer to the experience study report that can be found on the CalPERS website under: Forms and Publications Center; Employers Section. Click on View employer publications; Actuarial Reports and scroll down to CalPERS Experience Study.

Economic Assumptions

Discount Rate

7.5 percent compounded annually (net of expenses). This assumption is used for all plans.

Termination Liability Discount Rate

The current discount rate assumption used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date.

Previously, for purposes of the hypothetical termination liability estimate, the discount rate used was the yield on the 30-year US Treasury Separate Trading of Registered Interest and Principal of Securities (STRIPS). However, this point in time estimate for the termination discount rate can be significantly different from the calculated discount rate for a plan termination based on prevailing market rates. Rather than using a point estimate the hypothetical termination liabilities in this report are calculated using an observed range of market interest rates. This range is based on the 20-year Treasury bond which has a similar duration to most plan liabilities and serves as a good proxy for the termination discount rate.

The securities purchased for the Terminated Agency Pool (TAP), however, consist solely of STRIPS, TIPS, and cash with varying maturity dates over the next 30 years. As a result, the methodology to set the discount rate for the TAP needs to be modified to ensure the discount rate is consistent with the yield rate of the portfolio. Beginning with the June 30, 2014 valuation the discount rate will be calculated by using a weighted average of the yields of the securities effective in the portfolio as of the last day of the most recent month of termination. This methodology would result in a discount rate that more closely reflects the yield rate of the TAP. As of June 30, 2014 this discount rate is 2.91 percent as opposed to the yield on the 30-year Strip of 3.55 percent.

Furthermore, when a plan with a large liability terminates a contingency immunization calculation is performed using actual cash flows of the terminating agency. Large liability terminations are expected to have large annual cash flows that may have an impact on the TAP’s cash flows thus creating a need to rebalance the portfolio. Pricing the actual cash flows at current market rates would have the same effect as a rebalance. A large liability plan is defined as one that would cause a 50 percent reduction of the existing TAP surplus as of the latest annual valuation. Quotes would be retrieved from securities necessary to immunize the additional liability. The termination discount rate is determined using the methodology above with the calculation being based on the yields of the quoted securities as opposed to the entire TAP portfolio.

Salary Growth

Annual increases vary by category, entry age, and duration of service. A sample of assumed increases are shown below.

Public Agency Miscellaneous

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1220	0.1160	0.1020
1	0.0990	0.0940	0.0830
2	0.0860	0.0810	0.0710
3	0.0770	0.0720	0.0630
4	0.0700	0.0650	0.0570
5	0.0640	0.0600	0.0520
10	0.0460	0.0430	0.0390
15	0.0420	0.0400	0.0360
20	0.0390	0.0380	0.0340
25	0.0370	0.0360	0.0330
30	0.0350	0.0340	0.0320

Public Agency Fire

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.2000	0.1980	0.1680
1	0.1490	0.1460	0.1250
2	0.1200	0.1160	0.0990
3	0.0980	0.0940	0.0810
4	0.0820	0.0780	0.0670
5	0.0690	0.0640	0.0550
10	0.0470	0.0460	0.0420
15	0.0440	0.0420	0.0390
20	0.0420	0.0390	0.0360
25	0.0400	0.0370	0.0340
30	0.0380	0.0360	0.0340

Public Agency Police

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1500	0.1470	0.1310
1	0.1160	0.1120	0.1010
2	0.0950	0.0920	0.0830
3	0.0810	0.0780	0.0700
4	0.0700	0.0670	0.0600
5	0.0610	0.0580	0.0520
10	0.0450	0.0430	0.0370
15	0.0450	0.0430	0.0370
20	0.0450	0.0430	0.0370
25	0.0450	0.0430	0.0370
30	0.0450	0.0430	0.0370

Salary Growth (continued)

Public Agency County Peace Officers

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1770	0.1670	0.1500
1	0.1340	0.1260	0.1140
2	0.1080	0.1030	0.0940
3	0.0900	0.0860	0.0790
4	0.0760	0.0730	0.0670
5	0.0650	0.0620	0.0580
10	0.0470	0.0450	0.0410
15	0.0460	0.0450	0.0390
20	0.0460	0.0450	0.0380
25	0.0460	0.0450	0.0380
30	0.0460	0.0440	0.0380

Schools

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.0900	0.0880	0.0820
1	0.0780	0.0750	0.0700
2	0.0700	0.0680	0.0630
3	0.0650	0.0630	0.0580
4	0.0610	0.0590	0.0540
5	0.0580	0.0560	0.0510
10	0.0460	0.0450	0.0410
15	0.0420	0.0410	0.0380
20	0.0390	0.0380	0.0350
25	0.0370	0.0350	0.0330
30	0.0350	0.0330	0.0310

- The Miscellaneous salary scale is used for Local Prosecutors.
- The Police salary scale is used for Other Safety, Local Sheriff, and School Police.

Overall Payroll Growth

3.00 percent compounded annually (used in projecting the payroll over which the unfunded liability is amortized). This assumption is used for all plans.

Inflation

2.75 percent compounded annually. This assumption is used for all plans.

Non-valued Potential Additional Liabilities

The potential liability loss for a cost-of-living increase exceeding the 2.75 percent inflation assumption, and any potential liability loss from future member service purchases are not reflected in the valuation.

Miscellaneous Loading Factors

Credit for Unused Sick Leave

Total years of service is increased by 1 percent for those plans that have accepted the provision providing Credit for Unused Sick Leave.

Conversion of Employer Paid Member Contributions (EPMC)

Total years of service is increased by the Employee Contribution Rate for those plans with the provision providing for the Conversion of Employer Paid Member Contributions (EPMC) during the final compensation period.

Norris Decision (Best Factors)

Employees hired prior to July 1, 1982 have projected benefit amounts increased in order to reflect the use of "Best Factors" in the calculation of optional benefit forms. This is due to a 1983 Supreme Court decision, known as the Norris decision, which required males and females to be treated equally in the determination of benefit amounts. Consequently, anyone already employed at that time is given the best possible conversion factor when optional benefits are determined. No loading is necessary for employees hired after July 1, 1982.

Termination Liability

The termination liabilities include a 7 percent contingency load. This load is for unforeseen improvements in mortality.

Demographic Assumptions

Pre-Retirement Mortality

Non-Industrial Death Rates vary by age and gender. Industrial Death rates vary by age. See sample rates in table below. The non-industrial death rates are used for all plans. The industrial death rates are used for Safety Plans (except for Local Prosecutor safety members where the corresponding Miscellaneous Plan does not have the Industrial Death Benefit).

	Non-Industrial Death (Not Job-Related)		**Industrial Death (Job-Related)**
Age	Male	Female	Male and Female
20	0.00031	0.00020	0.00003
25	0.00040	0.00023	0.00007
30	0.00049	0.00025	0.00010
35	0.00057	0.00035	0.00012
40	0.00075	0.00050	0.00013
45	0.00106	0.00071	0.00014
50	0.00155	0.00100	0.00015
55	0.00228	0.00138	0.00016
60	0.00308	0.00182	0.00017
65	0.00400	0.00257	0.00018
70	0.00524	0.00367	0.00019
75	0.00713	0.00526	0.00020
80	0.00990	0.00814	0.00021

Miscellaneous Plans usually have Industrial Death rates set to zero unless the agency has specifically contracted for Industrial Death benefits. If so, each Non-Industrial Death rate shown above will be split into two components; 99 percent will become the Non-Industrial Death rate and 1 percent will become the Industrial Death rate.

Post-Retirement Mortality

Rates vary by age, type of retirement and gender. See sample rates in table below. These rates are used for all plans.

	Healthy Recipients		Non-Industrially Disabled (Not Job-Related)		Industrially Disabled (Job-Related)	
Age	Male	Female	Male	Female	Male	Female
50	0.00501	0.00466	0.01680	0.01158	0.00501	0.00466
55	0.00599	0.00416	0.01973	0.01149	0.00599	0.00416
60	0.00710	0.00436	0.02289	0.01235	0.00754	0.00518
65	0.00829	0.00588	0.02451	0.01607	0.01122	0.00838
70	0.01305	0.00993	0.02875	0.02211	0.01635	0.01395
75	0.02205	0.01722	0.03990	0.03037	0.02834	0.02319
80	0.03899	0.02902	0.06083	0.04725	0.04899	0.03910
85	0.06969	0.05243	0.09731	0.07762	0.07679	0.06251
90	0.12974	0.09887	0.14804	0.12890	0.12974	0.09887
95	0.22444	0.18489	0.22444	0.21746	0.22444	0.18489
100	0.32536	0.30017	0.32536	0.30017	0.32536	0.30017
105	0.58527	0.56093	0.58527	0.56093	0.58527	0.56093
110	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

The post-retirement mortality rates above include 20 years of projected on-going mortality improvement using Scale BB published by the Society of Actuaries.

Marital Status

For active members, a percentage who are married upon retirement is assumed according to member category as shown in the following table.

Member Category	Percent Married
Miscellaneous Member	85%
Local Police	90%
Local Fire	90%
Other Local Safety	90%
School Police	90%

Age of Spouse

It is assumed that female spouses are 3 years younger than male spouses. This assumption is used for all plans.

Terminated Members

It is assumed that terminated members refund immediately if non-vested. Terminated members who are vested are assumed to follow the same service retirement pattern as active members but with a load to reflect the expected higher rates of retirement, especially at lower ages. The following table shows the load factors that are applied to the service retirement assumption for active members to obtain the service retirement pattern for separated vested members:

Age	Load Factor Miscellaneous	Load Factor Safety
50	190%	310%
51	110%	190%
52	110%	105%
53 through 54	100%	105%
55	100%	140%
56 and above	100% (no change)	100% (no change)

Termination with Refund

Rates vary by entry age and service for Miscellaneous Plans. Rates vary by service for Safety Plans. See sample rates in tables below.

Public Agency Miscellaneous

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40	Entry Age 45
0	0.1742	0.1674	0.1606	0.1537	0.1468	0.1400
1	0.1545	0.1477	0.1409	0.1339	0.1271	0.1203
2	0.1348	0.1280	0.1212	0.1142	0.1074	0.1006
3	0.1151	0.1083	0.1015	0.0945	0.0877	0.0809
4	0.0954	0.0886	0.0818	0.0748	0.0680	0.0612
5	0.0212	0.0193	0.0174	0.0155	0.0136	0.0116
10	0.0138	0.0121	0.0104	0.0088	0.0071	0.0055
15	0.0060	0.0051	0.0042	0.0032	0.0023	0.0014
20	0.0037	0.0029	0.0021	0.0013	0.0005	0.0001
25	0.0017	0.0011	0.0005	0.0001	0.0001	0.0001
30	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001
35	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Public Agency Safety

Duration of Service	Fire	Police	County Peace Officer
0	0.0710	0.1013	0.0997
1	0.0554	0.0636	0.0782
2	0.0398	0.0271	0.0566
3	0.0242	0.0258	0.0437
4	0.0218	0.0245	0.0414
5	0.0029	0.0086	0.0145
10	0.0009	0.0053	0.0089
15	0.0006	0.0027	0.0045
20	0.0005	0.0017	0.0020
25	0.0003	0.0012	0.0009
30	0.0003	0.0009	0.0006
35	0.0003	0.0009	0.0006

The Police Termination and Refund rates are also used for Public Agency Local Prosecutors, Other Safety, Local Sheriff and School Police.

Schools

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40	Entry Age 45
0	0.1730	0.1627	0.1525	0.1422	0.1319	0.1217
1	0.1585	0.1482	0.1379	0.1277	0.1174	0.1071
2	0.1440	0.1336	0.1234	0.1131	0.1028	0.0926
3	0.1295	0.1192	0.1089	0.0987	0.0884	0.0781
4	0.1149	0.1046	0.0944	0.0841	0.0738	0.0636
5	0.0278	0.0249	0.0221	0.0192	0.0164	0.0135
10	0.0172	0.0147	0.0122	0.0098	0.0074	0.0049
15	0.0115	0.0094	0.0074	0.0053	0.0032	0.0011
20	0.0073	0.0055	0.0038	0.0020	0.0002	0.0002
25	0.0037	0.0023	0.0010	0.0002	0.0002	0.0002

30	0.0015	0.0003	0.0002	0.0002	0.0002	0.0002
35	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Termination with Vested Benefits

Rates vary by entry age and service for Miscellaneous Plans. Rates vary by service for Safety Plans. See sample rates in tables below.

Public Agency Miscellaneous

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40
5	0.0656	0.0597	0.0537	0.0477	0.0418
10	0.0530	0.0466	0.0403	0.0339	0.0000
15	0.0443	0.0373	0.0305	0.0000	0.0000
20	0.0333	0.0261	0.0000	0.0000	0.0000
25	0.0212	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000
35	0.0000	0.0000	0.0000	0.0000	0.0000

Public Agency Safety

Duration of Service	Fire	Police	County Peace Officer
5	0.0162	0.0163	0.0265
10	0.0061	0.0126	0.0204
15	0.0058	0.0082	0.0130
20	0.0053	0.0065	0.0074
25	0.0047	0.0058	0.0043
30	0.0045	0.0056	0.0030
35	0.0000	0.0000	0.0000

- When a member is eligible to retire, the termination with vested benefits probability is set to zero.
- After termination with vested benefits, a miscellaneous member is assumed to retire at age 59 and a safety member at age 54.
- The Police Termination with vested benefits rates are also used for Public Agency Local Prosecutors, Other Safety, Local Sheriff and School Police.

Schools

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40
5	0.0816	0.0733	0.0649	0.0566	0.0482
10	0.0629	0.0540	0.0450	0.0359	0.0000
15	0.0537	0.0440	0.0344	0.0000	0.0000
20	0.0420	0.0317	0.0000	0.0000	0.0000
25	0.0291	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000
35	0.0000	0.0000	0.0000	0.0000	0.0000

Non-Industrial (Not Job-Related) Disability

Rates vary by age and gender for Miscellaneous Plans. Rates vary by age and category for Safety Plans.

	Miscellaneous		Fire	Police	County Peace Officer	Schools	
Age	Male	Female	Male and Female	Male and Female	Male and Female	Male	Female
20	0.0002	0.0001	0.0001	0.0001	0.0001	0.0003	0.0003
25	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
30	0.0002	0.0002	0.0001	0.0002	0.0001	0.0001	0.0002
35	0.0005	0.0008	0.0001	0.0003	0.0004	0.0005	0.0004
40	0.0012	0.0016	0.0001	0.0004	0.0007	0.0015	0.0010
45	0.0019	0.0022	0.0002	0.0005	0.0013	0.0030	0.0019
50	0.0021	0.0023	0.0005	0.0008	0.0018	0.0039	0.0024
55	0.0022	0.0018	0.0010	0.0013	0.0010	0.0036	0.0021
60	0.0022	0.0014	0.0015	0.0020	0.0006	0.0031	0.0014

- The Miscellaneous Non-Industrial Disability rates are used for Local Prosecutors.
- The Police Non-Industrial Disability rates are also used for Other Safety, Local Sheriff and School Police.

Industrial (Job-Related) Disability

Rates vary by age and category.

Age	Fire	Police	County Peace Officer
20	0.0001	0.0000	0.0004
25	0.0003	0.0017	0.0013
30	0.0007	0.0048	0.0025
35	0.0016	0.0079	0.0037
40	0.0030	0.0110	0.0051
45	0.0053	0.0141	0.0067
50	0.0277	0.0185	0.0092
55	0.0409	0.0479	0.0151
60	0.0583	0.0602	0.0174

- The Police Industrial Disability rates are also used for Local Sheriff and Other Safety.
- Fifty Percent of the Police Industrial Disability rates are used for School Police.
- One Percent of the Police Industrial Disability rates are used for Local Prosecutors.
- Normally, rates are zero for Miscellaneous Plans unless the agency has specifically contracted for Industrial Disability benefits. If so, each miscellaneous non-industrial disability rate will be split into two components: 50 percent will become the Non-Industrial Disability rate and 50 percent will become the Industrial Disability rate.

Service Retirement

Retirement rates vary by age, service, and formula, except for the safety ½ @ 55 and 2% @ 55 formulas, where retirement rates vary by age only.

Service Retirement

Public Agency Miscellaneous 1.5% @ 65

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.008	0.011	0.013	0.015	0.017	0.019
51	0.007	0.010	0.012	0.013	0.015	0.017
52	0.010	0.014	0.017	0.019	0.021	0.024
53	0.008	0.012	0.015	0.017	0.019	0.022
54	0.012	0.016	0.019	0.022	0.025	0.028
55	0.018	0.025	0.031	0.035	0.038	0.043
56	0.015	0.021	0.025	0.029	0.032	0.036
57	0.020	0.028	0.033	0.038	0.043	0.048
58	0.024	0.033	0.040	0.046	0.052	0.058
59	0.028	0.039	0.048	0.054	0.060	0.067
60	0.049	0.069	0.083	0.094	0.105	0.118
61	0.062	0.087	0.106	0.120	0.133	0.150
62	0.104	0.146	0.177	0.200	0.223	0.251
63	0.099	0.139	0.169	0.191	0.213	0.239
64	0.097	0.136	0.165	0.186	0.209	0.233
65	0.140	0.197	0.240	0.271	0.302	0.339
66	0.092	0.130	0.157	0.177	0.198	0.222
67	0.129	0.181	0.220	0.249	0.277	0.311
68	0.092	0.129	0.156	0.177	0.197	0.221
69	0.092	0.130	0.158	0.178	0.199	0.224
70	0.103	0.144	0.175	0.198	0.221	0.248

Public Agency Miscellaneous 2% @ 60

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.010	0.013	0.015	0.018	0.019	0.021
51	0.009	0.011	0.014	0.016	0.017	0.019
52	0.011	0.014	0.017	0.020	0.022	0.024
53	0.010	0.012	0.015	0.017	0.020	0.021
54	0.015	0.019	0.023	0.025	0.029	0.031
55	0.022	0.029	0.035	0.040	0.045	0.049
56	0.018	0.024	0.028	0.033	0.036	0.040
57	0.024	0.032	0.038	0.043	0.049	0.053
58	0.027	0.036	0.043	0.049	0.055	0.061
59	0.033	0.044	0.054	0.061	0.068	0.076
60	0.056	0.077	0.092	0.105	0.117	0.130
61	0.071	0.097	0.118	0.134	0.149	0.166
62	0.117	0.164	0.198	0.224	0.250	0.280
63	0.122	0.171	0.207	0.234	0.261	0.292
64	0.114	0.159	0.193	0.218	0.244	0.271
65	0.150	0.209	0.255	0.287	0.321	0.358
66	0.114	0.158	0.192	0.217	0.243	0.270
67	0.141	0.196	0.238	0.270	0.301	0.337
68	0.103	0.143	0.174	0.196	0.219	0.245
69	0.109	0.153	0.185	0.209	0.234	0.261
70	0.117	0.162	0.197	0.222	0.248	0.277

Service Retirement

Public Agency Miscellaneous 2% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.014	0.018	0.021	0.025	0.027	0.031
51	0.012	0.014	0.017	0.020	0.021	0.025
52	0.013	0.017	0.019	0.023	0.025	0.028
53	0.015	0.020	0.023	0.027	0.030	0.034
54	0.026	0.033	0.038	0.045	0.051	0.059
55	0.048	0.061	0.074	0.088	0.100	0.117
56	0.042	0.053	0.063	0.075	0.085	0.100
57	0.044	0.056	0.067	0.081	0.091	0.107
58	0.049	0.062	0.074	0.089	0.100	0.118
59	0.057	0.072	0.086	0.103	0.118	0.138
60	0.067	0.086	0.103	0.123	0.139	0.164
61	0.081	0.103	0.124	0.148	0.168	0.199
62	0.116	0.147	0.178	0.214	0.243	0.288
63	0.114	0.144	0.174	0.208	0.237	0.281
64	0.108	0.138	0.166	0.199	0.227	0.268
65	0.155	0.197	0.238	0.285	0.325	0.386
66	0.132	0.168	0.203	0.243	0.276	0.328
67	0.122	0.155	0.189	0.225	0.256	0.304
68	0.111	0.141	0.170	0.204	0.232	0.274
69	0.114	0.144	0.174	0.209	0.238	0.282
70	0.130	0.165	0.200	0.240	0.272	0.323

Public Agency Miscellaneous 2.5% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.004	0.009	0.019	0.029	0.049	0.094
51	0.004	0.009	0.019	0.029	0.049	0.094
52	0.004	0.009	0.020	0.030	0.050	0.095
53	0.008	0.014	0.025	0.036	0.058	0.104
54	0.024	0.034	0.050	0.066	0.091	0.142
55	0.066	0.088	0.115	0.142	0.179	0.241
56	0.042	0.057	0.078	0.098	0.128	0.184
57	0.041	0.057	0.077	0.097	0.128	0.183
58	0.045	0.061	0.083	0.104	0.136	0.192
59	0.055	0.074	0.098	0.123	0.157	0.216
60	0.066	0.088	0.115	0.142	0.179	0.241
61	0.072	0.095	0.124	0.153	0.191	0.255
62	0.099	0.130	0.166	0.202	0.248	0.319
63	0.092	0.121	0.155	0.189	0.233	0.302
64	0.091	0.119	0.153	0.187	0.231	0.299
65	0.122	0.160	0.202	0.245	0.297	0.374
66	0.138	0.179	0.226	0.272	0.329	0.411
67	0.114	0.149	0.189	0.229	0.279	0.354
68	0.100	0.131	0.168	0.204	0.250	0.322
69	0.114	0.149	0.189	0.229	0.279	0.354
70	0.127	0.165	0.209	0.253	0.306	0.385

Service Retirement

Public Agency Miscellaneous 2.7% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.004	0.009	0.014	0.035	0.055	0.095
51	0.002	0.006	0.011	0.030	0.050	0.090
52	0.006	0.012	0.017	0.038	0.059	0.099
53	0.010	0.017	0.024	0.046	0.068	0.110
54	0.032	0.044	0.057	0.085	0.113	0.160
55	0.076	0.101	0.125	0.165	0.205	0.265
56	0.055	0.074	0.093	0.127	0.160	0.214
57	0.050	0.068	0.086	0.118	0.151	0.204
58	0.055	0.074	0.093	0.127	0.161	0.215
59	0.061	0.082	0.102	0.138	0.174	0.229
60	0.069	0.093	0.116	0.154	0.192	0.250
61	0.086	0.113	0.141	0.183	0.225	0.288
62	0.105	0.138	0.171	0.218	0.266	0.334
63	0.103	0.135	0.167	0.215	0.262	0.329
64	0.109	0.143	0.177	0.226	0.275	0.344
65	0.134	0.174	0.215	0.270	0.326	0.401
66	0.147	0.191	0.235	0.294	0.354	0.433
67	0.121	0.158	0.196	0.248	0.300	0.372
68	0.113	0.147	0.182	0.232	0.282	0.352
69	0.117	0.153	0.189	0.240	0.291	0.362
70	0.141	0.183	0.226	0.283	0.341	0.418

Public Agency Miscellaneous 3% @ 60

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.012	0.018	0.024	0.039	0.040	0.091
51	0.009	0.014	0.019	0.034	0.034	0.084
52	0.014	0.020	0.026	0.043	0.044	0.096
53	0.016	0.023	0.031	0.048	0.050	0.102
54	0.026	0.036	0.045	0.065	0.070	0.125
55	0.043	0.057	0.072	0.096	0.105	0.165
56	0.042	0.056	0.070	0.094	0.103	0.162
57	0.049	0.065	0.082	0.108	0.119	0.180
58	0.057	0.076	0.094	0.122	0.136	0.199
59	0.076	0.100	0.123	0.157	0.175	0.244
60	0.114	0.148	0.182	0.226	0.255	0.334
61	0.095	0.123	0.152	0.190	0.214	0.288
62	0.133	0.172	0.211	0.260	0.294	0.378
63	0.129	0.166	0.204	0.252	0.285	0.368
64	0.143	0.185	0.226	0.278	0.315	0.401
65	0.202	0.260	0.318	0.386	0.439	0.542
66	0.177	0.228	0.279	0.340	0.386	0.482
67	0.151	0.194	0.238	0.292	0.331	0.420
68	0.139	0.179	0.220	0.270	0.306	0.391
69	0.190	0.245	0.299	0.364	0.414	0.513
70	0.140	0.182	0.223	0.274	0.310	0.396

Service Retirement

Public Agency Miscellaneous 2% @ 62

Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.000	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	0.000	0.000
52	0.010	0.013	0.016	0.019	0.022	0.024
53	0.013	0.017	0.020	0.024	0.027	0.031
54	0.021	0.027	0.033	0.039	0.045	0.050
55	0.044	0.056	0.068	0.080	0.092	0.104
56	0.030	0.039	0.047	0.055	0.063	0.072
57	0.036	0.046	0.056	0.066	0.076	0.086
58	0.046	0.059	0.072	0.085	0.097	0.110
59	0.058	0.074	0.089	0.105	0.121	0.137
60	0.062	0.078	0.095	0.112	0.129	0.146
61	0.062	0.079	0.096	0.113	0.129	0.146
62	0.097	0.123	0.150	0.176	0.202	0.229
63	0.089	0.113	0.137	0.162	0.186	0.210
64	0.094	0.120	0.145	0.171	0.197	0.222
65	0.129	0.164	0.199	0.234	0.269	0.304
66	0.105	0.133	0.162	0.190	0.219	0.247
67	0.105	0.133	0.162	0.190	0.219	0.247
68	0.105	0.133	0.162	0.190	0.219	0.247
69	0.105	0.133	0.162	0.190	0.219	0.247
70	0.125	0.160	0.194	0.228	0.262	0.296

Service Retirement

Public Agency Fire ½ @ 55 and 2% @ 55

Age	Rate	Age	Rate
50	0.0159	56	0.1108
51	0.0000	57	0.0000
52	0.0344	58	0.0950
53	0.0199	59	0.0441
54	0.0413	60	1.00000
55	0.0751		

Public Agency Police ½ @ 55 and 2% @ 55

Age	Rate	Age	Rate
50	0.0255	56	0.0692
51	0.0000	57	0.0511
52	0.0164	58	0.0724
53	0.0272	59	0.0704
54	0.0095	60	1.0000
55	0.1667		

Service Retirement

Public Agency Police 2% @ 50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.005	0.005	0.005	0.005	0.017	0.089
51	0.005	0.005	0.005	0.005	0.017	0.087
52	0.018	0.018	0.018	0.018	0.042	0.132
53	0.044	0.044	0.044	0.044	0.090	0.217
54	0.065	0.065	0.065	0.065	0.126	0.283
55	0.086	0.086	0.086	0.086	0.166	0.354
56	0.067	0.067	0.067	0.067	0.130	0.289
57	0.066	0.066	0.066	0.066	0.129	0.288
58	0.066	0.066	0.066	0.066	0.129	0.288
59	0.139	0.139	0.139	0.139	0.176	0.312
60	0.123	0.123	0.123	0.123	0.153	0.278
61	0.110	0.110	0.110	0.110	0.138	0.256
62	0.130	0.130	0.130	0.130	0.162	0.291
63	0.130	0.130	0.130	0.130	0.162	0.291
64	0.130	0.130	0.130	0.130	0.162	0.291
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 2% @ 50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.009	0.009	0.009	0.009	0.013	0.020
51	0.013	0.013	0.013	0.013	0.020	0.029
52	0.018	0.018	0.018	0.018	0.028	0.042
53	0.052	0.052	0.052	0.052	0.079	0.119
54	0.067	0.067	0.067	0.067	0.103	0.154
55	0.089	0.089	0.089	0.089	0.136	0.204
56	0.083	0.083	0.083	0.083	0.127	0.190
57	0.082	0.082	0.082	0.082	0.126	0.189
58	0.088	0.088	0.088	0.088	0.136	0.204
59	0.074	0.074	0.074	0.074	0.113	0.170
60	0.100	0.100	0.100	0.100	0.154	0.230
61	0.072	0.072	0.072	0.072	0.110	0.165
62	0.099	0.099	0.099	0.099	0.152	0.228
63	0.114	0.114	0.114	0.114	0.175	0.262
64	0.114	0.114	0.114	0.114	0.175	0.262
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 3% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.004	0.004	0.004	0.004	0.015	0.086
51	0.014	0.014	0.014	0.014	0.034	0.114
52	0.026	0.026	0.026	0.026	0.060	0.154
53	0.038	0.038	0.038	0.038	0.083	0.188
54	0.071	0.071	0.071	0.071	0.151	0.292
55	0.061	0.061	0.061	0.061	0.131	0.261
56	0.072	0.072	0.072	0.072	0.153	0.295
57	0.065	0.065	0.065	0.065	0.140	0.273
58	0.066	0.066	0.066	0.066	0.142	0.277
59	0.118	0.118	0.118	0.118	0.247	0.437
60	0.065	0.065	0.065	0.065	0.138	0.272
61	0.084	0.084	0.084	0.084	0.178	0.332
62	0.108	0.108	0.108	0.108	0.226	0.405
63	0.084	0.084	0.084	0.084	0.178	0.332
64	0.084	0.084	0.084	0.084	0.178	0.332
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 3% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.001	0.001	0.001	0.006	0.016	0.069
51	0.002	0.002	0.002	0.006	0.018	0.071
52	0.012	0.012	0.012	0.021	0.040	0.098
53	0.032	0.032	0.032	0.049	0.085	0.149
54	0.057	0.057	0.057	0.087	0.144	0.217
55	0.073	0.073	0.073	0.109	0.179	0.259
56	0.064	0.064	0.064	0.097	0.161	0.238
57	0.063	0.063	0.063	0.095	0.157	0.233
58	0.065	0.065	0.065	0.099	0.163	0.241
59	0.088	0.088	0.088	0.131	0.213	0.299
60	0.105	0.105	0.105	0.155	0.251	0.344
61	0.118	0.118	0.118	0.175	0.282	0.380
62	0.087	0.087	0.087	0.128	0.210	0.295
63	0.067	0.067	0.067	0.100	0.165	0.243
64	0.067	0.067	0.067	0.100	0.165	0.243
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 3% @ 50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.050	0.050	0.050	0.099	0.240	0.314
51	0.034	0.034	0.034	0.072	0.198	0.260
52	0.033	0.033	0.033	0.071	0.198	0.259
53	0.039	0.039	0.039	0.080	0.212	0.277
54	0.045	0.045	0.045	0.092	0.229	0.300
55	0.052	0.052	0.052	0.105	0.248	0.323
56	0.042	0.042	0.042	0.087	0.221	0.289
57	0.043	0.043	0.043	0.088	0.223	0.292
58	0.054	0.054	0.054	0.109	0.255	0.333
59	0.054	0.054	0.054	0.108	0.253	0.330
60	0.060	0.060	0.060	0.121	0.272	0.355
61	0.048	0.048	0.048	0.098	0.238	0.311
62	0.061	0.061	0.061	0.122	0.274	0.357
63	0.057	0.057	0.057	0.115	0.263	0.343
64	0.069	0.069	0.069	0.137	0.296	0.385
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 3% @ 50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.020	0.020	0.020	0.040	0.130	0.192
51	0.008	0.008	0.008	0.023	0.107	0.164
52	0.023	0.023	0.023	0.043	0.136	0.198
53	0.023	0.023	0.023	0.043	0.135	0.198
54	0.027	0.027	0.027	0.048	0.143	0.207
55	0.043	0.043	0.043	0.070	0.174	0.244
56	0.053	0.053	0.053	0.085	0.196	0.269
57	0.054	0.054	0.054	0.086	0.197	0.271
58	0.052	0.052	0.052	0.084	0.193	0.268
59	0.075	0.075	0.075	0.116	0.239	0.321
60	0.065	0.065	0.065	0.102	0.219	0.298
61	0.076	0.076	0.076	0.117	0.241	0.324
62	0.068	0.068	0.068	0.106	0.224	0.304
63	0.027	0.027	0.027	0.049	0.143	0.208
64	0.094	0.094	0.094	0.143	0.277	0.366
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 2% @ 57

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.011	0.011	0.011	0.011	0.020	0.036
51	0.009	0.009	0.009	0.009	0.016	0.028
52	0.018	0.018	0.018	0.018	0.034	0.060
53	0.037	0.037	0.037	0.037	0.067	0.119
54	0.049	0.049	0.049	0.049	0.089	0.159
55	0.063	0.063	0.063	0.063	0.115	0.205
56	0.045	0.045	0.045	0.045	0.082	0.146
57	0.064	0.064	0.064	0.064	0.117	0.209
58	0.047	0.047	0.047	0.047	0.086	0.154
59	0.105	0.105	0.105	0.105	0.130	0.191
60	0.105	0.105	0.105	0.105	0.129	0.188
61	0.105	0.105	0.105	0.105	0.129	0.188
62	0.105	0.105	0.105	0.105	0.129	0.188
63	0.105	0.105	0.105	0.105	0.129	0.188
64	0.105	0.105	0.105	0.105	0.129	0.188
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 2% @ 57

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.005	0.005	0.005	0.005	0.008	0.012
51	0.006	0.006	0.006	0.006	0.009	0.013
52	0.012	0.012	0.012	0.012	0.019	0.028
53	0.033	0.033	0.033	0.033	0.050	0.075
54	0.045	0.045	0.045	0.045	0.069	0.103
55	0.061	0.061	0.061	0.061	0.094	0.140
56	0.055	0.055	0.055	0.055	0.084	0.126
57	0.081	0.081	0.081	0.081	0.125	0.187
58	0.059	0.059	0.059	0.059	0.091	0.137
59	0.055	0.055	0.055	0.055	0.084	0.126
60	0.085	0.085	0.085	0.085	0.131	0.196
61	0.085	0.085	0.085	0.085	0.131	0.196
62	0.085	0.085	0.085	0.085	0.131	0.196
63	0.085	0.085	0.085	0.085	0.131	0.196
64	0.085	0.085	0.085	0.085	0.131	0.196
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 2.5% @ 57

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.014	0.014	0.014	0.014	0.025	0.045
51	0.012	0.012	0.012	0.012	0.021	0.038
52	0.025	0.025	0.025	0.025	0.046	0.081
53	0.047	0.047	0.047	0.047	0.086	0.154
54	0.063	0.063	0.063	0.063	0.115	0.205
55	0.076	0.076	0.076	0.076	0.140	0.249
56	0.054	0.054	0.054	0.054	0.099	0.177
57	0.071	0.071	0.071	0.071	0.130	0.232
58	0.057	0.057	0.057	0.057	0.103	0.184
59	0.126	0.126	0.126	0.126	0.156	0.229
60	0.126	0.126	0.126	0.126	0.155	0.226
61	0.126	0.126	0.126	0.126	0.155	0.226
62	0.126	0.126	0.126	0.126	0.155	0.226
63	0.126	0.126	0.126	0.126	0.155	0.226
64	0.126	0.126	0.126	0.126	0.155	0.226
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 2.5% @ 57

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.007	0.007	0.007	0.007	0.010	0.015
51	0.008	0.008	0.008	0.008	0.012	0.018
52	0.016	0.016	0.016	0.016	0.025	0.038
53	0.042	0.042	0.042	0.042	0.064	0.096
54	0.057	0.057	0.057	0.057	0.088	0.132
55	0.074	0.074	0.074	0.074	0.114	0.170
56	0.066	0.066	0.066	0.066	0.102	0.153
57	0.090	0.090	0.090	0.090	0.139	0.208
58	0.071	0.071	0.071	0.071	0.110	0.164
59	0.066	0.066	0.066	0.066	0.101	0.151
60	0.102	0.102	0.102	0.102	0.157	0.235
61	0.102	0.102	0.102	0.102	0.157	0.236
62	0.102	0.102	0.102	0.102	0.157	0.236
63	0.102	0.102	0.102	0.102	0.157	0.236
64	0.102	0.102	0.102	0.102	0.157	0.236
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 2.7% @ 57

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.0138	0.0138	0.0138	0.0138	0.0253	0.0451
51	0.0123	0.0123	0.0123	0.0123	0.0226	0.0402
52	0.0249	0.0249	0.0249	0.0249	0.0456	0.0812
53	0.0497	0.0497	0.0497	0.0497	0.0909	0.1621
54	0.0662	0.0662	0.0662	0.0662	0.1211	0.2160
55	0.0854	0.0854	0.0854	0.0854	0.1563	0.2785
56	0.0606	0.0606	0.0606	0.0606	0.1108	0.1975
57	0.0711	0.0711	0.0711	0.0711	0.1300	0.2318
58	0.0628	0.0628	0.0628	0.0628	0.1149	0.2049
59	0.1396	0.1396	0.1396	0.1396	0.1735	0.2544
60	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
61	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
62	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
63	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
64	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
65	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 2.7% @ 57

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.0065	0.0065	0.0065	0.0065	0.0101	0.0151
51	0.0081	0.0081	0.0081	0.0081	0.0125	0.0187
52	0.0164	0.0164	0.0164	0.0164	0.0254	0.0380
53	0.0442	0.0442	0.0442	0.0442	0.0680	0.1018
54	0.0606	0.0606	0.0606	0.0606	0.0934	0.1397
55	0.0825	0.0825	0.0825	0.0825	0.1269	0.1900
56	0.0740	0.0740	0.0740	0.0740	0.1140	0.1706
57	0.0901	0.0901	0.0901	0.0901	0.1387	0.2077
58	0.0790	0.0790	0.0790	0.0790	0.1217	0.1821
59	0.0729	0.0729	0.0729	0.0729	0.1123	0.1681
60	0.1135	0.1135	0.1135	0.1135	0.1747	0.2615
61	0.1136	0.1136	0.1136	0.1136	0.1749	0.2618
62	0.1136	0.1136	0.1136	0.1136	0.1749	0.2618
63	0.1136	0.1136	0.1136	0.1136	0.1749	0.2618
64	0.1136	0.1136	0.1136	0.1136	0.1749	0.2618
65	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Service Retirement

Schools 2% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.005	0.009	0.013	0.015	0.016	0.018
51	0.005	0.010	0.014	0.017	0.019	0.021
52	0.006	0.012	0.017	0.020	0.022	0.025
53	0.007	0.014	0.019	0.023	0.026	0.029
54	0.012	0.024	0.033	0.039	0.044	0.049
55	0.024	0.048	0.067	0.079	0.088	0.099
56	0.020	0.039	0.055	0.065	0.072	0.081
57	0.021	0.042	0.059	0.070	0.078	0.087
58	0.025	0.050	0.070	0.083	0.092	0.103
59	0.029	0.057	0.080	0.095	0.105	0.118
60	0.037	0.073	0.102	0.121	0.134	0.150
61	0.046	0.090	0.126	0.149	0.166	0.186
62	0.076	0.151	0.212	0.250	0.278	0.311
63	0.069	0.136	0.191	0.225	0.251	0.281
64	0.067	0.133	0.185	0.219	0.244	0.273
65	0.091	0.180	0.251	0.297	0.331	0.370
66	0.072	0.143	0.200	0.237	0.264	0.295
67	0.067	0.132	0.185	0.218	0.243	0.272
68	0.060	0.118	0.165	0.195	0.217	0.243
69	0.067	0.133	0.187	0.220	0.246	0.275
70	0.066	0.131	0.183	0.216	0.241	0.270

Miscellaneous

Superfunded Status

Prior to enactment of the Public Employees' Pension Reform Act (PEPRA) that became effective January 1, 2013, a plan in superfunded status (actuarial value of assets exceeding present value of benefits) would normally pay a zero employer contribution rate while also being permitted to use its superfunded assets to pay its employees' normal member contributions.

However, Section 7522.52(a) of PEPRA states, "In any fiscal year a public employer's contribution to a defined benefit plan, in combination with employee contributions to that defined benefit plan, shall not be less than the total normal cost rate…" This means that not only must employers pay their employer normal cost regardless of plan surplus, but also, employers may no longer use superfunded assets to pay employee normal member contributions.

Internal Revenue Code Section 415

The limitations on benefits imposed by Internal Revenue Code Section 415 are taken into account in this valuation. Each year the impact of any changes in this limitation since the prior valuation is included and amortized as part of the actuarial gain or loss base. This results in lower contributions for those employers contributing to the Replacement Benefit Fund and protects CalPERS from prefunding expected benefits in excess of limits imposed by federal tax law.

Internal Revenue Code Section 401(a)(17)

The limitations on compensation imposed by Internal Revenue Code Section 401(a)(17) are taken into account in this valuation. Each year, the impact of any changes in the compensation limitation since the prior valuation is included and amortized as part of the actuarial gain or loss base.

PEPRA Assumptions

The Public Employees' Pension Reform Act of 2013 (PEPRA) mandated new benefit formulas and new member contributions for new members (as defined by PEPRA) hired after January 1, 2013. For non-pooled plans, these new members were first reflected in the June 30, 2013 non-pooled plan valuations. New members in pooled plans were first reflected in the new Miscellaneous and Safety risk pools created by the CalPERS Board in November 2012 in response to the passage of PEPRA, also beginning with the June 30, 2013 valuation. Assumptions for PEPRA members are disclosed in Appendix A tables.

APPENDIX B

PRINCIPAL PLAN PROVISIONS

The following is a description of the principal plan provisions used in calculating costs and liabilities. We have indicated whether a plan provision is standard or optional. Standard benefits are applicable to all members while optional benefits vary among employers. Optional benefits that apply to a single period of time, such as Golden Handshakes, have not been included. Many of the statements in this summary are general in nature, and are intended to provide an easily understood summary of the complex Public Employees' Retirement Law. The law itself governs in all situations. For a full listing of all optional benefits refer to the PERS-CON-40 available on CalPERS website by choosing Employer Information > Retirement Benefit Programs & Contracting Services > Retirement Benefits Program > Contract Information > Optional Benefits

Service Retirement

Eligibility

A classic CalPERS member or PEPRA Safety member becomes eligible for Service Retirement upon attainment of age 50 with at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). For employees hired into a plan with the 1.5 percent at 65 formula, eligibility for service retirement is age 55 with at least 5 years of service. PEPRA miscellaneous members become eligible for Service Retirement upon attainment of age 52 with at least 5 years of service.

Benefit

The Service Retirement benefit is a monthly allowance equal to the product of the *benefit factor*, *years of service*, and *final compensation.*

- The *benefit factor* depends on the benefit formula specified in your agency's contract. The table below shows the factors for each of the available formulas. Factors vary by the member's age at retirement. Listed are the factors for retirement at whole year ages:

Miscellaneous Plan Formulas

Retirement Age	1.5% at 65	2% at 60	2% at 55	2.5% at 55	2.7% at 55	3% at 60	PEPRA 2% at 62
50	0.5000%	1.092%	1.426%	2.000%	2.000%	2.000%	N/A
51	0.5667%	1.156%	1.522%	2.100%	2.140%	2.100%	N/A
52	0.6334%	1.224%	1.628%	2.200%	2.280%	2.200%	1.000%
53	0.7000%	1.296%	1.742%	2.300%	2.420%	2.300%	1.100%
54	0.7667%	1.376%	1.866%	2.400%	2.560%	2.400%	1.200%
55	0.8334%	1.460%	2.000%	2.500%	2.700%	2.500%	1.300%
56	0.9000%	1.552%	2.052%	2.500%	2.700%	2.600%	1.400%
57	0.9667%	1.650%	2.104%	2.500%	2.700%	2.700%	1.500%
58	1.0334%	1.758%	2.156%	2.500%	2.700%	2.800%	1.600%
59	1.1000%	1.874%	2.210%	2.500%	2.700%	2.900%	1.700%
60	1.1667%	2.000%	2.262%	2.500%	2.700%	3.000%	1.800%
61	1.2334%	2.134%	2.314%	2.500%	2.700%	3.000%	1.900%
62	1.3000%	2.272%	2.366%	2.500%	2.700%	3.000%	2.000%
63	1.3667%	2.418%	2.418%	2.500%	2.700%	3.000%	2.100%
64	1.4334%	2.418%	2.418%	2.500%	2.700%	3.000%	2.200%
65	1.5000%	2.418%	2.418%	2.500%	2.700%	3.000%	2.300%
66	1.5000%	2.418%	2.418%	2.500%	2.700%	3.000%	2.400%
67 & up	1.5000%	2.418%	2.418%	2.500%	2.700%	3.000%	2.500%

Safety Plan Formulas

Retirement Age	½ at 55 *	2% at 55	2% at 50	3% at 55	3% at 50
50	1.783%	1.426%	2.000%	2.400%	3.000%
51	1.903%	1.522%	2.140%	2.520%	3.000%
52	2.035%	1.628%	2.280%	2.640%	3.000%
53	2.178%	1.742%	2.420%	2.760%	3.000%
54	2.333%	1.866%	2.560%	2.880%	3.000%
55 & Up	2.500%	2.000%	2.700%	3.000%	3.000%

* For this formula, the benefit factor also varies by entry age. The factors shown are for members with an entry age of 35 or greater. If entry age is less than 35, then the age 55 benefit factor is 50 percent divided by the difference between age 55 and entry age. The benefit factor for ages prior to age 55 is the same proportion of the age 55 benefit factor as in the above table.

PEPRA Safety Plan Formulas

Retirement Age	2% at 57	2.5% at 57	2.7% at 57
50	1.426%	2.000%	2.000%
51	1.508%	2.071%	2.100%
52	1.590%	2.143%	2.200%
53	1.672%	2.214%	2.300%
54	1.754%	2.286%	2.400%
55	1.836%	2.357%	2.500%
56	1.918%	2.429%	2.600%
57 & Up	2.000%	2.500%	2.700%

- The *years of service* is the amount credited by CalPERS to a member while he or she is employed in this group (or for other periods that are recognized under the employer's contract with CalPERS). For a member who has earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance. An agency may contract for an optional benefit where any unused sick leave accumulated at the time of retirement will be converted to credited service at a rate of 0.004 years of service for each day of sick leave.

- The *final compensation* is the monthly average of the member's highest 36 or 12 consecutive months' full-time equivalent monthly pay (no matter which CalPERS employer paid this compensation). The standard benefit is 36 months. Employers had the option of providing a final compensation equal to the highest 12 consecutive months for classic plans only. Final compensation must be defined by the highest 36 consecutive months' pay under the 1.5% at 65 formula. PEPRA members have a cap on the annual salary that can be used to calculate final compensation for all new members based on the Social Security Contribution and Benefit Base. For employees that participate in Social Security this cap is $115,064 for 2014 and for those employees that do not participate in social security the cap for 2014 is $138,077, the equivalent of 120 percent of the 2013 Contribution and Benefit Base. Adjustments to the caps are permitted annually based on changes to the CPI for All Urban Consumers.

- Employees must be covered by Social Security with the 1.5% at 65 formula. Social Security is optional for all other benefit formulas. For employees covered by Social Security, the Modified formula is the standard benefit. Under this type of formula, the final compensation is offset by $133.33 (or by one third if the final compensation is less than $400). Employers may contract for the Full benefit with Social Security that will eliminate the offset applicable to the final compensation. For employees not covered by Social Security, the Full benefit is paid with no offsets. Auxiliary organizations of the CSUC system may elect reduced contribution rates, in which case the offset is $317 if members are not covered by Social Security or $513 if members are covered by Social Security.

- The Miscellaneous Service Retirement benefit is not capped. The Safety Service Retirement benefit is capped at 90 percent of final compensation.

Vested Deferred Retirement

Eligibility for Deferred Status

A CalPERS member becomes eligible for a deferred vested retirement benefit when he or she leaves employment, keeps his or her contribution account balance on deposit with CalPERS, **and** has earned at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements).

Eligibility to Start Receiving Benefits

The CalPERS classic members and Safety PEPRA members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 50 (55 for employees hired into a 1.5% @ 65 plan). PEPRA Miscellaneous members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 52.

Benefit

The vested deferred retirement benefit is the same as the Service Retirement benefit, where the benefit factor is based on the member's age at allowance commencement. For members who have earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance.

Non-Industrial (Non-Job Related) Disability Retirement

Eligibility

A CalPERS member is eligible for Non-Industrial Disability Retirement if he or she becomes *disabled* and has at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). There is no special age requirement. *Disabled* means the member is unable to perform his or her job because of an illness or injury, which is expected to be permanent or to last indefinitely. The illness or injury does not have to be job related. A CalPERS member must be actively employed by any CalPERS employer at the time of disability in order to be eligible for this benefit.

Standard Benefit

The standard Non-Industrial Disability Retirement benefit is a monthly allowance equal to 1.8 percent of final compensation, multiplied by *service*, which is determined as follows:

- *Service* is CalPERS credited service, for members with less than 10 years of service or greater than 18.518 years of service; or

- *Service* is CalPERS credited service plus the additional number of years that the member would have worked until age 60, for members with at least 10 years but not more than 18.518 years of service. The maximum benefit in this case is 33 1/3 percent of Final Compensation.

Improved Benefit

Employers have the option of providing the improved Non-Industrial Disability Retirement benefit. This benefit provides a monthly allowance equal to 30 percent of final compensation for the first 5 years of service, plus 1 percent for each additional year of service to a maximum of 50 percent of final compensation.

Members who are eligible for a larger service retirement benefit may choose to receive that benefit in lieu of a disability benefit. Members eligible to retire, and who have attained the normal retirement age determined by their service retirement benefit formula, will receive the same dollar amount for disability retirement as that payable for service retirement. For members who have earned service with multiple CalPERS employers, the benefit attributed to each employer is the total disability allowance multiplied by the ratio of service with a particular employer to the total CalPERS service.

Industrial (Job Related) Disability Retirement

All safety members have this benefit. For miscellaneous members, employers have the option of providing this benefit. An employer may choose to provide the Increased benefit option or the Improved benefit option.

Eligibility

An employee is eligible for Industrial Disability Retirement if he or she becomes disabled while working, where disabled means the member is unable to perform the duties of the job because of a work-related illness or injury, which is expected to be permanent or to last indefinitely. A CalPERS member who has left active employment within this group is not eligible for this benefit, except to the extent described below.

Standard Benefit

The standard Industrial Disability Retirement benefit is a monthly allowance equal to 50 percent of final compensation.

Increased Benefit (75 percent of Final Compensation)

The increased Industrial Disability Retirement benefit is a monthly allowance equal to 75 percent final compensation for total disability.

Improved Benefit (50 percent to 90 percent of Final Compensation)

The improved Industrial Disability Retirement benefit is a monthly allowance equal to the Workman's Compensation Appeals Board permanent disability rate percentage (if 50 percent or greater, with a maximum of 90 percent) times the final compensation.

For a CalPERS member not actively employed in this group who became disabled while employed by some other CalPERS employer, the benefit is a return of accumulated member contributions with respect to employment in this group. With the standard or increased benefit, a member may also choose to receive the annuitization of the accumulated member contributions.

If a member is eligible for Service Retirement and if the Service Retirement benefit is more than the Industrial Disability Retirement benefit, the member may choose to receive the larger benefit.

Post-Retirement Death Benefit

Standard Lump Sum Payment

Upon the death of a retiree, a one-time lump sum payment of $500 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Improved Lump Sum Payment

Employers have the option of providing an improved lump sum death benefit of $600, $2,000, $3,000, $4,000 or $5,000.

Form of Payment for Retirement Allowance

Standard Form of Payment

Generally, the retirement allowance is paid to the retiree in the form of an annuity for as long as he or she is alive. The retiree may choose to provide for a portion of his or her allowance to be paid to any designated beneficiary after the retiree's death. CalPERS provides for a variety of such benefit options, which the retiree pays for by taking a reduction in his or her retirement allowance. Such reduction takes into account the amount to be provided to the beneficiary and the probable duration of payments (based on the ages of the member and beneficiary) made subsequent to the member's death.

Improved Form of Payment (Post Retirement Survivor Allowance)

Employers have the option to contract for the post retirement survivor allowance.

For retirement allowances with respect to service subject to the modified formula, 25 percent of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, without a reduction in the retiree's allowance. For retirement allowances with respect to service subject to the full or supplemental formula, 50 percent of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, without a reduction in the retiree's allowance. This additional benefit is often referred to as post retirement survivor allowance (PRSA) or simply as survivor continuance.

In other words, 25 percent or 50 percent of the allowance, the continuance portion, is paid to the retiree for as long as he or she is alive, and that same amount is continued to the retiree's spouse (or if no eligible spouse, to unmarried children until they attain age 18; or, if no eligible children, to a qualifying dependent parent) for the rest of his or her lifetime. This benefit will not be discontinued in the event the spouse remarries.

The remaining 75 percent or 50 percent of the retirement allowance, which may be referred to as the option portion of the benefit, is paid to the retiree as an annuity for as long as he or she is alive. Or, the retiree may choose to provide for some of this option portion to be paid to any designated beneficiary after the retiree's death. Benefit options applicable to the option portion are the same as those offered with the standard form. The reduction is calculated in the same manner but is applied only to the option portion.

Pre-Retirement Death Benefits

Basic Death Benefit

This is a standard benefit.

Eligibility

An employee's beneficiary (or estate) may receive the Basic Death benefit if the member dies while actively employed. A CalPERS member must be actively employed with the CalPERS employer providing this benefit to be eligible for this benefit. A member's survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this Basic Death benefit.

Benefit

The Basic Death Benefit is a lump sum in the amount of the member's accumulated contributions, where interest is currently credited at 7.5 percent per year, plus a lump sum in the amount of one month's salary for each completed year of current service, up to a maximum of six months' salary. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

1957 Survivor Benefit

This is a standard benefit.

Eligibility

An employee's *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member must be actively employed with the CalPERS employer providing this benefit to be eligible for this benefit. An eligible survivor means the surviving spouse to whom the member was married at least one year before death or, if there is no eligible spouse, to the member's unmarried children under age 18. A member's survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this 1957 Survivor benefit.

Benefit

The 1957 Survivor benefit is a monthly allowance equal to one-half of the unmodified Service Retirement benefit that the member would have been entitled to receive if the member had retired on the date of his or her death. If the benefit is payable to the spouse, the benefit is discontinued upon the death of the spouse. If the benefit is payable to a dependent child, the benefit will be discontinued upon death or attainment of age 18, unless the child is disabled. The total amount paid will be at least equal to the Basic Death benefit.

Optional Settlement 2W Death Benefit

This is an optional benefit.

Eligibility

An employee's *eligible survivor* may receive the Optional Settlement 2W Death benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death. A member's survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this Optional Settlement 2W Death benefit.

Benefit

The Optional Settlement 2W Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) The allowance is payable as long as the surviving spouse lives, at which time it is continued to any unmarried children under age 18, if applicable. The total amount paid will be at least equal to the Basic Death Benefit.

Special Death Benefit

This is a standard benefit for safety members. An employer may elect to provide this benefit for miscellaneous members.

Eligibility

An employee's *eligible survivor(s)* may receive the Special Death benefit if the member dies while actively employed and the death is job-related. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried children under age 22. An eligible survivor who chooses to receive this benefit will not receive any other death benefit.

Benefit

The Special Death benefit is a monthly allowance equal to 50 percent of final compensation, and will be increased whenever the compensation paid to active employees is increased but ceasing to increase when the member would have attained age 50. The allowance is payable to the surviving spouse until death at which time the allowance is continued to any unmarried children under age 22. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

If the member's death is the result of an accident or injury caused by external violence or physical force incurred in the performance of the member's duty, and there are *eligible* surviving children (*eligible* means unmarried children under age 22) in addition to an eligible spouse, then an **additional monthly allowance** is paid equal to the following:

- if 1 eligible child: 12.5 percent of final compensation
- if 2 eligible children: 20.0 percent of final compensation
- if 3 or more eligible children: 25.0 percent of final compensation

Alternate Death Benefit for Local Fire Members

This is an optional benefit available only to local fire members.

Eligibility

An employee's *eligible survivor(s)* may receive the Alternate Death benefit in lieu of the Basic Death Benefit or the 1957 Survivor Benefit if the member dies while actively employed and has at least 20 years of total CalPERS service. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried children under age 18.

Benefit

The Alternate Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) If the member has not yet attained age 50, the benefit is equal to that which would be payable if the member had retired at age 50, based on service credited at the time of death. The allowance is payable as long as the surviving spouse lives, at which time it is continued to any unmarried children under age 18, if applicable. The total amount paid will be at least equal to the Basic Death Benefit.

Cost-of-Living Adjustments (COLA)

Standard Benefit

Retirement and survivor allowances are adjusted each year in May for cost of living, beginning the second calendar year after the year of retirement. The standard cost-of-living adjustment (COLA) is 2 percent. Annual adjustments are calculated by first determining the lesser of 1) 2 percent compounded from the end of the year of retirement or 2) actual rate of inflation. The resulting increase is divided by the total increase provided in prior years. For any particular year, the COLA adjustment may be less than 2 percent (when the rate of inflation is low), may be greater than the rate of inflation (when the rate of inflation is low after several years of high inflation) or may even be greater than 2 percent (when inflation is high after several years of low inflation).

Improved Benefit

Employers have the option of providing a COLA of 3 percent, 4 percent, or 5 percent, determined in the same manner as described above for the standard 2 percent COLA. An improved COLA is not available with the 1.5% at 65 formula.

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual’s allowance at 80 percent of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan.

Employee Contributions

Each employee contributes toward his or her retirement based upon the retirement formula. The standard employee contribution is as described below.

The percent contributed below the monthly compensation breakpoint is 0 percent.
The monthly compensation breakpoint is $0 for full and supplemental formula members and $133.33 for employees covered by the modified formula.
The percent contributed above the monthly compensation breakpoint depends upon the benefit formula, as shown in the table below.

Benefit Formula	Percent Contributed above the Breakpoint
Miscellaneous, 1.5% at 65	2%
Miscellaneous, 2% at 60	7%
Miscellaneous, 2% at 55	7%
Miscellaneous, 2.5% at 55	8%
Miscellaneous, 2.7% at 55	8%
Miscellaneous, 3% at 60	8%
Miscellaneous, 2% at 62	50% of the Total Normal Cost
Safety, 1/2 at 55	Varies by entry age
Safety, 2% at 55	7%
Safety, 2% at 50	9%
Safety, 3% at 55	9%
Safety, 3% at 50	9%
Safety, 2% at 57	50% of the Total Normal Cost
Safety, 2.5% at 57	50% of the Total Normal Cost
Safety, 2.7% at 57	50% of the Total Normal Cost

The employer may choose to "pick-up" these contributions for the employees (Employer Paid Member Contributions or EPMC). EPMC is prohibited for new PEPRA members.

An employer may also include Employee Cost Sharing in the contract, where employees agree to share the cost of the employer contribution. These contributions are paid in addition to the member contribution.

Auxiliary organizations of the CSUC system may elect reduced contribution rates, in which case the offset is $317 and the contribution rate is 6 percent if members are not covered by Social Security. If members are covered by Social Security, the offset is $513 and the contribution rate is 5 percent.

Refund of Employee Contributions

If the member's service with the employer ends, and if the member does not satisfy the eligibility conditions for any of the retirement benefits above, the member may elect to receive a refund of his or her employee contributions, which are credited annually with 6 percent interest.

1959 Survivor Benefit

This is a pre-retirement death benefit available only to members not covered by Social Security. Any agency joining CalPERS subsequent to 1993 was required to provide this benefit if the members were not covered by Social Security. The benefit is optional for agencies joining CalPERS prior to 1994. Levels 1, 2 and 3 are now closed. Any new agency or any agency wishing to add this benefit or increase the current level must choose the 4^{th} or Indexed Level.

This benefit is not included in the results presented in this valuation. More information on this benefit is available on the CalPERS website at www.calpers.ca.gov.

APPENDIX C

PARTICIPANT DATA

- **SUMMARY OF VALUATION DATA**
- **ACTIVE MEMBERS**
- **TRANSFERRED AND TERMINATED MEMBERS**
- **RETIRED MEMBERS AND BENEFICIARIES**

Summary of Valuation Data

	June 30, 2013	June 30, 2014
1. **Active Members**		
a) Counts	2,435	2,450
b) Average Attained Age	45.74	45.75
c) Average Entry Age to Rate Plan	33.23	33.14
d) Average Years of Service	12.51	12.61
e) Average Annual Covered Pay	$ 62,213	$ 62,393
f) Annual Covered Payroll	151,487,681	152,863,321
g) Projected Annual Payroll for Contribution Year	165,534,679	167,037,878
h) Present Value of Future Payroll	1,198,423,944	1,225,515,563
2. **Transferred Members**		
a) Counts	2,283	2,305
b) Average Attained Age	43.86	44.30
c) Average Years of Service	2.09	2.12
d) Average Annual Covered Pay	$ 80,897	$ 83,489
3. **Terminated Members**		
a) Counts	1,809	1,770
b) Average Attained Age	42.18	42.54
c) Average Years of Service	2.38	2.31
d) Average Annual Covered Pay	$ 39,627	$ 38,319
4. **Retired Members and Beneficiaries**		
a) Counts	1,768	1,928
b) Average Attained Age	63.36	63.65
c) Average Annual Benefits	$ 15,566	$ 16,005
5. **Active to Retired Ratio** [(1a) / (4a)]	1.38	1.27

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Average Annual Benefits represents benefit amounts payable by this plan only. Some members may have service with another agency and would therefore have a larger total benefit than would be included as part of the average shown here.

Active Members

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Distribution of Active Members by Age and Service

	Years of Service at Valuation Date						
Attained Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-25**	**25+**	**Total**
15-24	74	0	0	0	0	0	74
25-29	158	32	3	0	0	0	193
30-34	95	102	28	3	0	0	228
35-39	72	96	85	19	1	0	273
40-44	53	106	93	48	16	1	317
45-49	48	83	99	63	45	27	365
50-54	44	76	89	60	65	114	448
55-59	17	61	70	52	42	94	336
60-64	9	31	33	20	26	45	164
65 and over	8	17	7	8	7	5	52
All Ages	578	604	507	273	202	286	2,450

Distribution of Average Annual Salaries by Age and Service

	Years of Service at Valuation Date						
Attained Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-25**	**25+**	**Average**
15-24	$22,244	$0	$0	$0	$0	$0	$22,244
25-29	27,927	46,640	62,634	0	0	0	31,569
30-34	43,536	57,621	62,116	60,413	0	0	52,341
35-39	54,383	64,552	67,572	67,658	91,749	0	63,126
40-44	48,264	66,142	71,193	70,212	66,467	46,818	65,206
45-49	57,024	66,424	70,490	74,316	75,943	69,710	69,069
50-54	50,993	69,412	71,071	71,849	75,740	74,353	70,434
55-59	49,965	64,970	68,039	71,245	75,092	77,554	70,607
60-64	66,047	59,385	73,349	66,898	77,353	72,017	69,791
65 and over	30,595	69,919	79,028	50,973	85,345	72,058	64,463
All Ages	$40,376	$63,508	$69,689	$70,624	$75,536	$74,463	$62,393

Transferred and Terminated Members

Distribution of Transfers to Other CalPERS Plans by Age and Service

Years of Service at Valuation Date

Attained Age	0-4	5-9	10-14	15-19	20-25	25+	Total	Average Salary
15-24	3	0	0	0	0	0	3	$31,766
25-29	91	3	0	0	0	0	94	59,522
30-34	311	15	2	0	0	0	328	77,982
35-39	367	19	2	1	0	0	389	86,108
40-44	410	26	6	5	0	0	447	87,368
45-49	366	30	13	8	3	0	420	92,067
50-54	238	34	22	11	3	1	309	85,734
55-59	139	27	13	6	3	0	188	78,751
60-64	76	16	4	2	1	0	99	66,482
65 and over	22	4	1	0	1	0	28	74,137
All Ages	2023	174	63	33	11	1	2,305	83,489

Distribution of Terminated Participants with Funds on Deposit by Age and Service

Years of Service at Valuation Date

Attained Age	0-4	5-9	10-14	15-19	20-25	25+	Total	Average Salary
15-24	31	0	0	0	0	0	31	$24,860
25-29	184	4	0	0	0	0	188	30,205
30-34	285	12	3	0	0	0	300	33,153
35-39	255	21	7	1	0	0	284	38,022
40-44	234	33	7	1	0	0	275	41,343
45-49	178	29	10	6	1	0	224	42,877
50-54	146	41	14	10	1	3	215	41,655
55-59	101	26	9	5	1	0	142	47,273
60-64	53	10	1	3	0	0	67	39,715
65 and over	40	2	2	0	0	0	44	30,195
All Ages	1507	178	53	26	3	3	1,770	38,319

Retired Members and Beneficiaries

Distribution of Retirees and Beneficiaries by Age and Retirement Type*

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	0	0	0	0	4	4
30-34	0	0	2	0	0	1	3
35-39	0	2	1	0	0	1	4
40-44	0	4	15	0	0	3	22
45-49	0	3	24	1	3	1	32
50-54	113	20	55	1	1	8	198
55-59	288	19	56	2	1	10	376
60-64	401	23	35	3	0	15	477
65-69	360	14	33	1	0	15	423
70-74	163	7	10	1	0	19	200
75-79	102	2	5	1	0	13	123
80-84	31	2	1	0	0	6	40
85 and Over	16	0	2	0	0	7	25
All Ages	1474	96	239	10	5	103	1,927

Distribution of Average Annual Amounts for Retirees and Beneficiaries by Age and Retirement Type*

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 30	$0	$0	$0	$0	$0	$4,435	$4,435
30-34	0	0	146	0	0	1,051	448
35-39	0	8,242	193	0	0	818	4,374
40-44	0	6,586	4,682	0	0	8,392	5,534
45-49	0	11,563	6,163	10,468	59	20,560	6,682
50-54	7,031	11,760	7,711	9,364	117	8,065	7,716
55-59	16,514	8,505	13,174	5,721	27	8,894	15,308
60-64	19,539	11,825	19,640	25,563	0	7,796	18,843
65-69	20,701	12,319	22,944	2,732	0	14,816	20,347
70-74	15,150	15,925	25,411	15,810	0	23,118	16,450
75-79	13,990	8,631	21,700	16,817	0	14,675	14,312
80-84	9,041	8,404	20,031	0	0	7,322	9,026
85 and Over	6,530	0	16,795	0	0	5,269	6,998
All Ages	$17,042	$11,086	$13,562	$14,332	$64	$12,319	$16,003

Retired Members and Beneficiaries (continued)

Distribution of Retirees and Beneficiaries by Years Retired and Retirement Type*

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	731	24	51	3	1	46	856
5-9	453	21	45	3	1	29	552
10-14	195	30	54	4	1	13	297
15-19	68	15	37	0	0	7	127
20-24	24	5	35	0	1	6	71
25-29	2	1	17	0	0	2	22
30 and Over	1	0	0	0	1	0	2
All Years	1474	96	239	10	5	103	1,927

Distribution of Average Annual Amounts for Retirees and Beneficiaries by Years Retired and Retirement Type*

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 5 Yrs	$18,626	$16,500	$12,665	$17,436	$64	$16,926	$18,094
5-9	18,065	9,774	13,740	12,796	65	9,342	16,877
10-14	12,350	8,695	12,612	13,157	49	8,165	11,815
15-19	11,208	9,463	11,495	0	0	6,372	10,819
20-24	5,662	11,225	18,167	0	117	7,370	12,284
25-29	5,474	4,108	13,817	0	0	12,169	12,467
30 and Over	3,164	0	0	0	27	0	1,596
All Years	$17,042	$11,086	$13,562	$14,332	$64	$12,319	$16,003

* Counts of members do not include alternate payees receiving benefits while the member is still working. Therefore, the total counts may not match information on page 25 of the report. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

APPENDIX D

DEVELOPMENT OF PEPRA MEMBER CONTRIBUTION RATE

DEVELOPMENT OF PEPRA MEMBER CONTRIBUTION RATE

The table below shows the determination of the Member contribution rates based on 50 percent of the Total Normal Cost for each respective plan on June 30, 2014.

Assembly Bill (AB) 340 created PEPRA that implemented new benefit formulas and a final compensation period as well as new contribution requirements for new employees. In accordance with Section Code 7522.30(b), "new members … shall have an initial contribution rate of at least 50 percent of the normal cost rate." The normal cost for the plan is dependent on the benefit levels, actuarial assumptions and demographics of the plan particularly the entry age into the plan. The PEPRA total normal cost for your plan is calculated assuming the entire active population, including classic members, were subject to the adopted PEPRA formula and applicable compensation limits. Should the total normal cost of your plan change by one percent or more from the original total normal cost established for your plan this change in normal cost shall be equally shared between employer and member.

		Basis for Current Rate		Rates Effective July 1, 2016			
Rate Plan Identifier	**Plan**	**Total Normal Cost**	**Member Rate**	**Total Normal Cost**	**Change**	**Change Needed**	**Member Rate**
26779	Miscellaneous PEPRA	13.400%	6.750%	12.204%	1.196%	Yes	6.000%

APPENDIX E

GLOSSARY OF ACTUARIAL TERMS

Glossary of Actuarial Terms

Accrued Liability *(also called Actuarial Accrued Liability or Entry Age Normal Accrued Liability)*
The total dollars needed as of the valuation date to fund all benefits earned in the past for *current* members.

Actuarial Assumptions
Assumptions made about certain events that will affect pension costs. Assumptions generally can be broken down into two categories: demographic and economic. Demographic assumptions include such things as mortality, disability and retirement rates. Economic assumptions include discount rate, salary growth and inflation.

Actuarial Methods
Procedures employed by actuaries to achieve certain funding goals of a pension plan. Actuarial methods include funding method, setting the length of time to fund the Accrued Liability and determining the Value of Assets.

Actuarial Valuation
The determination, as of a valuation date, of the Normal Cost, Accrued liability, Actuarial Value of Assets and related actuarial present values for a pension plan. These valuations are performed annually or when an employer is contemplating a change to their plan provisions.

Amortization Bases
Separate payment schedules for different portions of the Unfunded Liability. The total Unfunded Liability of a Risk Pool or non-pooled plan can be segregated by "cause," creating "bases" and each such base will be separately amortized and paid for over a specific period of time. However, all bases are amortized using investment and payroll assumptions from the current valuation. This can be likened to a home having a first mortgage of 24 years remaining payments and a second mortgage that has 10 years remaining payments. Each base or each mortgage note has its own terms (payment period, principal, etc.)

Generally, in an actuarial valuation, the separate bases consist of changes in unfunded liability due to contract amendments, actuarial assumption changes, actuarial methodology changes, and/or gains and losses. Payment periods are determined by Board policy and vary based on the cause of the change.

Amortization Period
The number of years required to pay off an Amortization Base.

Classic Member (under PEPRA)
A classic member is a member who joined CalPERS prior to January, 1, 2013 and who is not defined as a new member under PEPRA. (See definition of new member below)

Discount Rate Assumption
The actuarial assumption that was called "investment return" in earlier CalPERS reports or "actuarial interest rate" in Section 20014 of the California Public Employees' Retirement Law (PERL).

Entry Age
The earliest age at which a plan member begins to accrue benefits under a defined benefit pension plan. In most cases, this is the age of the member on their date of hire.

Entry Age Normal Cost Method
An actuarial cost method designed to fund a member's total plan benefit over the course of his or her career. This method is designed to yield a rate expressed as a level percentage of payroll.
(The assumed retirement age less the entry age is the amount of time required to fund a member's total benefit. Generally, the older a member on the date of hire, the greater the entry age normal cost. This is mainly because there is less time to earn investment income to fund the future benefits.)

Fresh Start
A Fresh Start is when multiple amortization bases are collapsed to one base and amortized together over a new funding period.

Funded Status
A measure of how well funded, or how "on track" a plan or risk pool is with respect to assets versus accrued liabilities. A ratio greater than 100% means the plan or risk pool has more assets than liabilities and a ratio less than 100% means liabilities are greater than assets.

GASB 27
Statement No. 27 of the Governmental Accounting Standards Board. The prior accounting standard governing a state or local governmental employer's accounting for pensions.

GASB 68
Statement No. 68 of the Governmental Accounting Standards Board. The accounting standard governing a state or local governmental employer's accounting and financial reporting for pensions. GASB 68 replaces GASB 27 effective the first fiscal year beginning after June 15, 2014.

New Member (under PEPRA)
A new member includes an individual who becomes a member of a public retirement system for the first time on or after January 1, 2013, and who was not a member of another public retirement system prior to that date, and who is not subject to reciprocity with another public retirement system.

Normal Cost
The annual cost of service accrual for the upcoming fiscal year for active employees. The normal cost should be viewed as the long term contribution rate.

Pension Actuary
A business professional that is authorized by the Society of Actuaries, and the American Academy of Actuaries to perform the calculations necessary to properly fund a pension plan.

PEPRA
The California Public Employees' Pension Reform Act of 2013

Prepayment Contribution
A payment made by the employer to reduce or eliminate the year's required employer contribution.

Present Value of Benefits (PVB)
The total dollars needed as of the valuation date to fund all benefits earned in the past or expected to be earned in the future for *current* members.

Rolling Amortization Period
An amortization period that remains the same each year, rather than declining.

Superfunded
A condition existing when a plan's Actuarial Value of Assets exceeds its Present Value of Benefits. Prior to the passage of PEPRA, when this condition existed on a given valuation date for a given plan, employee contributions for the rate year covered by that valuation could be waived.

Unfunded Liability (UAL)
When a plan or pool's Value of Assets is less than its Accrued Liability, the difference is the plan or pool's Unfunded Liability. If the Unfunded Liability is positive, the plan or pool will have to pay contributions exceeding the Normal Cost.

Exhibit F

California Public Employees' Retirement System
Actuarial Office
P.O. Box 942701
Sacramento, CA 94229-2701
TTY: (916) 795-3240
(888) 225-7377 phone • (916) 795-2744 fax
www.calpers.ca.gov

October 2015

SAFETY PLAN OF THE CITY OF SACRAMENTO (CalPERS ID: 7903930500)
Annual Valuation Report as of June 30, 2014

Dear Employer,

As an attachment to this letter, you will find a copy of the June 30, 2014 actuarial valuation report of your pension plan. Your 2014 actuarial valuation report contains important actuarial information about your pension plan at CalPERS. Your CalPERS staff actuary, whose signature appears in the Actuarial Certification Section on page 1, is available to discuss the report with you after November 30, 2015.

Future Contribution Rates

The exhibit below displays the Minimum Employer Contribution Rate for Fiscal Year 2016-17 and a projected contribution rate for 2017-18, before any cost sharing. The projected rate for 2017-18 is based on the most recent information available, including an estimate of the investment return for Fiscal Year 2014-15, namely 2.4 percent. For a projection of employer rates beyond 2017-18, please refer to the "Projected Rates" in the "Risk Analysis" section, which includes rate projections through 2021-22. The 5-year projection of future employer contribution rates supersedes any previous projections we have provided. The Risk Analysis section of your valuation report also contains estimated employer contribution rates in future years under a variety of investment return scenarios.

Fiscal Year	Employer Contribution Rate
2016-17	36.849%
2017-18	39.7% (projected)

Member contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the above rates. **The employer contribution rates in this report do not reflect any cost sharing arrangement you may have with your employees.**

The estimate for 2017-18 also assumes that there are no future contract amendments and no liability gains or losses (such as larger than expected pay increases, more retirements than expected, etc.). This is a very important assumption because these gains and losses do occur and can have a significant impact on your contribution rate. Even for the largest plans, such gains and losses often cause a change in the employer's contribution rate of one or two percent of payroll and may be even larger in some less common instances. These gains and losses cannot be predicted in advance so the projected employer contribution rates are just estimates. Your actual rate for 2017-18 will be provided in next year's report.

Changes since the Prior Year's Valuation

This actuarial valuation includes Board adopted changes to the demographic assumptions based on the most recent experience study report. The most significant of these is the improvement in post-retirement mortality acknowledging the greater life expectancies we are seeing in our membership and expected continued improvements. The actuarial assumptions and methods used in CalPERS public agency valuations are approved by the Board of Administration upon the recommendation of the Chief Actuary. The individual plan actuary whose signature appears in the actuarial certification in the accompanying report does not set plan specific actuarial assumptions.

Besides the above noted changes, there may also be changes specific to your plan such as contract amendments and funding changes.

Further descriptions of general changes are included in the "Highlights and Executive Summary" section and in Appendix A, "Actuarial Methods and Assumptions." The effect of the changes on your rate is included in the "Reconciliation of Required Employer Contributions" Section.

Effective with the 2014 actuarial valuation, Governmental Accounting Standards Board Statement No. 27 financial reporting information is no longer provided in CalPERS annual actuarial valuation reports. GASB 27 has been replaced with GASB 68 for financial statement reporting purposes. CalPERS is providing separate accounting valuation reports on a fee for service basis for our public agency employers. More details on GASB 68 and instructions for ordering your GASB 68 report are available on our website.

Potential Changes to Future Year Valuations

One of CalPERS strategic goals is to improve the long-term pension benefit sustainability of the system through an integrated view of pension assets and liabilities. The Board of Administration has been engaging in discussions on the funding risks faced by the system and possible risk mitigation strategies to better protect our members. Recent Board actions on a new asset allocation, new actuarial assumptions and new smoothing and amortization policies have already lowered risk. However, future contribution rate volatility is expected as CalPERS pension plans continue to mature. Two approaches under consideration are a flexible glide path methodology, a lowering of the discount rate and expected investment volatility following a great investment return and a blended glide path methodology which is similar to the flexible glide path but with check points over time that would trigger additional asset allocation changes and lowering of the discount rate if investment returns did not result in a sufficient reduction in volatility. Either approach requires thoughtful discussion as it involves tradeoffs between short and long-term system impacts and potential future increases in required contributions. Additional information can be found on the CalPERS website with possible Board action on risk mitigation strategy and policy at the November 2015 Board meeting.

We understand that you might have a number of questions about these results. While we are very interested in discussing these results with your agency, in the interest of allowing us to give every public agency their results, we ask that you wait until after November 30 to contact us with actuarial questions. If you have other questions, you may call the Customer Contact Center at (888)-CalPERS or (**888-225-7377**).

Sincerely,

ALAN MILLIGAN
Chief Actuary

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Exhibit F

ACTUARIAL VALUATION

as of June 30, 2014

for the
SAFETY PLAN
of the
CITY OF SACRAMENTO

(CalPERS ID: 7903930500)
(Rate Plan ID: 1210)

REQUIRED CONTRIBUTIONS
FOR FISCAL YEAR
July 1, 2016 – June 30, 2017

TABLE OF CONTENTS

ACTUARIAL CERTIFICATION

To the best of our knowledge, this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the SAFETY PLAN OF THE CITY OF SACRAMENTO. This valuation is based on the member and financial data as of June 30, 2014 provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced. It is our opinion that the valuation has been performed in accordance with generally accepted actuarial principles, in accordance with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for this plan, as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

The undersigned is an actuary for CalPERS, who is a member of the American Academy of Actuaries and the Society of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

MAY SHUANG YU, ASA, MAAA
Senior Pension Actuary, CalPERS

HIGHLIGHTS AND EXECUTIVE SUMMARY

- **INTRODUCTION**
- **PURPOSE OF THE REPORT**
- **REQUIRED EMPLOYER CONTRIBUTION**
- **PLAN'S FUNDED STATUS**
- **COST**
- **CHANGES SINCE THE PRIOR YEAR'S VALUATION**
- **SUBSEQUENT EVENTS**

Introduction

This report presents the results of the June 30, 2014 actuarial valuation of the SAFETY PLAN OF THE CITY OF SACRAMENTO of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the Fiscal Year 2016-17 required employer contribution rates.

This actuarial valuation includes Board adopted changes to the demographic assumptions based on the most recent experience study report. The most significant of these is the improvement in post-retirement mortality acknowledging the greater life expectancies we are seeing in our membership and expected continued improvements. The actuarial assumptions and methods used in CalPERS public agency valuations are approved by the Board of Administration upon the recommendation of the Chief Actuary. The individual plan actuary whose signature appears in the actuarial certification in this report does not set plan specific actuarial assumptions.

Effective with the 2014 actuarial valuation, Governmental Accounting Standards Board Statement No. 27 financial reporting information is no longer provided in CalPERS annual actuarial valuation reports. GASB 27 has been replaced with GASB 68 for financial statement reporting purposes. CalPERS is providing separate accounting valuation reports on a fee for service basis for our public agency employers. More details on GASB 68 and instructions for ordering your GASB 68 report are available on our website.

Purpose of the Report

The actuarial valuation was prepared by the CalPERS Actuarial Office using data as of June 30, 2014. The purpose of the report is to:

- Set forth the assets and accrued liabilities of this plan as of June 30, 2014;
- Determine the required employer contribution rate for the Fiscal Year July 1, 2016 through June 30, 2017;
- Provide actuarial information as of June 30, 2014 to the CalPERS Board of Administration and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement Number 68 for an Agent Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available from CalPERS and details for ordering are available on our website.

The use of this report for any other purposes may be inappropriate. In particular, this report does not contain information applicable to alternative benefit costs. The employer should contact their actuary before disseminating any portion of this report for any reason that is not explicitly described above.

California Actuarial Advisory Panel Recommendations

This report includes all the basic disclosure elements as described in the *Model Disclosure Elements for Actuarial Valuation Reports* recommended in 2011 by the California Actuarial Advisory Panel (CAAP), with the exception of including the original base amounts of the various components of the unfunded liability in the Schedule of Amortization Bases shown on page 14.

Additionally, this report includes the following "Enhanced Risk Disclosures" also recommended by the CAAP in the Model Disclosure Elements document:

- A "Deterministic Stress Test," projecting future results under different investment income scenarios
- A "Sensitivity Analysis," showing the impact on current valuation results using a 1 percent plus or minus change in the discount rate.

Required Employer Contribution

		Fiscal Year 2015-16		Fiscal Year 2016-17
Actuarially Determined Employer Contributions				
1. Contribution in Projected Dollars				
a) Total Normal Cost	$	30,014,297	$	32,619,302
b) Employee Contribution[1]		10,236,721		10,789,480
c) Employer Normal Cost [(1a) – (1b)]		19,777,576		21,829,822
d) Unfunded Liability Contribution		18,884,003		21,980,970
e) Required Employer Contribution [(1c) + (1d)]	$	38,661,579	$	43,810,792
Projected Annual Payroll for Contribution Year	$	113,703,439	$	118,892,337
2. Contribution as a Percentage of Payroll				
a) Total Normal Cost		26.397%		27.436%
b) Employee Contribution[1]		9.003%		9.075%
c) Employer Normal Cost [(2a) – (2b)]		17.394%		18.361%
d) Unfunded Liability Rate		16.608%		18.488%
e) Required Employer Rate [(2c) + (2d)]		34.002%		36.849%
Minimum Employer Contribution Rate[2]		**34.002%**		**36.849%**
Annual Lump Sum Prepayment Option[3]	$	37,288,538	$	42,254,880

[1] For classic members this is the percentage specified in the Public Employees Retirement Law, net of any reduction from the use of a modified formula or other factors. For PEPRA members, the member contribution rate is based on 50 percent of the normal cost. A development of PEPRA member contribution rates can be found in Appendix D. Employee cost sharing is not shown in this report.

[2] The Minimum Employer Contribution Rate under PEPRA is the greater of the required employer rate or the employer normal cost. The timing of contributions made during the year coincides with the employer's payroll reporting periods. § 20572 of the Public Employees' Retirement Law assesses interest at an annual rate of 10 percent if a contracting agency fails to remit the required contributions when due.

[3] The Annual Lump Sum Prepayment can be made between July 1 and July 15 and should be made before the contributions for the first payroll reporting period of the new fiscal year are due. If there is contractual cost sharing or other change, this amount will change.

Plan's Funded Status

		June 30, 2013		June 30, 2014
1. Present Value of Projected Benefits	$	1,622,314,287	$	1,798,183,157
2. Entry Age Normal Accrued Liability		1,370,866,286		1,517,439,523
3. Market Value of Assets (MVA)	$	992,363,894	$	1,142,219,279
4. Unfunded Liability [(2) – (3)]	$	378,502,392	$	375,220,244
5. Funded Ratio [(3) / (2)]		72.4%		75.3%

Cost

Actuarial Cost Estimates in General

What will this pension plan cost? Unfortunately, there is no simple answer. There are two major reasons for the complexity of the answer. First, actuarial calculations, including the ones in this report, are based on a number of assumptions about the future. These assumptions can be divided into two categories.

- Demographic assumptions include the percentage of employees that will terminate, die, become disabled, and retire in each future year.
- Economic assumptions include future salary increases for each active employee, and the assumption with the greatest impact, future asset returns at CalPERS for each year into the future until the last dollar is paid to current members of your plan.

While CalPERS has set these assumptions to reflect our best estimate of the real future of your plan, it must be understood that these assumptions are very long-term predictors and will surely not be realized in any one year. For example, while the asset earnings at CalPERS have averaged more than the assumed return of 7.5 percent for the past twenty year period ending June 30, 2014, returns for each fiscal year ranged from negative -24 percent to +21.7 percent.

Second, the very nature of actuarial funding produces the answer to the question of plan cost as the sum of two separate pieces.

- The Normal Cost (i.e., the annual cost associated with one year of service accrual) expressed as a percentage of total active payroll.
- The Past Service Cost or Accrued Liability (i.e., the current value of the benefit for all credited past service of current members) which is expressed as a lump sum dollar amount.

The cost is the sum of a percent of future pay and a lump sum dollar amount. To communicate the total cost, either the Normal Cost must be converted to a lump sum dollar amount or the Past Service Cost must be converted to a percent of payroll. Converting the Past Service Cost lump sum to a percent of payroll requires a specific amortization period, and the employer rate will vary depending on the amortization period chosen. CalPERS Board amortization and smoothing policies specify the amortization period used for each amortization base. These policies permit a restructuring of the amortization bases (also known as a "fresh start") when the application of the amortization policy would not otherwise achieve the goals of the policy – to eliminate the unfunded liabilities in a manner that maintains benefit security while minimizing substantial variations in employer contribution rates. Currently unfunded liabilities are paid as a percent of payroll. However, in the future, unfunded liabilities may be billed as dollar amounts as is the case for plans that are in risk pools.

Changes since the Prior Year's Valuation

Benefits

The standard actuarial practice at CalPERS is to recognize mandated legislative benefit changes in the first annual valuation following the effective date of the legislation. Voluntary benefit changes by plan amendment are generally included in the first valuation that is prepared after the amendment becomes effective even if the valuation date is prior to the effective date of the amendment.

This valuation generally reflects plan changes by amendments effective before the date of the report. Please refer to the "Plan's Major Benefit Options" and Appendix B for a summary of the plan provisions used in this valuation. The effect of any mandated benefit changes or plan amendments on the unfunded liability is shown in the "(Gain)/Loss Analysis" and the effect on your employer contribution rate is shown in the "Reconciliation of Required Employer Contributions." It should be noted that no change in liability or rate is shown for any plan changes which were already included in the prior year's valuation.

Actuarial Methods and Assumptions

The CalPERS Board of Administration approved several changes to the demographic assumptions that more closely align with actual experience based on the most recent experience study. The most significant of these is mortality improvement to acknowledge the greater life expectancies we are seeing in our membership and expected continued improvements. The new actuarial assumptions are used to set the Fiscal Year 2016-17 contribution rates for public agency employers. The increase in liability due to new actuarial assumptions calculated in this actuarial valuation is amortized over a 20-year period with a 5-year ramp-up/ramp-down in accordance with Board amortization policy.

Subsequent Events

Actuarial Methods and Assumptions

One of CalPERS strategic goals is to improve the long-term pension benefit sustainability of the system through an integrated view of pension assets and liabilities. The Board of Administration has been engaging in discussions on the funding risks faced by the system and possible risk mitigation strategies to better protect our members. Recent Board actions on a new asset allocation, new actuarial assumptions and new smoothing and amortization policies have already lowered risk. However, future contribution rate volatility is expected as CalPERS pension plans continue to mature. Two approaches under consideration are a flexible glide path methodology, a lowering of the discount rate and expected investment volatility following a great investment return and a blended glide path methodology which is similar to the flexible glide path but with check points over time that would trigger additional asset allocation changes and lowering of the discount rate if investment returns did not result in a sufficient reduction in volatility. Either approach requires thoughtful discussion as it involves tradeoffs between short and long-term system impacts and potential future increases in required contributions. Additional information can be found on the CalPERS website with possible Board action on risk mitigation strategy and policy at the November 2015 Board meeting.

ASSETS

- **RECONCILIATION OF THE MARKET VALUE OF ASSETS**
- **ASSET ALLOCATION**
- **CALPERS HISTORY OF INVESTMENT RETURNS**

Reconciliation of the Market Value of Assets

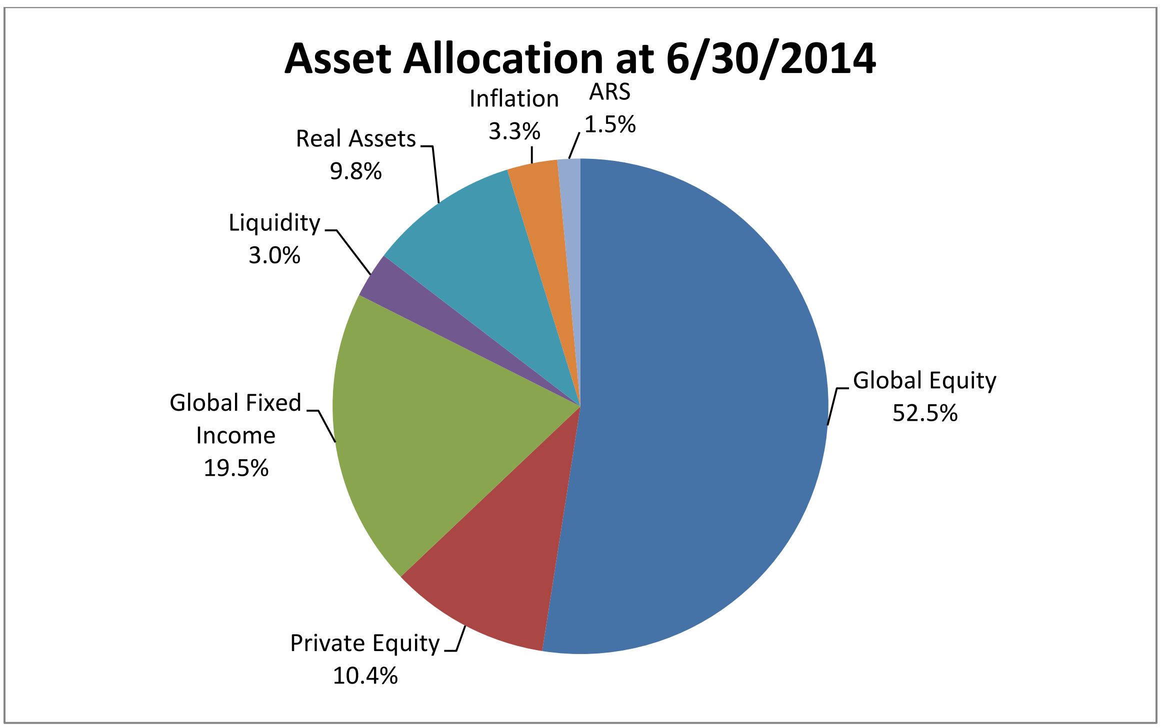
1.	Market Value of Assets as of 6/30/13 Including Receivables	$	992,363,894
2.	Change in Receivables for Service Buybacks as of 6/30/13		213,094
3.	Employer Contributions		27,934,662
4.	Employee Contributions		14,644,288
5.	Benefit Payments to Retirees and Beneficiaries		(65,899,559)
6.	Refunds		(315,555)
7.	Lump Sum Payments		0
8.	Transfers and Miscellaneous Adjustments		1,450,074
9.	Investment Return		171,828,381
10.	Market Value of Assets as of 6/30/14 Including Receivables	$	1,142,219,279

Asset Allocation

CalPERS adheres to an Asset Allocation Strategy which establishes asset class allocation policy targets and ranges, and manages those asset class allocations within their policy ranges. CalPERS Investment Belief No. 6 recognizes that strategic asset allocation is the dominant determinant of portfolio risk and return. On February 19, 2014 the CalPERS Board of Administration adopted changes to the current asset allocation as shown in the Policy Target Allocation below expressed as percentage of total assets. The asset allocation has an expected long term blended rate of return of 7.5 percent.

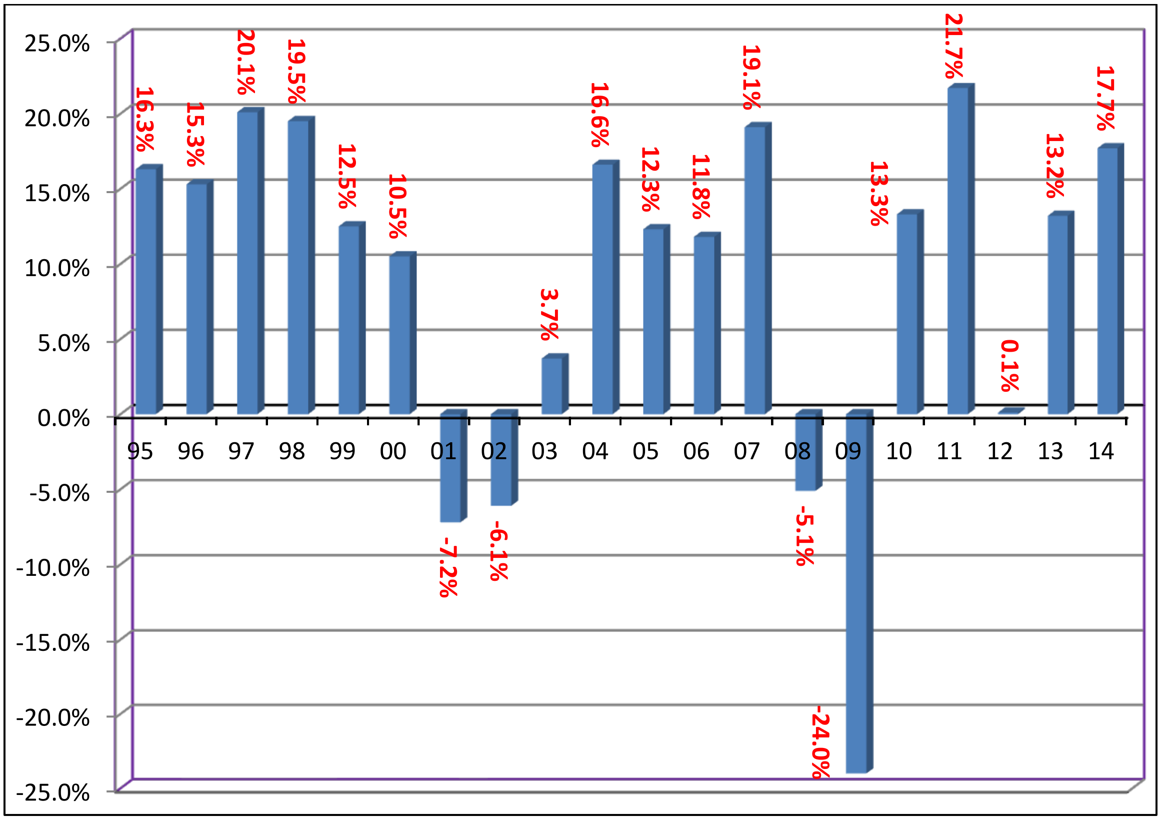
The asset allocation and market value of assets shown below reflect the values of the Public Employees Retirement Fund (PERF) in its entirety as of June 30, 2014. The assets for CITY OF SACRAMENTO SAFETY PLAN are part of the Public Employees Retirement Fund (PERF) and are invested accordingly.

(A) Asset Class	(B) Market Value ($ Billion)	(C) Policy Target Allocation
Global Equity	158.2	50.0%
Private Equity	31.5	14.0%
Global Fixed Income	58.8	17.0%
Liquidity	9.0	4.0%
Real Assets	29.6	11.0%
Inflation Sensitive Assets	9.9	4.0%
Absolute Return Strategy (ARS)	4.5	0.0%
Total Fund	**$301.5**	**100.0%**



CalPERS History of Investment Returns

The following is a chart with the 20-year historical annual returns of the Public Employees Retirement Fund for each fiscal year ending on June 30. Beginning in 2002, the figures are reported as gross of fees.



The table below shows historical geometric mean annual returns of the Public Employees Retirement Fund for various time periods ending on June 30, 2014, (figures are reported as gross of fees). The geometric mean rate of return is the average rate per period compounded over multiple periods. It should be recognized that in any given year the rate of return is volatile. Although the expected rate of return on the recently adopted new asset allocation is 7.5 percent, the portfolio has an expected volatility of 11.76 percent per year. The volatility is a measure of the risk of the portfolio expressed in the standard deviation of the fund's total return distribution, expressed in percent. Consequently when looking at investment returns it is more instructive to look at returns over longer time horizons.

History of CalPERS Geometric Mean Rates of Return and Volatilities					
	1 year	**5 year**	**10 year**	**20 year**	**30 year**
Geometric Return	17.7%	13.0%	7.1%	8.4%	10.1%
Volatility	–	8.1%	14.0%	11.9%	11.4%

LIABILITIES AND RATES

- **DEVELOPMENT OF ACCRUED AND UNFUNDED LIABILITIES**
- **(GAIN) / LOSS ANALYSIS 06/30/13 - 06/30/14**
- **SCHEDULE OF AMORTIZATION BASES**
- **ALTERNATE AMORTIZATION SCHEDULES**
- **RECONCILIATION OF REQUIRED EMPLOYER CONTRIBUTIONS**
- **EMPLOYER CONTRIBUTION RATE HISTORY**
- **FUNDING HISTORY**

Development of Accrued and Unfunded Liabilities

			Prior Year Assumptions	New Assumptions
		June 30, 2013	**June 30, 2014**	**June 30, 2014**
1. Present Value of Projected Benefits				
a) Active Members	$	720,860,867	753,219,287	815,365,262
b) Transferred Members		31,018,484	33,001,187	35,826,921
c) Terminated Members		24,650,967	7,694,867	6,565,521
d) Members and Beneficiaries Receiving Payments		845,783,969	899,416,914	940,425,453
e) Total	$	1,622,314,287	1,693,332,255	1,798,183,157
2. Present Value of Future Employer Normal Costs	$	164,459,906	167,257,025	185,759,435
3. Present Value of Future Employee Contributions	$	86,988,095	91,375,672	94,984,199
4. Entry Age Normal Accrued Liability				
a) Active Members [(1a) - (2) - (3)]	$	469,412,866	494,586,590	534,621,628
b) Transferred Members (1b)		31,018,484	33,001,187	35,826,921
c) Terminated Members (1c)		24,650,967	7,694,867	6,565,521
d) Members and Beneficiaries Receiving Payments (1d)		845,783,969	899,416,914	940,425,453
e) Total	$	1,370,866,286	1,434,699,558	1,517,439,523
5. Market Value of Assets (MVA)	$	992,363,894	1,142,219,279	1,142,219,279
6. Unfunded Liability [(4e) - (5)]	$	378,502,392	292,480,279	375,220,244
7. Funded Ratio [(5) / (4e)]		72.4%	79.6%	75.3%

(Gain) /Loss Analysis 6/30/13 – 6/30/14

To calculate the cost requirements of the plan, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is compared to the expected experience based on the actuarial assumptions. This results in actuarial gains or losses, as shown below.

A	**Total (Gain)/Loss for the Year**		
	1. Unfunded Accrued Liability (UAL) as of 6/30/13	$	378,502,392
	2. Expected Payment on the UAL during 2013/2014		12,925,473
	3. Interest through 6/30/14 [.075 x (A1) - $((1.075)^{1/2}$ - 1) x (A2)]		27,911,737
	4. Expected UAL before all other changes [(A1) - (A2) + (A3)]		393,488,656
	5. Change due to plan changes		0
	6. Change due to assumption change		82,739,965
	7. Expected UAL after all other changes [(A4) + (A5) + (A6)]		476,228,621
	8. Actual UAL as of 6/30/14		375,220,244
	9. Total (Gain)/Loss for 2013/2014 [(A8) - (A7)]	$	(101,008,377)
B	**Contribution (Gain)/Loss for the Year**		
	1. Expected Contribution (Employer and Employee)	$	41,220,042
	2. Interest on Expected Contributions		1,517,807
	3. Actual Contributions		42,578,950
	4. Interest on Actual Contributions		1,567,845
	5. Expected Contributions with Interest [(B1) + (B2)]		42,737,849
	6. Actual Contributions with Interest [(B3) + (B4)]		44,146,795
	7. Contribution (Gain)/Loss [(B5) - (B6)]	$	(1,408,946)
C	**Asset (Gain)/Loss for the Year**		
	1. Market Value of Assets as of 6/30/13	$	992,363,894
	2. Receivables PY		(1,766,966)
	3. Receivables CY		1,980,060
	4. Contributions Received		42,578,950
	5. Benefits and Refunds Paid		(66,215,114)
	6. Transfers and miscellaneous adjustments		1,450,074
	7. Expected Int. [.075 x (C1 + C2) + $((1.075)^{1/2}$ - 1) x ((C4) + (C5) + (C6))]		73,477,832
	8. Expected Assets as of 6/30/14 [(C1) + (C2) + (C3) + (C4) + (C5) + (C6) + (C7)]		1,043,868,730
	9. Market Value of Assets as of 6/30/14		1,142,219,279
	10. Asset (Gain)/Loss [(C8) - (C9)]	$	(98,350,549)
D	**Liability (Gain)/Loss for the Year**		
	1. Total (Gain)/Loss (A9)	$	(101,008,377)
	2. Contribution (Gain)/Loss (B7)		(1,408,946)
	3. Asset (Gain)/Loss (C10)		(98,350,549)
	4. Liability (Gain)/Loss [(D1) - (D2) - (D3)]	$	(1,248,882)

Schedule of Amortization Bases

There is a two-year lag between the Valuation Date and the Contribution Fiscal Year.

- The assets, liabilities and funded status of the plan are measured as of the valuation date; June 30, 2014.
- The employer contribution rate determined by the valuation is for the fiscal year beginning two years after the valuation date; Fiscal Year 2016-17.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and due to the need to provide public agencies with their employer contribution rates well in advance of the start of the fiscal year.

The Unfunded Liability is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The Unfunded Liability is rolled forward each year by subtracting the expected Payment on the Unfunded Liability for the fiscal year and adjusting for interest. The Expected Payment on the Unfunded Liability for a fiscal year is equal to the Expected Employer Contribution for the fiscal year minus the Expected Normal Cost for the year. The Employer Contribution Rate for the first fiscal year is determined by the actuarial valuation two years ago and the rate for the second year is from the actuarial valuation one year ago. The Normal Cost Rate for each of the two fiscal years is assumed to be the same as the rate determined by the current valuation. All expected dollar amounts are determined by multiplying the rate by the expected payroll for the applicable fiscal year, based on payroll as of the valuation date.

							Amounts for Fiscal 2016-17		
Reason for Base	Date Established	Amortization Period	Balance 6/30/14	Expected Payment 2014-15	Balance 6/30/15	Expected Payment 2015-16	Balance 6/30/16	Scheduled Payment for 2016-17	Payment as Percentage of Payroll
BENEFIT CHANGE	06/30/01	7	$1,132,418	$153,854	$1,057,829	$158,470	$972,862	$163,224	0.137%
BENEFIT CHANGE	06/30/04	9	$1,582,079	$182,992	$1,511,005	$188,482	$1,428,908	$194,136	0.163%
BENEFIT CHANGE	06/30/05	10	$1,517,663	$164,104	$1,461,341	$169,027	$1,395,690	$174,098	0.146%
ASSUMPTION CHANGE	06/30/07	9	$2,714,445	$313,968	$2,592,500	$323,387	$2,451,642	$333,089	0.280%
ARNETT CASE	06/30/07	9	$64,539	$7,465	$61,640	$7,689	$58,291	$7,920	0.007%
METHOD CHANGE	06/30/07	10	$(3,085,918)	$(333,678)	$(2,971,397)	$(343,689)	$(2,837,908)	$(353,999)	(0.298%)
BENEFIT CHANGE	06/30/08	13	$668,021	$61,237	$654,631	$63,074	$638,331	$64,967	0.055%
BENEFIT CHANGE	06/30/08	13	$1,027,318	$94,174	$1,006,726	$96,999	$981,659	$99,909	0.084%
ASSUMPTION CHANGE	06/30/09	15	$26,493,909	$2,225,786	$26,173,208	$2,292,559	$25,759,223	$2,361,336	1.986%
SPECIAL (GAIN)/LOSS	06/30/09	25	$31,597,697	$2,002,606	$31,891,178	$2,062,684	$32,144,380	$2,124,565	1.787%
SPECIAL (GAIN)/LOSS	06/30/10	26	$(487,954)	$(30,341)	$(493,092)	$(31,251)	$(497,672)	$(32,189)	(0.027%)
ASSUMPTION CHANGE	06/30/11	17	$18,526,412	$1,445,560	$18,417,105	$1,488,926	$18,254,636	$1,533,594	1.290%
SPECIAL (GAIN)/LOSS	06/30/11	27	$(6,008,998)	$(366,994)	$(6,079,165)	$(378,004)	$(6,143,180)	$(389,344)	(0.327%)
PAYMENT (GAIN)/LOSS	06/30/12	28	$1,202,727	$72,224	$1,218,048	$74,391	$1,232,271	$76,623	0.064%
(GAIN)/LOSS	06/30/12	28	$169,271,019	$10,164,814	$171,427,242	$10,469,758	$173,429,009	$10,783,851	9.070%
(GAIN)/LOSS	06/30/13	29	$147,273,278	$(1,010,927)	$159,366,925	$2,241,501	$168,995,406	$4,617,493	3.884%
ASSUMPTION CHANGE	06/30/14	20	$82,739,965	$(1,310,068)	$90,303,770	$(1,349,370)	$98,475,609	$1,875,733	1.578%
(GAIN)/LOSS	06/30/14	30	$(101,008,376)	$375,616	$(108,973,451)	$436,579	$(117,599,115)	$(1,654,036)	(1.391%)
TOTAL			**$375,220,244**	**$14,212,392**	**$388,626,043**	**$17,971,212**	**$399,140,042**	**$21,980,970**	**18.488%**

Alternate Amortization Schedules

The amortization schedule shown on the previous page shows the minimum contribution required according to CalPERS amortization policy. There has been considerable interest from many agencies in paying off these unfunded accrued liabilities sooner and the possible savings in doing so. Therefore, we have provided alternate amortization schedules to help analyze your current amortization schedule and illustrate the advantages of accelerating payments towards your plan's unfunded liability of $399,140,042 as of June 30, 2016, which under the minimum schedule, will require total payments of $929,846,482. Shown below are the level rate payments required to amortize your plan's unfunded liability assuming a fresh start over the various periods noted. Note that the payments under each scenario would increase by 3 percent for each year into the future.

Level Rate of Payroll Amortization

Period	2016-17 Rate	2016-17 Payment	Total Payments	Total Interest	Difference from Current Schedule
20	25.348%	$30,137,240	$809,798,916	$410,658,874	$120,047,566
15	30.775%	$36,588,982	$680,515,328	$281,375,286	$249,331,154

If you are interested in changing your plan's amortization schedule please contact your plan actuary to discuss further.

Reconciliation of Required Employer Contributions

	Percentage of Projected Payroll	Estimated $ Based on Projected Payroll
1. Contribution for 7/1/15 – 6/30/16	34.002%	$ 38,661,579
2. Effect of changes since the prior year annual valuation		
a) Effect of changes in demographics and financial results	0.100%	118,912
b) Effect of plan changes	0.000%	0
c) Effect of changes in Assumptions	2.747%	3,265,972
d) Effect of change in payroll	-	1,764,329
e) Effect of elimination of amortization base	0.000%	0
f) Effect of changes due to Fresh Start	0.000%	0
g) Net effect of the changes above [Sum of (a) through (f)]	2.847%	5,149,213
3. Contribution for 7/1/16 – 6/30/17 [(1)+(2g)]	36.849%	43,810,792

The contribution actually paid (item 1) may be different if a prepayment of unfunded actuarial liability is made or a plan change became effective after the prior year's actuarial valuation was performed.

Employer Contribution Rate History

The table below provides a recent history of the employer contribution rates for your plan, as determined by the annual actuarial valuation. It does not account for prepayments or benefit changes made in the middle of the year.

Required By Valuation

Fiscal Year	Employer Normal Cost	Unfunded Rate	Total Employer Contribution Rate
2011 - 2012	16.861%	10.669%	27.530%
2012 - 2013	16.933%	10.848%	27.781%
2013 - 2014	17.324%	11.351%	28.675%
2014 - 2015	17.403%	13.715%	31.118%
2015 - 2016	17.394%	16.608%	34.002%
2016 - 2017	18.361%	18.488%	36.849%

Funding History

The Funding History below shows the recent history of the actuarial accrued liability, the market value of assets, the funded ratio and the annual covered payroll.

Valuation Date	Accrued Liability	Market Value of Assets (MVA)	Unfunded Liability	Funded Ratio	Annual Covered Payroll
06/30/09	$ 1,134,938,771	$ 687,001,053	$ 447,937,718	60.5%	$ 109,903,088
06/30/10	1,183,446,683	770,296,873	413,149,810	65.1%	110,512,734
06/30/11	1,249,347,774	916,725,639	332,622,135	73.4%	109,446,416
06/30/12	1,313,218,710	897,431,991	415,786,719	68.3%	107,811,628
06/30/13	1,370,866,286	992,363,894	378,502,392	72.4%	104,054,754
06/30/14	1,517,439,523	1,142,219,279	375,220,244	75.3%	108,803,331

RISK ANALYSIS

- **VOLATILITY RATIOS**
- **PROJECTED RATES**
- **ANALYSIS OF FUTURE INVESTMENT RETURN SCENARIOS**
- **ANALYSIS OF DISCOUNT RATE SENSITIVITY**
- **HYPOTHETICAL TERMINATION LIABILITY**

Volatility Ratios

The actuarial calculations supplied in this communication are based on a number of assumptions about very long-term demographic and economic behavior. Unless these assumptions (terminations, deaths, disabilities, retirements, salary growth, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise the employer's rates from one year to the next. Therefore, the rates will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio (AVR)

Plans that have higher asset to payroll ratios produce more volatile employer rates due to investment return. For example, a plan with an asset to payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility, than a plan with an asset to payroll ratio of 4. Below we have shown your asset volatility ratio, a measure of the plan's current rate volatility. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as the plan matures.

Liability Volatility Ratio (LVR)

Plans that have higher liability to payroll ratios produce more volatile employer rates due to investment return and changes in liability. For example, a plan with a liability to payroll ratio of 8 is expected to have twice the contribution volatility of a plan with a liability to payroll ratio of 4. The liability volatility ratio is also included in the table below. It should be noted that this ratio indicates a longer-term potential for contribution volatility and the asset volatility ratio, described above, will tend to move closer to this ratio as the plan matures.

Rate Volatility		**As of June 30, 2014**
1. Market Value of Assets without Receivables	$	1,140,239,219
2. Payroll		108,803,331
3. Asset Volatility Ratio (AVR = 1. / 2.)		10.5
4. Accrued Liability	$	1,517,439,523
5. Liability Volatility Ratio (LVR = 4. / 2.)		13.9

Projected Rates

The estimated rate for 2017-18 is based on a projection of the most recent information we have available, including an estimated 2.4 percent investment return for Fiscal Year 2014-15.

The table below shows projected employer contribution rates (before cost sharing) for the next five fiscal years, assuming CalPERS earns 2.4 percent for Fiscal Year 2014-15 and 7.50 percent every fiscal year thereafter, and assuming that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. The projected contribution rates do not reflect that the plan's normal cost will decline over time as new employees are hired into PEPRA and other lower cost benefit tiers.

	Required Rate	**Projected Future Employer Contribution Rates**				
	2016-17	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Contribution Rates:	36.849%	39.7%	42.6%	45.5%	46.5%	47.2%

Analysis of Future Investment Return Scenarios

In 2014 CalPERS completed a 2-year asset liability management study incorporating actuarial assumptions and strategic asset allocation. On February 19, 2014 the CalPERS Board of Administration adopted relatively modest changes to the current asset allocation that will reduce the expected volatility of returns. The adopted asset allocation is expected to have a long- term blended return that continues to support a discount rate assumption of 7.5 percent. The newly adopted asset allocation has a lower expected investment volatility which will result in better risk characteristics than an equivalent margin for adverse deviation. The previous asset allocation had an expected standard deviation of 12.45 percent while the current asset allocation has a lower expected standard deviation of 11.76 percent.

The investment return for Fiscal Year 2014-15 was announced July 13, 2015. The investment return in Fiscal Year 2014-15 is 2.4 percent before administrative expenses. This year, there will be no adjustment for real estate and private equities. For purposes of projecting future employer rates, we are assuming a 2.4 percent investment return for Fiscal Year 2014-15.

The investment return realized during a fiscal year first affects the contribution rate for the fiscal year two years later. Specifically, the investment return for 2014-15 will first be reflected in the June 30, 2015 actuarial valuation that will be used to set the 2017-18 employer contribution rates. The 2015-16 investment return will first be reflected in the June 30, 2016 actuarial valuation that will be used to set the 2018-19 employer contribution rates and so forth.

Based on a 2.4 percent investment return for Fiscal Year 2014-15, the April 17, 2013 CalPERS Board-approved amortization and rate smoothing method change, the February 18, 2014 new demographic assumptions including 20-year mortality improvement using Scale BB and assuming that all other actuarial assumptions will be realized, and that no further changes to assumptions, contributions, benefits, or funding will occur between now and the beginning of the Fiscal Year 2017-18, the effect on the 2017-18 Employer Rate is as follows:

Estimated 2017-18 Employer Rate	**Estimated Increase in Employer Rate between 2016-17 and 2017-18**
39.7%	2.9%

As part of this report, a sensitivity analysis was performed to determine the effects of various investment returns during fiscal years 2015-16, 2016-17 and 2017-18 on the 2018-19, 2019-20 and 2020-21 employer rates. Once again, the projected rate increases assume that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur.

Five different investment return scenarios were selected.

- The first scenario is what one would expect if the markets were to give us a 5th percentile return from July 1, 2015 through June 30, 2018. The 5th percentile return corresponds to a -3.8 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.
- The second scenario is what one would expect if the markets were to give us a 25th percentile return from July 1, 2015 through June 30, 2018. The 25th percentile return corresponds to a 2.8 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.
- The third scenario assumed the return for 2015-16, 2016-17, 2017-18 would be our assumed 7.5 percent investment return which represents about a 49th percentile event.
- The fourth scenario is what one would expect if the markets were to give us a 75th percentile return from July 1, 2015 through June 30, 2018. The 75th percentile return corresponds to a 12.0 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.
- Finally, the last scenario is what one would expect if the markets were to give us a 95th percentile return from July 1, 2015 through June 30, 2018. The 95th percentile return corresponds to a 18.9 percent return for each of the 2015-16, 2016-17 and 2017-18 fiscal years.

The table below shows the estimated projected contribution rates and the estimated increases for your plan under the five different scenarios.

2015-18 Investment Return Scenario	**Estimated Employer Rate**			**Estimated Change in Employer Rate between 2017-18 and 2020-21**
	2018-19	**2019-20**	**2020-21**	
(3.8%) (5th percentile)	44.3%	50.3%	55.9%	16.1%
2.8% (25th percentile)	43.3%	47.6%	50.6%	10.8%
7.5%	42.6%	45.5%	46.5%	6.7%
12.0%(75th percentile)	42.0%	43.5%	42.3%	2.6%
18.9%(95th percentile)	41.0%	40.3%	18.4%	(21.4%)

Analysis of Discount Rate Sensitivity

The following analysis looks at the 2016-17 total normal cost rates and liabilities under two different discount rate scenarios. Shown below are the total normal cost rates assuming discount rates that are 1 percent lower and 1 percent higher than the current valuation discount rate. This analysis gives an indication of the potential plan impacts if the PERF were to realize investment returns of 6.50 percent or 8.50 percent over the long-term.

This type of analysis gives the reader a sense of the long-term risk to the contribution rates.

Sensitivity Analysis			
As of June 30, 2014	**6.50% Discount Rate (-1%)**	**7.50% Discount Rate (assumed rate)**	**8.50% Discount Rate (+1%)**
Total Normal Cost	35.152%	27.436%	21.639%
Accrued Liability	$1,732,156,572	$1,517,439,523	$1,341,744,184
Unfunded Accrued Liability	$589,937,293	$375,220,244	$199,524,905

Hypothetical Termination Liability

The hypothetical termination liability is an estimate of the financial position of your plan if you had terminated your contract with CalPERS as of June 30, 2014. Your plan liability on a termination basis is calculated differently compared to the plan's ongoing funding liability. For this hypothetical termination liability calculation both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are included.

For the Terminated Agency Pool the CalPERS Board adopted a more conservative investment policy and asset allocation strategy. Since the Terminated Agency Pool has limited funding sources due to the fact that no future employer contributions will be made, expected benefit payments are secured by risk-free assets. With this change, CalPERS increased benefit security for members while limiting its funding risk. However, this asset allocation has a lower expected rate of return than the PERF. Consequently, the lower discount rate for the Terminated Agency pool results in higher liabilities for terminated plans.

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable the table below shows a range for the hypothetical termination liability based on the lowest and highest interest rates observed during the period from July 1, 2013 through June 30, 2015.

Valuation Date	Market Value of Assets (MVA)	Hypothetical Termination Liability[1,2] @ 2.00%	Unfunded Termination Liability @ 2.00%	Hypothetical Termination Liability[1,2] @ 3.75%	Unfunded Termination Liability @ 3.75%
06/30/14	$ 1,142,219,279	$ 3,126,795,804	$ 1,984,576,525	$ 2,355,545,682	$ 1,213,326,403

1 The hypothetical liabilities calculated above include a 7 percent mortality contingency load in accordance with Board policy. Other actuarial assumptions, such as wage and inflation assumptions, can be found in Appendix A.

2 The current discount rate assumption used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 3.00% on June 30, 2014.

In order to terminate your plan, you must first contact our Retirement Services Contract Unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow your plan actuary to give you a preliminary termination valuation with a more up-to-date estimate of your plan liabilities. CalPERS strongly advises you to consult with your plan actuary before beginning this process.

Exhibit F

PLAN’S MAJOR BENEFIT PROVISIONS

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which your agency has contracted. A description of principal standard and optional plan provisions is in the following section of this Appendix.

	Contract Package						
Benefit Provision	Active Police	Active Fire	Active Fire	Active Police	Active Police	Active Fire	Inactive Police
Benefit Formula	3.0% @ 50	3.0% @ 55	3.0% @ 55	3.0% @ 50	2.7% @ 57	2.7% @ 57	3.0% @ 50
Social Security Coverage	No	No	No	No	No	No	No
Full/Modified	Full	Full	Full	Full	Full	Full	Full
Employee Contribution Rate	9.00%	9.00%	9.00%	9.00%	12.00%	12.00%	
Final Average Compensation Period	One Year	One Year	One Year	One Year	Three Year	Three Year	One Year
Sick Leave Credit	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Non-Industrial Disability	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Industrial Disability	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pre-Retirement Death Benefits							
Optional Settlement 2W	Yes	No	No	Yes	Yes	No	Yes
1959 Survivor Benefit Level	Indexed	No	No	Indexed	Indexed	No	Indexed
Special	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alternate (firefighters)	No	No	No	No	No	No	No
Post-Retirement Death Benefits							
Lump Sum	$500	$500	$500	$500	$500	$500	$500
Survivor Allowance (PRSA)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
COLA	2%	2%	2%	2%	2%	2%	3%

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which your agency has contracted. A description of principal standard and optional plan provisions is in the following section of this Appendix.

	Contract Package					
Benefit Provision	Inactive Fire	Receiving Fire	Receiving Police	Receiving Fire	Receiving Police	
Benefit Formula	3.0% @ 55					
Social Security Coverage	No					
Full/Modified	Full					
Employee Contribution Rate						
Final Average Compensation Period	One Year					
Sick Leave Credit	Yes					
Non-Industrial Disability	Standard					
Industrial Disability	Yes					
Pre-Retirement Death Benefits						
Optional Settlement 2W	No					
1959 Survivor Benefit Level	Level 2					
Special	Yes					
Alternate (firefighters)	No					
Post-Retirement Death Benefits						
Lump Sum	$500	$500	$500	$500	$500	
Survivor Allowance (PRSA)	Yes	Yes	Yes	Yes	Yes	
COLA	2%	2%	2%	3%	3%	

APPENDICES

APPENDIX A

ACTUARIAL METHODS AND ASSUMPTIONS

- **ACTUARIAL DATA**
- **ACTUARIAL METHODS**
- **ACTUARIAL ASSUMPTIONS**
- **MISCELLANEOUS**

Actuarial Data

As stated in the Actuarial Certification, the data, which serves as the basis of this valuation, has been obtained from the various CalPERS databases. We have reviewed the valuation data and believe that it is reasonable and appropriate in aggregate. We are unaware of any potential data issues that would have a material effect on the results of this valuation, except that data does not always contain the latest salary information for former members now in reciprocal systems and does not recognize the potential for unusually large salary deviation in certain cases such as elected officials. Therefore, salary information in these cases may not be accurate. These situations are relatively infrequent, however, and when they do occur, they generally do not have a material impact on the employer contribution rates.

Actuarial Methods

Funding Method

The actuarial funding method used for the Retirement Program is the Entry Age Normal Cost Method. Under this method, projected benefits are determined for all members and the associated liabilities are spread in a manner that produces level annual cost as a percent of pay in each year from the age of hire (entry age) to the assumed retirement age. The cost allocated to the current fiscal year is called the normal cost.

The actuarial accrued liability for active members is then calculated as the portion of the total cost of the plan allocated to prior years. The actuarial accrued liability for members currently receiving benefits, for active members beyond the assumed retirement age, and for members entitled to deferred benefits, is equal to the present value of the benefits expected to be paid. No normal costs are applicable for these participants.

The excess of the total actuarial accrued liability over the market value of plan assets is called the unfunded actuarial accrued liability (UAL). Funding requirements are determined by adding the normal cost and an amortization of the unfunded liability as a level percentage of assumed future payrolls. Commencing with the June 30, 2013 valuation all new gains or losses are tracked and amortized over a fixed 30-year period with a 5 year ramp up at the beginning and a 5 year ramp down at the end of the amortization period. All changes in liability due to plan amendments (other than golden handshakes), changes in actuarial assumptions, or changes in actuarial methodology are amortized separately over a 20-year period with a 5 year ramp up at the beginning and a 5 year ramp down at the end of the amortization period. Changes in unfunded accrued liability due to a Golden Handshake will be amortized over a period of 5 years.

Additional contributions will be required for any plan or pool if their cash flows hamper adequate funding progress by preventing the expected funded status on a market value of assets basis to either:

- Increase by at least 15 percent by June 30, 2043; or
- Reach a level of 75 percent funded by June 30, 2043

The necessary additional contribution will be obtained by changing the amortization period of the gains and losses, except for those occurring in the fiscal years 2008-2009, 2009-2010, and 2010-2011 to a period, which will result in the satisfaction of the above criteria. CalPERS actuaries will reassess the criteria above when performing each future valuation to determine whether or not additional contributions are necessary.

An exception to the funding rules above is used whenever the application of such rules results in inconsistencies. In these cases, a "fresh start" approach is used. This simply means that the current unfunded actuarial liability is projected and amortized over a set number of years. However, in the case of a 30-year fresh start, just the unfunded liability not already in the (gain)/loss base (which is already amortized over 30 years), will go into the new fresh start base. In addition, a fresh start is needed in the following situations:

1) When a positive payment would be required on a negative unfunded actuarial liability (or conversely a negative payment on a positive unfunded actuarial liability); or

2) When there are excess assets, rather than an unfunded liability. In this situation, a 30-year fresh start is used, unless a longer fresh start is needed to avoid a negative total rate.

It should be noted that the actuary may choose to use a fresh start under other circumstances. In all cases, the fresh start period is set by the actuary at what is deemed appropriate; however, the period will not be greater than 30 years.

Asset Valuation Method

It is the policy of the CalPERS Board of Administration to use professionally accepted amortization methods to eliminate unfunded accrued liabilities or surpluses in a manner that maintains benefit security for the members of the System while minimizing substantial variations in employer contribution rates. On April 17, 2013, the CalPERS Board of Administration approved a recommendation to change the CalPERS amortization and rate smoothing policies. Beginning with the June 30, 2013 valuations that set the 2015-16 rates, CalPERS employs an amortization and smoothing policy that pays for all gains and losses over a fixed 30-year period with the increases or decreases in the rate spread directly over a 5-year period. CalPERS no longer uses an actuarial value of assets and only uses the market value of assets. This direct rate smoothing method is equivalent to a method using a 5 year asset smoothing period with no actuarial value of asset corridor and a 25-year amortization period for gains and losses.

PEPRA Normal Cost Rate Methodology

Per Government Code Section 7522.30(b) the "normal cost rate" shall mean the annual actuarially determined normal cost for the plan of retirement benefits provided to the new member and shall be established based on actuarial assumptions used to determine the liabilities and costs as part of the annual actuarial valuation. The plan of retirement benefits shall include any elements that would impact the actuarial determination of the normal cost, including, but not limited to, the retirement formula, eligibility and vesting criteria, ancillary benefit provisions, and any automatic cost-of-living adjustments as determined by the public retirement system.

Each non-pooled plan is considered to be stable with a sufficiently large demographic of actives. It is preferable to determine normal cost using a large active population ongoing so that this rate remains relatively stable. The total PEPRA normal cost will be calculated using all active members within a non-pooled plan. Accordingly plans will be funded equally between employer and employee based on the demographics of the employees of that employer. As each non-pooled plan builds up to either 100+ active PEPRA members or half of their active population is under the PEPRA formula, the total PEPRA normal cost will be based on the active PEPRA population in the plan.

Actuarial Assumptions

In 2014 CalPERS completed a 2-year asset liability management study incorporating actuarial assumptions and strategic asset allocation. On February 19, 2014 the CalPERS Board of Administration adopted relatively modest changes to the current asset allocation that will reduce the expected volatility of returns. The adopted asset allocation is expected to have a long-term blended return that continues to support a discount rate assumption of 7.5 percent. The Board also approved several changes to the demographic assumptions that more closely align with actual experience. The most significant of these is mortality improvement to acknowledge the greater life expectancies we are seeing in our membership and expected continued improvements. The new actuarial assumptions are used in this valuation to set the Fiscal Year 2016-17 contribution rates for public agency employers. The increase in liability due to new actuarial assumptions is amortized over a 20-year period with a 5-year ramp-up/ramp-down in accordance with Board policy. These new actuarial assumptions are set forth below. For more details, please refer to the experience study report that can be found on the CalPERS website under: Forms and Publications Center; Employers Section. Click on View employer publications; Actuarial Reports and scroll down to CalPERS Experience Study.

Economic Assumptions

Discount Rate

7.5 percent compounded annually (net of expenses). This assumption is used for all plans.

Termination Liability Discount Rate

The current discount rate assumption used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date.

Previously, for purposes of the hypothetical termination liability estimate, the discount rate used was the yield on the 30-year US Treasury Separate Trading of Registered Interest and Principal of Securities (STRIPS). However, this point in time estimate for the termination discount rate can be significantly different from the calculated discount rate for a plan termination based on prevailing market rates. Rather than using a point estimate the hypothetical termination liabilities in this report are calculated using an observed range of market interest rates. This range is based on the 20-year Treasury bond which has a similar duration to most plan liabilities and serves as a good proxy for the termination discount rate.

The securities purchased for the Terminated Agency Pool (TAP), however, consist solely of STRIPS, TIPS, and cash with varying maturity dates over the next 30 years. As a result, the methodology to set the discount rate for the TAP needs to be modified to ensure the discount rate is consistent with the yield rate of the portfolio. Beginning with the June 30, 2014 valuation the discount rate will be calculated by using a weighted average of the yields of the securities effective in the portfolio as of the last day of the most recent month of termination. This methodology would result in a discount rate that more closely reflects the yield rate of the TAP. As of June 30, 2014 this discount rate is 2.91 percent as opposed to the yield on the 30-year Strip of 3.55 percent.

Furthermore, when a plan with a large liability terminates a contingency immunization calculation is performed using actual cash flows of the terminating agency. Large liability terminations are expected to have large annual cash flows that may have an impact on the TAP’s cash flows thus creating a need to rebalance the portfolio. Pricing the actual cash flows at current market rates would have the same effect as a rebalance. A large liability plan is defined as one that would cause a 50 percent reduction of the existing TAP surplus as of the latest annual valuation. Quotes would be retrieved from securities necessary to immunize the additional liability. The termination discount rate is determined using the methodology above with the calculation being based on the yields of the quoted securities as opposed to the entire TAP portfolio.

Salary Growth

Annual increases vary by category, entry age, and duration of service. A sample of assumed increases are shown below.

Public Agency Miscellaneous

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1220	0.1160	0.1020
1	0.0990	0.0940	0.0830
2	0.0860	0.0810	0.0710
3	0.0770	0.0720	0.0630
4	0.0700	0.0650	0.0570
5	0.0640	0.0600	0.0520
10	0.0460	0.0430	0.0390
15	0.0420	0.0400	0.0360
20	0.0390	0.0380	0.0340
25	0.0370	0.0360	0.0330
30	0.0350	0.0340	0.0320

Public Agency Fire

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.2000	0.1980	0.1680
1	0.1490	0.1460	0.1250
2	0.1200	0.1160	0.0990
3	0.0980	0.0940	0.0810
4	0.0820	0.0780	0.0670
5	0.0690	0.0640	0.0550
10	0.0470	0.0460	0.0420
15	0.0440	0.0420	0.0390
20	0.0420	0.0390	0.0360
25	0.0400	0.0370	0.0340
30	0.0380	0.0360	0.0340

Public Agency Police

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1500	0.1470	0.1310
1	0.1160	0.1120	0.1010
2	0.0950	0.0920	0.0830
3	0.0810	0.0780	0.0700
4	0.0700	0.0670	0.0600
5	0.0610	0.0580	0.0520
10	0.0450	0.0430	0.0370
15	0.0450	0.0430	0.0370
20	0.0450	0.0430	0.0370
25	0.0450	0.0430	0.0370
30	0.0450	0.0430	0.0370

Salary Growth (continued)

Public Agency County Peace Officers

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1770	0.1670	0.1500
1	0.1340	0.1260	0.1140
2	0.1080	0.1030	0.0940
3	0.0900	0.0860	0.0790
4	0.0760	0.0730	0.0670
5	0.0650	0.0620	0.0580
10	0.0470	0.0450	0.0410
15	0.0460	0.0450	0.0390
20	0.0460	0.0450	0.0380
25	0.0460	0.0450	0.0380
30	0.0460	0.0440	0.0380

Schools

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.0900	0.0880	0.0820
1	0.0780	0.0750	0.0700
2	0.0700	0.0680	0.0630
3	0.0650	0.0630	0.0580
4	0.0610	0.0590	0.0540
5	0.0580	0.0560	0.0510
10	0.0460	0.0450	0.0410
15	0.0420	0.0410	0.0380
20	0.0390	0.0380	0.0350
25	0.0370	0.0350	0.0330
30	0.0350	0.0330	0.0310

- The Miscellaneous salary scale is used for Local Prosecutors.
- The Police salary scale is used for Other Safety, Local Sheriff, and School Police.

Overall Payroll Growth

3.00 percent compounded annually (used in projecting the payroll over which the unfunded liability is amortized). This assumption is used for all plans.

Inflation

2.75 percent compounded annually. This assumption is used for all plans.

Non-valued Potential Additional Liabilities

The potential liability loss for a cost-of-living increase exceeding the 2.75 percent inflation assumption, and any potential liability loss from future member service purchases are not reflected in the valuation.

Miscellaneous Loading Factors

Credit for Unused Sick Leave

Total years of service is increased by 1 percent for those plans that have accepted the provision providing Credit for Unused Sick Leave.

Conversion of Employer Paid Member Contributions (EPMC)

Total years of service is increased by the Employee Contribution Rate for those plans with the provision providing for the Conversion of Employer Paid Member Contributions (EPMC) during the final compensation period.

Norris Decision (Best Factors)

Employees hired prior to July 1, 1982 have projected benefit amounts increased in order to reflect the use of "Best Factors" in the calculation of optional benefit forms. This is due to a 1983 Supreme Court decision, known as the Norris decision, which required males and females to be treated equally in the determination of benefit amounts. Consequently, anyone already employed at that time is given the best possible conversion factor when optional benefits are determined. No loading is necessary for employees hired after July 1, 1982.

Termination Liability

The termination liabilities include a 7 percent contingency load. This load is for unforeseen improvements in mortality.

Demographic Assumptions

Pre-Retirement Mortality

Non-Industrial Death Rates vary by age and gender. Industrial Death rates vary by age. See sample rates in table below. The non-industrial death rates are used for all plans. The industrial death rates are used for Safety Plans (except for Local Prosecutor safety members where the corresponding Miscellaneous Plan does not have the Industrial Death Benefit).

	Non-Industrial Death (Not Job-Related)		**Industrial Death (Job-Related)**
Age	Male	Female	Male and Female
20	0.00031	0.00020	0.00003
25	0.00040	0.00023	0.00007
30	0.00049	0.00025	0.00010
35	0.00057	0.00035	0.00012
40	0.00075	0.00050	0.00013
45	0.00106	0.00071	0.00014
50	0.00155	0.00100	0.00015
55	0.00228	0.00138	0.00016
60	0.00308	0.00182	0.00017
65	0.00400	0.00257	0.00018
70	0.00524	0.00367	0.00019
75	0.00713	0.00526	0.00020
80	0.00990	0.00814	0.00021

Miscellaneous Plans usually have Industrial Death rates set to zero unless the agency has specifically contracted for Industrial Death benefits. If so, each Non-Industrial Death rate shown above will be split into two components; 99 percent will become the Non-Industrial Death rate and 1 percent will become the Industrial Death rate.

Post-Retirement Mortality

Rates vary by age, type of retirement and gender. See sample rates in table below. These rates are used for all plans.

	Healthy Recipients		Non-Industrially Disabled (Not Job-Related)		Industrially Disabled (Job-Related)	
Age	Male	Female	Male	Female	Male	Female
50	0.00501	0.00466	0.01680	0.01158	0.00501	0.00466
55	0.00599	0.00416	0.01973	0.01149	0.00599	0.00416
60	0.00710	0.00436	0.02289	0.01235	0.00754	0.00518
65	0.00829	0.00588	0.02451	0.01607	0.01122	0.00838
70	0.01305	0.00993	0.02875	0.02211	0.01635	0.01395
75	0.02205	0.01722	0.03990	0.03037	0.02834	0.02319
80	0.03899	0.02902	0.06083	0.04725	0.04899	0.03910
85	0.06969	0.05243	0.09731	0.07762	0.07679	0.06251
90	0.12974	0.09887	0.14804	0.12890	0.12974	0.09887
95	0.22444	0.18489	0.22444	0.21746	0.22444	0.18489
100	0.32536	0.30017	0.32536	0.30017	0.32536	0.30017
105	0.58527	0.56093	0.58527	0.56093	0.58527	0.56093
110	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

The post-retirement mortality rates above include 20 years of projected on-going mortality improvement using Scale BB published by the Society of Actuaries.

Marital Status

For active members, a percentage who are married upon retirement is assumed according to member category as shown in the following table.

Member Category	Percent Married
Miscellaneous Member	85%
Local Police	90%
Local Fire	90%
Other Local Safety	90%
School Police	90%

Age of Spouse

It is assumed that female spouses are 3 years younger than male spouses. This assumption is used for all plans.

Terminated Members

It is assumed that terminated members refund immediately if non-vested. Terminated members who are vested are assumed to follow the same service retirement pattern as active members but with a load to reflect the expected higher rates of retirement, especially at lower ages. The following table shows the load factors that are applied to the service retirement assumption for active members to obtain the service retirement pattern for separated vested members:

Age	Load Factor Miscellaneous	Load Factor Safety
50	190%	310%
51	110%	190%
52	110%	105%
53 through 54	100%	105%
55	100%	140%
56 and above	100% (no change)	100% (no change)

Termination with Refund

Rates vary by entry age and service for Miscellaneous Plans. Rates vary by service for Safety Plans. See sample rates in tables below.

Public Agency Miscellaneous

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40	Entry Age 45
0	0.1742	0.1674	0.1606	0.1537	0.1468	0.1400
1	0.1545	0.1477	0.1409	0.1339	0.1271	0.1203
2	0.1348	0.1280	0.1212	0.1142	0.1074	0.1006
3	0.1151	0.1083	0.1015	0.0945	0.0877	0.0809
4	0.0954	0.0886	0.0818	0.0748	0.0680	0.0612
5	0.0212	0.0193	0.0174	0.0155	0.0136	0.0116
10	0.0138	0.0121	0.0104	0.0088	0.0071	0.0055
15	0.0060	0.0051	0.0042	0.0032	0.0023	0.0014
20	0.0037	0.0029	0.0021	0.0013	0.0005	0.0001
25	0.0017	0.0011	0.0005	0.0001	0.0001	0.0001
30	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001
35	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Public Agency Safety

Duration of Service	Fire	Police	County Peace Officer
0	0.0710	0.1013	0.0997
1	0.0554	0.0636	0.0782
2	0.0398	0.0271	0.0566
3	0.0242	0.0258	0.0437
4	0.0218	0.0245	0.0414
5	0.0029	0.0086	0.0145
10	0.0009	0.0053	0.0089
15	0.0006	0.0027	0.0045
20	0.0005	0.0017	0.0020
25	0.0003	0.0012	0.0009
30	0.0003	0.0009	0.0006
35	0.0003	0.0009	0.0006

The Police Termination and Refund rates are also used for Public Agency Local Prosecutors, Other Safety, Local Sheriff and School Police.

Schools

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40	Entry Age 45
0	0.1730	0.1627	0.1525	0.1422	0.1319	0.1217
1	0.1585	0.1482	0.1379	0.1277	0.1174	0.1071
2	0.1440	0.1336	0.1234	0.1131	0.1028	0.0926
3	0.1295	0.1192	0.1089	0.0987	0.0884	0.0781
4	0.1149	0.1046	0.0944	0.0841	0.0738	0.0636
5	0.0278	0.0249	0.0221	0.0192	0.0164	0.0135
10	0.0172	0.0147	0.0122	0.0098	0.0074	0.0049
15	0.0115	0.0094	0.0074	0.0053	0.0032	0.0011
20	0.0073	0.0055	0.0038	0.0020	0.0002	0.0002
25	0.0037	0.0023	0.0010	0.0002	0.0002	0.0002

30	0.0015	0.0003	0.0002	0.0002	0.0002	0.0002
35	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Termination with Vested Benefits

Rates vary by entry age and service for Miscellaneous Plans. Rates vary by service for Safety Plans. See sample rates in tables below.

Public Agency Miscellaneous

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40
5	0.0656	0.0597	0.0537	0.0477	0.0418
10	0.0530	0.0466	0.0403	0.0339	0.0000
15	0.0443	0.0373	0.0305	0.0000	0.0000
20	0.0333	0.0261	0.0000	0.0000	0.0000
25	0.0212	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000
35	0.0000	0.0000	0.0000	0.0000	0.0000

Public Agency Safety

Duration of Service	Fire	Police	County Peace Officer
5	0.0162	0.0163	0.0265
10	0.0061	0.0126	0.0204
15	0.0058	0.0082	0.0130
20	0.0053	0.0065	0.0074
25	0.0047	0.0058	0.0043
30	0.0045	0.0056	0.0030
35	0.0000	0.0000	0.0000

- When a member is eligible to retire, the termination with vested benefits probability is set to zero.
- After termination with vested benefits, a miscellaneous member is assumed to retire at age 59 and a safety member at age 54.
- The Police Termination with vested benefits rates are also used for Public Agency Local Prosecutors, Other Safety, Local Sheriff and School Police.

Schools

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40
5	0.0816	0.0733	0.0649	0.0566	0.0482
10	0.0629	0.0540	0.0450	0.0359	0.0000
15	0.0537	0.0440	0.0344	0.0000	0.0000
20	0.0420	0.0317	0.0000	0.0000	0.0000
25	0.0291	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000
35	0.0000	0.0000	0.0000	0.0000	0.0000

Non-Industrial (Not Job-Related) Disability

Rates vary by age and gender for Miscellaneous Plans. Rates vary by age and category for Safety Plans.

	Miscellaneous		Fire	Police	County Peace Officer	Schools	
Age	Male	Female	Male and Female	Male and Female	Male and Female	Male	Female
20	0.0002	0.0001	0.0001	0.0001	0.0001	0.0003	0.0003
25	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
30	0.0002	0.0002	0.0001	0.0002	0.0001	0.0001	0.0002
35	0.0005	0.0008	0.0001	0.0003	0.0004	0.0005	0.0004
40	0.0012	0.0016	0.0001	0.0004	0.0007	0.0015	0.0010
45	0.0019	0.0022	0.0002	0.0005	0.0013	0.0030	0.0019
50	0.0021	0.0023	0.0005	0.0008	0.0018	0.0039	0.0024
55	0.0022	0.0018	0.0010	0.0013	0.0010	0.0036	0.0021
60	0.0022	0.0014	0.0015	0.0020	0.0006	0.0031	0.0014

- The Miscellaneous Non-Industrial Disability rates are used for Local Prosecutors.
- The Police Non-Industrial Disability rates are also used for Other Safety, Local Sheriff and School Police.

Industrial (Job-Related) Disability

Rates vary by age and category.

Age	Fire	Police	County Peace Officer
20	0.0001	0.0000	0.0004
25	0.0003	0.0017	0.0013
30	0.0007	0.0048	0.0025
35	0.0016	0.0079	0.0037
40	0.0030	0.0110	0.0051
45	0.0053	0.0141	0.0067
50	0.0277	0.0185	0.0092
55	0.0409	0.0479	0.0151
60	0.0583	0.0602	0.0174

- The Police Industrial Disability rates are also used for Local Sheriff and Other Safety.
- Fifty Percent of the Police Industrial Disability rates are used for School Police.
- One Percent of the Police Industrial Disability rates are used for Local Prosecutors.
- Normally, rates are zero for Miscellaneous Plans unless the agency has specifically contracted for Industrial Disability benefits. If so, each miscellaneous non-industrial disability rate will be split into two components: 50 percent will become the Non-Industrial Disability rate and 50 percent will become the Industrial Disability rate.

Service Retirement

Retirement rates vary by age, service, and formula, except for the safety ½ @ 55 and 2% @ 55 formulas, where retirement rates vary by age only.

Service Retirement

Public Agency Miscellaneous 1.5% @ 65

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.008	0.011	0.013	0.015	0.017	0.019
51	0.007	0.010	0.012	0.013	0.015	0.017
52	0.010	0.014	0.017	0.019	0.021	0.024
53	0.008	0.012	0.015	0.017	0.019	0.022
54	0.012	0.016	0.019	0.022	0.025	0.028
55	0.018	0.025	0.031	0.035	0.038	0.043
56	0.015	0.021	0.025	0.029	0.032	0.036
57	0.020	0.028	0.033	0.038	0.043	0.048
58	0.024	0.033	0.040	0.046	0.052	0.058
59	0.028	0.039	0.048	0.054	0.060	0.067
60	0.049	0.069	0.083	0.094	0.105	0.118
61	0.062	0.087	0.106	0.120	0.133	0.150
62	0.104	0.146	0.177	0.200	0.223	0.251
63	0.099	0.139	0.169	0.191	0.213	0.239
64	0.097	0.136	0.165	0.186	0.209	0.233
65	0.140	0.197	0.240	0.271	0.302	0.339
66	0.092	0.130	0.157	0.177	0.198	0.222
67	0.129	0.181	0.220	0.249	0.277	0.311
68	0.092	0.129	0.156	0.177	0.197	0.221
69	0.092	0.130	0.158	0.178	0.199	0.224
70	0.103	0.144	0.175	0.198	0.221	0.248

Public Agency Miscellaneous 2% @ 60

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.010	0.013	0.015	0.018	0.019	0.021
51	0.009	0.011	0.014	0.016	0.017	0.019
52	0.011	0.014	0.017	0.020	0.022	0.024
53	0.010	0.012	0.015	0.017	0.020	0.021
54	0.015	0.019	0.023	0.025	0.029	0.031
55	0.022	0.029	0.035	0.040	0.045	0.049
56	0.018	0.024	0.028	0.033	0.036	0.040
57	0.024	0.032	0.038	0.043	0.049	0.053
58	0.027	0.036	0.043	0.049	0.055	0.061
59	0.033	0.044	0.054	0.061	0.068	0.076
60	0.056	0.077	0.092	0.105	0.117	0.130
61	0.071	0.097	0.118	0.134	0.149	0.166
62	0.117	0.164	0.198	0.224	0.250	0.280
63	0.122	0.171	0.207	0.234	0.261	0.292
64	0.114	0.159	0.193	0.218	0.244	0.271
65	0.150	0.209	0.255	0.287	0.321	0.358
66	0.114	0.158	0.192	0.217	0.243	0.270
67	0.141	0.196	0.238	0.270	0.301	0.337
68	0.103	0.143	0.174	0.196	0.219	0.245
69	0.109	0.153	0.185	0.209	0.234	0.261
70	0.117	0.162	0.197	0.222	0.248	0.277

Service Retirement

Public Agency Miscellaneous 2% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.014	0.018	0.021	0.025	0.027	0.031
51	0.012	0.014	0.017	0.020	0.021	0.025
52	0.013	0.017	0.019	0.023	0.025	0.028
53	0.015	0.020	0.023	0.027	0.030	0.034
54	0.026	0.033	0.038	0.045	0.051	0.059
55	0.048	0.061	0.074	0.088	0.100	0.117
56	0.042	0.053	0.063	0.075	0.085	0.100
57	0.044	0.056	0.067	0.081	0.091	0.107
58	0.049	0.062	0.074	0.089	0.100	0.118
59	0.057	0.072	0.086	0.103	0.118	0.138
60	0.067	0.086	0.103	0.123	0.139	0.164
61	0.081	0.103	0.124	0.148	0.168	0.199
62	0.116	0.147	0.178	0.214	0.243	0.288
63	0.114	0.144	0.174	0.208	0.237	0.281
64	0.108	0.138	0.166	0.199	0.227	0.268
65	0.155	0.197	0.238	0.285	0.325	0.386
66	0.132	0.168	0.203	0.243	0.276	0.328
67	0.122	0.155	0.189	0.225	0.256	0.304
68	0.111	0.141	0.170	0.204	0.232	0.274
69	0.114	0.144	0.174	0.209	0.238	0.282
70	0.130	0.165	0.200	0.240	0.272	0.323

Public Agency Miscellaneous 2.5% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.004	0.009	0.019	0.029	0.049	0.094
51	0.004	0.009	0.019	0.029	0.049	0.094
52	0.004	0.009	0.020	0.030	0.050	0.095
53	0.008	0.014	0.025	0.036	0.058	0.104
54	0.024	0.034	0.050	0.066	0.091	0.142
55	0.066	0.088	0.115	0.142	0.179	0.241
56	0.042	0.057	0.078	0.098	0.128	0.184
57	0.041	0.057	0.077	0.097	0.128	0.183
58	0.045	0.061	0.083	0.104	0.136	0.192
59	0.055	0.074	0.098	0.123	0.157	0.216
60	0.066	0.088	0.115	0.142	0.179	0.241
61	0.072	0.095	0.124	0.153	0.191	0.255
62	0.099	0.130	0.166	0.202	0.248	0.319
63	0.092	0.121	0.155	0.189	0.233	0.302
64	0.091	0.119	0.153	0.187	0.231	0.299
65	0.122	0.160	0.202	0.245	0.297	0.374
66	0.138	0.179	0.226	0.272	0.329	0.411
67	0.114	0.149	0.189	0.229	0.279	0.354
68	0.100	0.131	0.168	0.204	0.250	0.322
69	0.114	0.149	0.189	0.229	0.279	0.354
70	0.127	0.165	0.209	0.253	0.306	0.385

Service Retirement

Public Agency Miscellaneous 2.7% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.004	0.009	0.014	0.035	0.055	0.095
51	0.002	0.006	0.011	0.030	0.050	0.090
52	0.006	0.012	0.017	0.038	0.059	0.099
53	0.010	0.017	0.024	0.046	0.068	0.110
54	0.032	0.044	0.057	0.085	0.113	0.160
55	0.076	0.101	0.125	0.165	0.205	0.265
56	0.055	0.074	0.093	0.127	0.160	0.214
57	0.050	0.068	0.086	0.118	0.151	0.204
58	0.055	0.074	0.093	0.127	0.161	0.215
59	0.061	0.082	0.102	0.138	0.174	0.229
60	0.069	0.093	0.116	0.154	0.192	0.250
61	0.086	0.113	0.141	0.183	0.225	0.288
62	0.105	0.138	0.171	0.218	0.266	0.334
63	0.103	0.135	0.167	0.215	0.262	0.329
64	0.109	0.143	0.177	0.226	0.275	0.344
65	0.134	0.174	0.215	0.270	0.326	0.401
66	0.147	0.191	0.235	0.294	0.354	0.433
67	0.121	0.158	0.196	0.248	0.300	0.372
68	0.113	0.147	0.182	0.232	0.282	0.352
69	0.117	0.153	0.189	0.240	0.291	0.362
70	0.141	0.183	0.226	0.283	0.341	0.418

Public Agency Miscellaneous 3% @ 60

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.012	0.018	0.024	0.039	0.040	0.091
51	0.009	0.014	0.019	0.034	0.034	0.084
52	0.014	0.020	0.026	0.043	0.044	0.096
53	0.016	0.023	0.031	0.048	0.050	0.102
54	0.026	0.036	0.045	0.065	0.070	0.125
55	0.043	0.057	0.072	0.096	0.105	0.165
56	0.042	0.056	0.070	0.094	0.103	0.162
57	0.049	0.065	0.082	0.108	0.119	0.180
58	0.057	0.076	0.094	0.122	0.136	0.199
59	0.076	0.100	0.123	0.157	0.175	0.244
60	0.114	0.148	0.182	0.226	0.255	0.334
61	0.095	0.123	0.152	0.190	0.214	0.288
62	0.133	0.172	0.211	0.260	0.294	0.378
63	0.129	0.166	0.204	0.252	0.285	0.368
64	0.143	0.185	0.226	0.278	0.315	0.401
65	0.202	0.260	0.318	0.386	0.439	0.542
66	0.177	0.228	0.279	0.340	0.386	0.482
67	0.151	0.194	0.238	0.292	0.331	0.420
68	0.139	0.179	0.220	0.270	0.306	0.391
69	0.190	0.245	0.299	0.364	0.414	0.513
70	0.140	0.182	0.223	0.274	0.310	0.396

Service Retirement

Public Agency Miscellaneous 2% @ 62

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.000	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	0.000	0.000
52	0.010	0.013	0.016	0.019	0.022	0.024
53	0.013	0.017	0.020	0.024	0.027	0.031
54	0.021	0.027	0.033	0.039	0.045	0.050
55	0.044	0.056	0.068	0.080	0.092	0.104
56	0.030	0.039	0.047	0.055	0.063	0.072
57	0.036	0.046	0.056	0.066	0.076	0.086
58	0.046	0.059	0.072	0.085	0.097	0.110
59	0.058	0.074	0.089	0.105	0.121	0.137
60	0.062	0.078	0.095	0.112	0.129	0.146
61	0.062	0.079	0.096	0.113	0.129	0.146
62	0.097	0.123	0.150	0.176	0.202	0.229
63	0.089	0.113	0.137	0.162	0.186	0.210
64	0.094	0.120	0.145	0.171	0.197	0.222
65	0.129	0.164	0.199	0.234	0.269	0.304
66	0.105	0.133	0.162	0.190	0.219	0.247
67	0.105	0.133	0.162	0.190	0.219	0.247
68	0.105	0.133	0.162	0.190	0.219	0.247
69	0.105	0.133	0.162	0.190	0.219	0.247
70	0.125	0.160	0.194	0.228	0.262	0.296

Service Retirement

Public Agency Fire ½ @ 55 and 2% @ 55

Age	Rate	Age	Rate
50	0.0159	56	0.1108
51	0.0000	57	0.0000
52	0.0344	58	0.0950
53	0.0199	59	0.0441
54	0.0413	60	1.00000
55	0.0751		

Public Agency Police ½ @ 55 and 2% @ 55

Age	Rate	Age	Rate
50	0.0255	56	0.0692
51	0.0000	57	0.0511
52	0.0164	58	0.0724
53	0.0272	59	0.0704
54	0.0095	60	1.0000
55	0.1667		

Service Retirement

Public Agency Police 2% @ 50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.005	0.005	0.005	0.005	0.017	0.089
51	0.005	0.005	0.005	0.005	0.017	0.087
52	0.018	0.018	0.018	0.018	0.042	0.132
53	0.044	0.044	0.044	0.044	0.090	0.217
54	0.065	0.065	0.065	0.065	0.126	0.283
55	0.086	0.086	0.086	0.086	0.166	0.354
56	0.067	0.067	0.067	0.067	0.130	0.289
57	0.066	0.066	0.066	0.066	0.129	0.288
58	0.066	0.066	0.066	0.066	0.129	0.288
59	0.139	0.139	0.139	0.139	0.176	0.312
60	0.123	0.123	0.123	0.123	0.153	0.278
61	0.110	0.110	0.110	0.110	0.138	0.256
62	0.130	0.130	0.130	0.130	0.162	0.291
63	0.130	0.130	0.130	0.130	0.162	0.291
64	0.130	0.130	0.130	0.130	0.162	0.291
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 2% @ 50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.009	0.009	0.009	0.009	0.013	0.020
51	0.013	0.013	0.013	0.013	0.020	0.029
52	0.018	0.018	0.018	0.018	0.028	0.042
53	0.052	0.052	0.052	0.052	0.079	0.119
54	0.067	0.067	0.067	0.067	0.103	0.154
55	0.089	0.089	0.089	0.089	0.136	0.204
56	0.083	0.083	0.083	0.083	0.127	0.190
57	0.082	0.082	0.082	0.082	0.126	0.189
58	0.088	0.088	0.088	0.088	0.136	0.204
59	0.074	0.074	0.074	0.074	0.113	0.170
60	0.100	0.100	0.100	0.100	0.154	0.230
61	0.072	0.072	0.072	0.072	0.110	0.165
62	0.099	0.099	0.099	0.099	0.152	0.228
63	0.114	0.114	0.114	0.114	0.175	0.262
64	0.114	0.114	0.114	0.114	0.175	0.262
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 3% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.004	0.004	0.004	0.004	0.015	0.086
51	0.014	0.014	0.014	0.014	0.034	0.114
52	0.026	0.026	0.026	0.026	0.060	0.154
53	0.038	0.038	0.038	0.038	0.083	0.188
54	0.071	0.071	0.071	0.071	0.151	0.292
55	0.061	0.061	0.061	0.061	0.131	0.261
56	0.072	0.072	0.072	0.072	0.153	0.295
57	0.065	0.065	0.065	0.065	0.140	0.273
58	0.066	0.066	0.066	0.066	0.142	0.277
59	0.118	0.118	0.118	0.118	0.247	0.437
60	0.065	0.065	0.065	0.065	0.138	0.272
61	0.084	0.084	0.084	0.084	0.178	0.332
62	0.108	0.108	0.108	0.108	0.226	0.405
63	0.084	0.084	0.084	0.084	0.178	0.332
64	0.084	0.084	0.084	0.084	0.178	0.332
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 3% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.001	0.001	0.001	0.006	0.016	0.069
51	0.002	0.002	0.002	0.006	0.018	0.071
52	0.012	0.012	0.012	0.021	0.040	0.098
53	0.032	0.032	0.032	0.049	0.085	0.149
54	0.057	0.057	0.057	0.087	0.144	0.217
55	0.073	0.073	0.073	0.109	0.179	0.259
56	0.064	0.064	0.064	0.097	0.161	0.238
57	0.063	0.063	0.063	0.095	0.157	0.233
58	0.065	0.065	0.065	0.099	0.163	0.241
59	0.088	0.088	0.088	0.131	0.213	0.299
60	0.105	0.105	0.105	0.155	0.251	0.344
61	0.118	0.118	0.118	0.175	0.282	0.380
62	0.087	0.087	0.087	0.128	0.210	0.295
63	0.067	0.067	0.067	0.100	0.165	0.243
64	0.067	0.067	0.067	0.100	0.165	0.243
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 3% @ 50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.050	0.050	0.050	0.099	0.240	0.314
51	0.034	0.034	0.034	0.072	0.198	0.260
52	0.033	0.033	0.033	0.071	0.198	0.259
53	0.039	0.039	0.039	0.080	0.212	0.277
54	0.045	0.045	0.045	0.092	0.229	0.300
55	0.052	0.052	0.052	0.105	0.248	0.323
56	0.042	0.042	0.042	0.087	0.221	0.289
57	0.043	0.043	0.043	0.088	0.223	0.292
58	0.054	0.054	0.054	0.109	0.255	0.333
59	0.054	0.054	0.054	0.108	0.253	0.330
60	0.060	0.060	0.060	0.121	0.272	0.355
61	0.048	0.048	0.048	0.098	0.238	0.311
62	0.061	0.061	0.061	0.122	0.274	0.357
63	0.057	0.057	0.057	0.115	0.263	0.343
64	0.069	0.069	0.069	0.137	0.296	0.385
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 3% @ 50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.020	0.020	0.020	0.040	0.130	0.192
51	0.008	0.008	0.008	0.023	0.107	0.164
52	0.023	0.023	0.023	0.043	0.136	0.198
53	0.023	0.023	0.023	0.043	0.135	0.198
54	0.027	0.027	0.027	0.048	0.143	0.207
55	0.043	0.043	0.043	0.070	0.174	0.244
56	0.053	0.053	0.053	0.085	0.196	0.269
57	0.054	0.054	0.054	0.086	0.197	0.271
58	0.052	0.052	0.052	0.084	0.193	0.268
59	0.075	0.075	0.075	0.116	0.239	0.321
60	0.065	0.065	0.065	0.102	0.219	0.298
61	0.076	0.076	0.076	0.117	0.241	0.324
62	0.068	0.068	0.068	0.106	0.224	0.304
63	0.027	0.027	0.027	0.049	0.143	0.208
64	0.094	0.094	0.094	0.143	0.277	0.366
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 2% @ 57

Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.011	0.011	0.011	0.011	0.020	0.036
51	0.009	0.009	0.009	0.009	0.016	0.028
52	0.018	0.018	0.018	0.018	0.034	0.060
53	0.037	0.037	0.037	0.037	0.067	0.119
54	0.049	0.049	0.049	0.049	0.089	0.159
55	0.063	0.063	0.063	0.063	0.115	0.205
56	0.045	0.045	0.045	0.045	0.082	0.146
57	0.064	0.064	0.064	0.064	0.117	0.209
58	0.047	0.047	0.047	0.047	0.086	0.154
59	0.105	0.105	0.105	0.105	0.130	0.191
60	0.105	0.105	0.105	0.105	0.129	0.188
61	0.105	0.105	0.105	0.105	0.129	0.188
62	0.105	0.105	0.105	0.105	0.129	0.188
63	0.105	0.105	0.105	0.105	0.129	0.188
64	0.105	0.105	0.105	0.105	0.129	0.188
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 2% @ 57

Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.005	0.005	0.005	0.005	0.008	0.012
51	0.006	0.006	0.006	0.006	0.009	0.013
52	0.012	0.012	0.012	0.012	0.019	0.028
53	0.033	0.033	0.033	0.033	0.050	0.075
54	0.045	0.045	0.045	0.045	0.069	0.103
55	0.061	0.061	0.061	0.061	0.094	0.140
56	0.055	0.055	0.055	0.055	0.084	0.126
57	0.081	0.081	0.081	0.081	0.125	0.187
58	0.059	0.059	0.059	0.059	0.091	0.137
59	0.055	0.055	0.055	0.055	0.084	0.126
60	0.085	0.085	0.085	0.085	0.131	0.196
61	0.085	0.085	0.085	0.085	0.131	0.196
62	0.085	0.085	0.085	0.085	0.131	0.196
63	0.085	0.085	0.085	0.085	0.131	0.196
64	0.085	0.085	0.085	0.085	0.131	0.196
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 2.5% @ 57

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.014	0.014	0.014	0.014	0.025	0.045
51	0.012	0.012	0.012	0.012	0.021	0.038
52	0.025	0.025	0.025	0.025	0.046	0.081
53	0.047	0.047	0.047	0.047	0.086	0.154
54	0.063	0.063	0.063	0.063	0.115	0.205
55	0.076	0.076	0.076	0.076	0.140	0.249
56	0.054	0.054	0.054	0.054	0.099	0.177
57	0.071	0.071	0.071	0.071	0.130	0.232
58	0.057	0.057	0.057	0.057	0.103	0.184
59	0.126	0.126	0.126	0.126	0.156	0.229
60	0.126	0.126	0.126	0.126	0.155	0.226
61	0.126	0.126	0.126	0.126	0.155	0.226
62	0.126	0.126	0.126	0.126	0.155	0.226
63	0.126	0.126	0.126	0.126	0.155	0.226
64	0.126	0.126	0.126	0.126	0.155	0.226
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 2.5% @ 57

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.007	0.007	0.007	0.007	0.010	0.015
51	0.008	0.008	0.008	0.008	0.012	0.018
52	0.016	0.016	0.016	0.016	0.025	0.038
53	0.042	0.042	0.042	0.042	0.064	0.096
54	0.057	0.057	0.057	0.057	0.088	0.132
55	0.074	0.074	0.074	0.074	0.114	0.170
56	0.066	0.066	0.066	0.066	0.102	0.153
57	0.090	0.090	0.090	0.090	0.139	0.208
58	0.071	0.071	0.071	0.071	0.110	0.164
59	0.066	0.066	0.066	0.066	0.101	0.151
60	0.102	0.102	0.102	0.102	0.157	0.235
61	0.102	0.102	0.102	0.102	0.157	0.236
62	0.102	0.102	0.102	0.102	0.157	0.236
63	0.102	0.102	0.102	0.102	0.157	0.236
64	0.102	0.102	0.102	0.102	0.157	0.236
65	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement

Public Agency Police 2.7% @ 57

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.0138	0.0138	0.0138	0.0138	0.0253	0.0451
51	0.0123	0.0123	0.0123	0.0123	0.0226	0.0402
52	0.0249	0.0249	0.0249	0.0249	0.0456	0.0812
53	0.0497	0.0497	0.0497	0.0497	0.0909	0.1621
54	0.0662	0.0662	0.0662	0.0662	0.1211	0.2160
55	0.0854	0.0854	0.0854	0.0854	0.1563	0.2785
56	0.0606	0.0606	0.0606	0.0606	0.1108	0.1975
57	0.0711	0.0711	0.0711	0.0711	0.1300	0.2318
58	0.0628	0.0628	0.0628	0.0628	0.1149	0.2049
59	0.1396	0.1396	0.1396	0.1396	0.1735	0.2544
60	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
61	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
62	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
63	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
64	0.1396	0.1396	0.1396	0.1396	0.1719	0.2506
65	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police and Other Safety.

Service Retirement

Public Agency Fire 2.7% @ 57

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.0065	0.0065	0.0065	0.0065	0.0101	0.0151
51	0.0081	0.0081	0.0081	0.0081	0.0125	0.0187
52	0.0164	0.0164	0.0164	0.0164	0.0254	0.0380
53	0.0442	0.0442	0.0442	0.0442	0.0680	0.1018
54	0.0606	0.0606	0.0606	0.0606	0.0934	0.1397
55	0.0825	0.0825	0.0825	0.0825	0.1269	0.1900
56	0.0740	0.0740	0.0740	0.0740	0.1140	0.1706
57	0.0901	0.0901	0.0901	0.0901	0.1387	0.2077
58	0.0790	0.0790	0.0790	0.0790	0.1217	0.1821
59	0.0729	0.0729	0.0729	0.0729	0.1123	0.1681
60	0.1135	0.1135	0.1135	0.1135	0.1747	0.2615
61	0.1136	0.1136	0.1136	0.1136	0.1749	0.2618
62	0.1136	0.1136	0.1136	0.1136	0.1749	0.2618
63	0.1136	0.1136	0.1136	0.1136	0.1749	0.2618
64	0.1136	0.1136	0.1136	0.1136	0.1749	0.2618
65	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Service Retirement

Schools 2% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.005	0.009	0.013	0.015	0.016	0.018
51	0.005	0.010	0.014	0.017	0.019	0.021
52	0.006	0.012	0.017	0.020	0.022	0.025
53	0.007	0.014	0.019	0.023	0.026	0.029
54	0.012	0.024	0.033	0.039	0.044	0.049
55	0.024	0.048	0.067	0.079	0.088	0.099
56	0.020	0.039	0.055	0.065	0.072	0.081
57	0.021	0.042	0.059	0.070	0.078	0.087
58	0.025	0.050	0.070	0.083	0.092	0.103
59	0.029	0.057	0.080	0.095	0.105	0.118
60	0.037	0.073	0.102	0.121	0.134	0.150
61	0.046	0.090	0.126	0.149	0.166	0.186
62	0.076	0.151	0.212	0.250	0.278	0.311
63	0.069	0.136	0.191	0.225	0.251	0.281
64	0.067	0.133	0.185	0.219	0.244	0.273
65	0.091	0.180	0.251	0.297	0.331	0.370
66	0.072	0.143	0.200	0.237	0.264	0.295
67	0.067	0.132	0.185	0.218	0.243	0.272
68	0.060	0.118	0.165	0.195	0.217	0.243
69	0.067	0.133	0.187	0.220	0.246	0.275
70	0.066	0.131	0.183	0.216	0.241	0.270

Miscellaneous

Superfunded Status

Prior to enactment of the Public Employees' Pension Reform Act (PEPRA) that became effective January 1, 2013, a plan in superfunded status (actuarial value of assets exceeding present value of benefits) would normally pay a zero employer contribution rate while also being permitted to use its superfunded assets to pay its employees' normal member contributions.

However, Section 7522.52(a) of PEPRA states, "In any fiscal year a public employer's contribution to a defined benefit plan, in combination with employee contributions to that defined benefit plan, shall not be less than the total normal cost rate…" This means that not only must employers pay their employer normal cost regardless of plan surplus, but also, employers may no longer use superfunded assets to pay employee normal member contributions.

Internal Revenue Code Section 415

The limitations on benefits imposed by Internal Revenue Code Section 415 are taken into account in this valuation. Each year the impact of any changes in this limitation since the prior valuation is included and amortized as part of the actuarial gain or loss base. This results in lower contributions for those employers contributing to the Replacement Benefit Fund and protects CalPERS from prefunding expected benefits in excess of limits imposed by federal tax law.

Internal Revenue Code Section 401(a)(17)

The limitations on compensation imposed by Internal Revenue Code Section 401(a)(17) are taken into account in this valuation. Each year, the impact of any changes in the compensation limitation since the prior valuation is included and amortized as part of the actuarial gain or loss base.

PEPRA Assumptions

The Public Employees' Pension Reform Act of 2013 (PEPRA) mandated new benefit formulas and new member contributions for new members (as defined by PEPRA) hired after January 1, 2013. For non-pooled plans, these new members were first reflected in the June 30, 2013 non-pooled plan valuations. New members in pooled plans were first reflected in the new Miscellaneous and Safety risk pools created by the CalPERS Board in November 2012 in response to the passage of PEPRA, also beginning with the June 30, 2013 valuation. Assumptions for PEPRA members are disclosed in Appendix A tables.

APPENDIX B

PRINCIPAL PLAN PROVISIONS

The following is a description of the principal plan provisions used in calculating costs and liabilities. We have indicated whether a plan provision is standard or optional. Standard benefits are applicable to all members while optional benefits vary among employers. Optional benefits that apply to a single period of time, such as Golden Handshakes, have not been included. Many of the statements in this summary are general in nature, and are intended to provide an easily understood summary of the complex Public Employees' Retirement Law. The law itself governs in all situations. For a full listing of all optional benefits refer to the PERS-CON-40 available on CalPERS website by choosing Employer Information > Retirement Benefit Programs & Contracting Services > Retirement Benefits Program > Contract Information > Optional Benefits

Service Retirement

Eligibility

A classic CalPERS member or PEPRA Safety member becomes eligible for Service Retirement upon attainment of age 50 with at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). For employees hired into a plan with the 1.5 percent at 65 formula, eligibility for service retirement is age 55 with at least 5 years of service. PEPRA miscellaneous members become eligible for Service Retirement upon attainment of age 52 with at least 5 years of service.

Benefit

The Service Retirement benefit is a monthly allowance equal to the product of the *benefit factor*, *years of service*, and *final compensation.*

- The *benefit factor* depends on the benefit formula specified in your agency's contract. The table below shows the factors for each of the available formulas. Factors vary by the member's age at retirement. Listed are the factors for retirement at whole year ages:

Miscellaneous Plan Formulas

Retirement Age	1.5% at 65	2% at 60	2% at 55	2.5% at 55	2.7% at 55	3% at 60	PEPRA 2% at 62
50	0.5000%	1.092%	1.426%	2.000%	2.000%	2.000%	N/A
51	0.5667%	1.156%	1.522%	2.100%	2.140%	2.100%	N/A
52	0.6334%	1.224%	1.628%	2.200%	2.280%	2.200%	1.000%
53	0.7000%	1.296%	1.742%	2.300%	2.420%	2.300%	1.100%
54	0.7667%	1.376%	1.866%	2.400%	2.560%	2.400%	1.200%
55	0.8334%	1.460%	2.000%	2.500%	2.700%	2.500%	1.300%
56	0.9000%	1.552%	2.052%	2.500%	2.700%	2.600%	1.400%
57	0.9667%	1.650%	2.104%	2.500%	2.700%	2.700%	1.500%
58	1.0334%	1.758%	2.156%	2.500%	2.700%	2.800%	1.600%
59	1.1000%	1.874%	2.210%	2.500%	2.700%	2.900%	1.700%
60	1.1667%	2.000%	2.262%	2.500%	2.700%	3.000%	1.800%
61	1.2334%	2.134%	2.314%	2.500%	2.700%	3.000%	1.900%
62	1.3000%	2.272%	2.366%	2.500%	2.700%	3.000%	2.000%
63	1.3667%	2.418%	2.418%	2.500%	2.700%	3.000%	2.100%
64	1.4334%	2.418%	2.418%	2.500%	2.700%	3.000%	2.200%
65	1.5000%	2.418%	2.418%	2.500%	2.700%	3.000%	2.300%
66	1.5000%	2.418%	2.418%	2.500%	2.700%	3.000%	2.400%
67 & up	1.5000%	2.418%	2.418%	2.500%	2.700%	3.000%	2.500%

Safety Plan Formulas

Retirement Age	½ at 55 *	2% at 55	2% at 50	3% at 55	3% at 50
50	1.783%	1.426%	2.000%	2.400%	3.000%
51	1.903%	1.522%	2.140%	2.520%	3.000%
52	2.035%	1.628%	2.280%	2.640%	3.000%
53	2.178%	1.742%	2.420%	2.760%	3.000%
54	2.333%	1.866%	2.560%	2.880%	3.000%
55 & Up	2.500%	2.000%	2.700%	3.000%	3.000%

* For this formula, the benefit factor also varies by entry age. The factors shown are for members with an entry age of 35 or greater. If entry age is less than 35, then the age 55 benefit factor is 50 percent divided by the difference between age 55 and entry age. The benefit factor for ages prior to age 55 is the same proportion of the age 55 benefit factor as in the above table.

PEPRA Safety Plan Formulas

Retirement Age	2% at 57	2.5% at 57	2.7% at 57
50	1.426%	2.000%	2.000%
51	1.508%	2.071%	2.100%
52	1.590%	2.143%	2.200%
53	1.672%	2.214%	2.300%
54	1.754%	2.286%	2.400%
55	1.836%	2.357%	2.500%
56	1.918%	2.429%	2.600%
57 & Up	2.000%	2.500%	2.700%

- The *years of service* is the amount credited by CalPERS to a member while he or she is employed in this group (or for other periods that are recognized under the employer's contract with CalPERS). For a member who has earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance. An agency may contract for an optional benefit where any unused sick leave accumulated at the time of retirement will be converted to credited service at a rate of 0.004 years of service for each day of sick leave.

- The *final compensation* is the monthly average of the member's highest 36 or 12 consecutive months' full-time equivalent monthly pay (no matter which CalPERS employer paid this compensation). The standard benefit is 36 months. Employers had the option of providing a final compensation equal to the highest 12 consecutive months for classic plans only. Final compensation must be defined by the highest 36 consecutive months' pay under the 1.5% at 65 formula. PEPRA members have a cap on the annual salary that can be used to calculate final compensation for all new members based on the Social Security Contribution and Benefit Base. For employees that participate in Social Security this cap is $115,064 for 2014 and for those employees that do not participate in social security the cap for 2014 is $138,077, the equivalent of 120 percent of the 2013 Contribution and Benefit Base. Adjustments to the caps are permitted annually based on changes to the CPI for All Urban Consumers.

- Employees must be covered by Social Security with the 1.5% at 65 formula. Social Security is optional for all other benefit formulas. For employees covered by Social Security, the Modified formula is the standard benefit. Under this type of formula, the final compensation is offset by $133.33 (or by one third if the final compensation is less than $400). Employers may contract for the Full benefit with Social Security that will eliminate the offset applicable to the final compensation. For employees not covered by Social Security, the Full benefit is paid with no offsets. Auxiliary organizations of the CSUC system may elect reduced contribution rates, in which case the offset is $317 if members are not covered by Social Security or $513 if members are covered by Social Security.

- The Miscellaneous Service Retirement benefit is not capped. The Safety Service Retirement benefit is capped at 90 percent of final compensation.

Vested Deferred Retirement

Eligibility for Deferred Status

A CalPERS member becomes eligible for a deferred vested retirement benefit when he or she leaves employment, keeps his or her contribution account balance on deposit with CalPERS, **and** has earned at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements).

Eligibility to Start Receiving Benefits

The CalPERS classic members and Safety PEPRA members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 50 (55 for employees hired into a 1.5% @ 65 plan). PEPRA Miscellaneous members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 52.

Benefit

The vested deferred retirement benefit is the same as the Service Retirement benefit, where the benefit factor is based on the member's age at allowance commencement. For members who have earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance.

Non-Industrial (Non-Job Related) Disability Retirement

Eligibility

A CalPERS member is eligible for Non-Industrial Disability Retirement if he or she becomes *disabled* and has at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). There is no special age requirement. *Disabled* means the member is unable to perform his or her job because of an illness or injury, which is expected to be permanent or to last indefinitely. The illness or injury does not have to be job related. A CalPERS member must be actively employed by any CalPERS employer at the time of disability in order to be eligible for this benefit.

Standard Benefit

The standard Non-Industrial Disability Retirement benefit is a monthly allowance equal to 1.8 percent of final compensation, multiplied by *service*, which is determined as follows:

- *Service* is CalPERS credited service, for members with less than 10 years of service or greater than 18.518 years of service; or

- *Service* is CalPERS credited service plus the additional number of years that the member would have worked until age 60, for members with at least 10 years but not more than 18.518 years of service. The maximum benefit in this case is 33 1/3 percent of Final Compensation.

Improved Benefit

Employers have the option of providing the improved Non-Industrial Disability Retirement benefit. This benefit provides a monthly allowance equal to 30 percent of final compensation for the first 5 years of service, plus 1 percent for each additional year of service to a maximum of 50 percent of final compensation.

Members who are eligible for a larger service retirement benefit may choose to receive that benefit in lieu of a disability benefit. Members eligible to retire, and who have attained the normal retirement age determined by their service retirement benefit formula, will receive the same dollar amount for disability retirement as that payable for service retirement. For members who have earned service with multiple CalPERS employers, the benefit attributed to each employer is the total disability allowance multiplied by the ratio of service with a particular employer to the total CalPERS service.

Industrial (Job Related) Disability Retirement

All safety members have this benefit. For miscellaneous members, employers have the option of providing this benefit. An employer may choose to provide the Increased benefit option or the Improved benefit option.

Eligibility

An employee is eligible for Industrial Disability Retirement if he or she becomes disabled while working, where disabled means the member is unable to perform the duties of the job because of a work-related illness or injury, which is expected to be permanent or to last indefinitely. A CalPERS member who has left active employment within this group is not eligible for this benefit, except to the extent described below.

Standard Benefit

The standard Industrial Disability Retirement benefit is a monthly allowance equal to 50 percent of final compensation.

Increased Benefit (75 percent of Final Compensation)

The increased Industrial Disability Retirement benefit is a monthly allowance equal to 75 percent final compensation for total disability.

Improved Benefit (50 percent to 90 percent of Final Compensation)

The improved Industrial Disability Retirement benefit is a monthly allowance equal to the Workman's Compensation Appeals Board permanent disability rate percentage (if 50 percent or greater, with a maximum of 90 percent) times the final compensation.

For a CalPERS member not actively employed in this group who became disabled while employed by some other CalPERS employer, the benefit is a return of accumulated member contributions with respect to employment in this group. With the standard or increased benefit, a member may also choose to receive the annuitization of the accumulated member contributions.

If a member is eligible for Service Retirement and if the Service Retirement benefit is more than the Industrial Disability Retirement benefit, the member may choose to receive the larger benefit.

Post-Retirement Death Benefit

Standard Lump Sum Payment

Upon the death of a retiree, a one-time lump sum payment of $500 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Improved Lump Sum Payment

Employers have the option of providing an improved lump sum death benefit of $600, $2,000, $3,000, $4,000 or $5,000.

Form of Payment for Retirement Allowance

Standard Form of Payment

Generally, the retirement allowance is paid to the retiree in the form of an annuity for as long as he or she is alive. The retiree may choose to provide for a portion of his or her allowance to be paid to any designated beneficiary after the retiree's death. CalPERS provides for a variety of such benefit options, which the retiree pays for by taking a reduction in his or her retirement allowance. Such reduction takes into account the amount to be provided to the beneficiary and the probable duration of payments (based on the ages of the member and beneficiary) made subsequent to the member's death.

Improved Form of Payment (Post Retirement Survivor Allowance)

Employers have the option to contract for the post retirement survivor allowance.

For retirement allowances with respect to service subject to the modified formula, 25 percent of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, without a reduction in the retiree's allowance. For retirement allowances with respect to service subject to the full or supplemental formula, 50 percent of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, without a reduction in the retiree's allowance. This additional benefit is often referred to as post retirement survivor allowance (PRSA) or simply as survivor continuance.

In other words, 25 percent or 50 percent of the allowance, the continuance portion, is paid to the retiree for as long as he or she is alive, and that same amount is continued to the retiree's spouse (or if no eligible spouse, to unmarried children until they attain age 18; or, if no eligible children, to a qualifying dependent parent) for the rest of his or her lifetime. This benefit will not be discontinued in the event the spouse remarries.

The remaining 75 percent or 50 percent of the retirement allowance, which may be referred to as the option portion of the benefit, is paid to the retiree as an annuity for as long as he or she is alive. Or, the retiree may choose to provide for some of this option portion to be paid to any designated beneficiary after the retiree's death. Benefit options applicable to the option portion are the same as those offered with the standard form. The reduction is calculated in the same manner but is applied only to the option portion.

Pre-Retirement Death Benefits

Basic Death Benefit

This is a standard benefit.

Eligibility

An employee’s beneficiary (or estate) may receive the Basic Death benefit if the member dies while actively employed. A CalPERS member must be actively employed with the CalPERS employer providing this benefit to be eligible for this benefit. A member’s survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this Basic Death benefit.

Benefit

The Basic Death Benefit is a lump sum in the amount of the member’s accumulated contributions, where interest is currently credited at 7.5 percent per year, plus a lump sum in the amount of one month's salary for each completed year of current service, up to a maximum of six months' salary. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

1957 Survivor Benefit

This is a standard benefit.

Eligibility

An employee’s *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member must be actively employed with the CalPERS employer providing this benefit to be eligible for this benefit. An eligible survivor means the surviving spouse to whom the member was married at least one year before death or, if there is no eligible spouse, to the member's unmarried children under age 18. A member’s survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this 1957 Survivor benefit.

Benefit

The 1957 Survivor benefit is a monthly allowance equal to one-half of the unmodified Service Retirement benefit that the member would have been entitled to receive if the member had retired on the date of his or her death. If the benefit is payable to the spouse, the benefit is discontinued upon the death of the spouse. If the benefit is payable to a dependent child, the benefit will be discontinued upon death or attainment of age 18, unless the child is disabled. The total amount paid will be at least equal to the Basic Death benefit.

Optional Settlement 2W Death Benefit

This is an optional benefit.

Eligibility

An employee’s *eligible survivor* may receive the Optional Settlement 2W Death benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death. A member’s survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this Optional Settlement 2W Death benefit.

Benefit

The Optional Settlement 2W Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) The allowance is payable as long as the surviving spouse lives, at which time it is continued to any unmarried children under age 18, if applicable. The total amount paid will be at least equal to the Basic Death Benefit.

Special Death Benefit

This is a standard benefit for safety members. An employer may elect to provide this benefit for miscellaneous members.

Eligibility

An employee's *eligible survivor(s)* may receive the Special Death benefit if the member dies while actively employed and the death is job-related. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried children under age 22. An eligible survivor who chooses to receive this benefit will not receive any other death benefit.

Benefit

The Special Death benefit is a monthly allowance equal to 50 percent of final compensation, and will be increased whenever the compensation paid to active employees is increased but ceasing to increase when the member would have attained age 50. The allowance is payable to the surviving spouse until death at which time the allowance is continued to any unmarried children under age 22. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

If the member's death is the result of an accident or injury caused by external violence or physical force incurred in the performance of the member's duty, and there are *eligible* surviving children (*eligible* means unmarried children under age 22) in addition to an eligible spouse, then an **additional monthly allowance** is paid equal to the following:

- if 1 eligible child: 12.5 percent of final compensation
- if 2 eligible children: 20.0 percent of final compensation
- if 3 or more eligible children: 25.0 percent of final compensation

Alternate Death Benefit for Local Fire Members

This is an optional benefit available only to local fire members.

Eligibility

An employee's *eligible survivor(s)* may receive the Alternate Death benefit in lieu of the Basic Death Benefit or the 1957 Survivor Benefit if the member dies while actively employed and has at least 20 years of total CalPERS service. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried children under age 18.

Benefit

The Alternate Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) If the member has not yet attained age 50, the benefit is equal to that which would be payable if the member had retired at age 50, based on service credited at the time of death. The allowance is payable as long as the surviving spouse lives, at which time it is continued to any unmarried children under age 18, if applicable. The total amount paid will be at least equal to the Basic Death Benefit.

Cost-of-Living Adjustments (COLA)

Standard Benefit

Retirement and survivor allowances are adjusted each year in May for cost of living, beginning the second calendar year after the year of retirement. The standard cost-of-living adjustment (COLA) is 2 percent. Annual adjustments are calculated by first determining the lesser of 1) 2 percent compounded from the end of the year of retirement or 2) actual rate of inflation. The resulting increase is divided by the total increase provided in prior years. For any particular year, the COLA adjustment may be less than 2 percent (when the rate of inflation is low), may be greater than the rate of inflation (when the rate of inflation is low after several years of high inflation) or may even be greater than 2 percent (when inflation is high after several years of low inflation).

Improved Benefit

Employers have the option of providing a COLA of 3 percent, 4 percent, or 5 percent, determined in the same manner as described above for the standard 2 percent COLA. An improved COLA is not available with the 1.5% at 65 formula.

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual’s allowance at 80 percent of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan.

Employee Contributions

Each employee contributes toward his or her retirement based upon the retirement formula. The standard employee contribution is as described below.

The percent contributed below the monthly compensation breakpoint is 0 percent.
The monthly compensation breakpoint is $0 for full and supplemental formula members and $133.33 for employees covered by the modified formula.
The percent contributed above the monthly compensation breakpoint depends upon the benefit formula, as shown in the table below.

Benefit Formula	Percent Contributed above the Breakpoint
Miscellaneous, 1.5% at 65	2%
Miscellaneous, 2% at 60	7%
Miscellaneous, 2% at 55	7%
Miscellaneous, 2.5% at 55	8%
Miscellaneous, 2.7% at 55	8%
Miscellaneous, 3% at 60	8%
Miscellaneous, 2% at 62	50% of the Total Normal Cost
Safety, 1/2 at 55	Varies by entry age
Safety, 2% at 55	7%
Safety, 2% at 50	9%
Safety, 3% at 55	9%
Safety, 3% at 50	9%
Safety, 2% at 57	50% of the Total Normal Cost
Safety, 2.5% at 57	50% of the Total Normal Cost
Safety, 2.7% at 57	50% of the Total Normal Cost

The employer may choose to "pick-up" these contributions for the employees (Employer Paid Member Contributions or EPMC). EPMC is prohibited for new PEPRA members.

An employer may also include Employee Cost Sharing in the contract, where employees agree to share the cost of the employer contribution. These contributions are paid in addition to the member contribution.

Auxiliary organizations of the CSUC system may elect reduced contribution rates, in which case the offset is $317 and the contribution rate is 6 percent if members are not covered by Social Security. If members are covered by Social Security, the offset is $513 and the contribution rate is 5 percent.

Refund of Employee Contributions

If the member's service with the employer ends, and if the member does not satisfy the eligibility conditions for any of the retirement benefits above, the member may elect to receive a refund of his or her employee contributions, which are credited annually with 6 percent interest.

1959 Survivor Benefit

This is a pre-retirement death benefit available only to members not covered by Social Security. Any agency joining CalPERS subsequent to 1993 was required to provide this benefit if the members were not covered by Social Security. The benefit is optional for agencies joining CalPERS prior to 1994. Levels 1, 2 and 3 are now closed. Any new agency or any agency wishing to add this benefit or increase the current level must choose the 4th or Indexed Level.

This benefit is not included in the results presented in this valuation. More information on this benefit is available on the CalPERS website at www.calpers.ca.gov.

APPENDIX C

PARTICIPANT DATA

- **SUMMARY OF VALUATION DATA**
- **ACTIVE MEMBERS**
- **TRANSFERRED AND TERMINATED MEMBERS**
- **RETIRED MEMBERS AND BENEFICIARIES**

Summary of Valuation Data

		June 30, 2013		June 30, 2014
1. **Active Members**				
a) Counts		1,120		1,148
b) Average Attained Age		40.88		40.87
c) Average Entry Age to Rate Plan		27.47		27.48
d) Average Years of Service		13.41		13.39
e) Average Annual Covered Pay	$	92,906	$	94,776
f) Annual Covered Payroll		104,054,754		108,803,331
g) Projected Annual Payroll for Contribution Year		113,703,439		118,892,337
h) Present Value of Future Payroll		966,051,898		1,040,366,966
2. **Transferred Members**				
a) Counts		238		246
b) Average Attained Age		41.07		42.07
c) Average Years of Service		4.63		4.50
d) Average Annual Covered Pay	$	90,075	$	94,331
3. **Terminated Members**				
a) Counts		139		120
b) Average Attained Age		41.19		41.36
c) Average Years of Service		6.20		3.77
d) Average Annual Covered Pay	$	74,291	$	64,434
4. **Retired Members and Beneficiaries**				
a) Counts		1,016		1,070
b) Average Attained Age		64.36		64.66
c) Average Annual Benefits	$	62,267	$	63,881
5. **Active to Retired Ratio** [(1a) / (4a)]		1.10		1.07

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Average Annual Benefits represents benefit amounts payable by this plan only. Some members may have service with another agency and would therefore have a larger total benefit than would be included as part of the average shown here.

Active Members

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Distribution of Active Members by Age and Service

	Years of Service at Valuation Date						
Attained Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-25**	**25+**	**Total**
15-24	9	0	0	0	0	0	9
25-29	50	26	0	0	0	0	76
30-34	34	139	25	0	0	0	198
35-39	7	93	114	23	1	0	238
40-44	3	44	101	102	22	0	272
45-49	4	14	41	72	67	23	221
50-54	0	5	6	19	35	37	102
55-59	2	1	0	4	6	15	28
60-64	0	0	0	1	0	0	1
65 and over	3	0	0	0	0	0	3
All Ages	112	322	287	221	131	75	1,148

Distribution of Average Annual Salaries by Age and Service

	Years of Service at Valuation Date						
Attained Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-25**	**25+**	**Average**
15-24	$50,348	$0	$0	$0	$0	$0	$50,348
25-29	61,570	83,068	0	0	0	0	68,925
30-34	69,913	89,037	95,475	0	0	0	86,566
35-39	73,610	91,194	93,307	99,098	138,754	0	92,652
40-44	62,367	92,222	97,139	101,499	104,087	0	98,157
45-49	37,568	91,133	98,621	105,060	107,748	112,725	103,374
50-54	0	92,892	99,758	102,512	109,008	124,552	112,102
55-59	42,526	83,703	0	100,450	111,904	107,326	101,852
60-64	0	0	0	81,033	0	0	81,033
65 and over	2,975	0	0	0	0	0	2,975
All Ages	$61,208	$89,747	$95,738	$102,385	$107,897	$117,480	$94,776

Transferred and Terminated Members

Distribution of Transfers to Other CalPERS Plans by Age and Service

	Years of Service at Valuation Date							
Attained Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-25**	**25+**	**Total**	**Average Salary**
15-24	0	0	0	0	0	0	0	$0
25-29	14	0	0	0	0	0	14	68,870
30-34	29	7	0	0	0	0	36	86,886
35-39	35	8	3	0	0	0	46	95,162
40-44	40	15	5	1	0	0	61	92,520
45-49	25	15	6	5	1	0	52	104,825
50-54	16	1	5	3	0	0	25	105,622
55-59	7	1	0	1	1	0	10	81,732
60-64	0	1	0	0	0	1	2	91,717
65 and over	0	0	0	0	0	0	0	0
All Ages	166	48	19	10	2	1	246	94,331

Distribution of Terminated Participants with Funds on Deposit by Age and Service

	Years of Service at Valuation Date							
Attained Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-25**	**25+**	**Total**	**Average Salary**
15-24	0	0	0	0	0	0	0	$0
25-29	6	0	0	0	0	0	6	65,303
30-34	15	1	0	0	0	0	16	52,986
35-39	26	2	1	0	0	0	29	62,944
40-44	20	8	5	1	0	0	34	72,903
45-49	13	3	4	0	1	1	22	65,027
50-54	7	2	0	0	0	0	9	57,737
55-59	3	1	0	0	0	0	4	59,534
60-64	0	0	0	0	0	0	0	0
65 and over	0	0	0	0	0	0	0	0
All Ages	90	17	10	1	1	1	120	64,434

Retired Members and Beneficiaries

Distribution of Retirees and Beneficiaries by Age and Retirement Type*

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	0	0	0	0	0	0
30-34	0	0	2	0	0	1	3
35-39	0	0	1	0	0	0	1
40-44	0	1	11	0	0	0	12
45-49	0	0	19	0	3	0	22
50-54	73	1	44	0	1	4	123
55-59	131	2	35	1	1	7	177
60-64	148	0	31	0	0	16	195
65-69	148	1	54	0	2	19	224
70-74	115	0	40	0	0	19	174
75-79	70	0	15	0	0	20	105
80-84	20	0	5	0	0	3	28
85 and Over	3	0	0	0	0	3	6
All Ages	708	5	257	1	7	92	1,070

Distribution of Average Annual Amounts for Retirees and Beneficiaries by Age and Retirement Type*

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 30	$0	$0	$0	$0	$0	$0	$0
30-34	0	0	41,879	0	0	12,054	31,937
35-39	0	0	46,251	0	0	0	46,251
40-44	0	12,977	31,953	0	0	0	30,372
45-49	0	0	37,792	0	51,699	0	39,689
50-54	76,322	4,222	43,571	0	38,209	64,407	63,323
55-59	78,397	18,030	50,386	13,131	64,002	35,000	70,010
60-64	74,252	0	59,010	0	0	51,753	69,983
65-69	69,235	26,183	56,593	0	37,344	48,174	63,924
70-74	64,676	0	54,032	0	0	49,269	60,547
75-79	63,082	0	61,782	0	0	50,215	60,446
80-84	64,095	0	47,282	0	0	38,935	58,397
85 and Over	60,181	0	0	0	0	43,045	51,613
All Ages	$71,177	$15,888	$50,934	$13,131	$47,428	$48,309	$63,881

Retired Members and Beneficiaries (continued)

Distribution of Retirees and Beneficiaries by Years Retired and Retirement Type*

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	170	1	37	1	1	47	257
5-9	160	2	34	0	1	23	220
10-14	183	0	63	0	1	12	259
15-19	101	1	71	0	1	7	181
20-24	93	1	46	0	2	2	144
25-29	0	0	4	0	0	1	5
30 and Over	1	0	2	0	1	0	4
All Years	708	5	257	1	7	92	1,070

Distribution of Average Annual Amounts for Retirees and Beneficiaries by Years Retired and Retirement Type*

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 5 Yrs	$78,919	$12,977	$60,735	$13,131	$50,051	$49,381	$70,275
5-9	75,791	18,030	57,558	0	57,323	51,582	69,833
10-14	71,393	0	55,212	0	47,724	46,881	66,230
15-19	58,105	26,183	43,851	0	41,659	43,811	51,693
20-24	63,531	4,222	46,780	0	35,619	18,267	56,752
25-29	0	0	24,950	0	0	31,357	26,232
30 and Over	8,843	0	21,179	0	64,002	0	28,801
All Years	$71,177	$15,888	$50,934	$13,131	$47,428	$48,309	$63,881

* Counts of members do not include alternate payees receiving benefits while the member is still working. Therefore, the total counts may not match information on page 25 of the report. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

APPENDIX D

DEVELOPMENT OF PEPRA MEMBER CONTRIBUTION RATE

DEVELOPMENT OF PEPRA MEMBER CONTRIBUTION RATE

The table below shows the determination of the Member contribution rates based on 50 percent of the Total Normal Cost for each respective plan on June 30, 2014.

Assembly Bill (AB) 340 created PEPRA that implemented new benefit formulas and a final compensation period as well as new contribution requirements for new employees. In accordance with Section Code 7522.30(b), "new members … shall have an initial contribution rate of at least 50 percent of the normal cost rate." The normal cost for the plan is dependent on the benefit levels, actuarial assumptions and demographics of the plan particularly the entry age into the plan. The PEPRA total normal cost for your plan is calculated assuming the entire active population, including classic members, were subject to the adopted PEPRA formula and applicable compensation limits. Should the total normal cost of your plan change by one percent or more from the original total normal cost established for your plan this change in normal cost shall be equally shared between employer and member.

		Basis for Current Rate		Rates Effective July 1, 2016			
Rate Plan Identifier	**Plan**	**Total Normal Cost**	**Member Rate**	**Total Normal Cost**	**Change**	**Change Needed**	**Member Rate**
25568	Safety Fire PEPRA	24.000%	12.000%	22.817%	1.183%	Yes	11.500%
25569	Safety Police PEPRA	24.000%	12.000%	22.817%	1.183%	Yes	11.500%

APPENDIX E

GLOSSARY OF ACTUARIAL TERMS

Glossary of Actuarial Terms

Accrued Liability *(also called Actuarial Accrued Liability or Entry Age Normal Accrued Liability)*
The total dollars needed as of the valuation date to fund all benefits earned in the past for *current* members.

Actuarial Assumptions
Assumptions made about certain events that will affect pension costs. Assumptions generally can be broken down into two categories: demographic and economic. Demographic assumptions include such things as mortality, disability and retirement rates. Economic assumptions include discount rate, salary growth and inflation.

Actuarial Methods
Procedures employed by actuaries to achieve certain funding goals of a pension plan. Actuarial methods include funding method, setting the length of time to fund the Accrued Liability and determining the Value of Assets.

Actuarial Valuation
The determination, as of a valuation date, of the Normal Cost, Accrued liability, Actuarial Value of Assets and related actuarial present values for a pension plan. These valuations are performed annually or when an employer is contemplating a change to their plan provisions.

Amortization Bases
Separate payment schedules for different portions of the Unfunded Liability. The total Unfunded Liability of a Risk Pool or non-pooled plan can be segregated by "cause," creating "bases" and each such base will be separately amortized and paid for over a specific period of time. However, all bases are amortized using investment and payroll assumptions from the current valuation. This can be likened to a home having a first mortgage of 24 years remaining payments and a second mortgage that has 10 years remaining payments. Each base or each mortgage note has its own terms (payment period, principal, etc.)

Generally, in an actuarial valuation, the separate bases consist of changes in unfunded liability due to contract amendments, actuarial assumption changes, actuarial methodology changes, and/or gains and losses. Payment periods are determined by Board policy and vary based on the cause of the change.

Amortization Period
The number of years required to pay off an Amortization Base.

Classic Member (under PEPRA)
A classic member is a member who joined CalPERS prior to January, 1, 2013 and who is not defined as a new member under PEPRA. (See definition of new member below)

Discount Rate Assumption
The actuarial assumption that was called "investment return" in earlier CalPERS reports or "actuarial interest rate" in Section 20014 of the California Public Employees' Retirement Law (PERL).

Entry Age
The earliest age at which a plan member begins to accrue benefits under a defined benefit pension plan. In most cases, this is the age of the member on their date of hire.

Entry Age Normal Cost Method
An actuarial cost method designed to fund a member's total plan benefit over the course of his or her career. This method is designed to yield a rate expressed as a level percentage of payroll.
(The assumed retirement age less the entry age is the amount of time required to fund a member's total benefit. Generally, the older a member on the date of hire, the greater the entry age normal cost. This is mainly because there is less time to earn investment income to fund the future benefits.)

Fresh Start
A Fresh Start is when multiple amortization bases are collapsed to one base and amortized together over a new funding period.

Funded Status
A measure of how well funded, or how "on track" a plan or risk pool is with respect to assets versus accrued liabilities. A ratio greater than 100% means the plan or risk pool has more assets than liabilities and a ratio less than 100% means liabilities are greater than assets.

GASB 27
Statement No. 27 of the Governmental Accounting Standards Board. The prior accounting standard governing a state or local governmental employer's accounting for pensions.

GASB 68
Statement No. 68 of the Governmental Accounting Standards Board. The accounting standard governing a state or local governmental employer's accounting and financial reporting for pensions. GASB 68 replaces GASB 27 effective the first fiscal year beginning after June 15, 2014.

New Member (under PEPRA)
A new member includes an individual who becomes a member of a public retirement system for the first time on or after January 1, 2013, and who was not a member of another public retirement system prior to that date, and who is not subject to reciprocity with another public retirement system.

Normal Cost
The annual cost of service accrual for the upcoming fiscal year for active employees. The normal cost should be viewed as the long term contribution rate.

Pension Actuary
A business professional that is authorized by the Society of Actuaries, and the American Academy of Actuaries to perform the calculations necessary to properly fund a pension plan.

PEPRA
The California Public Employees' Pension Reform Act of 2013

Prepayment Contribution
A payment made by the employer to reduce or eliminate the year's required employer contribution.

Present Value of Benefits (PVB)
The total dollars needed as of the valuation date to fund all benefits earned in the past or expected to be earned in the future for *current* members.

Rolling Amortization Period
An amortization period that remains the same each year, rather than declining.

Superfunded
A condition existing when a plan's Actuarial Value of Assets exceeds its Present Value of Benefits. Prior to the passage of PEPRA, when this condition existed on a given valuation date for a given plan, employee contributions for the rate year covered by that valuation could be waived.

Unfunded Liability (UAL)
When a plan or pool's Value of Assets is less than its Accrued Liability, the difference is the plan or pool's Unfunded Liability. If the Unfunded Liability is positive, the plan or pool will have to pay contributions exceeding the Normal Cost.

GASB 68 ACCOUNTING VALUATION REPORT

(CalPERS ID: 7903930500)
Rate Plan Identifier: 1209

Prepared for the CITY OF SACRAMENTO MISCELLANEOUS PLAN, an Agent Multiple-Employer Defined Benefit Pension Plan

Measurement Date of June 30, 2014

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ACTUARIAL CERTIFICATION

This report provides disclosure and reporting information as required under Governmental Accounting Standards Board Statement 68 (GASB 68) for the MISCELLANEOUS PLAN of the CITY OF SACRAMENTO (the "Plan"), an Agent Multiple-Employer Defined Benefit Pension Plan participating in the California Public Employees' Retirement System (CalPERS), for the measurement period ended June 30, 2014. This information should be used for the fiscal year beginning after June 15, 2014 but ending on or before June 30, 2015.

Determinations for purposes other than financial accounting requirements may be significantly different from the results in this report. Thus, the use of this report for purposes other than those expressed here may not be appropriate.

This accounting valuation report relies on liabilities and related validation work performed by the CalPERS Actuarial Office as part of the June 30, 2013 annual funding valuation for the Plan. The census data and benefit provisions underlying the liabilities were prepared as of June 30, 2013 and certified as part of the annual funding valuation by the CalPERS Actuarial Office. The June 30, 2013 liabilities used for this accounting valuation are based on the actuarial assumptions recommended by the CalPERS Chief Actuary and adopted by the CalPERS Board in February 2014 as laid out in the 2014 report titled "CalPERS Experience Study and Review of Actuarial Assumptions." These liabilities were validated as part of the June 30, 2013 funding valuation that included the estimated impact of the change in actuarial assumptions on contribution requirements. The undersigned is relying upon these prescribed assumptions and methods and is not able to render an opinion on their reasonability, as this would require a substantial amount of additional work beyond the scope of this report. This report also relies on asset information for the measurement period as supplied by the CalPERS Financial Office. The fiduciary net position as of June 30, 2014, and the changes in net position for the year then ended were audited by CalPERS' independent auditors, Macias Gini & O'Connell LLP, as part of the audit of the Schedule of Changes in Fiduciary Net Position by Employer Rate Plan of CalPERS Agent Multiple-Employer Pension Plan.

With the provided liability and asset information, the total pension liability, net pension liability and pension expense were developed for the measurement period using standard actuarial techniques. In addition, the results are based on CalPERS' understanding of the financial accounting and reporting requirements under U.S. Generally Accepted Accounting Principles as set forth in GASB 68. The information in this report is not intended to supersede the advice and interpretations of the employer's auditor. This report may not provide all the information necessary to complete the required disclosures under GASB 68. The employer should supplement and update the information in this report with its own financial data as necessary to complete the disclosure information required by GASB 68.

The undersigned is familiar with the near-term and long-term aspects of pension valuations and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. The information provided in this report is dependent upon various factors as documented throughout this report, which may be subject to change. Each section of this report is considered to be an integral part of the actuarial opinions.

DAVID M. KUHN, FSA

Introduction

This is the GASB 68 Accounting Valuation Report to be used for your fiscal year beginning after June 15, 2014 and ending on or before June 30, 2015 for your MISCELLANEOUS PLAN (Plan). GASB Statement No. 68 replaced the requirements of GASB 27 effective for fiscal years beginning after June 15, 2014.

Statement 68 was issued by GASB in June 2012, requiring public employers to comply with new accounting and financial reporting standards. Statement 68 outlines a different approach to the recognition and calculation of pension obligations. Under the new GASB standards, employers that participate in a defined benefit pension plan administered as a trust or equivalent arrangement are required to record the net pension liability, pension expense, and deferred outflows/deferred inflows of resources related to pensions in their financial statements as part of their financial position.

Net pension liability is the plan's total pension liability based on entry age normal actuarial cost method less the plan's fiduciary net position. This may be a negative liability (net pension asset).

Pension expense is the change in net pension liability from the previous fiscal year to the current fiscal year less adjustments. This may be a negative expense (pension income).

Deferred outflows and deferred inflows of resources related to pensions are certain changes in total pension liability and fiduciary net position that are to be recognized in future pension expense.

This report may not provide all the information necessary to complete the required disclosures under GASB 68. **The employer should supplement and update the information in this report with its own financial data as necessary to complete the disclosure information required by GASB 68.** For example, no adjustments have been made for contributions subsequent to the measurement date. Appropriate accounting treatment of any contributions made after the measurement date is the responsibility of the employer. CalPERS recommends that the employer consult with its auditor regarding any such adjustments.

Purpose of the Report

The Plan participates in the CalPERS agent multiple-employer defined benefit pension plan. This GASB 68 report provides accounting and financial reporting for pensions, to be used in the employer's financial reports. The pension expense is for the measurement period of 2013-14 and the net pension liability is measured as of June 30, 2014. Liabilities are based on the results of the actuarial calculations performed as of June 30, 2013 and were rolled forward to June 30, 2014. Fiduciary net position is based on fair value of investments as of June 30, 2014. Since GASB 68 allows a measurement date of up to 12 months before the employer's fiscal year-end, this report can be used for fiscal years beginning after June 15, 2014 and ending on or before June 30, 2015.

The following pension information is disclosed in this report:

- Summary of Significant Accounting Policies
- General Information about the Pension Plan
    - Plan Description, Benefits Provided and Employees Covered
    - Contribution Description
    - Actuarial Methods and Assumptions
    - Discount Rate
    - Pension Plan Fiduciary Net Position
- Changes in the Net Pension Liability
    - Sensitivity of the Net Pension Liability
    - Subsequent Events
    - Recognition of Gains and Losses
- Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions
- Schedules of Required Supplementary Information (10-Year History[1]):
    - Schedule of Changes in Net Pension Liability and Related Ratios
    - Schedule of Plan Contributions

The use of this report for other purposes may be inappropriate.

[1] Historical information is required only for measurement periods for which GASB 68 is applicable.

Summary of Significant Accounting Policies

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Plan and additions to/deductions from the Plan's fiduciary net position have been determined on the same basis as they are reported by the CalPERS Financial Office. For this purpose, benefit payments (including refunds of employee contributions) are recognized when currently due and payable in accordance with the benefit terms. Investments are reported at fair value.

GASB 68 requires that the reported results must pertain to liability and asset information within certain defined timeframes. For this report, the following timeframes are used.

Valuation Date (VD)	June 30, 2013
Measurement Date (MD)	June 30, 2014
Measurement Period (MP)	July 1, 2013 to June 30, 2014

General Information about the Pension Plan

Plan Description, Benefits Provided and Employees Covered

The Plan is an agent multiple-employer defined benefit pension plan administered by the California Public Employees' Retirement System (CalPERS). A full description of the pension plan regarding number of employees covered, benefit provisions, assumptions (for funding, but not accounting purposes), and membership information are listed in the June 30, 2013 Annual Actuarial Valuation Report. Details of the benefits provided can be obtained in Appendix B of the actuarial valuation report. This report and CalPERS' audited financial statements are publicly available reports that can be obtained at CalPERS' website under Forms and Publications.

Contribution Description

Section 20814(c) of the California Public Employees' Retirement Law (PERL) requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. The total plan contributions are determined through CalPERS' annual actuarial valuation process. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The employer is required to contribute the difference between the actuarially determined rate and the contribution rate of employees. For the measurement period ended June 30, 2014 (the measurement date), the average active employee contribution rate is 6.823 percent of annual pay, and the employer's contribution rate is 14.163 percent of annual payroll. Employer contribution rates may change if plan contracts are amended. It is the responsibility of the employer to make necessary accounting adjustments to reflect the impact due to any Employer Paid Member Contributions or situations where members are paying a portion of the employer contribution.

Actuarial Methods and Assumptions Used to Determine Total Pension Liability

For the measurement period ended June 30, 2014 (the measurement date), the total pension liability was determined by rolling forward the June 30, 2013 total pension liability. The June 30, 2013 and the June 30, 2014 total pension liabilities were based on the following actuarial methods and assumptions:

Actuarial Cost Method	Entry Age Normal in accordance with the requirements of GASB Statement No. 68
Actuarial Assumptions	
Discount Rate	7.50%
Inflation	2.75%
Salary Increases	Varies by Entry Age and Service
Investment Rate of Return	7.50% Net of Pension Plan Investment and Administrative Expenses; includes Inflation
Mortality Rate Table[1]	Derived using CalPERS' Membership Data for all Funds
Post Retirement Benefit Increase	Contract COLA up to 2.75% until Purchasing Power Protection Allowance Floor on Purchasing Power applies, 2.75% thereafter

[1] The mortality table used was developed based on CalPERS' specific data. The table includes 20 years of mortality improvements using Society of Actuaries Scale BB. For more details on this table, please refer to the 2014 experience study report.

All other actuarial assumptions used in the June 30, 2013 valuation were based on the results of an actuarial experience study for the period from 1997 to 2011, including updates to salary increase, mortality and retirement rates. The Experience Study report can be obtained at CalPERS' website under Forms and Publications.

Discount Rate

The discount rate used to measure the total pension liability was 7.50 percent. To determine whether the municipal bond rate should be used in the calculation of a discount rate for each plan, CalPERS stress tested plans that would most likely result in a discount rate that would be different from the actuarially assumed discount rate. Based on the testing, none of the tested plans run out of assets. Therefore, the current 7.50 percent discount rate is adequate and the use of the municipal bond rate calculation is not necessary. The long-term expected discount rate of 7.50 percent is applied to all plans in the Public Employees Retirement Fund. The stress test results are presented in a detailed report called "GASB Crossover Testing Report" that can be obtained at CalPERS' website under the GASB 68 section.

According to Paragraph 30 of Statement 68, the long-term discount rate should be determined without reduction for pension plan administrative expense. The 7.50 percent investment return assumption used in this accounting valuation is net of administrative expenses. Administrative expenses are assumed to be 15 basis points. An investment return excluding administrative expenses would have been 7.65 percent. Using this lower discount rate has resulted in a slightly higher total pension liability and net pension liability. This difference was deemed immaterial to the agent multiple-employer plan. However, employers may determine the impact at the rate plan level for their own financial reporting purposes. Refer to page 8 of this report, which provides information on the sensitivity of the net pension liability to changes in the discount rate.

CalPERS is scheduled to review all actuarial assumptions as part of its regular Asset Liability Management review cycle that is scheduled to be completed in February 2018. Any changes to the discount rate will require Board action and proper stakeholder outreach. For these reasons, CalPERS expects to continue using a discount rate net of administrative expenses for GASB 67 and 68 calculations through at least the 2017-18 fiscal year. CalPERS will continue to check the materiality of the difference in calculation until such time as we have changed our methodology.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

In determining the long-term expected rate of return, staff took into account both short-term and long-term market return expectations as well as the expected pension fund cash flows. Such cash flows were developed assuming that both members and employers will make their required contributions on time and as scheduled in all future years. Using historical returns of all the funds' asset classes, expected compound (geometric) returns were calculated over the short-term (first 10 years) and the long-term (11-60 years) using a building-block approach. Using the expected nominal returns for both short-term and long-term, the present value of benefits was calculated for each fund. The expected rate of return was set by calculating the single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns. The expected rate of return was then set equivalent to the single equivalent rate calculated above and rounded down to the nearest one quarter of one percent.

The table below reflects long-term expected real rate of return by asset class. The rate of return was calculated using the capital market assumptions applied to determine the discount rate and asset allocation. These geometric rates of return are net of administrative expenses.

Asset Class	New Strategic Allocation	Real Return Years 1 - 10[1]	Real Return Years 11+[2]
Global Equity	47.0%	5.25%	5.71%
Global Fixed Income	19.0	0.99	2.43
Inflation Sensitive	6.0	0.45	3.36
Private Equity	12.0	6.83	6.95
Real Estate	11.0	4.50	5.13
Infrastructure and Forestland	3.0	4.50	5.09
Liquidity	2.0	(0.55)	(1.05)

[1]An expected inflation of 2.5% used for this period
[2]An expected inflation of 3.0% used for this period

Pension Plan Fiduciary Net Position

The plan fiduciary net position disclosed in your GASB 68 accounting valuation report may differ from the plan assets reported in your funding actuarial valuation report due to several reasons. First, for the accounting valuations, CalPERS must keep items such as deficiency reserves, fiduciary self-insurance and OPEB expense included as assets. These amounts are excluded for rate setting purposes in your funding actuarial valuation. In addition, differences may result from early Comprehensive Annual Financial Report closing and final reconciled reserves.

Changes in the Net Pension Liability

The following table shows the changes in net pension liability recognized over the measurement period.

	Increase (Decrease)		
	Total Pension Liability (a)	**Plan Fiduciary Net Position (b)**	**Net Pension Liability/(Asset) (c) = (a) - (b)**
Balance at: 6/30/2013 (VD)[1]	**$ 949,464,779**	**$ 678,261,427**	**$ 271,203,352**
Changes Recognized for the Measurement Period:			
• Service Cost	23,109,946		23,109,946
• Interest on the Total Pension Liability	70,942,490		70,942,490
• Changes of Benefit Terms	0		0
• Differences between Expected and Actual Experience	0		0
• Changes of Assumptions	0		0
• Contributions from the Employer		21,613,131	(21,613,131)
• Contributions from Employees		11,670,231	(11,670,231)
• Net Investment Income[2]		118,325,674	(118,325,674)
• Benefit Payments, including Refunds of Employee Contributions	(30,239,753)	(30,239,753)	0
Net Changes during 2013-14	**$ 63,812,683**	**$ 121,369,283**	**$ (57,556,600)**
Balance at: 6/30/2014 (MD)[1]	**$ 1,013,277,462**	**$ 799,630,710**	**$ 213,646,752**

[1] The fiduciary net position includes receivables for employee service buybacks, deficiency reserves, fiduciary self-insurance and OPEB expense. As described on Page 6, this may differ from the plan assets reported in the funding actuarial valuation report.

[2] Net of administrative expenses. For details, see note in Appendix B-2.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the Plan as of the measurement date, calculated using the discount rate of 7.50 percent, as well as what the net pension liability would be if it were calculated using a discount rate that is 1 percentage-point lower (6.50 percent) or 1 percentage-point higher (8.50 percent) than the current rate:

	Discount Rate - 1% (6.50%)	Current Discount Rate (7.50%)	Discount Rate + 1% (8.50%)
Plan's Net Pension Liability/(Asset)	$ 361,535,834	$ 213,646,752	$ 91,999,045

Subsequent Events

There were no subsequent events that would materially affect the results presented in this disclosure.

Recognition of Gains and Losses

Under GASB 68, gains and losses related to changes in total pension liability and fiduciary net position are recognized in pension expense systematically over time.

The first amortized amounts are recognized in pension expense for the year the gain or loss occurs. The remaining amounts are categorized as deferred outflows and deferred inflows of resources related to pensions and are to be recognized in future pension expense.

The amortization period differs depending on the source of the gain or loss:

Difference between projected and actual earnings	5 year straight-line amortization
All other amounts	Straight-line amortization over the average expected remaining service lives of all members that are provided with benefits (active, inactive, and retired) as of the beginning of the measurement period

The expected average remaining service lifetime (EARSL) is calculated by dividing the total future service years by the total number of plan participants (active, inactive, and retired).

The EARSL for the Plan for the 2013-14 measurement period is 3.0 years, which was obtained by dividing the total service years of 25,129 (the sum of remaining service lifetimes of the active employees) by 8,295 (the total number of participants: active, inactive, and retired). Note that inactive employees and retirees have remaining service lifetimes equal to 0. Also note that total future service is based on the members' probability of decrementing due to an event other than receiving a cash refund.

Pension Expense and Deferred Outflows and Deferred Inflows of Resources Related to Pensions

Paragraph 137 of GASB 68 and Questions 267 and 268 of the GASB 68 Implementation Guide set forth guidance on implementing the standard. The employer should use this guidance for the adjusting entries concerning the net pension obligation and the initial net pension liability/(asset). As of the start of the measurement period (July 1, 2013), the net pension liability/(asset) is $271,203,352.

For the measurement period ending June 30, 2014 (the measurement date), the CITY OF SACRAMENTO incurred a pension expense/(income) of $18,088,168 for the Plan (see Appendix B-2 for the complete breakdown of the pension expense).

Note that no adjustments have been made for contributions subsequent to the measurement date. Adequate treatment of any contributions made after the measurement date is the responsibility of the employer.

As of June 30, 2014, the CITY OF SACRAMENTO has deferred outflows and deferred inflows of resources related to pensions as follows:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	$ 0	$ 0
Changes of Assumptions	0	0
Net Difference between Projected and Actual Earnings on Pension Plan Investments	0	(54,031,637)
Total	**$ 0**	**$ (54,031,637)**

The amounts above are net of outflows and inflows recognized in the 2013-14 measurement period expense.

Amounts reported as deferred outflows and deferred inflows of resources related to pensions will be recognized in future pension expense as follows:

Measurement Period Ended June 30:	Deferred Outflows/(Inflows) of Resources
2015	$ (13,507,909)
2016	(13,507,909)
2017	(13,507,909)
2018	(13,507,910)
2019	0
Thereafter	0

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios During the Measurement Period

Measurement Period		2013-14[1]
TOTAL PENSION LIABILITY		
Service Cost	$	23,109,946
Interest		70,942,490
Changes of Benefit Terms		0
Difference Between Expected and Actual Experience		0
Changes of Assumptions		0
Benefit Payments, Including Refunds of Employee Contributions		(30,239,753)
Net Change in Total Pension Liability		**63,812,683**
Total Pension Liability – Beginning		**949,464,779**
Total Pension Liability – Ending (a)	**$**	**1,013,277,462**
PLAN FIDUCIARY NET POSITION		
Contributions – Employer	$	21,613,131
Contributions – Employee		11,670,231
Net Investment Income[2]		118,325,674
Benefit Payments, Including Refunds of Employee Contributions		(30,239,753)
Other Changes in Fiduciary Net Position		0
Net Change in Fiduciary Net Position		**121,369,283**
Plan Fiduciary Net Position – Beginning		**678,261,427**
Plan Fiduciary Net Position – Ending (b)	**$**	**799,630,710**
Plan Net Pension Liability/(Asset) – Ending (a) - (b)	**$**	**213,646,752**
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability		**78.92%**
Covered-Employee Payroll	**$**	**156,032,311**
Plan Net Pension Liability/(Asset) as a Percentage of Covered-Employee Payroll		**136.92%**

[1] Historical information is required only for measurement periods for which GASB 68 is applicable.

[2] Net of administrative expenses. For details, see note in Appendix B-2.

Notes to Schedule:

Benefit Changes: The figures above do not include any liability impact that may have resulted from plan changes which occurred after June 30, 2013. This applies for voluntary benefit changes as well as any offers of Two Years Additional Service Credit (a.k.a. Golden Handshakes).

Changes of Assumptions: There were no changes in assumptions.

Schedule of Plan Contributions[1]

		Fiscal Year 2013-14
Actuarially Determined Contribution[2]	$	21,613,131
Contributions in Relation to the Actuarially Determined Contribution[2]		(21,613,131)
Contribution Deficiency (Excess)	$	0
Covered-Employee Payroll[3, 4]	$	156,032,311
Contributions as a Percentage of Covered-Employee Payroll[3]		13.85%

[1] Historical information is required only for measurement periods for which GASB 68 is applicable.

[2] Employers are assumed to make contributions equal to the actuarially determined contributions. However, some employers may choose to make additional contributions towards their unfunded liability. Employer contributions for such plans exceed the actuarially determined contributions.

[3] Covered-Employee Payroll represented above is based on pensionable earnings provided by the employer. However, GASB 68 defines covered-employee payroll as the total payroll of employees that are provided pensions through the pension plan. Accordingly, if pensionable earnings are different than total earnings for covered-employees, the employer should display in the disclosure footnotes the payroll based on total earnings for the covered group and recalculate the required payroll-related ratios.

[4] Payroll from prior year $151,487,681 was assumed to increase by the 3.00 percent payroll growth assumption.

Notes to Schedule:

The actuarial methods and assumptions used to set the actuarially determined contributions for Fiscal Year 2013-14 were from the June 30, 2011 public agency valuations.

Actuarial Cost Method	Entry Age Normal
Amortization Method/Period	For details, see June 30, 2011 Funding Valuation Report.
Asset Valuation Method	Actuarial Value of Assets. For details, see June 30, 2011 Funding Valuation Report.
Inflation	2.75%
Salary Increases	Varies by Entry Age and Service
Payroll Growth	3.00%
Investment Rate of Return	7.50% Net of Pension Plan Investment and Administrative Expenses; includes Inflation.
Retirement Age	The probabilities of Retirement are based on the 2010 CalPERS Experience Study for the period from 1997 to 2007.
Mortality	The probabilities of mortality are based on the 2010 CalPERS Experience Study for the period from 1997 to 2007. Pre-retirement and Post-retirement mortality rates include 5 years of projected mortality improvement using Scale AA published by the Society of Actuaries.

APPENDICES

- **APPENDIX A – DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS**
- **APPENDIX B – INTEREST, TOTAL PROJECTED EARNINGS AND PENSION EXPENSE/(INCOME)**

APPENDIX A

DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS

- **SCHEDULE OF DIFFERENCES BETWEEN EXPECTED AND ACTUAL EXPERIENCE**
- **DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES FOR DIFFERENCES BETWEEN EXPECTED AND ACTUAL EXPERIENCE**
- **SCHEDULE OF CHANGES OF ASSUMPTIONS**
- **DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES FOR CHANGES OF ASSUMPTIONS**
- **SCHEDULE OF DIFFERENCES BETWEEN PROJECTED AND ACTUAL EARNINGS ON PENSION PLAN INVESTMENTS**
- **DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES FOR DIFFERENCES BETWEEN PROJECTED AND ACTUAL EARNINGS ON PENSION PLAN INVESTMENTS**
- **SUMMARY OF RECOGNIZED DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES**

Schedule of differences between expected and actual experience

			Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience (Measurement Periods)						
Measurement Period	**Differences between Expected and Actual Experience**	**Recognition Period (Years)**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Thereafter**
2013-14	$0	3.0	$0	$0	$0	$0	$0	$0	$0
Net Increase (Decrease) in Pension Expense			$0	$0	$0	$0	$0	$0	$0

Deferred outflows of resources and deferred inflows of resources arising from differences between expected and actual experience

				Balances at June 30, 2014	
Measurement Period	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Pension Expense through June 30, 2014 (c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2013-14			$0		
				$0	$0

Schedule of changes of assumptions

			Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions (Measurement Periods)						
Measurement Period	**Changes of Assumptions**	**Recognition Period (Years)**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Thereafter**
2013-14	$0	3.0	$0	$0	$0	$0	$0	$0	$0
Net Increase (Decrease) in Pension Expense			$0	$0	$0	$0	$0	$0	$0

Deferred outflows of resources and deferred inflows of resources arising from changes of assumptions

				Balances at June 30, 2014	
Measurement Period	**Increase in Total Pension Liability (a)**	**Decrease in Total Pension Liability (b)**	**Amounts Recognized in Pension Expense through June 30, 2014 (c)**	**Deferred Outflows of Resources (a) - (c)**	**Deferred Inflows of Resources (b) - (c)**
2013-14			$0		
				$0	$0

Schedule of differences between projected and actual earnings on pension plan investments

			Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Projected and Actual Earnings on Pension Plan Investments (Measurement Periods)						
Measurement Period	**Differences between Projected and Actual Earnings on Pension Plan Investments**	**Recognition Period (Years)**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Thereafter**
2013-14	$(67,539,546)	5.0	$(13,507,909)	$(13,507,909)	$(13,507,909)	$(13,507,909)	$(13,507,910)	$0	$0
Net Increase (Decrease) in Pension Expense			$(13,507,909)	$(13,507,909)	$(13,507,909)	$(13,507,909)	$(13,507,910)	$0	$0

Deferred outflows of resources and deferred inflows of resources arising from differences between projected and actual earnings on pension plan investments

				Balances at June 30, 2014	
Measurement Period	Investment Earnings less than Projected	Investment Earnings greater than Projected	Amounts Recognized in Pension Expense through June 30, 2014	Deferred Outflows of Resources	Deferred Inflows of Resources
	(a)	(b)	(c)	(a) - (c)	(b) - (c)
2013-14		$(67,539,546)	$(13,507,909)		$(54,031,637)
				$0	$(54,031,637)

Summary of recognized deferred outflows of resources and deferred inflows of resources

	Net Increase (Decrease) in Pension Expense (Measurement Periods)						
	2013-14	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Thereafter**
Differences between Expected and Actual Experience	$0	$0	$0	$0	$0	$0	$0
Changes of Assumptions	0	0	0	0	0	0	0
Differences between Projected and Actual Earnings on Pension Plan Investments	(13,507,909)	(13,507,909)	(13,507,909)	(13,507,909)	(13,507,910)	0	0
Grand Total	$(13,507,909)	$(13,507,909)	$(13,507,909)	$(13,507,909)	$(13,507,910)	$0	$0

APPENDIX B

INTEREST, TOTAL PROJECTED EARNINGS AND PENSION EXPENSE/(INCOME)

- **INTEREST ON TOTAL PENSION LIABILITY AND TOTAL PROJECTED EARNINGS**
- **PENSION EXPENSE/(INCOME)**

Interest on Total Pension Liability and Total Projected Earnings

Interest on the Total Pension Liability	Amount for Period (a)	Portion of Period (b)	Interest Rate (c)	Interest on the Total Pension Liability (a) X (b) X (c)
Beginning Total Pension Liability	$ 949,464,779	100%	7.5%	$ 71,209,858
Service Cost	23,109,946	50%	7.5%	866,623
Benefit Payments, including Refunds of Employee Contributions	(30,239,753)	50%	7.5%	(1,133,991)
Total Interest on the Total Pension Liability				**$ 70,942,490**

Projected Earnings on Pension Plan Investments	Amount for Period (a)	Portion of Period (b)	Projected Rate of Return (c)	Projected Earnings (a) X (b) X (c)
Beginning Plan Fiduciary Net Position excluding Receivables[1]	$ 675,626,578	100%	7.5%	$ 50,671,993
Employer Contributions	21,613,131	50%	7.5%	810,492
Employee Contributions	11,670,231	50%	7.5%	437,634
Benefit Payments, including Refunds of Employee Contributions	(30,239,753)	50%	7.5%	(1,133,991)
Total Projected Earnings				**$ 50,786,128**

[1] Contributions receivable for employee service buybacks, totaling $2,634,849 as of June 30, 2013, are excluded for purposes of calculating projected earnings on pension plan investments.

Pension Expense/(Income) for Measurement Period Ended June 30, 2014

Description		Amount
Service Cost	$	23,109,946
Interest on the Total Pension Liability		70,942,490
Changes of Benefit Terms		0
Recognized Differences between Expected and Actual Experience		0
Recognized Changes of Assumptions		0
Employee Contributions		(11,670,231)
Projected Earnings on Pension Plan Investments		(50,786,128)
Recognized Differences between Projected and Actual Earnings on Plan Investments		(13,507,909)
Other Changes in Fiduciary Net Position		0
Total Pension Expense/(Income)	**$**	**18,088,168**

Note: Plan administrative expenses are not displayed in the above pension expense table. Since the expected investment return of 7.50 percent is net of administrative expenses, administrative expenses are excluded from the above table, but implicitly included as part of investment earnings.

CalPERS

GASB 68 ACCOUNTING VALUATION REPORT

(CalPERS ID: 7903930500)
Rate Plan Identifier: 1210

Prepared for the CITY OF SACRAMENTO SAFETY PLAN, an Agent Multiple-Employer Defined Benefit Pension Plan

Measurement Date of June 30, 2014

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ACTUARIAL CERTIFICATION

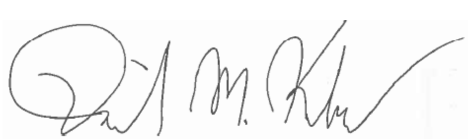
This report provides disclosure and reporting information as required under Governmental Accounting Standards Board Statement 68 (GASB 68) for the SAFETY PLAN of the CITY OF SACRAMENTO (the “Plan”), an Agent Multiple-Employer Defined Benefit Pension Plan participating in the California Public Employees’ Retirement System (CalPERS), for the measurement period ended June 30, 2014. This information should be used for the fiscal year beginning after June 15, 2014 but ending on or before June 30, 2015.

Determinations for purposes other than financial accounting requirements may be significantly different from the results in this report. Thus, the use of this report for purposes other than those expressed here may not be appropriate.

This accounting valuation report relies on liabilities and related validation work performed by the CalPERS Actuarial Office as part of the June 30, 2013 annual funding valuation for the Plan. The census data and benefit provisions underlying the liabilities were prepared as of June 30, 2013 and certified as part of the annual funding valuation by the CalPERS Actuarial Office. The June 30, 2013 liabilities used for this accounting valuation are based on the actuarial assumptions recommended by the CalPERS Chief Actuary and adopted by the CalPERS Board in February 2014 as laid out in the 2014 report titled “CalPERS Experience Study and Review of Actuarial Assumptions.” These liabilities were validated as part of the June 30, 2013 funding valuation that included the estimated impact of the change in actuarial assumptions on contribution requirements. The undersigned is relying upon these prescribed assumptions and methods and is not able to render an opinion on their reasonability, as this would require a substantial amount of additional work beyond the scope of this report. This report also relies on asset information for the measurement period as supplied by the CalPERS Financial Office. The fiduciary net position as of June 30, 2014, and the changes in net position for the year then ended were audited by CalPERS’ independent auditors, Macias Gini & O’Connell LLP, as part of the audit of the Schedule of Changes in Fiduciary Net Position by Employer Rate Plan of CalPERS Agent Multiple-Employer Pension Plan.

With the provided liability and asset information, the total pension liability, net pension liability and pension expense were developed for the measurement period using standard actuarial techniques. In addition, the results are based on CalPERS’ understanding of the financial accounting and reporting requirements under U.S. Generally Accepted Accounting Principles as set forth in GASB 68. The information in this report is not intended to supersede the advice and interpretations of the employer’s auditor. This report may not provide all the information necessary to complete the required disclosures under GASB 68. The employer should supplement and update the information in this report with its own financial data as necessary to complete the disclosure information required by GASB 68.

The undersigned is familiar with the near-term and long-term aspects of pension valuations and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. The information provided in this report is dependent upon various factors as documented throughout this report, which may be subject to change. Each section of this report is considered to be an integral part of the actuarial opinions.



DAVID M. KUHN, FSA

Introduction

This is the GASB 68 Accounting Valuation Report to be used for your fiscal year beginning after June 15, 2014 and ending on or before June 30, 2015 for your SAFETY PLAN (Plan). GASB Statement No. 68 replaced the requirements of GASB 27 effective for fiscal years beginning after June 15, 2014.

Statement 68 was issued by GASB in June 2012, requiring public employers to comply with new accounting and financial reporting standards. Statement 68 outlines a different approach to the recognition and calculation of pension obligations. Under the new GASB standards, employers that participate in a defined benefit pension plan administered as a trust or equivalent arrangement are required to record the net pension liability, pension expense, and deferred outflows/deferred inflows of resources related to pensions in their financial statements as part of their financial position.

Net pension liability is the plan's total pension liability based on entry age normal actuarial cost method less the plan's fiduciary net position. This may be a negative liability (net pension asset).

Pension expense is the change in net pension liability from the previous fiscal year to the current fiscal year less adjustments. This may be a negative expense (pension income).

Deferred outflows and deferred inflows of resources related to pensions are certain changes in total pension liability and fiduciary net position that are to be recognized in future pension expense.

This report may not provide all the information necessary to complete the required disclosures under GASB 68. **The employer should supplement and update the information in this report with its own financial data as necessary to complete the disclosure information required by GASB 68.** For example, no adjustments have been made for contributions subsequent to the measurement date. Appropriate accounting treatment of any contributions made after the measurement date is the responsibility of the employer. CalPERS recommends that the employer consult with its auditor regarding any such adjustments.

Purpose of the Report

The Plan participates in the CalPERS agent multiple-employer defined benefit pension plan. This GASB 68 report provides accounting and financial reporting for pensions, to be used in the employer's financial reports. The pension expense is for the measurement period of 2013-14 and the net pension liability is measured as of June 30, 2014. Liabilities are based on the results of the actuarial calculations performed as of June 30, 2013 and were rolled forward to June 30, 2014. Fiduciary net position is based on fair value of investments as of June 30, 2014. Since GASB 68 allows a measurement date of up to 12 months before the employer's fiscal year-end, this report can be used for fiscal years beginning after June 15, 2014 and ending on or before June 30, 2015.

The following pension information is disclosed in this report:

- Summary of Significant Accounting Policies
- General Information about the Pension Plan
  - Plan Description, Benefits Provided and Employees Covered
  - Contribution Description
  - Actuarial Methods and Assumptions
  - Discount Rate
  - Pension Plan Fiduciary Net Position
- Changes in the Net Pension Liability
  - Sensitivity of the Net Pension Liability
  - Subsequent Events
  - Recognition of Gains and Losses
- Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions
- Schedules of Required Supplementary Information (10-Year History[1]):
  - Schedule of Changes in Net Pension Liability and Related Ratios
  - Schedule of Plan Contributions

The use of this report for other purposes may be inappropriate.

[1] Historical information is required only for measurement periods for which GASB 68 is applicable.

Summary of Significant Accounting Policies

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Plan and additions to/deductions from the Plan's fiduciary net position have been determined on the same basis as they are reported by the CalPERS Financial Office. For this purpose, benefit payments (including refunds of employee contributions) are recognized when currently due and payable in accordance with the benefit terms. Investments are reported at fair value.

GASB 68 requires that the reported results must pertain to liability and asset information within certain defined timeframes. For this report, the following timeframes are used.

Valuation Date (VD)	June 30, 2013
Measurement Date (MD)	June 30, 2014
Measurement Period (MP)	July 1, 2013 to June 30, 2014

General Information about the Pension Plan

Plan Description, Benefits Provided and Employees Covered

The Plan is an agent multiple-employer defined benefit pension plan administered by the California Public Employees' Retirement System (CalPERS). A full description of the pension plan regarding number of employees covered, benefit provisions, assumptions (for funding, but not accounting purposes), and membership information are listed in the June 30, 2013 Annual Actuarial Valuation Report. Details of the benefits provided can be obtained in Appendix B of the actuarial valuation report. This report and CalPERS' audited financial statements are publicly available reports that can be obtained at CalPERS' website under Forms and Publications.

Contribution Description

Section 20814(c) of the California Public Employees' Retirement Law (PERL) requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. The total plan contributions are determined through CalPERS' annual actuarial valuation process. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The employer is required to contribute the difference between the actuarially determined rate and the contribution rate of employees. For the measurement period ended June 30, 2014 (the measurement date), the average active employee contribution rate is 9.003 percent of annual pay, and the employer's contribution rate is 29.457 percent of annual payroll. Employer contribution rates may change if plan contracts are amended. It is the responsibility of the employer to make necessary accounting adjustments to reflect the impact due to any Employer Paid Member Contributions or situations where members are paying a portion of the employer contribution.

Actuarial Methods and Assumptions Used to Determine Total Pension Liability

For the measurement period ended June 30, 2014 (the measurement date), the total pension liability was determined by rolling forward the June 30, 2013 total pension liability. The June 30, 2013 and the June 30, 2014 total pension liabilities were based on the following actuarial methods and assumptions:

Actuarial Cost Method	Entry Age Normal in accordance with the requirements of GASB Statement No. 68
Actuarial Assumptions	
Discount Rate	7.50%
Inflation	2.75%
Salary Increases	Varies by Entry Age and Service
Investment Rate of Return	7.50% Net of Pension Plan Investment and Administrative Expenses; includes Inflation
Mortality Rate Table[1]	Derived using CalPERS' Membership Data for all Funds
Post Retirement Benefit Increase	Contract COLA up to 2.75% until Purchasing Power Protection Allowance Floor on Purchasing Power applies, 2.75% thereafter

[1] The mortality table used was developed based on CalPERS' specific data. The table includes 20 years of mortality improvements using Society of Actuaries Scale BB. For more details on this table, please refer to the 2014 experience study report.

All other actuarial assumptions used in the June 30, 2013 valuation were based on the results of an actuarial experience study for the period from 1997 to 2011, including updates to salary increase, mortality and retirement rates. The Experience Study report can be obtained at CalPERS' website under Forms and Publications.

Discount Rate

The discount rate used to measure the total pension liability was 7.50 percent. To determine whether the municipal bond rate should be used in the calculation of a discount rate for each plan, CalPERS stress tested plans that would most likely result in a discount rate that would be different from the actuarially assumed discount rate. Based on the testing, none of the tested plans run out of assets. Therefore, the current 7.50 percent discount rate is adequate and the use of the municipal bond rate calculation is not necessary. The long-term expected discount rate of 7.50 percent is applied to all plans in the Public Employees Retirement Fund. The stress test results are presented in a detailed report called "GASB Crossover Testing Report" that can be obtained at CalPERS' website under the GASB 68 section.

According to Paragraph 30 of Statement 68, the long-term discount rate should be determined without reduction for pension plan administrative expense. The 7.50 percent investment return assumption used in this accounting valuation is net of administrative expenses. Administrative expenses are assumed to be 15 basis points. An investment return excluding administrative expenses would have been 7.65 percent. Using this lower discount rate has resulted in a slightly higher total pension liability and net pension liability. This difference was deemed immaterial to the agent multiple-employer plan. However, employers may determine the impact at the rate plan level for their own financial reporting purposes. Refer to page 8 of this report, which provides information on the sensitivity of the net pension liability to changes in the discount rate.

CalPERS is scheduled to review all actuarial assumptions as part of its regular Asset Liability Management review cycle that is scheduled to be completed in February 2018. Any changes to the discount rate will require Board action and proper stakeholder outreach. For these reasons, CalPERS expects to continue using a discount rate net of administrative expenses for GASB 67 and 68 calculations through at least the 2017-18 fiscal year. CalPERS will continue to check the materiality of the difference in calculation until such time as we have changed our methodology.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

In determining the long-term expected rate of return, staff took into account both short-term and long-term market return expectations as well as the expected pension fund cash flows. Such cash flows were developed assuming that both members and employers will make their required contributions on time and as scheduled in all future years. Using historical returns of all the funds' asset classes, expected compound (geometric) returns were calculated over the short-term (first 10 years) and the long-term (11-60 years) using a building-block approach. Using the expected nominal returns for both short-term and long-term, the present value of benefits was calculated for each fund. The expected rate of return was set by calculating the single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns. The expected rate of return was then set equivalent to the single equivalent rate calculated above and rounded down to the nearest one quarter of one percent.

The table below reflects long-term expected real rate of return by asset class. The rate of return was calculated using the capital market assumptions applied to determine the discount rate and asset allocation. These geometric rates of return are net of administrative expenses.

Asset Class	**New Strategic Allocation**	**Real Return Years 1 - 10[1]**	**Real Return Years 11+[2]**
Global Equity	47.0%	5.25%	5.71%
Global Fixed Income	19.0	0.99	2.43
Inflation Sensitive	6.0	0.45	3.36
Private Equity	12.0	6.83	6.95
Real Estate	11.0	4.50	5.13
Infrastructure and Forestland	3.0	4.50	5.09
Liquidity	2.0	(0.55)	(1.05)

[1]An expected inflation of 2.5% used for this period
[2]An expected inflation of 3.0% used for this period

Pension Plan Fiduciary Net Position

The plan fiduciary net position disclosed in your GASB 68 accounting valuation report may differ from the plan assets reported in your funding actuarial valuation report due to several reasons. First, for the accounting valuations, CalPERS must keep items such as deficiency reserves, fiduciary self-insurance and OPEB expense included as assets. These amounts are excluded for rate setting purposes in your funding actuarial valuation. In addition, differences may result from early Comprehensive Annual Financial Report closing and final reconciled reserves.

Changes in the Net Pension Liability

The following table shows the changes in net pension liability recognized over the measurement period.

	Increase (Decrease)		
	Total Pension Liability (a)	**Plan Fiduciary Net Position (b)**	**Net Pension Liability/(Asset) (c) = (a) - (b)**
Balance at: 6/30/2013 (VD)[1]	**$ 1,447,519,687**	**$ 994,492,551**	**$ 453,027,136**
Changes Recognized for the Measurement Period:			
• Service Cost	29,538,887		29,538,887
• Interest on the Total Pension Liability	107,188,618		107,188,618
• Changes of Benefit Terms	0		0
• Differences between Expected and Actual Experience	0		0
• Changes of Assumptions	0		0
• Contributions from the Employer		27,934,662	(27,934,662)
• Contributions from Employees		16,094,362	(16,094,362)
• Net Investment Income[2]		171,794,710	(171,794,710)
• Benefit Payments, including Refunds of Employee Contributions	(66,215,114)	(66,215,114)	0
Net Changes during 2013-14	**$ 70,512,391**	**$ 149,608,620**	**$ (79,096,229)**
Balance at: 6/30/2014 (MD)[1]	**$ 1,518,032,078**	**$ 1,144,101,171**	**$ 373,930,907**

[1] The fiduciary net position includes receivables for employee service buybacks, deficiency reserves, fiduciary self-insurance and OPEB expense. As described on Page 6, this may differ from the plan assets reported in the funding actuarial valuation report.

[2] Net of administrative expenses. For details, see note in Appendix B-2.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the Plan as of the measurement date, calculated using the discount rate of 7.50 percent, as well as what the net pension liability would be if it were calculated using a discount rate that is 1 percentage-point lower (6.50 percent) or 1 percentage-point higher (8.50 percent) than the current rate:

	Discount Rate - 1% (6.50%)	Current Discount Rate (7.50%)	Discount Rate + 1% (8.50%)
Plan's Net Pension Liability/(Asset)	$ 582,632,556	$ 373,930,907	$ 202,343,828

Subsequent Events

There were no subsequent events that would materially affect the results presented in this disclosure.

Recognition of Gains and Losses

Under GASB 68, gains and losses related to changes in total pension liability and fiduciary net position are recognized in pension expense systematically over time.

The first amortized amounts are recognized in pension expense for the year the gain or loss occurs. The remaining amounts are categorized as deferred outflows and deferred inflows of resources related to pensions and are to be recognized in future pension expense.

The amortization period differs depending on the source of the gain or loss:

Difference between projected and actual earnings	5 year straight-line amortization
All other amounts	Straight-line amortization over the average expected remaining service lives of all members that are provided with benefits (active, inactive, and retired) as of the beginning of the measurement period

The expected average remaining service lifetime (EARSL) is calculated by dividing the total future service years by the total number of plan participants (active, inactive, and retired).

The EARSL for the Plan for the 2013-14 measurement period is 5.3 years, which was obtained by dividing the total service years of 13,335 (the sum of remaining service lifetimes of the active employees) by 2,513 (the total number of participants: active, inactive, and retired). Note that inactive employees and retirees have remaining service lifetimes equal to 0. Also note that total future service is based on the members' probability of decrementing due to an event other than receiving a cash refund.

Pension Expense and Deferred Outflows and Deferred Inflows of Resources Related to Pensions

Paragraph 137 of GASB 68 and Questions 267 and 268 of the GASB 68 Implementation Guide set forth guidance on implementing the standard. The employer should use this guidance for the adjusting entries concerning the net pension obligation and the initial net pension liability/(asset). As of the start of the measurement period (July 1, 2013), the net pension liability/(asset) is $453,027,136.

For the measurement period ending June 30, 2014 (the measurement date), the CITY OF SACRAMENTO incurred a pension expense/(income) of $27,389,034 for the Plan (see Appendix B-2 for the complete breakdown of the pension expense).

Note that no adjustments have been made for contributions subsequent to the measurement date. Adequate treatment of any contributions made after the measurement date is the responsibility of the employer.

As of June 30, 2014, the CITY OF SACRAMENTO has deferred outflows and deferred inflows of resources related to pensions as follows:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	$ 0	$ 0
Changes of Assumptions	0	0
Net Difference between Projected and Actual Earnings on Pension Plan Investments	0	(78,550,601)
Total	**$ 0**	**$ (78,550,601)**

The amounts above are net of outflows and inflows recognized in the 2013-14 measurement period expense.

Amounts reported as deferred outflows and deferred inflows of resources related to pensions will be recognized in future pension expense as follows:

Measurement Period Ended June 30:	Deferred Outflows/(Inflows) of Resources
2015	$ (19,637,650)
2016	(19,637,650)
2017	(19,637,650)
2018	(19,637,651)
2019	0
Thereafter	0

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios During the Measurement Period

Measurement Period		2013-14[1]
TOTAL PENSION LIABILITY		
Service Cost	$	29,538,887
Interest		107,188,618
Changes of Benefit Terms		0
Difference Between Expected and Actual Experience		0
Changes of Assumptions		0
Benefit Payments, Including Refunds of Employee Contributions		(66,215,114)
Net Change in Total Pension Liability		**70,512,391**
Total Pension Liability – Beginning		**1,447,519,687**
Total Pension Liability – Ending (a)	**$**	**1,518,032,078**
PLAN FIDUCIARY NET POSITION		
Contributions – Employer	$	27,934,662
Contributions – Employee		16,094,362
Net Investment Income[2]		171,794,710
Benefit Payments, Including Refunds of Employee Contributions		(66,215,114)
Other Changes in Fiduciary Net Position		0
Net Change in Fiduciary Net Position		**149,608,620**
Plan Fiduciary Net Position – Beginning		**994,492,551**
Plan Fiduciary Net Position – Ending (b)	**$**	**1,144,101,171**
Plan Net Pension Liability/(Asset) – Ending (a) - (b)	**$**	**373,930,907**
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability		**75.37%**
Covered-Employee Payroll	**$**	**107,176,397**
Plan Net Pension Liability/(Asset) as a Percentage of Covered-Employee Payroll		**348.89%**

[1] Historical information is required only for measurement periods for which GASB 68 is applicable.

[2] Net of administrative expenses. For details, see note in Appendix B-2.

Notes to Schedule:

Benefit Changes: The figures above do not include any liability impact that may have resulted from plan changes which occurred after June 30, 2013. This applies for voluntary benefit changes as well as any offers of Two Years Additional Service Credit (a.k.a. Golden Handshakes).

Changes of Assumptions: There were no changes in assumptions.

Schedule of Plan Contributions[1]

		Fiscal Year 2013-14
Actuarially Determined Contribution[2]	$	27,934,662
Contributions in Relation to the Actuarially Determined Contribution[2]		(27,934,662)
Contribution Deficiency (Excess)	$	0
Covered-Employee Payroll[3, 4]	$	107,176,397
Contributions as a Percentage of Covered-Employee Payroll[3]		26.06%

[1] Historical information is required only for measurement periods for which GASB 68 is applicable.

[2] Employers are assumed to make contributions equal to the actuarially determined contributions. However, some employers may choose to make additional contributions towards their unfunded liability. Employer contributions for such plans exceed the actuarially determined contributions.

[3] Covered-Employee Payroll represented above is based on pensionable earnings provided by the employer. However, GASB 68 defines covered-employee payroll as the total payroll of employees that are provided pensions through the pension plan. Accordingly, if pensionable earnings are different than total earnings for covered-employees, the employer should display in the disclosure footnotes the payroll based on total earnings for the covered group and recalculate the required payroll-related ratios.

[4] Payroll from prior year $104,054,754 was assumed to increase by the 3.00 percent payroll growth assumption.

Notes to Schedule:

The actuarial methods and assumptions used to set the actuarially determined contributions for Fiscal Year 2013-14 were from the June 30, 2011 public agency valuations.

Actuarial Cost Method	Entry Age Normal
Amortization Method/Period	For details, see June 30, 2011 Funding Valuation Report.
Asset Valuation Method	Actuarial Value of Assets. For details, see June 30, 2011 Funding Valuation Report.
Inflation	2.75%
Salary Increases	Varies by Entry Age and Service
Payroll Growth	3.00%
Investment Rate of Return	7.50% Net of Pension Plan Investment and Administrative Expenses; includes Inflation.
Retirement Age	The probabilities of Retirement are based on the 2010 CalPERS Experience Study for the period from 1997 to 2007.
Mortality	The probabilities of mortality are based on the 2010 CalPERS Experience Study for the period from 1997 to 2007. Pre-retirement and Post-retirement mortality rates include 5 years of projected mortality improvement using Scale AA published by the Society of Actuaries.

APPENDICES

- **APPENDIX A – DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS**
- **APPENDIX B – INTEREST, TOTAL PROJECTED EARNINGS AND PENSION EXPENSE/(INCOME)**

APPENDIX A

DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS

- **SCHEDULE OF DIFFERENCES BETWEEN EXPECTED AND ACTUAL EXPERIENCE**
- **DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES FOR DIFFERENCES BETWEEN EXPECTED AND ACTUAL EXPERIENCE**
- **SCHEDULE OF CHANGES OF ASSUMPTIONS**
- **DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES FOR CHANGES OF ASSUMPTIONS**
- **SCHEDULE OF DIFFERENCES BETWEEN PROJECTED AND ACTUAL EARNINGS ON PENSION PLAN INVESTMENTS**
- **DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES FOR DIFFERENCES BETWEEN PROJECTED AND ACTUAL EARNINGS ON PENSION PLAN INVESTMENTS**
- **SUMMARY OF RECOGNIZED DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES**

Schedule of differences between expected and actual experience

Measurement Period	Differences between Expected and Actual Experience	Recognition Period (Years)	Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience (Measurement Periods)						
			2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Thereafter
2013-14	$0	5.3	$0	$0	$0	$0	$0	$0	$0
Net Increase (Decrease) in Pension Expense			$0	$0	$0	$0	$0	$0	$0

Deferred outflows of resources and deferred inflows of resources arising from differences between expected and actual experience

				Balances at June 30, 2014	
Measurement Period	**Experience Losses (a)**	**Experience Gains (b)**	**Amounts Recognized in Pension Expense through June 30, 2014 (c)**	**Deferred Outflows of Resources (a) - (c)**	**Deferred Inflows of Resources (b) - (c)**
2013-14			$0		
				$0	$0

Schedule of changes of assumptions

			Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions (Measurement Periods)						
Measurement Period	**Changes of Assumptions**	**Recognition Period (Years)**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Thereafter**
2013-14	$0	5.3	$0	$0	$0	$0	$0	$0	$0
Net Increase (Decrease) in Pension Expense			$0	$0	$0	$0	$0	$0	$0

Deferred outflows of resources and deferred inflows of resources arising from changes of assumptions

				Balances at June 30, 2014	
Measurement Period	Increase in Total Pension Liability (a)	Decrease in Total Pension Liability (b)	Amounts Recognized in Pension Expense through June 30, 2014 (c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2013-14			$0		
				$0	$0

Schedule of differences between projected and actual earnings on pension plan investments

Measurement Period	Differences between Projected and Actual Earnings on Pension Plan Investments	Recognition Period (Years)	Increase (Decrease) in Pension Expense Arising from the Recognition of Differences between Projected and Actual Earnings on Pension Plan Investments (Measurement Periods) 2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Thereafter
2013-14	$(98,188,251)	5.0	$(19,637,650)	$(19,637,650)	$(19,637,650)	$(19,637,650)	$(19,637,651)	$0	$0
Net Increase (Decrease) in Pension Expense			$(19,637,650)	$(19,637,650)	$(19,637,650)	$(19,637,650)	$(19,637,651)	$0	$0

Deferred outflows of resources and deferred inflows of resources arising from differences between projected and actual earnings on pension plan investments

				Balances at June 30, 2014	
Measurement Period	**Investment Earnings less than Projected**	**Investment Earnings greater than Projected**	**Amounts Recognized in Pension Expense through June 30, 2014**	**Deferred Outflows of Resources**	**Deferred Inflows of Resources**
	(a)	**(b)**	**(c)**	**(a) - (c)**	**(b) - (c)**
2013-14		$(98,188,251)	$(19,637,650)		$(78,550,601)
				$0	$(78,550,601)

Summary of recognized deferred outflows of resources and deferred inflows of resources

	Net Increase (Decrease) in Pension Expense (Measurement Periods)						
	2013-14	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Thereafter**
Differences between Expected and Actual Experience	$0	$0	$0	$0	$0	$0	$0
Changes of Assumptions	0	0	0	0	0	0	0
Differences between Projected and Actual Earnings on Pension Plan Investments	(19,637,650)	(19,637,650)	(19,637,650)	(19,637,650)	(19,637,651)	0	0
Grand Total	$(19,637,650)	$(19,637,650)	$(19,637,650)	$(19,637,650)	$(19,637,651)	$0	$0

APPENDIX B

INTEREST, TOTAL PROJECTED EARNINGS AND PENSION EXPENSE/(INCOME)

- **INTEREST ON TOTAL PENSION LIABILITY AND TOTAL PROJECTED EARNINGS**
- **PENSION EXPENSE/(INCOME)**

Interest on Total Pension Liability and Total Projected Earnings

Interest on the Total Pension Liability	**Amount for Period (a)**	**Portion of Period (b)**	**Interest Rate (c)**	**Interest on the Total Pension Liability (a) X (b) X (c)**
Beginning Total Pension Liability	$ 1,447,519,687	100%	7.5%	$ 108,563,977
Service Cost	29,538,887	50%	7.5%	1,107,708
Benefit Payments, including Refunds of Employee Contributions	(66,215,114)	50%	7.5%	(2,483,067)
Total Interest on the Total Pension Liability				**$ 107,188,618**

Projected Earnings on Pension Plan Investments	**Amount for Period (a)**	**Portion of Period (b)**	**Projected Rate of Return (c)**	**Projected Earnings (a) X (b) X (c)**
Beginning Plan Fiduciary Net Position excluding Receivables[1]	$ 992,512,491	100%	7.5%	$ 74,438,437
Employer Contributions	27,934,662	50%	7.5%	1,047,550
Employee Contributions	16,094,362	50%	7.5%	603,539
Benefit Payments, including Refunds of Employee Contributions	(66,215,114)	50%	7.5%	(2,483,067)
Total Projected Earnings				**$ 73,606,459**

[1] Contributions receivable for employee service buybacks, totaling $1,980,060 as of June 30, 2013, are excluded for purposes of calculating projected earnings on pension plan investments.

Pension Expense/(Income) for Measurement Period Ended June 30, 2014

Description		Amount
Service Cost	$	29,538,887
Interest on the Total Pension Liability		107,188,618
Changes of Benefit Terms		0
Recognized Differences between Expected and Actual Experience		0
Recognized Changes of Assumptions		0
Employee Contributions		(16,094,362)
Projected Earnings on Pension Plan Investments		(73,606,459)
Recognized Differences between Projected and Actual Earnings on Plan Investments		(19,637,650)
Other Changes in Fiduciary Net Position		0
Total Pension Expense/(Income)	**$**	**27,389,034**

Note: Plan administrative expenses are not displayed in the above pension expense table. Since the expected investment return of 7.50 percent is net of administrative expenses, administrative expenses are excluded from the above table, but implicitly included as part of investment earnings.

Exhibit I

City of SACRAMENTO

BARTEL ASSOCIATES, LLC

RETIREE HEALTHCARE PLAN

June 30, 2015 GASB 45 Actuarial Valuation
Final Results

Bartel Associates, LLC
John E. Bartel, President
Catherine Wandro, Assistant Vice President & Actuary
Daniel Park, Actuarial Analyst

January 25, 2016

Contents

BENEFIT SUMMARY

	Fire	Police & Miscellaneous
■ Eligibility	■ Retire directly from the City: • Age 50 & 10 years City service, or • 30 years City service, or • Industrial disability, or • Death in line of duty	
■ Medical, Dental, & Vision Benefit	■ Retiree only - lowest cost $25 co-pay medical plan premium plus additional 5.28% of cost plus lowest cost PPO dental plan premium, plus $25 ■ 2015 = $774.28/mo 2016 = $761.63/mo ■ Service — % 10 — 50% 15 — 75% 20+ — 100% ID&D — 100%	■ Retiree only - $300/mo ■ Retiree + Dependents - $365/mo ■ Service — % 10 — 50% 15 — 75% 20+ — 100% ID&D — 100% ■ Future retirees in WCE, Auto Marine & Specialty Painters, and Unrepresented – not allowed to participate in City health plans when Medicare-eligible

BENEFIT SUMMARY

	Fire	Police & Miscellaneous
■ Plan Change for New Hires[1]	■ Pre-Medicare - $774/mo ■ Post-Medicare - $387/mo ■ Service — % 10 — 50% 15 — 75% 20+ — 100% ID&D — 100%	■ No City cash contribution but allowed to participate in City health plans
■ Pre 1/1/91 Deferred Retirement	■ None	■ Eligibility: Age 50 & 10 years ■ Service — % 10 — 50% 20+ — 100%
■ Surviving Spouse Benefit	■ Same benefit continues to surviving spouse	

[1] Hired after 1/14/15 for Fire, after 9/3/13 for Police, after 6/30/12 for Exempt Employees and Stationary Engineers, after 7/20/12 for Unrepresented, after 11/15/14 for Plumbers and Pipe Fitters, and after 6/30/13 for remaining bargaining units.

Exhibit 1

BENEFIT SUMMARY

	Fire	Police & Miscellaneous
■ Other OPEB	■ No City contribution for life insurance or Medicare Part B premiums	
■ Fire Department Unit Trust	■ Effective 6/27/15 ■ Sub-account in City's CERBT account ■ Member Contribution: $45/mo ■ City Contribution: $45/mo	■ n/a

■ Pay-As-You-Go Costs ($000's)

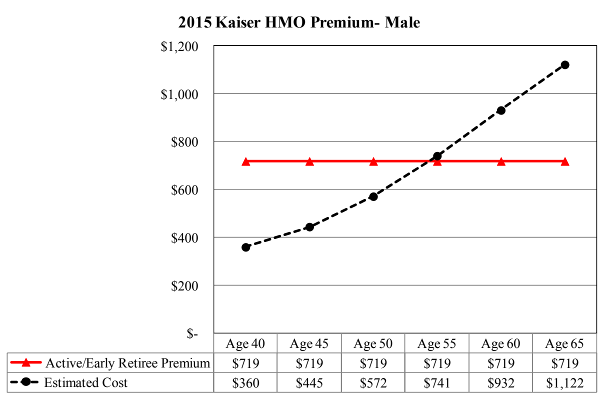
Fiscal Year	Cash	Implied Subsidy	Total
■ FY 2014/15	$9,904	$3,620	$13,524
■ FY 2013/14	$9,970	$3,503	$13,473
■ FY 2012/13	$9,758	$3,085	$12,843
■ FY 2011/12	$9,462	$2,729	$12,191
■ FY 2010/11	$9,230	$2,661	$11,891

BENEFIT SUMMARY

	Fire	Police & Miscellaneous

■ Implied Subsidy

- ■ Non-Medicare eligible retirees pay active rates instead of actual cost
- ■ Active employee premiums subsidize retiree cost



- ■ GASB 45 includes active "implied subsidy" with retiree cost
- ■ Medical:
  - Value to age 65 for Medicare eligible retirees
  - Value for life for non Medicare eligible retirees
- ■ Dental: no implied subsidy valued

Participant Statistics – June 30, 2015

	Misc	Police	Fire	Total
■ Actives				
• Count	2,176	788	549	3,513
• Average Age	47.2	38.2	41.6	44.3
• Average City Service	13.1	12.3	13.1	12.9
• Average Salary	$ 70,078	$ 84,709	$ 93,689	$ 77,050
• Total Salary ($000's)	152,491	66,751	51,436	270,677
■ Pre 1/1/91 Inactive Vested				
• Count	18	1	-	19
• Average Age	66.2	74.1	-	66.6
■ Retirees				
• Count - Medical	1,109	309	397	1,815
• Count - Dental	1,501	492	471	2,464
• Count - Total	2,007	593	524	3,124
• Average Age	70.6	66.7	71.0	69.9
• Average Retirement Age	58.3	50.9	54.3	56.2

Participant Statistics – June 30, 2013

	Misc	Police	Fire	Total
■ Actives				
• Count	2,132	770	542	3,444
• Average Age	46.7	37.4	40.3	43.6
• Average City Service	12.7	11.5	11.9	12.3
• Average Salary	$ 68,273	$ 83,075	$ 88,508	$ 74,767
• Total Salary ($000's)	145,559	63,968	47,971	257,498
■ Pre 1/1/91 Inactive Vested				
• Count	20	1	-	21
• Average Age	64.1	72.1	-	64.5
■ Retirees				
• Count - Medical	1,118	314	433	1,865
• Count - Dental	1,468	486	476	2,430
• Count - Total	1,950	588	529	3,067
• Average Age	69.4	65.6	69.5	68.7
• Average Retirement Age	58.1	50.7	54.1	56.0

ACTUARIAL ASSUMPTIONS HIGHLIGHTS

	June 30, 2013 Valuation	June 30, 2015 Valuation
■ Valuation Date	■ June 30, 2013 ■ Fiscal Years 2014/15 & 2015/16	■ June 30, 2015 ■ Fiscal Years 2016/17 & 2017/18
■ Discount Rate	■ 4.50% – Pre-fund with one time resources ■ CERBT asset allocation strategy #1	■ Same
■ Retirement, Mortality, Termination, Disability	■ CalPERS – 1997-2011 Experience Study ■ SCERS – 6/30/13 Valuation Assumptions ■ Post Retirement Mortality Projection Scale AA	■ CalPERS – 1997-2011 Experience Study ■ SCERS – 6/30/13 Valuation Assumptions ■ Mortality projected fully generational with Scale MP-14, modified to converge to ultimate improvement rates in year 2022

ACTUARIAL ASSUMPTIONS HIGHLIGHTS

■ Medical Trend

June 30, 2013 Valuation

	Increase from Prior Year	
	Non-Medicare	Medicare
Year	All Plans	
2013	Actual 2013 Premiums	
2014	Actual 2014 Premiums	
2015	8.0%	8.3%
2016	7.5%	7.8%
2017	7.0%	7.2%
2018	6.5%	6.7%
2019	6.0%	6.1%
2020	5.5%	5.6%
2021+	5.0%	5.0%

June 30, 2015 Valuation

	Increase from Prior Year	
	Non-Medicare	Medicare
Year	All Plans	
2013	n/a	
2014	n/a	
2015	Actual 2015 Premiums	
2016	Actual 2016 Premiums	
2017	7.0%	7.2%
2018	6.5%	6.7%
2019	6.0%	6.1%
2020	5.5%	5.6%
2021+	5.0%	5.0%

Exhibit 1

ACTUARIAL ASSUMPTIONS HIGHLIGHTS

<table>
<tr><th></th><th>June 30, 2013 Valuation</th><th>June 30, 2015 Valuation</th></tr>
<tr>
<td>■ Cap Increase Rates</td>
<td>■ Fire:
• Lowest cost medical premium – medical trend
• Highest benefit dental premium – dental trend
■ Misc & Police: 3%</td>
<td>■ Fire hired <1/14/15:
• Lowest cost $25 co-pay medical premium – medical trend
• Lowest cost PPO dental premium – dental trend
■ All Misc, All Police, and Fire hired ≥ 1/14/15: 3% starting 2017</td>
</tr>
<tr>
<td>■ Participation at Retirement</td>
<td>■ Based on medical coverage:
• Currently covered – 100%
• Currently waived – 80%</td>
<td>■ Based on % of benefit earned at retirement:
<table>
<tr><th>% of Benefit Earned</th><th>Participation Assumption</th></tr>
<tr><td>0%</td><td>10%</td></tr>
<tr><td>50%</td><td>40%</td></tr>
<tr><td>75%</td><td>55%</td></tr>
<tr><td>100%</td><td>75%</td></tr>
</table>
</td>
</tr>
</table>

ACTUARIAL ASSUMPTIONS HIGHLIGHTS

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ACTUARIAL METHODS

Method	June 30, 2013 Valuation	June 30, 2015 Valuation
■ Cost Method	■ Entry Age Normal	
■ Funding Policy	■ Pre-fund one time resources with CERBT asset allocation strategy #1	
■ Actuarial Value of Assets	■ Methodology: • Investment gains/losses spread over 5-year rolling period • Not less than 80% nor more than 120% of market value • Same as CalPERS but shorter period ■ Allocation to Misc/Police/Fire: • Fire Department Unit Trust assets allocated to Fire group • Remaining assets allocated to Misc/Police/Fire in proportion to liability	
■ Amortization Method	■ Level percent of payroll	

ACTUARIAL METHODS

Method	June 30, 2013 Valuation	June 30, 2015 Valuation
■ Amortization Period	■ 20 year closed fresh start amortization of 6/30/14 UAAL (18 years remaining on 6/30/16) ■ 15 years (closed) – subsequent gains/losses, assumption changes, and method changes ■ Maximum 30 years combined period allowed	
■ Implied Subsidy	■ Employer cost for allowing non Medicare-eligible retirees to participate at active rates ■ Medical - implied subsidy valued ■ Dental - none	

Market Value of Plan Assets

(Amounts in 000's)

Market Value of Assets	2014/15 CERBT	Projected 2015/16 CERBT	Projected 2015/16 CERBT Fire Sub-Account[2]	Projected 2015/16 Total
■ MVA (Beginning of Year)	$ 4,254	$ 5,239	$ 0	$ 5,239
• Employer Contribution	1,000	8,453[3]	267	8,720
• Employee Contribution	0	0	267	267
• Benefit Payment	(0)	(0)	(0)	(0)
• Administrative Expenses	(5)	-	-	-
• Investment Return	(9)	682	18	700
■ MVA (End of Year)	5,239	14,374	552	14,926
■ Approximate Annual Return	(0.3%)	7.25%	7.25%	7.25%

[2] Projected $45/mo. employee contributions and $45/mo. employer contributions, with expected interest to end of year.

[3] $1 million contribution on 7/1/15 and $7.453 million contribution in January 2016.

Actuarial Value of Plan Assets

(Amounts in 000's)

Actuarial Value of Assets	2014/15	Projected 2015/16
■ **AVA (Beginning of Year)**	$ 4,143	$ 5,461
• Employer/Employee Contribution	1,000	8,987
• Benefit Payment	(0)	(0)
• Expected Investment Return[4]	373	716
■ **Expected AVA (End of Year)**	5,516	15,163
■ **MVA (End of Year)**	**5,239**	**14,926**
■ **1/5 of (MVA – Expected AVA)**	(55)	(47)
■ **Preliminary AVA**[5]	5,461	15,116
• Minimum AVA (80% of MVA)	4,191	11,941
• Maximum AVA (120% of MVA)	6,287	17,911
■ **AVA (End of Year)**	**5,461**	**15,116**
■ **Approximate Annual Return**	6.2%	6.8%

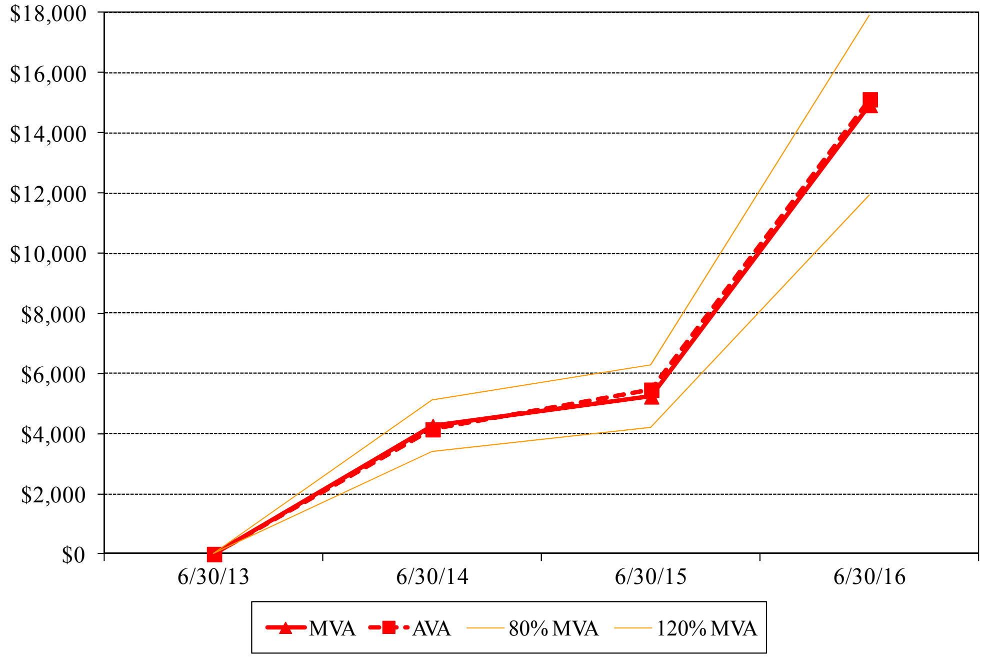
[4] Expected investment return of 7.25%.

[5] Expected AVA plus 20% of the difference between the MVA and expected AVA.

Assets

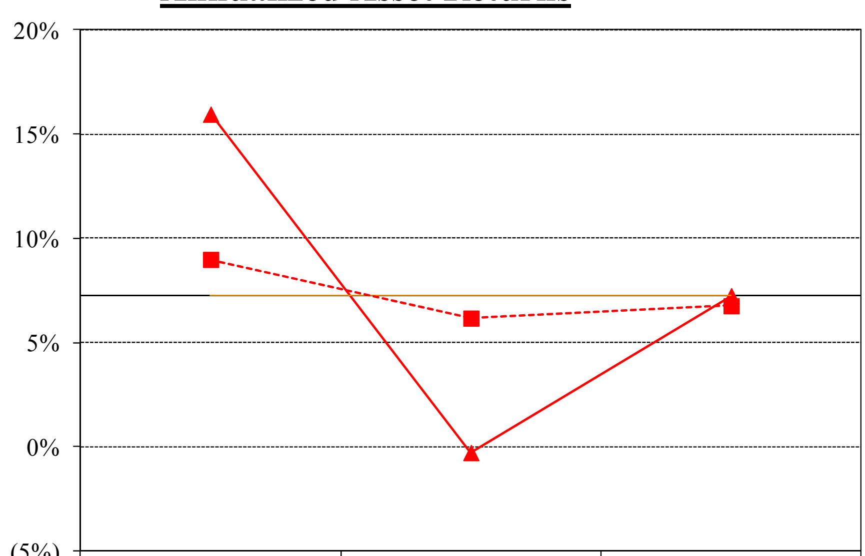
Historical and Projected Value of Plan Assets

(Amounts in $000's)



Assets

Annualized Asset Returns

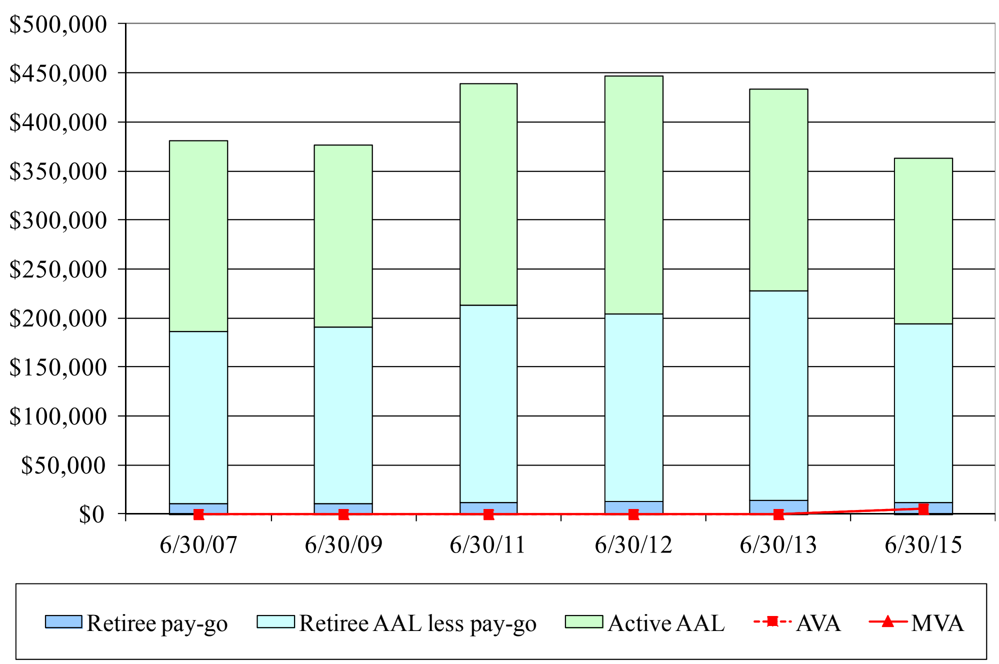


	13/14	14/15	15/16
MVA	16.0%	-0.3%	7.25%
Expected Return	7.25%	7.25%	7.25%
AVA	9.0%	6.2%	6.8%

Actuarial Obligations
4.50% Discount Rate
(Amounts in 000's)

	6/30/13 Valuation		6/30/15 Valuation	
	6/30/13	Projected to 6/30/14	6/30/15	Projected to 6/30/16
■ **Present Value of Benefits**				
• Actives	$404,188		$296,447	
• Retirees	227,955		194,312	
• Total	632,143		490,759	
■ **Actuarial Accrued Liability**				
• Actives	205,740		168,512	
• Retirees	227,955		194,312	
• Total	433,695	$456,370	362,824	$378,534
■ **Actuarial Value of Assets**	-	(4,143)	(5,461)	(15,116)
■ **Unfunded AAL**	433,695	452,227	357,363	363,418
■ **Normal Cost**		16,956		11,921
■ **Pay-As-You-Go Cost**		13,524		12,122

Historical Actuarial Accrued Liability
(Amounts in 000's)



Actuarial Gain/Loss Analysis

(Amounts in 000's)

	NC %	AAL	Assets	UAAL
■ Actual on 6/30/13	6.4%	$433,695	$ -	$433,695
■ Projected to 6/30/14	6.2%	456,370	4,143	452,227
■ Expected on 6/30/16	6.2%	503,422	36,684	466,738
■ Experience (Gains)/Losses:				
• Premiums/Claims/Caps less than Expected	(0.6%)	(48,746)	-	(48,746)
• Demographic and Other	0.3%	(35,381)	-	(35,381)
■ Assets and Contribution Losses			(21,568)	21,568
■ Assumption Changes:				
• Mortality Improvement	0.2%	20,714	-	20,714
• Participation at Retirement	(1.5%)	(59,635)	-	(59,635)
■ Plan Changes:				
• Reduced Benefit for Recent Hires	(0.3%)	(1,840)	-	(1,840)
■ Total (Gains)/Losses	(1.9%)	(124,888)	(21,568)	(103,320)
■ Projected on 6/30/16	4.3%	378,534	15,116	363,418

Unfunded Actuarial Accrued Liability Bases

4.50% Discount Rate

(Amounts in $000's)

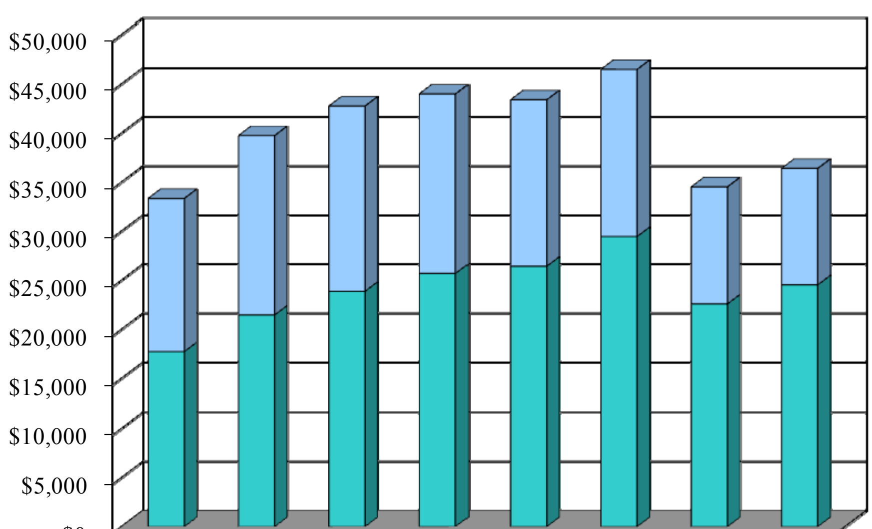
	Original Amortization Bases			Balances on 6/30/2016		Amortization Payment
Amortization Bases	Date	Years	Amount	Years	Balance	2016/17
■ Fresh Start UAAL	6/30/14	20	$452,227	18	$466,738[6]	$30,414
■ (Gains)/Losses	6/30/16	15	(103,320)	15	(103,320)	(7,820)
■ Total					363,418	22,594

[6] Includes 2014/15 contribution loss.

Annual Required Contribution (ARC)
4.50% Discount Rate
(Amounts in 000's)

	6/30/13 Valuation		6/30/15 Valuation	
	2014/15	**2015/16**	**2016/17**	**2017/18**
■ **ARC - $**				
• Normal Cost	$16,956	$17,024	$11,921	$11,860
• UAAL Amortization	26,427	29,456	22,594	24,533
• ARC (End of Year)	43,383	46,480	34,515	36,393
■ **Projected Payroll**	265,867	274,507	279,474	288,557
■ **ARC - % Total Payroll**				
• Normal Cost	6.4%	6.2%	4.3%	4.1%
• UAAL Amortization	9.9%	10.7%	8.1%	8.5%
• ARC	16.3%	16.9%	12.4%	12.6%

Historical Annual Required Contributions
(Amounts in 000's)



	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Normal Cost	15,606	18,272	18,866	18,284	16,956	17,024	11,921	11,860
Amortization	17,729	21,468	23,878	25,690	26,427	29,456	22,594	24,533
ARC	33,335	39,740	42,744	43,974	43,383	46,480	34,515	36,393

Estimated Net OPEB Obligation (NOO)

(Amounts in 000's)

	6/30/12 Val	6/30/13 Val		6/30/15 Val
	CAFR 2013/14	Est. 2014/15	Est. 2015/16	Est. 2016/17
■ **NOO Beginning of Year**	$131,739	$154,197	$180,984	$203,236
• Annual OPEB Cost				
• ARC	43,974	43,383	46,480	34,515
• Interest on NOO	5,928	6,939	8,144	9,146
• Amortization of NOO	(9,971)	(9,011)	(11,486)	(15,382)
• Annual OPEB Cost	39,931	41,311	43,138	28,279
■ **Contributions**				
• Cash Benefit Payments	(9,970)	(9,904)	(9,383)	(9,568)
• Implied Subsidy	(3,503)	(3,620)	(2,516)	(2,554)
• Trust Pre-Funding	(4,000)	(1,000)	(8,987)	(534)
• Total Contribution	(17,473)	(14,524)	(20,886)	(12,656)
■ **NOO End of Year**	154,197	180,984	203,236	218,859
■ **NOO Amort. Factor**	13.2122	17.1121	15.7575	13.2122

10-Year Projection Illustration

4.50% Discount Rate

(Amounts in 000's)

FYE June 30,	Beginning of Year Net OPEB Obligation	ARC	Annual OPEB Cost (AOC)	Contribution Benefit Pmts	Contribution Pre-Fund	Contribution Total Contrib	Payroll	ARC as % of Payroll	Contrib as % of Payroll
2017	$203,236	$34,515	$28,279	$12,122	$534	$12,656	$279,474	12.4%	4.5%
2018	218,859	36,393	n/a	12,865	534	13,399	288,557	12.6%	4.6%
2019	n/a	38,386	n/a	13,606	534	14,140	297,935	12.9%	4.7%
2020	n/a	40,512	n/a	14,393	534	14,927	307,618	13.2%	4.9%
2021	n/a	42,773	n/a	15,337	534	15,871	317,615	13.5%	5.0%
2022	n/a	45,183	n/a	16,170	534	16,704	327,938	13.8%	5.1%
2023	n/a	47,770	n/a	17,121	534	17,655	338,596	14.1%	5.2%
2024	n/a	50,540	n/a	18,199	534	18,733	349,600	14.5%	5.4%
2025	n/a	53,508	n/a	19,310	534	19,844	360,962	14.8%	5.5%
2026	n/a	56,674	n/a	20,398	534	20,932	372,694	15.2%	5.6%

Results

Exhibit I

Actuarial Obligations by Cash/Implied Subsidy

June 30, 2015, 4.50% Discount Rate

(Amounts in 000's)

	Cash Subsidy	Implied Subsidy	Total
■ **PVPB 6/30/15**			
• Actives	$ 225,356	$ 71,091	$ 296,447
• Retirees	160,169	34,143	194,312
• Total	385,525	105,234	490,759
■ **AAL 6/30/15**			
• Actives	127,057	41,455	168,512
• Retirees	160,169	34,143	194,312
• Total	287,226	75,598	362,824
■ **AAL Projected to 6/30/16**	299,468	79,066	378,534
■ **Assets 6/30/16**[7]	(11,959)	(3,157)	(15,116)
■ **Unfunded AAL 6/30/16**	287,509	75,909	363,418
■ **Normal Cost 2016/17**	9,198	2,723	11,921
■ **Pay-As-You-Go 2016/17**	9,568	2,554	12,122

7 Assets allocated in proportion to liability.

Results

Annual Required Contribution (ARC) by Cash/Implied Subsidy

2016/17 Fiscal Year, 4.50% Discount Rate

(Amounts in 000's)

	Cash Subsidy	Implied Subsidy	Total
■ **ARC - $**			
• Normal Cost	$ 9,198	$ 2,723	$ 11,921
• UAAL Amortization	17,874	4,720	22,594
• Total	27,072	7,443	34,515
■ **Projected Payroll**	279,474	279,474	279,474
■ **ARC - %**			
• Normal Cost	3.3%	1.0%	4.3%
• UAAL Amortization	6.4%	1.7%	8.1%
• Total	9.7%	2.7%	12.4%

Actual Obligations by Group

June 30, 2015, 4.50% Discount Rate

(Amounts in 000's)

	Misc	Police	Fire	Total
■ **PVPB 6/30/15**				
• Actives	$ 106,959	$ 64,897	$ 124,591	$ 296,447
• Retirees	87,484	36,673	70,155	194,312
• Total	194,443	101,570	194,746	490,759
■ **AAL 6/30/15**				
• Actives	73,597	33,112	61,803	168,512
• Retirees	87,484	36,673	70,155	194,312
• Total	161,081	69,785	131,958	362,824
■ **AAL Projected to 6/30/16**	165,823	73,520	139,191	378,534
■ **Assets 6/30/16**[8]	(6,377)	(2,827)	(5,912)	(15,116)
■ **Unfunded AAL 6/30/16**	159,446	70,693	133,279	363,418
■ **Normal Cost 2016/17**	3,791	2,784	5,346	11,921
■ **Pay-As-You-Go 2016/17**	6,163	2,085	3,874	12,122

8 Fire Department Trust assets allocated to Fire group, remaining assets allocated to all three groups in proportion to liability.

Annual Required Contribution (ARC) by Group

2016/17 Fiscal Year, 4.50% Discount Rate

(Amounts in 000's)

	Misc	Police	Fire	Total
■ **ARC - $**				
• Normal Cost	$ 3,791	$ 2,784	$ 5,346	$ 11,921
• UAAL Amortization	9,913	4,395	8,286	22,594
• Total	13,704	7,179	13,632	34,515
■ **Projected Payroll**	157,447	68,920	53,108	279,474
■ **ARC - %**				
• Normal Cost	2.4%	4.0%	10.1%	4.3%
• UAAL Amortization	6.3%	6.4%	15.6%	8.1%
• Total	8.7%	10.4%	25.7%	12.4%

Benefit Payment Projection by Cash/Implied Subsidy

(Amounts in 000's)

Fiscal Year	Cash Subsidy	Implied Subsidy	Total
2015/16	$9,383	$2,516	$11,899
2016/17	9,568	2,554	12,122
2017/18	10,085	2,780	12,865
2018/19	10,608	2,998	13,606
2019/20	11,164	3,229	14,393
2020/21	11,766	3,571	15,337
2021/22	12,374	3,796	16,170
2022/23	13,044	4,077	17,121
2023/24	13,714	4,485	18,199
2024/25	14,413	4,897	19,310
2025/26	15,116	5,282	20,398

Schedule of Funding Progress

(Amounts in 000's)

Actuarial Valuation Date[9]	Actuarial Value of Assets (a)	Entry Age Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as Percentage of Covered Payroll ((b-a)/c)
6/30/07	$ -	$ 380,373	$ 380,373	0.0%	$ 266,317	142.8%
6/30/09	-	376,417	376,417	0.0%	275,252	136.8%
6/30/11	-	439,592	439,592	0.0%	253,528	173.4%
6/30/12	-	447,406	447,406	0.0%	261,768	170.9%
6/30/13	-	433,695	433,695	0.0%	257,498	168.4%
6/30/15	5,461	362,824	357,363	1.5%	270,677	132.0%

9 The valuation results for 6/30/07 through the 6/30/11 were based on a 4.25% discount rate. The later valuations were based on a 4.50% discount rate.

Discount Rate Sensitivity

(Amounts in 000's)

	Valuation Results	Full Pre-Funding Examples		
		CERBT #1	CERBT #2	CERBT #3
■ **Discount Rate**	**4.50%**	**7.25%**	**6.75%**	**6.25%**
■ **PVPB on 6/30/15**	$490,759	$298,800	$323,887	$352,475
■ **Funded Status on 6/30/16**				
• AAL	378,534	258,918	275,838	294,573
• Assets	(15,116)	(15,116)	(15,116)	(15,116)
• Unfunded AAL	363,418	243,802	260,722	279,457
■ **2016/17 ARC**				
• Normal Cost	$ 11,921	$ 5,962	$ 6,723	$ 7,601
• UAAL Amortization	22,594	19,202	19,707	20,255
• Total ARC	34,515	25,164	26,431	27,857
• ARC as % of payroll	12.4%	9.0%	9.5%	10.0%
■ **Pay-As-You-Go 2016/17**	12,122	12,122	12,122	12,122

This report presents the City of Sacramento Retiree Healthcare Plan ("Plan") June 30, 2015 actuarial valuation. The purpose of this valuation is to:

- Determine the Governmental Accounting Standards Board Statement Nos. 43 and 45 June 30, 2015 Benefit Obligations,
- Determine the Plan's June 30, 2015 Funded Status, and
- Calculate the 2016/17 and 2017/18 Annual Required Contributions.

The report provides information intended for reporting under GASB 43 and 45, but may not be appropriate for other purposes. Information provided in this report may be useful to the City for the Plan's financial management. Future valuations may differ significantly if the Plan's experience differs from our assumptions or if there are changes in Plan design, actuarial methods, or actuarial assumptions. The project scope did not include an analysis of this potential variation.

The valuation is based on Plan provisions, participant data, and asset information provided by the City as summarized in this report, which we relied on and did not audit. We reviewed the participant data for reasonableness.

To the best of our knowledge, this report is complete and accurate and has been conducted using generally accepted actuarial principles and practices. Additionally, in our opinion, actuarial methods and assumptions comply with GASB 43 and 45. As members of the American Academy of Actuaries meeting the Academy Qualification Standards, we certify the actuarial results and opinions herein.

Respectfully submitted,

John E. Bartel, ASA, MAAA, FCA
President
Bartel Associates, LLC
January 25, 2016

Catherine A. Wandro, ASA, MAAA, FCA
Assistant Vice President
Bartel Associates, LLC
January 25, 2016

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2015 Monthly Medical Premiums
Actives

Medical Plan	Single	2-Party	Family
Kaiser HMO - Premium	$ 718.70	$ 1,437.40	$ 1,911.74
Kaiser HMO - Standard	682.72	1,365.44	1,816.04
Kaiser - Account Based Health Plan	561.66	1,123.32	1,494.02
Western Health Advantage - Premium	697.82	1,395.64	1,856.20
Western Health Advantage - Standard	669.10	1,338.18	1,779.78
Western Health Advantage - Account Based Health Plan	495.46	990.90	1,317.90
Sutter Health Plus - Premium	738.52	1,477.06	1,964.48
Sutter Health Plus - Standard	701.54	1,403.06	1,866.08
Sutter Health Plus - Account Based Health Plan	577.16	1,154.32	1,535.22

2015 Monthly Medical Premiums
Non Medicare Retirees

Medical Plan	Single	2-Party	Family
Kaiser HMO - Premium	$ 718.70	$ 1,437.40	$ 1,911.74
Kaiser HMO - Standard	682.72	1,365.44	1,816.04
Western Health Advantage - Premium	697.82	1,395.64	1,856.20
Western Health Advantage - Standard	669.10	1,338.18	1,779.78
Sutter Health Plus - Premium	738.52	1,477.06	1,964.48
Sutter Health Plus - Standard	701.54	1,403.06	1,866.08

2015 Monthly Medical Premiums
Medicare Retirees

Medical Plan	Single	2-Party	Family
Kaiser Senior Advantage - Premium	$ 319.26	$ 606.74	n/a
Kaiser Senior Advantage - Standard	309.06	587.34	n/a
Health Net Seniority Plus - Premium	386.68	773.36	n/a
Health Net Seniority Plus - Standard	377.31	754.62	n/a

2015 Monthly Dental Premiums

Actives

Dental Plan	Single	2-Party	Family
Delta Dental DPPO	$ 53.16	$ 100.98	$134.46
Delta Care DHMO	27.86	52.92	70.44

Retirees

Dental Plan	Single	2-Party	Family
Delta Dental DPPO	$ 51.46	$ 91.42	$ 159.40
Delta Care DHMO	27.86	52.92	70.44

2016 Monthly Medical Premiums
Actives

Medical Plan	Single	2-Party	Family
Kaiser HMO – Premium ($25)	$ 664.40	$1,328.80	$1,767.32
Kaiser HMO – Standard ($40)	655.08	1,310.16	1,742.52
Kaiser - Account Based Health Plan	540.94	1,081.88	1,438.90
Western Health Advantage – Premium ($25)	669.10	1,338.18	1,779.78
Western Health Advantage – Standard ($40)	657.70	1,315.40	1,749.50
Western Health Advantage - Account Based Health Plan	513.50	1,027.00	1,365.90
Sutter Health Plus – Premium ($25)	652.42	1,304.84	1,735.46
Sutter Health Plus – Standard ($40)	628.32	1,257.64	1,672.30
Sutter Health Plus - Account Based Health Plan	536.76	1,073.52	1,427.74

2016 Monthly Medical Premiums
Non Medicare Retirees

Medical Plan	Single	2-Party	Family
Kaiser HMO – Premium ($25)	$ 664.40	$ 1,328.80	$ 1,767.32
Kaiser HMO – Standard ($40)	655.08	1,310.16	1,742.52
Western Health Advantage – Premium ($25)	669.10	1,338.18	1,779.78
Western Health Advantage – Standard ($40)	657.70	1,315.40	1,749.50
Sutter Health Plus – Premium ($25)	652.42	1,304.84	1,735.46
Sutter Health Plus – Standard ($40)	628.32	1,257.64	1,672.30

2016 Monthly Medical Premiums
Medicare Retirees

Medical Plan	Single	2-Party	Family
Kaiser Senior Advantage – Premium ($15)	$ 324.68	$ 617.04	n/a
Kaiser Senior Advantage – Standard ($20)	314.30	597.32	n/a
Health Net Seniority Plus ($15)	398.28	796.56	n/a
Health Net Seniority Plus ($20)	388.63	777.26	n/a

2016 Monthly Dental Premiums

Actives

Dental Plan	Single	2-Party	Family
Delta Dental DPPO	$ 51.42	$ 97.66	$ 130.04
Delta Care DHMO	27.86	52.92	70.44

Retirees

Dental Plan	Single	2-Party	Family
Delta Dental DPPO	$ 49.76	$ 88.42	$ 154.16
Delta Care DHMO	27.86	52.92	70.44

Medical Plan Participation
Non-Waived Participants
June 30, 2015

Plan	Actives	Retirees < 65	Retirees ≥ 65
Kaiser HMO - Premium	11%	26%	49%
Kaiser HMO - Standard	40%	35%	19%
Kaiser - ABP	13%	0%	0%
Sutter Health – Premium	3%	3%	1%
Sutter Health – Standard	11%	11%	1%
Sutter Health - ABP	2%	0%	0%
Western Health Advantage - Premium	3%	7%	0%
Western Health Advantage - Standard	12%	13%	1%
Western Health Advantage - ABP	5%	0%	0%
Health Net Seniority Plus - Premium	0%	2%	22%
Health Net Seniority Plus - Standard	0%	2%	7%
Total	100%	100%	100%

Current Active Medical Coverage
June 30, 2015

Medical Plan	Single	2-Party	Family	Waived	Total
Kaiser HMO - Premium	161	48	109	-	318
Kaiser HMO - Standard	547	154	420	-	1,121
Kaiser - ABP	141	59	168	-	368
Sutter Health – Premium	35	15	32	-	82
Sutter Health – Standard	120	48	133	-	301
Sutter Health - ABP	25	7	25	-	57
Western Health Advantage - Premium	46	14	26	-	86
Western Health Advantage - Standard	152	52	117	-	321
Western Health Advantage - ABP	62	17	69	-	148
Waived	-	-	-	711	711
Total	1,289	414	1,099	711	3,513

DATA SUMMARY

Current Retiree Medical Coverage – Pre 65

Medical Plan	Single	2-Party	Family	Waived	Total
Kaiser HMO Premium	82	21	5	-	108
Kaiser HMO Standard	122	31	15	-	168
Kaiser Oregon HMO	2	-	-	-	2
Kaiser Senior Advantage Premium	23	5	1	-	29
Kaiser Senior Advantage Standard	10	7	1	-	18
Health Net Senior Plus Premium	10	-	-	-	10
Health Net SeniorPlus Standard	7	1	-	-	8
Western Health Premium	31	7	1	-	39
Western Health Standard	45	23	3	-	71
Sutter Health Premium	12	2	1	-	15
Sutter Health Standard	44	10	6	-	60
Waived	-	-	-	494	494
Total	388	107	33	494	1,022

DATA SUMMARY

Current Retiree Medical Coverage – Post 65

Medical Plan	Single	2-Party	Family	Waived	Total
Kaiser HMO Premium	49	8	2	-	59
Kaiser HMO Standard	8	6	-	-	14
Kaiser Colorado HMO	3	-	-	-	3
Kaiser Hawaii HMO	2	1	-	-	3
Kaiser Oregon HMO	7	-	-	-	7
Kaiser Senior Advantage Premium	357	199	6	-	562
Kaiser Senior Advantage Standard	119	114	1	-	234
Health Net Senior Plus Premium	216	66	-	-	282
Health Net SeniorPlus Standard	70	21	-	-	91
Western Health Premium	3	1	-	-	4
Western Health Standard	6	-	1	-	7
Sutter Health Premium	8	1	-	-	9
Sutter Health Standard	8	4	-	-	12
Waived	-	-	-	815	815
Total	856	421	10	815	2,102

Dental Coverage

June 30, 2015

Actives

Dental Plan	Single	2-Party	Family	Waived	Total
Delta Dental DPPO	909	471	1,032	-	2,412
Delta Care DHMO	184	73	161	-	418
Waived	-	-	-	683	683
Total	1,093	544	1,193	683	3,513

Retirees

Dental Plan	Single	2-Party	Family	Waived	Total
Delta Dental DPPO	1,116	1,021	200	-	2,337
Delta Care DHMO	73	43	11	-	127
Waived	-	-	-	660	660
Total	1,189	1,064	211	660	3,124

Retiree Medical and Dental Participation

Valuation Date	Medical Only	Dental Only	Both Medical & Dental	Neither Medical nor Dental	Total
6/30/2009	188	549	1,686	350	2,773
6/30/2011	309	592	1,478	431	2,810
6/30/2013	220	785	1,645	417	3,067
6/30/2015	214	863	1,601	446	3,124

Retiree Medical Plan Coverage by Age
June 30, 2015
Miscellaneous

Age	Single	2-Party	Family	Waived	Total
Under 50	2	1	-	9	12
50-54	9	4	2	31	46
55-59	66	11	2	114	193
60-64	156	40	7	168	371
65-69	162	69	-	222	453
70-74	133	62	-	126	321
75-80	104	50	1	99	254
80-85	66	33	2	62	163
85 & Over	112	15	-	67	194
Total	810	285	14	898	2,007
Average Age	71.9	71.8	63.5	69.1	70.6

Retiree Age Distribution
Miscellaneous

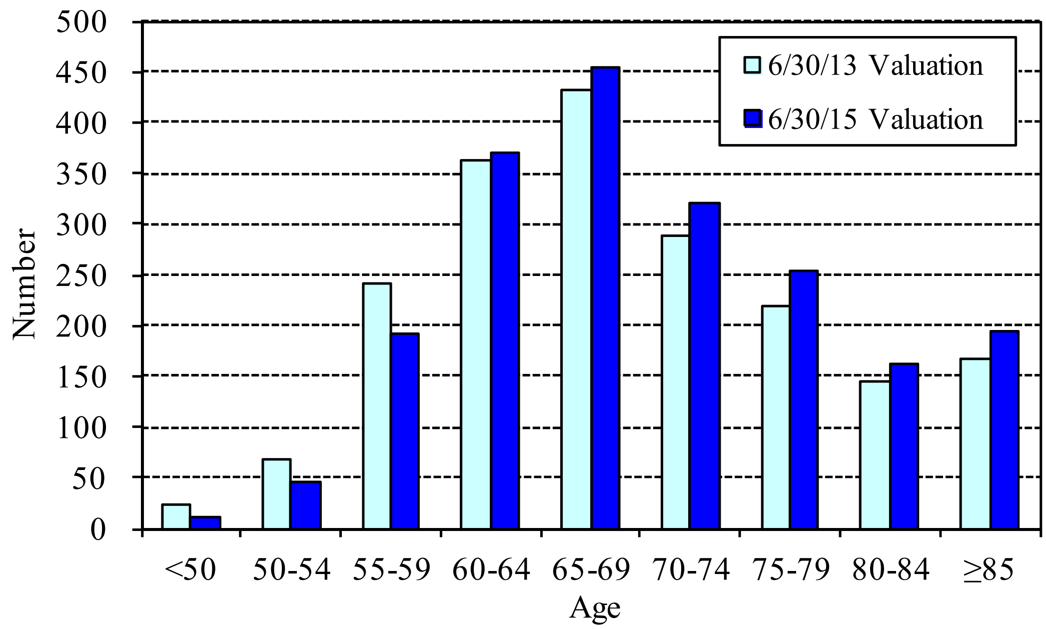
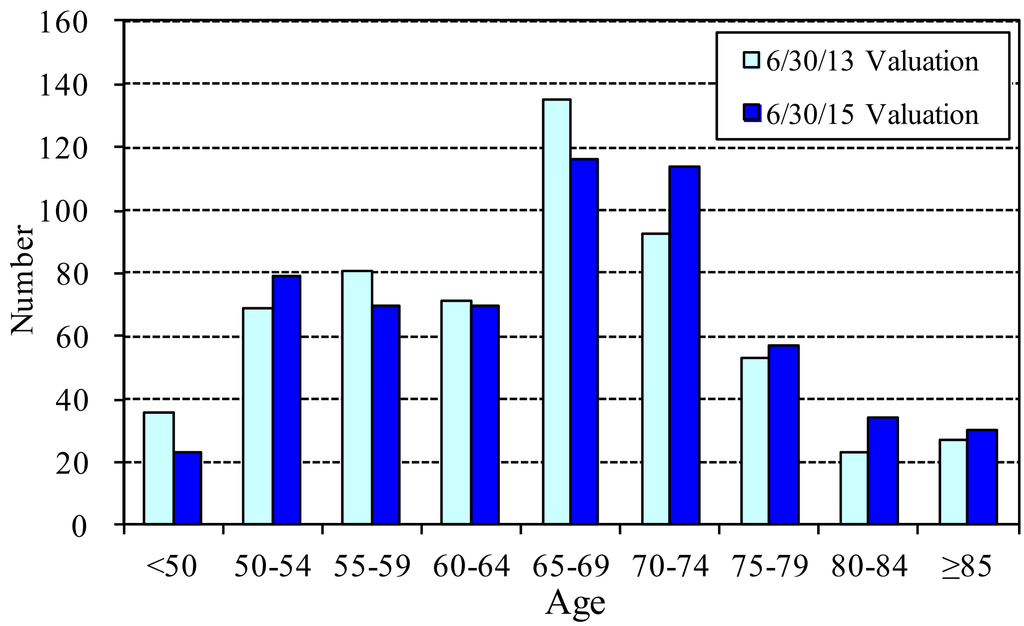


Exhibit I

Retiree Medical Plan Coverage by Age
June 30, 2015
Police

Age	Single	2-Party	Family	Waived	Total
Under 50	4	1	0	18	4
50-54	21	2	5	51	21
55-59	17	12	1	40	17
60-64	24	9	3	34	24
65-69	43	21	1	51	43
70-74	40	22	1	51	40
75-80	14	22	0	21	14
80-85	14	9	0	11	14
85 & Over	16	7	0	7	16
Total	193	105	11	284	593
Average Age	68.4	71.1	58.9	64.1	66.7

Retiree Age Distribution
Police



Retiree Medical Plan Coverage by Age
June 30, 2015
Fire

Age	Single	2-Party	Family	Waived	Total
Under 50	5	1	0	3	9
50-54	15	1	4	4	24
55-59	31	10	4	10	55
60-64	38	15	5	12	70
65-69	43	29	4	18	94
70-74	35	27	0	24	86
75-80	22	27	1	19	69
80-85	20	17	0	15	52
85 & Over	32	11	0	22	65
Total	241	138	18	127	524
Average Age	69.7	72.4	61.0	73.3	71.0

Retiree Age Distribution
Fire

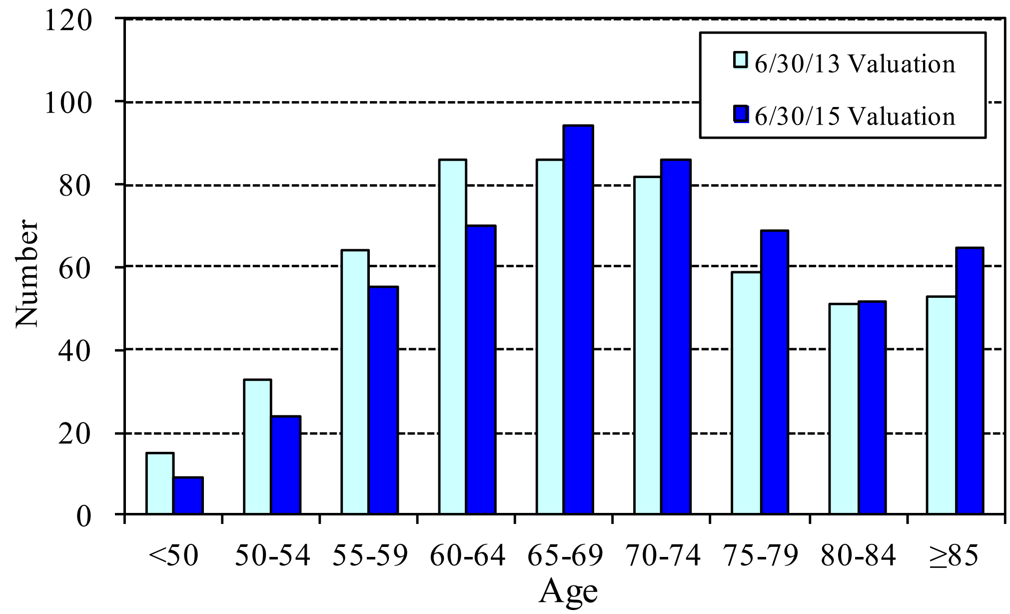


Exhibit I

Actives by Age and Service
June 30, 2015
Miscellaneous

Age	City Service							
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	Total
< 25	15	13	1	-	-	-	-	29
25-29	47	38	20	4	-	-	-	109
30-34	43	49	51	40	8	-	-	191
35-39	40	47	58	76	21	4	-	246
40-44	31	40	76	84	39	15	5	290
45-49	21	37	65	106	66	34	34	363
50-54	12	28	44	98	69	50	99	400
55-59	3	11	44	64	54	35	103	314
60-64	4	5	26	43	27	24	54	183
≥ 65	4	6	9	12	9	6	5	51
Total	220	274	394	527	293	168	300	2,176

Active Age Distribution
Miscellaneous

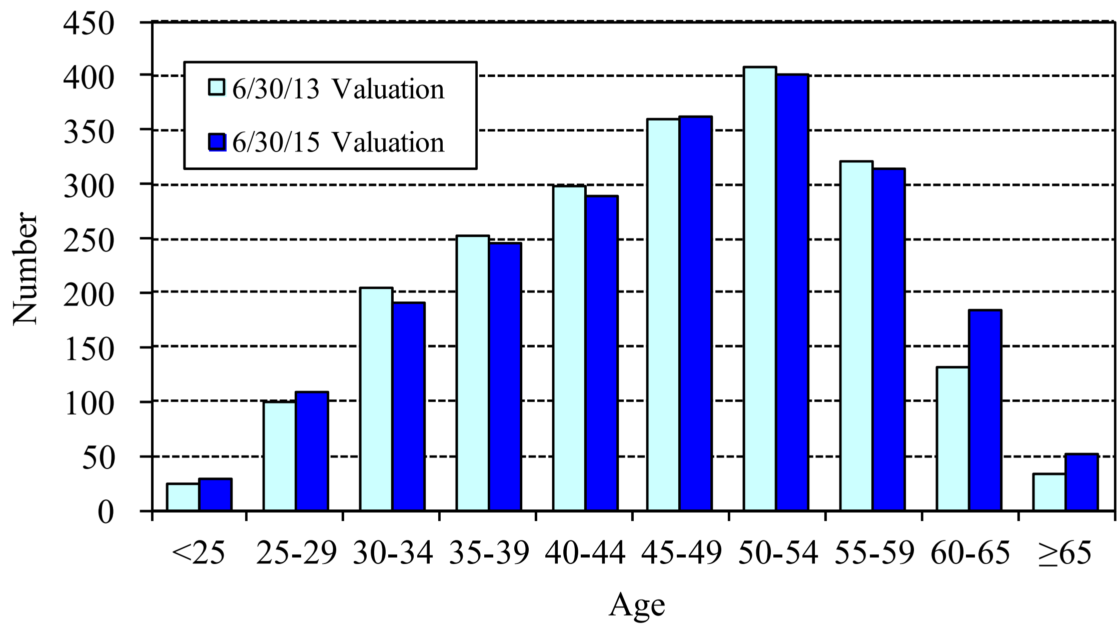
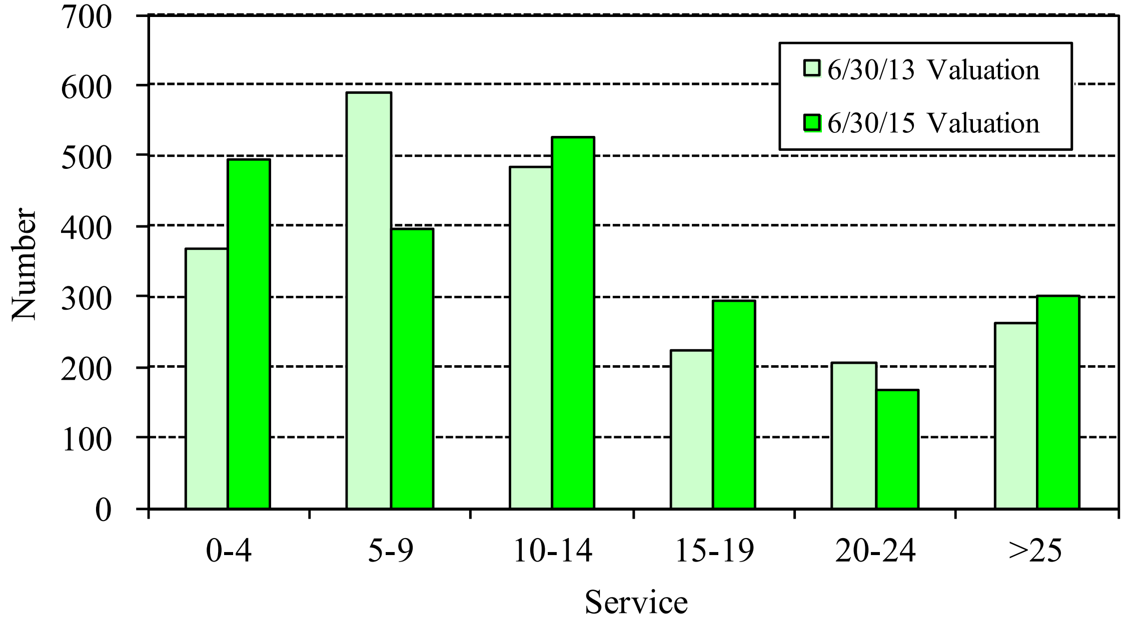


Exhibit I

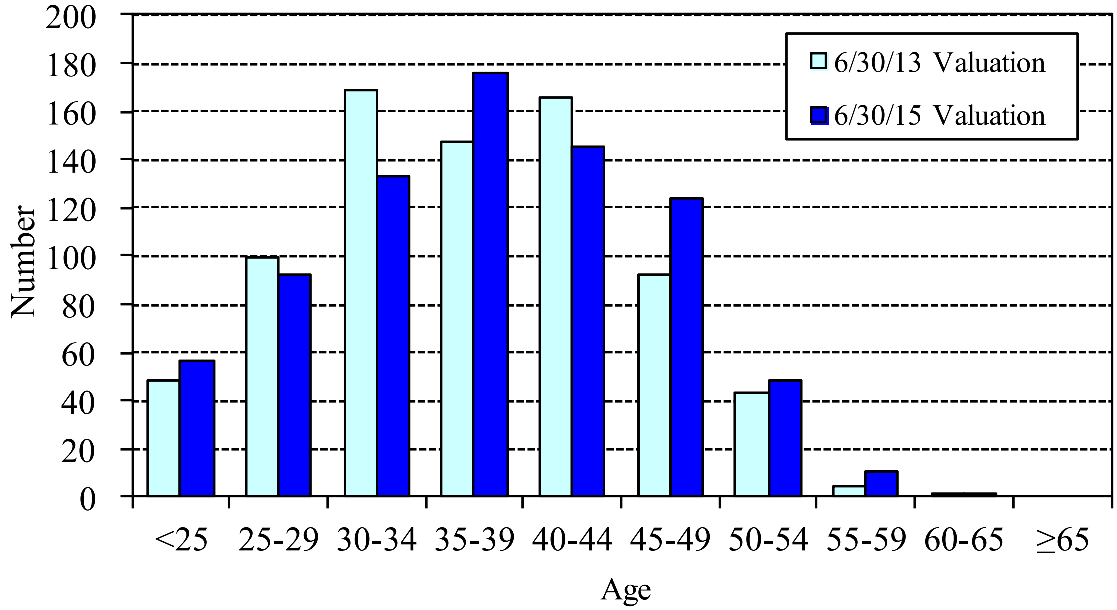
Active Service Distribution
Miscellaneous



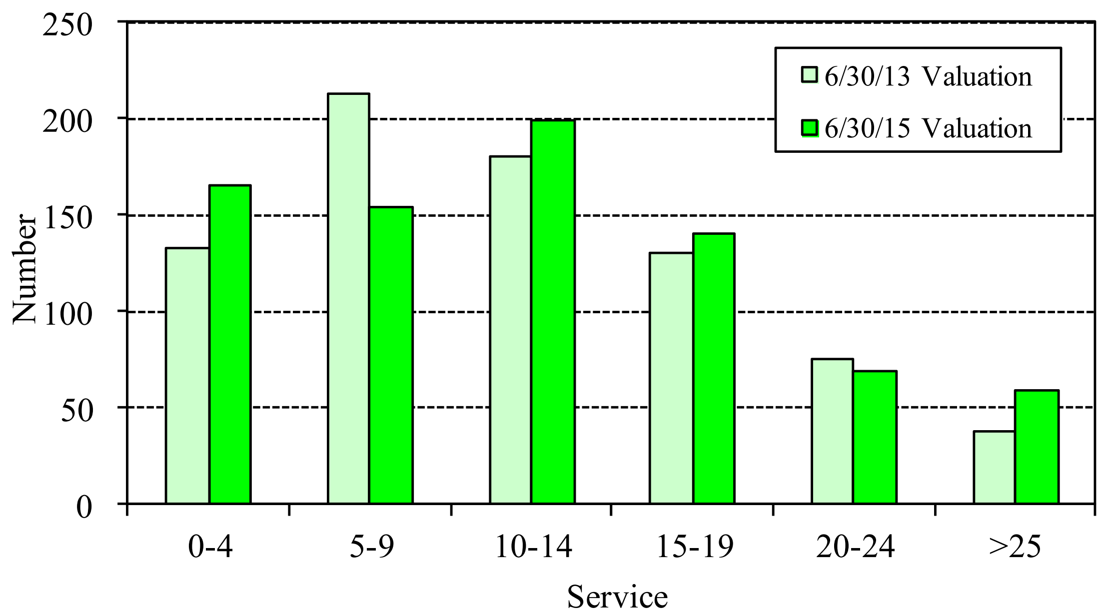
Actives by Age and Service
June 30, 2015
Police

Age	City Service							
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	Total
< 25	37	19	1	-	-	-	-	57
25-29	43	25	19	5	-	-	-	92
30-34	13	21	73	24	2	-	-	133
35-39	1	3	41	94	35	2	-	176
40-44	-	3	12	52	59	19	-	145
45-49	-	1	6	23	40	30	24	124
50-54	-	-	1	1	3	16	27	48
55-59	-	-	1	-	1	1	8	11
60-64	-	-	-	-	1	1	-	2
≥ 65	-	-	-	-	-	-	-	-
Total	94	72	154	199	141	69	59	788

Active Age Distribution
Police



Active Service Distribution
Police



Actives by Age and Service
June 30, 2015
Fire

Age	City Service							
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	Total
< 25	2	-	-	-	-	-	-	2
25-29	26	22	1	-	-	-	-	49
30-34	10	21	21	17	-	-	-	69
35-39	5	8	37	55	6	-	-	111
40-44	1	-	22	46	40	8	-	117
45-49	1	2	5	25	37	44	3	117
50-54	-	-	3	6	11	25	16	61
55-59	-	1	3	-	2	6	9	21
60-64	-	-	-	-	-	2	-	2
≥ 65	-	-	-	-	-	-	-	-
Total	45	54	92	149	96	85	28	549

Active Age Distribution
Fire

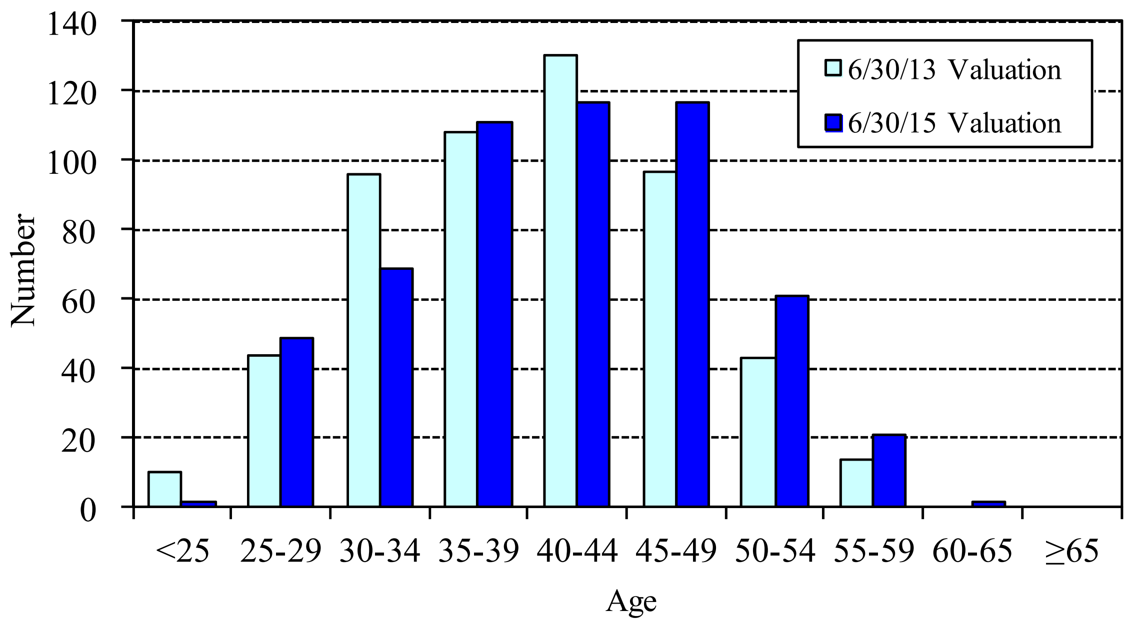
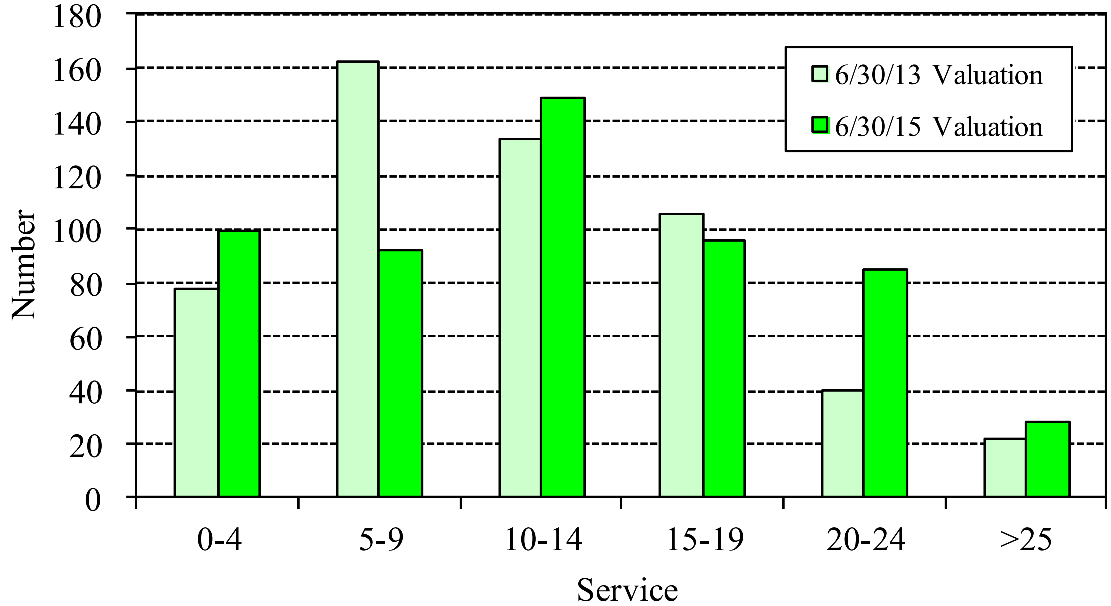


Exhibit I

DATA SUMMARY

Active Service Distribution

Fire



ACTUARIAL ASSUMPTIONS

	June 30, 2013 Valuation	June 30, 2015 Valuation
■ Valuation Date	■ June 30, 2013 ■ Fiscal Years 2014/15 & 2015/16	■ June 30, 2015 ■ Fiscal Years 2016/17 & 2017/18
■ Discount Rate	■ 4.50% – Pre-fund one time resources with CERBT asset allocation strategy #1 ■ Sensitivity – 7.25%, 6.75%, 6.25%, full pre-funding with CERBT	■ Same
■ General Inflation	■ 3.00%	■ Same
■ Aggregate Payroll Increases	■ 3.25%	■ Same

ACTUARIAL ASSUMPTIONS

	June 30, 2013 Valuation	June 30, 2015 Valuation
■ Mortality, Termination, Disability	■ CalPERS - 1997-2011 Experience Study ■ SCERS – 6/30/13 Valuation Assumptions ■ Post Retirement Mortality Projection Scale AA	■ CalPERS – 1997-2011 Experience Study ■ SCERS – 6/30/13 Valuation Assumptions ■ Mortality projected fully generational with Scale MP-14, modified to converge to ultimate improvement rates in year 2022

ACTUARIAL ASSUMPTIONS

	June 30, 2013 Valuation	June 30, 2015 Valuation
■ Service Retirement	■ CalPERS 1997-2011 Experience Study (Level / ERA) Fire 3%@55 57 Police 3%@50 54 Misc 2%@55 59 Fire PEPRA 2.7%@57 58 Police PEPRA 2.7%@57 56 Misc PEPRA 2%@62 61 ■ SCERS – 6/30/13 Valuation Assumptions	■ CalPERS 1997-2011 Experience Study (Level / ERA) Fire 3%@55 57 Police 3%@50 54 Misc 2%@55 59 Fire PEPRA 2.7%@57 58 Police PEPRA 2.7%@57 56 Misc PEPRA 2%@62 61 ■ SCERS – 6/30/13 Valuation Assumptions
■ CalPERS Service	■ City service plus ½ service between age 30 and City hire date	■ Same

ACTUARIAL ASSUMPTIONS

	June 30, 2013 Valuation	June 30, 2015 Valuation
■ Medical Trend	See below	See below
■ Dental & Vision Trend	■ 3%	■ Same

Medical Trend – June 30, 2013 Valuation

Year	Increase from Prior Year: Non-Medicare	Increase from Prior Year: Medicare
	All Plans	
2013	Actual 2013 Premiums	
2014	Actual 2014 Premiums	
2015	8.0%	8.3%
2016	7.5%	7.8%
2017	7.0%	7.2%
2018	6.5%	6.7%
2019	6.0%	6.1%
2020	5.5%	5.6%
2021+	5.0%	5.0%

Medical Trend – June 30, 2015 Valuation

Year	Increase from Prior Year: Non-Medicare	Increase from Prior Year: Medicare
	All Plans	
2013	n/a	
2014	n/a	
2015	Actual 2015 Premiums	
2016	Actual 2016 Premiums	
2017	7.0%	7.2%
2018	6.5%	6.7%
2019	6.0%	6.1%
2020	5.5%	5.6%
2021+	5.0%	5.0%

ACTUARIAL ASSUMPTIONS

	June 30, 2013 Valuation	June 30, 2015 Valuation
■ Participation at Retirement	■ Based on medical coverage: • Currently covered – 100% • Currently waived – 80%	■ Based on % of benefit earned at retirement: (see table below)
■ Cap Increase Rates	■ Fire: • Lowest cost medical premium – medical trend • Highest benefit dental premium – dental trend ■ Misc & Police: 3%	■ Fire hired <1/14/15: • Lowest cost $25 co-pay medical premium – medical trend • Lowest cost PPO dental premium – dental trend ■ All Misc, All Police, and Fire hired ≥ 1/14/15: 3% starting 2017

% of Benefit Earned	Participation Assumption
0%	10%
50%	40%
75%	55%
100%	75%

ACTUARIAL ASSUMPTIONS

	June 30, 2013 Valuation				June 30, 2015 Valuation			
■ Estimated Monthly Age-Based Claims Cost per Retiree		FY 2013/14				FY 2015/16		
	Medical Plan	Age	M	F	Medical Plan	Age	M	F
	Kaiser HMO	50	$604	$786	Kaiser HMO	50	$610	$794
		55	781	801		55	789	809
		60	992	855		60	1,002	863
	Health Net HMO	50	659	857	Sutter Health	50	642	835
		55	851	873		55	830	851
		60	1,082	932		60	1,055	909
					Western Health	50	616	801
						55	796	816
						60	1,011	871
■ Pre 1/1/91 Inactive Vested Ret. Age	■ SCERS: • Sect 399 – Age 62 • Sect 175 – Age 65				■ Same			

ACTUARIAL ASSUMPTIONS

	June 30, 2013 Valuation	June 30, 2015 Valuation
■ Medical Plan at Retirement	■ Currently covered – Same as active elections ■ Currently waived or in active-only plan – Kaiser HMO Premium Plan	■ Currently covered – Same as active elections: • Pre-Medicare – same as current active elections with Account Based Plans => Standard Plans • Post-Medicare: ➢ Kaiser => Kaiser SA ➢ Sutter Health and Western Health => HN Seniority+ ■ Currently waived – Kaiser HMO Premium Plan
■ Waived Retiree Re-Election	■ Retirees < 65 – 30% re-elect at age 65 ■ Retirees ≥ 65 – 0% re-elect	■ Same

Actuarial Assumptions

	June 30, 2013 Valuation	June 30, 2015 Valuation
■ Medicare Eligible Rate	■ Hired before 4/1/86: • Misc – 90% • Safety – 80% ■ Hired on or after 4/1/86: 100% ■ Retirees under age 65: • Misc – 95% • Safety – 90%	■ Same
■ Marital Status at Retirement	■ Actives: • Currently covered – current marital status • Not currently covered – 85% married ■ Retirees – current marital status	■ Same

Actuarial Assumptions

	June 30, 2013 Valuation	June 30, 2015 Valuation
■ Spouse Age	■ Actives – Males 3 years older than females ■ Retirees – Males 3 years older than females if spouse birth date not available	■ Same
■ Surviving Spouse Participation	■ 100%	■ Same
■ Dependents at Retirement	■ Pre-65: • Actives ➢ Misc – 10% ➢ Safety – 20% • Retirees – same as current coverage ■ Post-65 – 0%	■ Same

DEFINITIONS

■ GASB 45 Accrual Accounting	• Project future employer-provided benefit cash flow for current active employees and current retirees • Discount projected cash flow to valuation date using discount rate and actuarial assumptions to determine present value of benefits (PVB) • Discount rate is expected long-term return on plan assets • Allocate PVB to past, current, and future periods • Normal Cost (NC) is portion of PVB allocated to current fiscal year • Actuarial cost method used for valuation is Entry Age Normal Cost method which determines Normal Cost as a level percent of payroll • Actuarial Accrued Liability (AAL) is portion of PVB allocated to prior service with the employer • Unfunded AAL (UAAL) is AAL less Plan Assets • Assets must be in segregated and restricted trust to be considered Plan Assets for GASB 45
■ PayGo Cost	• Cash subsidy is employer pay-as-you-go benefit payments for retirees • Implied subsidy is difference between actual cost of retiree benefits and retiree premiums subsidized by active employee premiums

DEFINITIONS

Present Value of Benefits

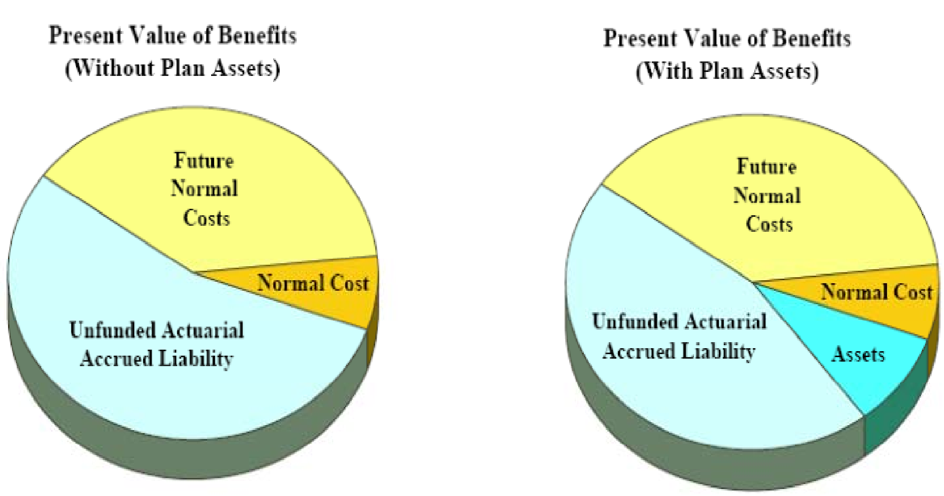


Exhibit 1

DEFINITIONS

■ Annual Required Contribution (ARC)	• GASB 45 contribution is Normal Cost plus amortization of: ➢ Initial UAAL and AAL for plan, assumption, and method changes ➢ Experience gains and losses (difference between actual experience and that expected from assumptions) ➢ Contribution gains and losses (difference between ARC and actual contributions)
■ Net OPEB Obligation (NOO)	• NOO is accumulated amounts expensed but not funded • Net OPEB Asset if amounts funded exceed those expensed
■ Annual OPEB Cost (AOC)	• Expense for current period including: ➢ ARC ➢ Interest on NOO ➢ Adjustment of NOO • Adjustment of NOO prevents double counting of expense since ARCs include amortization of prior contribution gains and losses previously expensed

DEFINITIONS

■ Terminology Used in Report	• AAL - Actuarial Accrued Liability • AOC - Annual OPEB Cost • ARC - Annual Required Contribution • BOY - Beginning of Fiscal Year • EAN - Entry Age Normal Cost Method • GASB 45 - Governmental Accounting Standards Board Statement No. 45 • NOO - Net OPEB Obligation • OPEB - Other (than pensions) Post Employment Benefits • NC - Normal Cost • PVB - Present Value of Projected Benefits • UAAL - Unfunded Actuarial Accrued Liability