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SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

FROM: Executive Office

SUBMITTAL DATE:
April 3, 2014

SUBJECT: Pension Advisory Review Committee 2014 Annual Pension Report [Districts: All] [$0]

RECOMMENDED MOTION: That the Board of Supervisors:

1. Receive and file the attached FY 2013/14 Annual Report;
2. Adopt the recommendation to use the money in the Liability Management Fund to reduce the County's CalPERS' liability by transferring the funds to CalPERS; and,
3. Adopt the recommendation to pre-pay a portion up to two-thirds of the County's FY 2014/15 pension cost if, in the judgment of the County Executive Officer or his designee, if market conditions prove to be favorable.

BACKGROUND:

Summary

Board Policy B-25 (Pension Management Policy) requires the Pension Advisory Review Committee (PARC) to file an annual report on the County's pension plan status. The attached report fulfills that requirement.

(Continued)

Departmental Concurrence

Don Kent	Michael Stock	Ed Corser
County Treasurer-Tax Collector	Assistant County Executive Officer Human Resources Director	County Finance Director

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost:	POLICY/CONSENT (per Exec. Office)
COST	$ N/A	$ N/A	$ N/A	$ N/A	Consent ☐ Policy ☒
NET COUNTY COST	$ N/A	$ N/A	$ N/A	$ N/A	

SOURCE OF FUNDS:

Budget Adjustment: No

For Fiscal Year: 2013/14

C.E.O. RECOMMENDATION: APPROVE

BY: George A. Johnson

County Executive Office Signature

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Stone, seconded by Supervisor Benoit and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes:	Jeffries, Tavaglione, Stone, Benoit and Ashley
Nays:	None
Absent:	None
Date:	April 22, 2014
xc:	E.O., Treasurer, H.R.

Kecia Harper-Ihem
Clerk of the Board
By: Deputy

☐ Positions Added ☐ Change Order ☐ A-30 ☐ 4/5 Vote

Prev. Agn. Ref.: 3-1 of 04/30/13 | **District:** ALL | **Agenda Number:** 3-3

BACKGROUND:
Summary (continued)

REPORT SUMMARY

Pension Reform:
The Board of Supervisors took the initiative on pension reform. As a result of labor negotiations, employees took on the responsibility of making the Employee Paid Member Contributions (EPMC). Based on projections made by Bartel Associates, in FY 2014/15, it is anticipated that the County will realize $73.7 million annual savings.

Due to the passage of Assembly Bill (AB) 340, which created the Public Employee's Pension Reform Act (PEPRA), a third tier was added to the County's pension plan. The attached report has additional detail outlining the changes; however, listed below is a table of the changes.

				Plan	EPMC	Earliest Retirement Age	PEPRA Compensation Limits	Final Benefit	Effective Date
County Plan Tier I									
	Misc			3% at 60	No	50	N/A	12 months	N/A
	Safety			3% at 50	No	50	N/A	12 months	N/A
County Plan Tier I with Tier II									
	Misc			2% at 60	No	50	N/A	36 months	8/23/2012
	Safety			2% at 50	No	50	N/A	36 months	8/23/2012
County Plan Tier I, Tier II and Tier III (PEPRA)									
	Misc			2% at 62	No	52	$115,064*	36 months	1/1/2013
	Safety			2.7% at 57	No	50	$138,077*	36 months	1/1/2013

*2014 Compensation Limits are Indexed Annually

Funded Status:

As of June 30, 2013, the County was projected to be funded at 86%. Effective this year, Government Accounting Standard Board (GASB), has eliminated the use of Actuarial basis of valuation and required the County to adopt the Market basis of valuation. As result of the change, the June 30, 2014 projected funded status based on Market Value for the Miscellaneous Plan, including Pension Obligation Bonds (POB), is expected to be 80 percent. The Safety Plan, including POB, is also expected to be 80 percent funded. PARC Advisor, Bartel Associates, projects a combined Miscellaneous and Safety projected June 30, 2014 funded Accrued Value of Assets of $6.226 billion on a Market Value Basis and POB of $334 million. The County has a projected Unfunded Accrued Actuarial Liability of $1,556 billion.

Employer Rate Outlook:
While we expect pension costs to continue to trend upward, this year, our rates are going to be lower. Last year, the County elected not to use the smoothing method for the change in the discount rate. As a result, we paid higher rates in the first year and will pay lesser amounts over the amortization period. Employer Contribution rates for the Miscellaneous Plan will decrease from 15.6 percent of payroll in FY 13/14 to 14.5 percent in FY 14/15. Safety Employer Contribution rates will decrease from 24.1 percent in FY 13/14 to 21.9 percent in FY 14/15. The combined decrease is $16.4 million, based on current payroll, however, when other factors are added including POBs, step increases and Cost of Living Allowance (COLA) increases, the savings is approximately $9 million.

Over the last year, CalPERS made several changes that will increase contribution rates beginning July 1, 2015. Some of the primary changes in rates are mortality improvement, fixed amortization periods, elimination of caps on rate increases and no asset smoothing. We expect the impact of these changes to start with the FY 2015/16 rates. The full impact is expected to take effect in FY 2020/21. On page 4 of the PARC report, tables are provided that show the impact to the County.

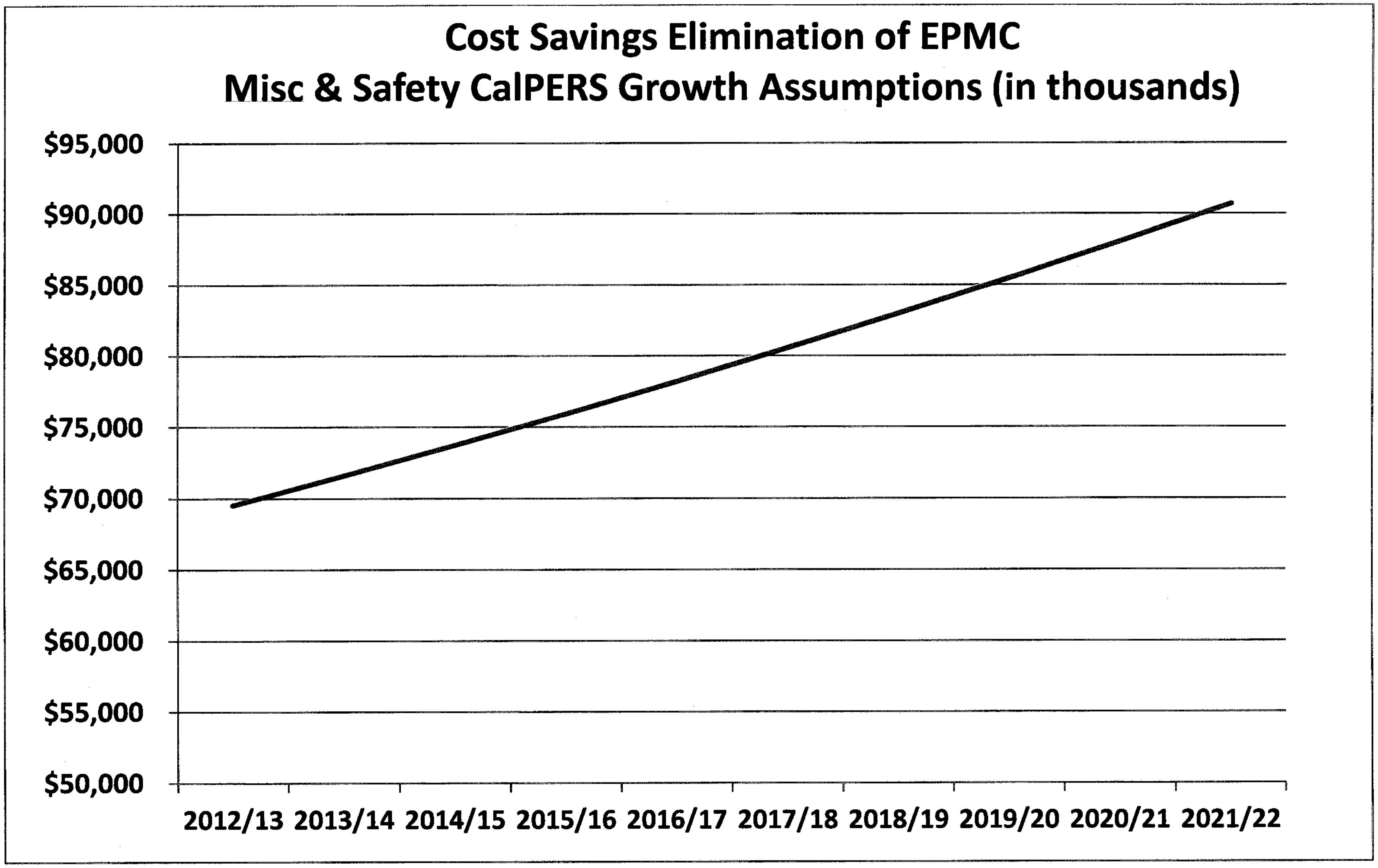
Liability Management Fund:
The purpose of the fund is to reduce pension costs and accelerate the repayment of pension liabilities. By Board policy, each year PARC recommends whether the funds should be used to pay down the CalPERS' unfunded liability or buy down the POBs. At the end of the last fiscal year, a payment of $1 million was made to PERS from this fund. As of the writing of this report, the fund has a balance of $2.0 million.

Annual Prepayment:
CalPERS offers early payment discounts of 3.75 percent in lieu of periodic payments that coincide with payroll disbursements. PARC first recommended seizing this opportunity in 2004 and expects to continue to do so if market conditions prove to be favorable in funding the pre-payment. The amount we pay is based on up to two-thirds of the County's annual liability. During FY 2013/14, the County prepaid $83.4 million of its PERS' liability. In FY 2014/15, we expect to prepay CalPERS $90 million. We will be calculating the final amount as part of our Tax Revenue Anticipation Notes (TRANs) financing. If market conditions remain consistent up to the time of the TRANs financing, and the County is able to issue notes at approximately 0.4 percent with the prepayment savings from CalPERS of approximately 3.75 percent, which will produce a net savings of 3.35 percent, or approximately $3 million.

Other Post-Employment Benefits (OPEB):
The County invests its OPEB assets with the California Public Employers' Retirement Benefit Trust program (CERBT). Effective January 1, 2011, CalPERS introduced three new investment allocation strategies for CERBT. PARC reviewed the details of the strategies and adopted Strategy 1, an asset allocation strategy most similar to the investment allocation strategy followed by CERBT prior to January 1, 2011, with an expected rate of return of 7.61 percent. It is anticipated CERBT will lower its investment strategy expected return in the near future to 7.36 percent.

Impact on Citizens and Businesses
For the FY 2014/15, pension costs will be down by $9 million. As a result, there will be no direct impact to citizens and business as County Departments will realize the rate relief.

ATTACHMENT 1



2014

Pension Advisory Review Committee

COUNTY OF RIVERSIDE
KEY COUNTY OF SOUTHERN CALIFORNIA
MAY 9, 1893

2014 Annual Pension Report

ANNUAL PARC REPORT

The County's Pension Advisory Review Committee (PARC) was established in 2003 to guide policy decisions about retirement benefits. PARC is a Brown Act Committee and consists of those members appointed by the Board of Supervisors, including the Treasurer/Tax Collector, County Finance Director, and the Human Resources Director.

A key responsibility of PARC is to report to the Board and the public about important developments affecting County retirement benefit plans and provide information about projected costs and funding status. This report includes information from the most recent actuarial report prepared for the County by John Bartel of Bartel Associates, LLC. (Attachment 2). It also includes the latest CalPERS' Valuation Reports for Miscellaneous and Safety (Attachments 3 and 4).

CalPERS Changes

Over the last year, CalPERS' actuarial staff recommended several changes. The reasons for their recommendations are as follows:

- Asset Corridor generates volatility with extreme events.
- Slow funded status progress.
- Current method needs improved transparency.
- GASB 68 encourages faster funding by requiring a lower discount rate for slower funding.

As a result of these reasons, CalPERS' staff recommended and the Board adopted the following changes:

a. Five (5) year ramp up.
b. No asset smoothing.
c. Future Gains/Losses 25 year amortization period.
    a. 5-year ramp up period will allow payment over 30 years.
d. Method and Assumption changes to be realized over a 15-year amortization period.
    a. 5-year ramp up period will allow payment over 20 years.
e. No cap on rate increases each year.
f. Change as a result of new experience study, including mortality improvement and other demographic assumptions.

Most of the adopted changes will start to impact the County's FY 2015/16 rates and the full impact is expected to occur in the FY 2019/2020 rates. Mortality and other demographic assumption changes will begin to be reflected in FY 2016/17. The full impact of the assumption changes are expected take effect in FY 2020/21.

1. **Funding Status:** The June 30, 2014 projected actuarial funded status based on the market valuation for:

    a. The Miscellaneous Plan, including Pension Obligation Bonds (POB) proceeds but not amounts owed, is expected to be 80%.
    b. The Safety Plan, including POB proceeds but not amounts owed, is expected to be 80%.

At June 30, 2013, the County was projected to be funded at 86%. This year's funding level is lower due to the change in the asset valuation method. CalPERS adopted provisions for the actuarial valuations commencing June 30, 2013 and thereafter to utilize the market value of assets rather than the actuarial value of assets. The July 2008 State and Local Government Pension Plans report published by the United States Government Accountability Office states, "Many experts consider a funded ratio based on the actuarial asset value of 80% or better to be sound for government pensions." Bartel suggests that in order to increase the funding status, an option is to place additional funds into the pension plan, which would reduce the unfunded liability. However, Bartel also states that a pension plan should be considered a very long-term proposition that should not be viewed in the context of short-term bright line tests.

2. **Employer Rate Outlook:** The County has a pleasant anomaly to deal with in regards to pension costs for the upcoming year. Due to options selected in the prior year, for FY 14/15 Pension costs will be lower. The Employer Contribution rates for the Miscellaneous plan will decrease from 15.6% of payroll in FY 13/14 to 14.5% in FY 14/15. Safety Employer Contribution rates will decrease from 24.1% in FY 13/14 to 21.9% in FY 14/15. The CalPERS' combined decrease is projected to be equivalent to $9 million based on current payroll, however, when other factors are added including Pension Obligation Bonds, the savings will be approximately $9 million. The lower rates are projected for this single year and future rates are expected to rise due to the changes outlined above.

    Effective March 14, 2012, CalPERS lowered its discount rate assumptions from 7.75% to 7.50%. Bartel Associates estimated that this change would increase the County's employer contribution rate for Miscellaneous by 1.9% and for Safety by 3.2% over a two year period, beginning in FY 13/14. The Committee elected not to phase in the assumption change for FY 13/14, as employer rates for 2014/15 through 2032/33 will be lower without a phase in than they would be with a phase in. The Miscellaneous plan without the phase in increased by 0.581% in FY 13/14, and the Safety plan without the phase in increased by 0.766% in FY 13/14. This resulted in an estimated increase in employer contributions of $7.1 million in FY 13/14.

    As described earlier, CalPERS has made several changes that will increase contribution rates beginning July 1, 2015. Listed below are tables with the projected changes for Miscellaneous and Safety. These projections are based on data from the Bartel Associates Report and rates include POB debt service.

Miscellaneous Projected Rates and Payments ($ Thousands)				
FY	CalPERS Base	County Rate	County Payment	Change in Amount
2013/14	$ 887,356	18.2%	$ 161,499	-
2014/15	913,977	17.1%	156,290	(5,209)
2015/16	941,396	18.1%	170,393	14,103
2016/17	969,638	20.0%	193,928	23,535
2017/18	998,727	21.3%	212,729	18,801
2018/19	1,028,689	22.5%	231,455	18,726
2019/20	1,059,550	23.8%	252,173	20,718
2020/21	1,091,336	24.2%	264,103	11,930
2021/22	1,124,076	24.0%	269,778	5,675

Payment Increase FY 13/14 to FY 21/22 = $108,279

Safety Projected Rates and Payments ($ Thousands)				
FY	CalPERS Base	County Rate	County Payment	Change in Amount
2013/14	$ 277,641	26.2%	$ 72,742	-
2014/15	285,971	24.2%	69,205	(3,537)
2015/16	294,550	25.3%	74,521	5,316
2016/17	303,386	28.0%	84,948	10,427
2017/18	312,488	29.8%	93,121	8,173
2018/19	321,863	31.6%	101,709	8,587
2019/20	331,518	33.4%	110,727	9,018
2020/21	341,464	34.0%	116,098	5,371
2021/22	351,708	33.7%	118,526	2,428

Payment Increase FY 13/14 to FY 21/22 = $ 45,784

3. **Pension Reform:** For some time, pension reform has been a topic of debate at local and national levels. Riverside County took the lead in initiating pension reform with its bargaining units. As a result of bargaining, employees of the County took on the responsibility of paying their Employee Paid Member Contribution (EPMC) and a new Tier with lower benefit formula, effective August 23, 2012, was added in both the Miscellaneous and Safety units of the County. At the same time, Governor Brown initiated proposals that resulted in changes to the pension benefits. The passage of Assembly Bill (AB) 340 created the Public Employees' Pension Reform Act (PEPRA) that implemented new lower benefit formulas, final compensation periods, and new contribution requirements for new employees hired on or after January 1, 2013 who meet the definition of a new member under PEPRA. The lower benefit formula for Tier III is 2% at 62 for Miscellaneous and 2.7% at 57 for Safety. Employee contribution rates for Tier III vary based on PEPRA rules. Listed below is a table with the new options and the important changes.

	Plan	EPMC	Earliest Retirement Age	PEPRA Compensation Limits	Final Benefit	Effective Date
County Plan Tier I						
Misc	3% at 60	No	50	N/A	12 months	N/A
Safety	3% at 50	No	50	N/A	12 months	N/A
County Plan Tier I with Tier II						
Misc	2% at 60	No	50	N/A	36 months	8/23/2012
Safety	2% at 50	No	50	N/A	36 months	8/23/2012
County Plan Tier I, Tier II and Tier III (PEPRA)						
Misc	2% at 62	No	52	$115,064*	36 months	1/1/2013
Safety	2.7% at 57	No	50	$138,077*	36 months	1/1/2013

*2014 Compensation Limits are Indexed Annually

At the end of this report is a chart (Attachment 1) showing the pension costs if no action was taken and the changes in rates as a result of the action taken by the Board of Supervisors.

CalPERS also made changes as a result of several fiscal years of losses. The table below lists the losses and recoveries since fiscal year 2008. CalPERS indicated it has no immediate plans to change the current discounted rate of 7.50%.

	Market Value of Assets	Actuarial Value of Assets	Net Accumulated Market Increase/(Decrease) Since 2008
■ June 30, 2008	(5.1%)	7.6%	
• Gain/(Loss)	**(12.9%)**	**(0.2)%**	**(12.9%)**
■ June 30, 2009	(24.0)%	5.4%	
• Gain/(Loss)	**(31.8)%**	**(2.4)%**	**(44.7%)**
■ June 30, 2010	13.3%	5.9%	
• Gain/(Loss)	**5.5%**	**(1.9)%**	**(39.2%)**
■ June 30, 2011	21.7%	6.7%	
• Gain/(Loss)	**13.9%**	**(1.1)%**	**(25.3%)**
■ June 30, 2012	0.1%	6.1%	
• Gain/(Loss)	**(7.4)%**	**(1.7)%**	**(32.7%)**
■ June 30, 2013	13.2%	7.5%	
• Gain/(Loss)	**5.7%**	**(0.0)%**	**(27.0%)**

4. At the County, the Board of Supervisors took the initiative on pension reform. With the Board's direction, collective bargaining negotiations have been completed, with all employee unions to implement a Tier II (lower benefit) for new employees. Tier II was implemented on August 23, 2012. Miscellaneous members' retirement formula is 2% at 60, and Safety retirement formula is 2% at 50.

Additionally, Employer Paid Member Contributions (EPMC) will be eliminated in 2014 for all represented and unrepresented employees, mostly in a phased approach. It is anticipated that the County will realize $73.7 million annual savings once all EPMC payments are eliminated.

5. **Pension Obligation Bond (POB):** The remaining POB debt is $334.5 million and the bonds have a remaining 21-year life maturity. Bartel's analysis shows that as of February 11, 2014, the County has a $31.3 million net savings as a result of the sale of the bonds in February 2005. This is a $26.3 million improvement compared to last year's report. The POB has a relatively low break-even rate (4.91%) and CalPERS' expected return is 7.50%. If CalPERS' estimate earns the assumed targeted rate of return, the County can expect to produce savings over the remaining life of the bonds.

6. **Liability Management Fund:** The purpose of the fund is to reduce pension costs and accelerate the repayment of pension liabilities. By Board policy, each year PARC recommends whether the funds should be used to pay down the CalPERS' unfunded liability or to buy down the POB. At the end of last fiscal year a payment of $1 million was made to PERS from this fund. As of the writing of this report, the fund has a balance of $2.0 million.

7. **Annual Prepayment:** CalPERS offers early payment discounts of 3.75% in lieu of periodic payments that coincide with payroll disbursements. PARC first recommended seizing this opportunity in 2004 and expects to continue to do so if market conditions prove to be favorable in funding the pre-payment. The amount paid can be a portion of up to two-thirds of the County's annual liability. In FY 12/13 the County prepaid $83 million of its PERS liability. In FY 13/14, we prepaid CalPERS $83.4 million (Safety $28.4 + Miscellaneous $55 = $83.4) million. The County will calculate the final amount due as part of the Tax Revenue Anticipation Notes (TRAN's) financing. The County is projecting to issue TRAN's at approximately 0.4% in interest costs. The pre-payment savings from CalPERS are at approximately 3.75%, which equates to approximately $3 million.

8. **Other Post-Employment Benefits (OPEB):** The County invests its OPEB assets with the California Public Employers' Retirement Benefit Trust program (CERBT). Effective January 1, 2011, CalPERS introduced three new investment allocation strategies for CERBT. PARC reviewed the details of the strategies and adopted Strategy 1, an asset allocation strategy most similar to the investment allocation strategy followed by CERBT prior to January 1, 2011, with an expected rate of return of 7.61%. It is anticipated CERBT will lower its investment strategy expected return in the near future to 7.36%.

Recommendations:

1. Receive and file the 2014 PARC Annual Pension Report.

2. Adopt the recommendation to use the money in the Liability Management Fund to reduce the County's CalPERS' liability by transferring the funds to CalPERS.

3. Adopt the recommendation to pre-pay a portion up to two-thirds of the County's FY 2014/15 pension cost if, in the judgment of the County Executive Officer or his designee, market conditions prove to be favorable.

Appendices:

1. *Pension Savings Chart*
2. *Bartel Associates CalPERS' Actuarial Issues – 6/30/12 Valuation- March 10, 2014*
3. *CalPERS 06/30/12 Miscellaneous Actuarial Valuation Reports*
4. *CalPERS 06/30/12 Safety Actuarial Valuation Reports*

ATTACHMENT 2

COUNTY OF RIVERSIDE
MISCELLANEOUS AND SAFETY PLANS

BARTEL ASSOCIATES LLC

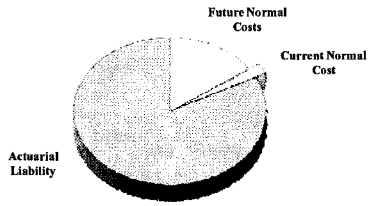
CalPERS Actuarial Issues – 6/30/12 Valuation
Preliminary Results

Presented by **John E. Bartel, President**
Prepared by Bianca Lin, Assistant Vice President & Actuary
Tina Haugbro, Actuarial Analyst
Bartel Associates, LLC

March 10, 2014

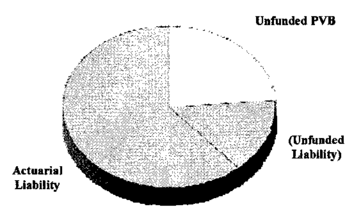
Agenda

DEFINITIONS



- **PVB - Present Value of all Projected Benefits:**
  - Discounted value (at valuation date - 6/30/12), of all future expected benefit payments based on various (actuarial) assumptions
- **Actuarial Liability:**
  - Discounted value (at valuation date) of benefits earned through valuation date [value of past service benefit]
  - Portion of PVB "earned" at measurement
- **Current Normal Cost:**
  - Portion of PVB allocated to (or "earned" during) current year
  - Value of employee and employer current service benefit

DEFINITIONS



- **Target-** Have money in the bank to cover Actuarial Liability (past service)
- **Unfunded Liability** - Money short of target at valuation date
- **Excess Assets / Surplus:**
  - Money over and above target at that point in time.
  - Doesn't mean you're done contributing.
- **Super Funded:**
  - Assets cover whole pie (PVB)
  - If everything goes exactly like PERS calculated, you'll never have to put another (employer or employee) dime in.

CalPERS Upcoming Issues

- CalPERS actuarial staff recommended & CalPERS Board adopted changes to contribution policy. Four reasons why:
  - Asset corridor generates volatility with extreme events
  - Slow funded status progress
  - Current method needs improved transparency
  - GASB 68 encourages faster funding by requiring a lower discount rate for slower funding
- Changes – Direct rate smoothing base on:
  - 5-year ramp up
  - No asset smoothing
  - Future Gains/losses 25 year amortization period
    - With 5 year ramp up means paid over 30 years
  - Method & Assumption changes 15 year amortization period
    - With 5 year ramp up means paid over 20 years
  - No cap on rate increases each year

CalPERS Upcoming Issues

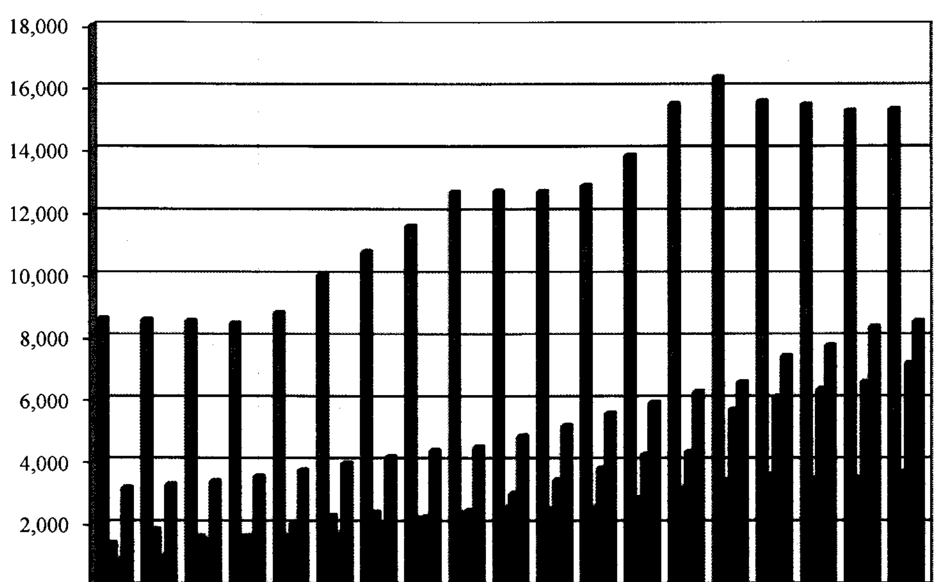
- CalPERS starting an asset allocation study and Chief Actuary will:
  - Likely recommend a .25% margin
  - Not likely recommend (but does not know until asset allocation study is done) any reduction in real rate of return.
- CalPERS starting an assumption study and Chief Actuary will likely recommend generational mortality improvement
- Timing:
  - Direct Rate Smoothing:
    - Included in 6/30/13 valuation (first impact 2015/16 rates)
    - Full impact in 2019/20 rates.
    - Estimated contribution rate projections in 6/30/12 valuation reports.
  - Assumption changes likely first impact 2016/17 rates.

SUMMARY OF DEMOGRAPHIC INFORMATION - MISCELLANEOUS

	1994	2003	2011	2012
Actives				
■ Counts	8,585	12,671	15,243	15,298
■ Average				
• Age	42	43	43	44
• County Service	8	8	9	9
• PERSable Wages	$34,000	$42,800	$53,300	$54,700
■ Total PERSable Wages (millions)	318.8	596.6	887.7	914.0
Receiving Payments				
■ Counts				
• Service		3,665	6,923	7,135
• Disablity		553	590	582
• Beneficiaries		597	805	787
• Total	3,155	4,815	8,318	8,504
■ Average Annual County Provided Benefit[1]				
• Service		$12,200	$22,100	$22,800
• Disability		6,500	8,500	8,800
• Service Retirements in last 5 years		16,800	27,700	27,800

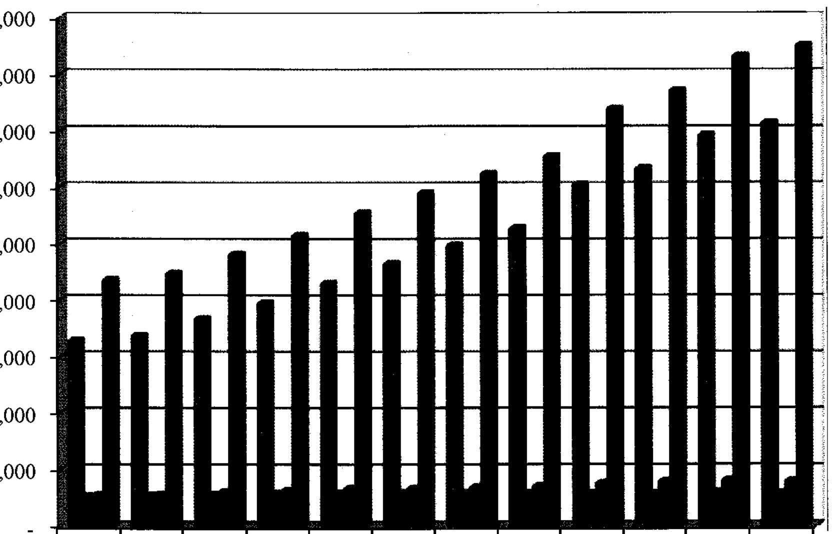
[1] Average County provided pensions are based on County service & County benefit formula, and are not representative of benefits for long service employees.

MEMBERS INCLUDED IN VALUATION - MISCELLANEOUS



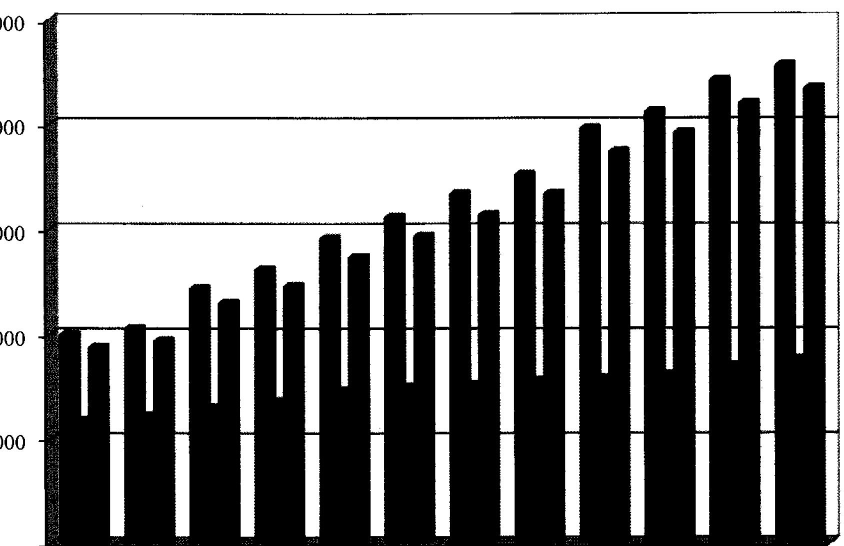
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
■Active	8,585	8,555	8,515	8,432	8,783	9,998	10,739	11,562	12,656	12,671	12,664	12,847	13,806	15,474	16,322	15,550	15,446	15,243	15,298
■Transfers	1,369	1,808	1,591	1,591	1,603	2,256	2,373	2,189	2,373	2,513	2,463	2,515	2,821	3,144	3,382	3,548	3,434	3,449	3,630
■Vested Terminations	819	948	1,493	1,603	2,008	1,603	1,951	2,232	2,434	2,976	3,404	3,780	4,215	4,306	5,667	6,082	6,334	6,561	7,162
■Receiving Payments	3,155	3,259	3,365	3,518	3,716	3,935	4,147	4,356	4,467	4,815	5,146	5,544	5,892	6,239	6,554	7,385	7,710	8,318	8,504

Members Receiving Payments - Miscellaneous



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
■Service Retirement	3,278	3,367	3,665	3,946	4,300	4,642	4,969	5,268	6,043	6,336	6,923	7,135
■Disability Retirement	530	537	553	574	579	588	587	580	585	585	590	582
■Beneficiaries	548	563	597	626	665	662	683	706	757	789	805	787
■Total Retirements	4,356	4,467	4,815	5,146	5,544	5,892	6,239	6,554	7,385	7,710	8,318	8,504

Average Annuity - Miscellaneous



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
■Average Serivce Ret	10,000	10,300	12,200	13,100	14,600	15,600	16,700	17,600	19,800	20,600	22,100	22,800
■Average Disabled Ret	5,900	6,100	6,500	6,800	7,300	7,500	7,600	7,800	7,900	8,100	8,500	8,800
■Average Ret Annuity	9,400	9,700	11,500	12,300	13,700	14,700	15,700	16,700	18,700	19,600	21,000	21,700

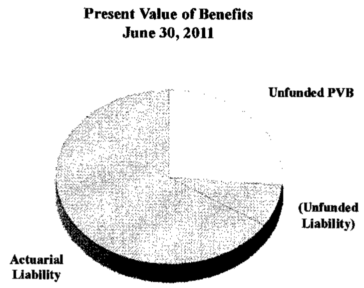
AVERAGE ANNUITY - MISCELLANEOUS

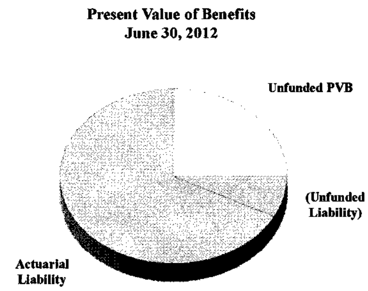
Years Retired	Service Retirement Retirees' Benefit											
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Under 5	$12,349	$12,462	$16,831	$18,135	$20,680	$21,383	$23,154	$22,930	$25,452	$25,933	$27,660	$27,795
5~9	11,755	12,175	12,835	13,079	12,996	13,688	13,474	18,143	19,709	22,185	23,731	25,627
10~14	9,780	10,414	11,106	11,844	12,261	12,351	12,996	13,308	13,906	14,618	15,147	15,307
15-19	8,238	8,486	9,030	9,158	10,059	10,348	10,992	11,832	12,558	12,874	13,274	14,526
20-24	4,605	5,780	6,361	7,358	8,098	9,061	9,181	9,818	10,223	10,636	11,402	12,408
25-29	3,096	3,176	3,321	3,605	5,336	5,590	6,915	7,442	8,311	8,428	8,992	9,637
Over 30	4,564	3,703	4,247	3,610	5,881	5,387	5,242	5,414	5,424	5,372	5,606	6,714
All Years	9,982	10,312	12,223	13,099	14,560	15,586	16,664	17,631	19,751	20,628	22,062	22,785

AVERAGE ANNUITY - MISCELLANEOUS

Attained Age	Service Retirement Retirees' Benefit											
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
50-54	$ 8,352	$ 8,270	$11,218	$10,905	$13,909	$15,136	$15,599	$15,620	$19,486	$19,522	$21,685	$19,990
55-59	11,771	11,299	14,832	16,591	17,653	18,881	19,904	20,836	23,886	24,313	26,563	25,797
60-64	11,791	12,027	16,809	17,708	19,425	20,574	21,735	22,549	24,770	26,059	27,138	28,100
65-69	11,024	11,945	13,184	14,094	15,593	16,628	18,226	19,717	21,406	22,613	23,414	24,533
70-74	10,884	10,889	11,224	11,483	12,482	12,874	13,991	14,974	16,200	16,835	18,978	20,860
75-79	8,957	9,537	10,418	10,954	11,645	12,257	12,310	12,820	12,882	13,835	14,161	15,732
80-84	7,196	7,640	8,304	9,316	10,352	10,510	10,758	11,762	12,590	12,912	14,074	14,420
85 & over	5,201	5,645	5,811	6,016	7,409	8,220	8,929	9,524	9,991	10,394	10,533	11,854
All Ages	9,982	10,312	12,223	13,099	14,560	15,586	16,664	17,631	19,751	20,628	22,062	22,785

Plan Funded Status - Miscellaneous





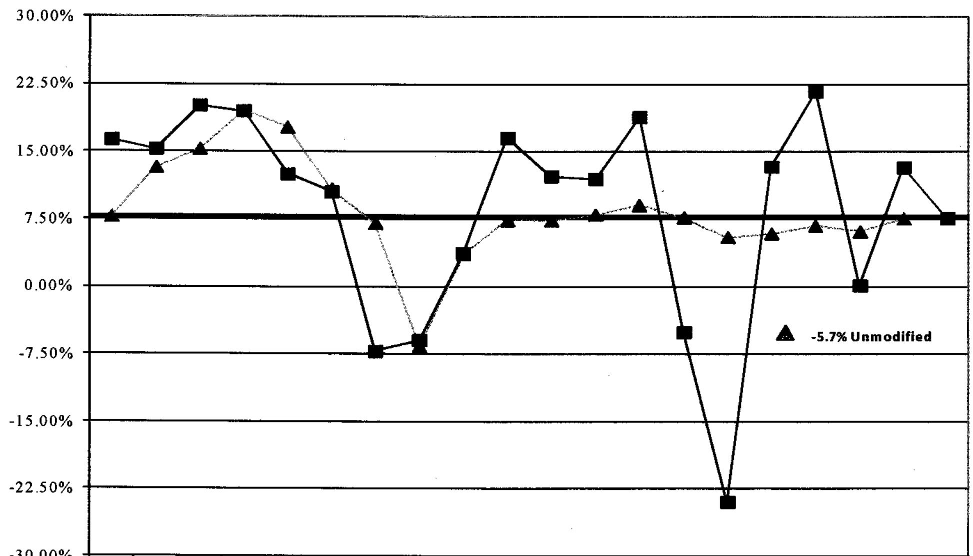
June 30, 2011		June 30, 2012
$ 4,461,600,000	**Actuarial Liability**	$ 4,708,900,000
3,923,500,000	**Actuarial Asset Value**	4,172,400,000
(538,100,000)	**(Unfunded Liability)**	(536,500,000)

June 30, 2011		June 30, 2012
$ 4,461,600,000	**Actuarial Liability**	$ 4,708,900,000
3,525,600,000	**Market Asset Value**	3,520,200,000
(936,000,000)	**(Unfunded Liability)**	(1,188,700,000)

Plan Funded Status - Miscellaneous

- What happened between 6/30/11 and 6/30/12?
  - Market Value Asset Gain/(Loss) ≈ (260.7) million
  - Unfunded Liability (Increase)/Decrease ≈ 1.6 million
- Reasons for Unfunded Liability increase
  - Actuarial Asset gain/(loss): ≈ (46.6) million
    - $652.2 million remaining unrecognized asset losses
  - Actuarial gain/(loss): ≈ 65.1 million
    - Average Salary $53,300 → $54,700
    - Number of Actives 15,243 → 15,298
    - Number of Inactives 10,010 → 10,792
    - Number of Retirees 8,318 → 8,504
  - Other gain/(loss): ≈ (16.9) million
    - Contributions
    - Other (expected)

ACTUARIAL INVESTMENT RETURN - MISCELLANEOUS



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
AVA	7.7%	13.2%	15.3%	19.5%	17.7%	10.8%	7.0%	-6.6%	3.5%	7.4%	7.3%	8.0%	9.0%	7.6%	5.4%	5.9%	6.7%	6.1%	7.5%	
MVA	16.3%	15.3%	20.1%	19.5%	12.5%	10.5%	-7.2%	-6.0%	3.7%	16.6%	12.3%	11.9%	18.8%	-5.1%	-24.0	13.3%	21.7%	0.1%	13.2%	7.5%

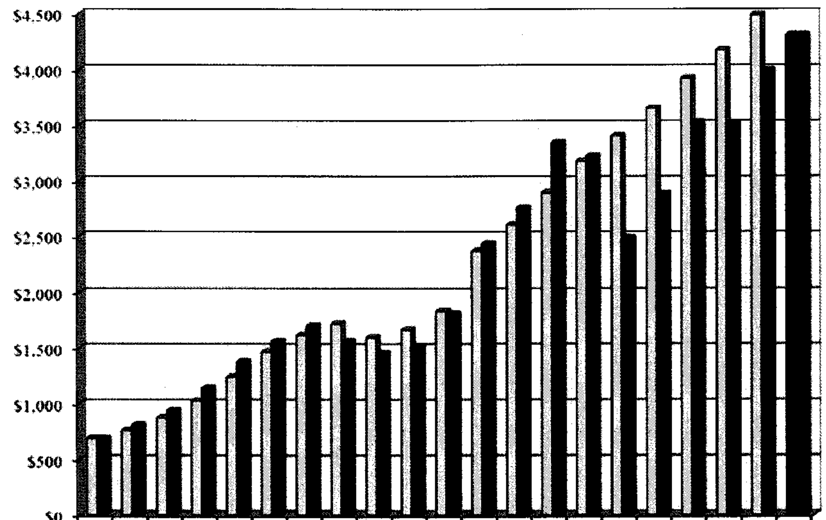
Above assumes contributions, payments, etc. received evenly throughout year.
June 30, 2013 return of 13.2% from CalPERS 6/30/13 CAFR.

ACTUARIAL INVESTMENT RETURN - MISCELLANEOUS

	Market	Actuarial
■ June 30, 2008	(5.1%)	7.6%
● Gain/(Loss)	**(12.9%)**	**(0.2)%**
■ June 30, 2009	(24.0)%	5.4%
● Gain/(Loss)	**(31.8)%**	**(2.4)%**
■ June 30, 2010	13.3%	5.9%
● Gain/(Loss)	**5.5%**	**(1.9)%**
■ June 30, 2011	21.7%	6.7%
● Gain/(Loss)	**13.9%**	**(1.1)%**
■ June 30, 2012	0.1%	6.1%
● Gain/(Loss)	**(7.4)%**	**(1.7)%**
■ June 30, 2013	13.2%	7.5%
● Gain/(Loss)	**5.7%**	**(0.0)%**

- Accumulated Market Value Gains/(Losses) through June 30, 2013 ≈ (27.0)% [(12.9)% + (31.8)% + 5.5% + 13.9% + (7.4%) + 5.7%]

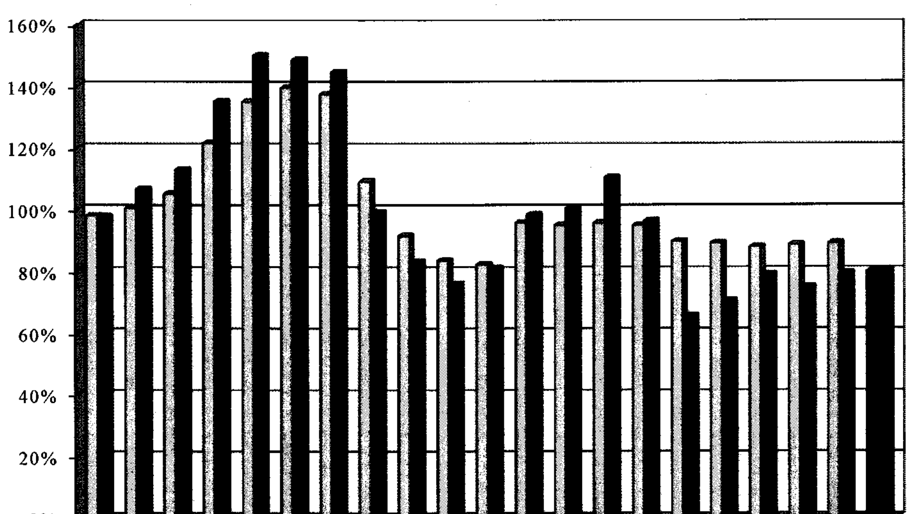
ASSET VALUES (MILLIONS) - MISCELLANEOUS



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Actuarial	690	760	874	1026	1241	1469	1618	1721	1600	1668	1834	2365	2600	2894	3175	3401	3653	3923	4172	4490	4307
Market	688	808	939	1140	1379	1564	1702	1564	1454	1517	1807	2429	2754	3342	3223	2482	2882	3526	3520	3990	4307

6/30/13 & 6/30/14 asset values estimated.
AVA is being set equal to MVA and a separate AVA will not be used in future years.

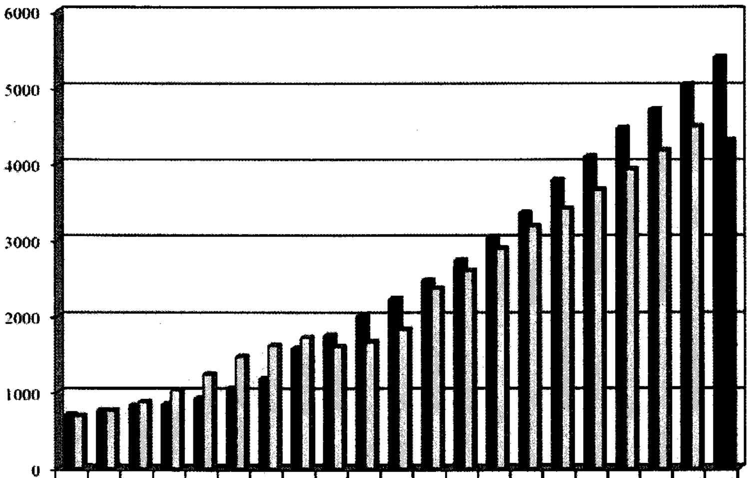
FUNDED RATIO - MISCELLANEOUS



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Funded Ratio - AVA	98%	100%	105%	122%	135%	140%	137%	109%	91%	83%	82%	96%	95%	96%	95%	90%	89%	88%	89%	89%	80%
Funded Ratio - MVA	98%	107%	113%	135%	150%	149%	144%	99%	83%	76%	81%	98%	100%	110%	96%	65%	70%	79%	75%	79%	80%

6/30/13 & 6/30/14 funded status estimated.
AVA is being set equal to MVA and a separate AVA will not be used in future years.

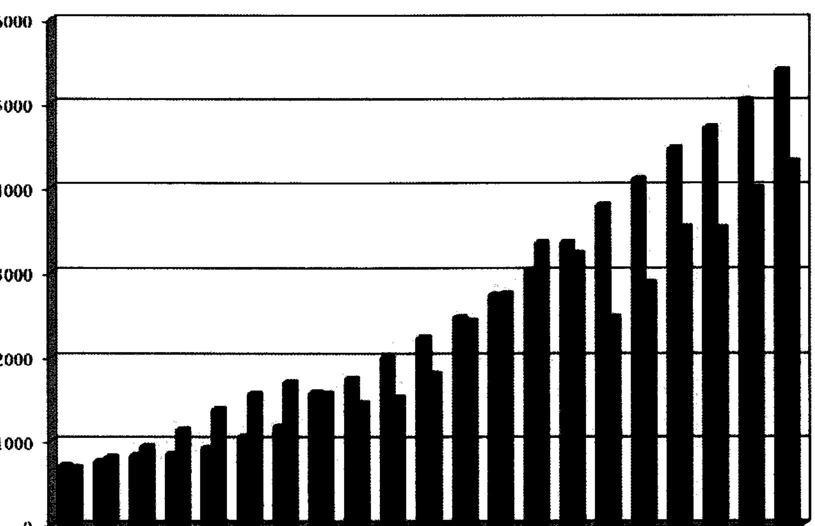
FUNDED STATUS (MILLIONS) - MISCELLANEOUS



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Actuarial Liability	704	757	831	844	920	1053	1178	1577	1750	1999	2232	2472	2742	3029	3350	3790	4097	4462	4709	5037	5392
Actuarial Asset Value	690	760	874	1026	1241	1469	1618	1721	1600	1668	1834	2365	2600	2894	3175	3401	3653	3923	4172	4490	4307

6/30/13 & 6/30/14 funded status estimated
AVA is being set equal to MVA and a separate AVA will not be used in future years.

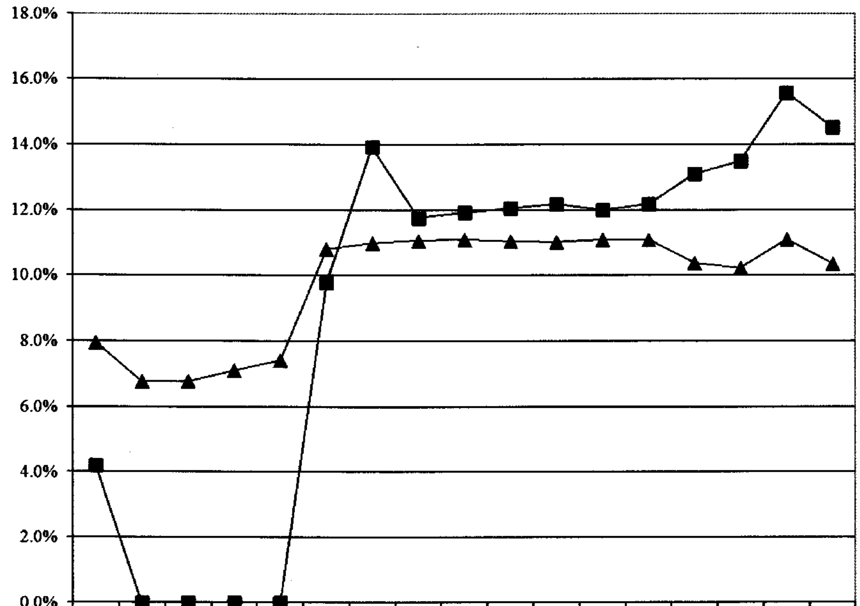
FUNDED STATUS (MILLIONS) - MISCELLANEOUS



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Actuarial Liability	704	757	831	844	920	1053	1178	1577	1750	1999	2232	2472	2742	3029	3350	3790	4097	4462	4709	5037	5392
Market Asset Value	688	808	939	1140	1379	1564	1702	1564	1454	1517	1807	2429	2754	3342	3223	2482	2882	3526	3520	3990	4307

6/30/13 & 6/30/14 funded status estimated

Contribution Rates - Miscellaneous



	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15
ER Normal Cost	8.0%	6.8%	6.8%	7.1%	7.4%	10.8%	11.0%	11.1%	11.1%	11.0%	11.0%	11.1%	11.1%	10.4%	10.2%	11.1%	10.3%
Total ER Cont Rate	4.2%	0.0%	0.0%	0.0%	0.0%	9.8%	13.9%	11.8%	11.9%	12.1%	12.2%	12.0%	12.2%	13.1%	13.5%	15.6%	14.5%

Contribution Rates - Miscellaneous

	6/30/11 2013/2014[2]	6/30/12 2014/2015
■ Total Normal Cost	18.8%	18.1%
■ Employee Normal Cost	7.8%	7.8%
■ Employer Normal Cost	11.1%	10.3%
■ Amortization Bases:	4.5%	4.2%
■ Total Employer Contribution Rate	15.6%	14.5%
■ Amortization Period	Multiple ≈ 23 years	Multiple ≈ 22 years

- What Happened from 6/30/11 to 6/30/12:
  - 2013/14 Rate 15.6%
  - (Gain)/Losses -1.1
  - 2014/15 Rate 14.5%

[2] County opted out of 2011 assumption changes phase in

CONTRIBUTION PROJECTIONS - MISCELLANEOUS

- Market Value Investment Return:
  - June 30, 2012 — 0.1%[3]
  - June 30, 2013 — 13.2%[4]
  - June 30, 2014 - 2019
    - Poor Investment Return: ≈ **0.2% - 4.3%**
    - Expected Investment Ret: ≈ **7.50%**
    - Good Investment Return: ≈ **10.6% - 15.1%**
- No Other: Gains/Losses, Method/Assumption Changes, Benefit Improvements
- Excludes Employer Paid Member Contributions (EPMC)
- County opted out of 2011 assumption changes phase in
- Includes Tier 2 (2%@60 FAE3) effective October 1, 2011
- New hire assumptions:
  - Assumes 50% of 2013 new hires will be Classic Tier 2 Members (2%@60) and 50% will be New Members with PEPRA benefits.
  - Assumes Classic Members will decrease from 50% to 0% of new hires over 20 years.

3 Based on CalPERS CAFR.
4 Based on CalPERS CAFR.

CONTRIBUTION PROJECTIONS - MISCELLANEOUS

Payroll Growth Assumptions

	2013/14	2014/15	2015/16	2016/17	2017/18
County #1	3.00%	3.00%	3.00%	3.00%	3.00%
County #2	4.81%	6.41%	6.56%	3.00%	3.00%
CalPERS	3.00%	3.00%	3.00%	3.00%	3.00%

	2018/19	2019/20	2020/21	2021/22
County #1	3.00%	3.00%	3.00%	3.00%
County #2	3.00%	3.00%	3.00%	3.00%
CalPERS	3.00%	3.00%	3.00%	3.00%

Projected PERSable Wages ('000)

	2012/13	2013/14	2014/15	2015/16	2016/17
County #1	$806,975	$831,184	$856,120	$881,803	$908,258
County #2	806,975	845,791	900,006	959,046	987,818
CalPERS	861,511	887,356	913,977	941,396	969,638

	2017/18	2018/19	2019/20	2020/21	2021/22
County #1	$935,505	$963,570	$992,478	$1,022,252	$1,052,919
County #2	1,017,452	1,047,976	1,079,415	1,111,797	1,145,151
CalPERS	998,727	1,028,689	1,059,550	1,091,336	1,124,076

Contribution Projections - Miscellaneous

- In addition to above assumptions, contribution projections also include new Contribution Policy Changes
- Changes will take place June 30, 2013 affecting 2015/16 contribution rates

Contribution Projections - Miscellaneous

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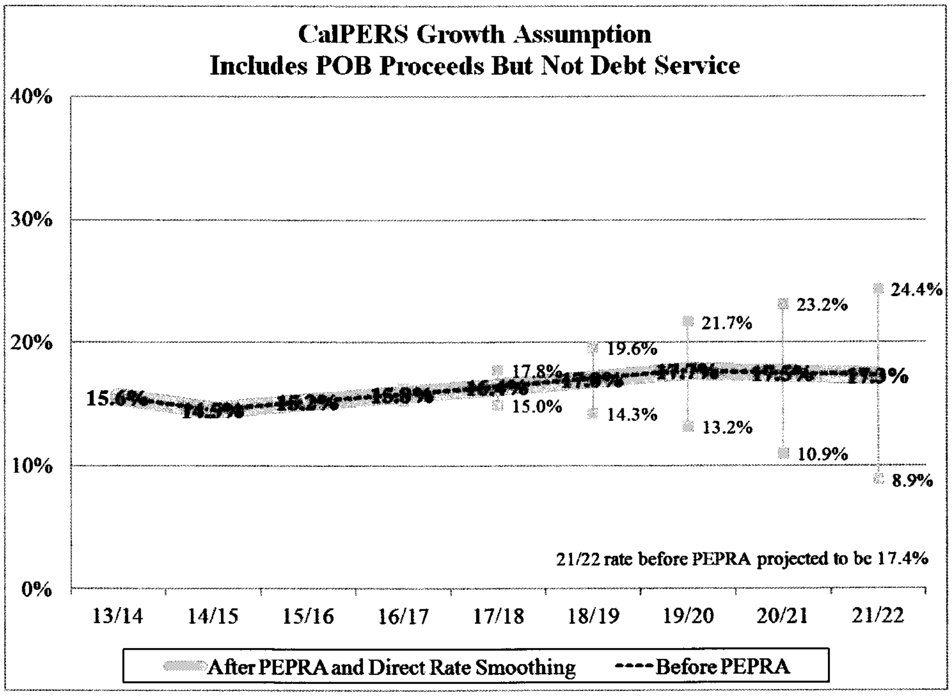
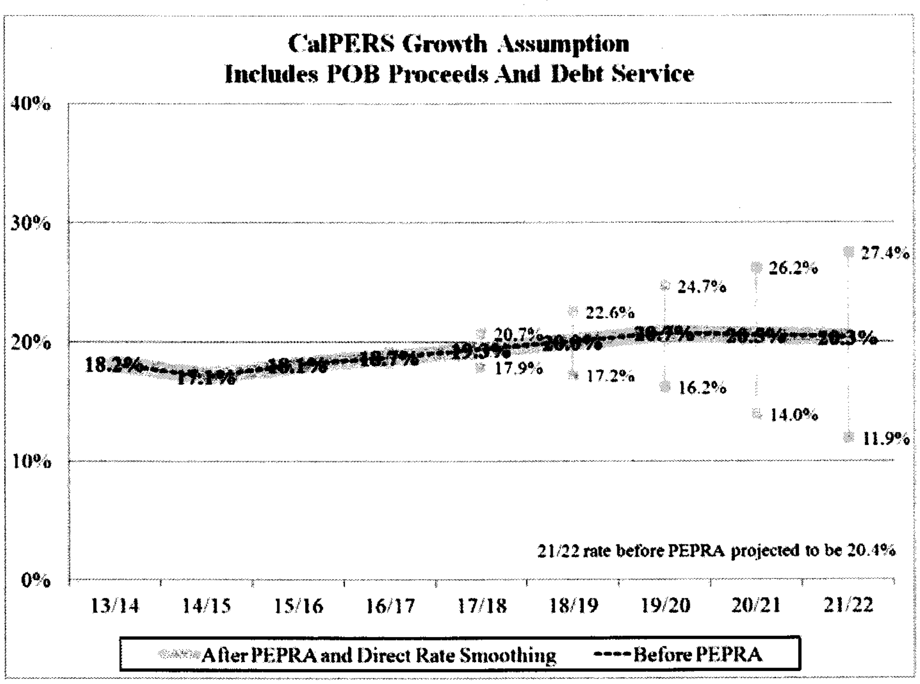
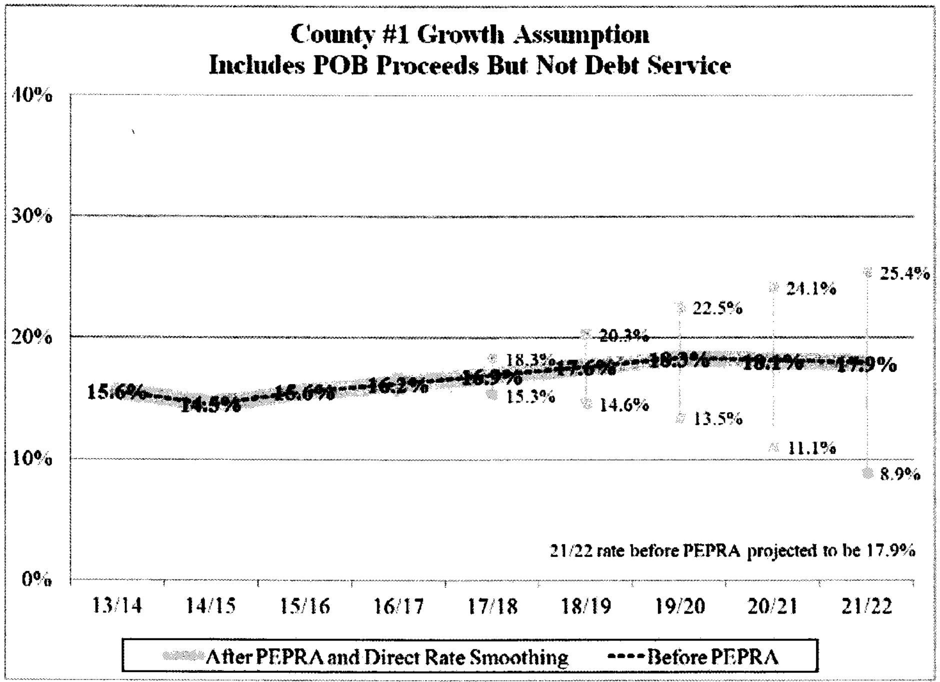
Contribution Projections - Miscellaneous



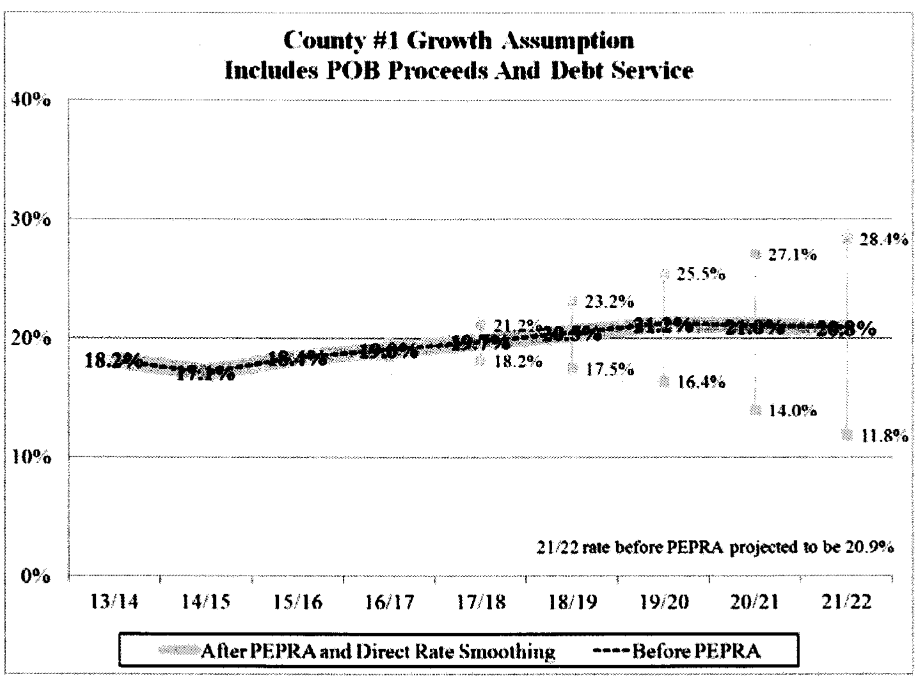
Contribution Projections - Miscellaneous

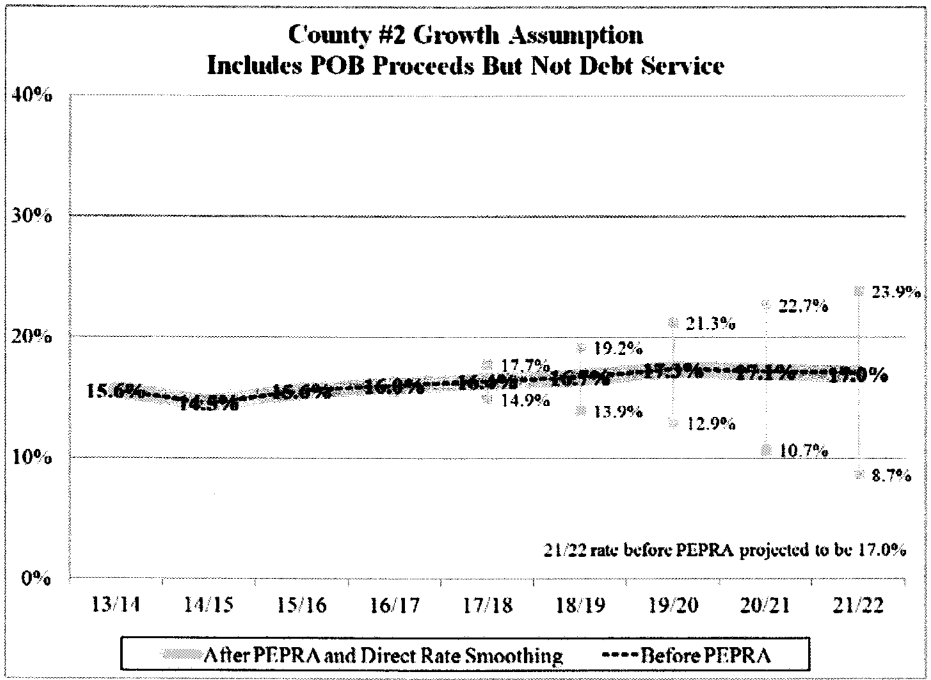


CONTRIBUTION PROJECTIONS - MISCELLANEOUS

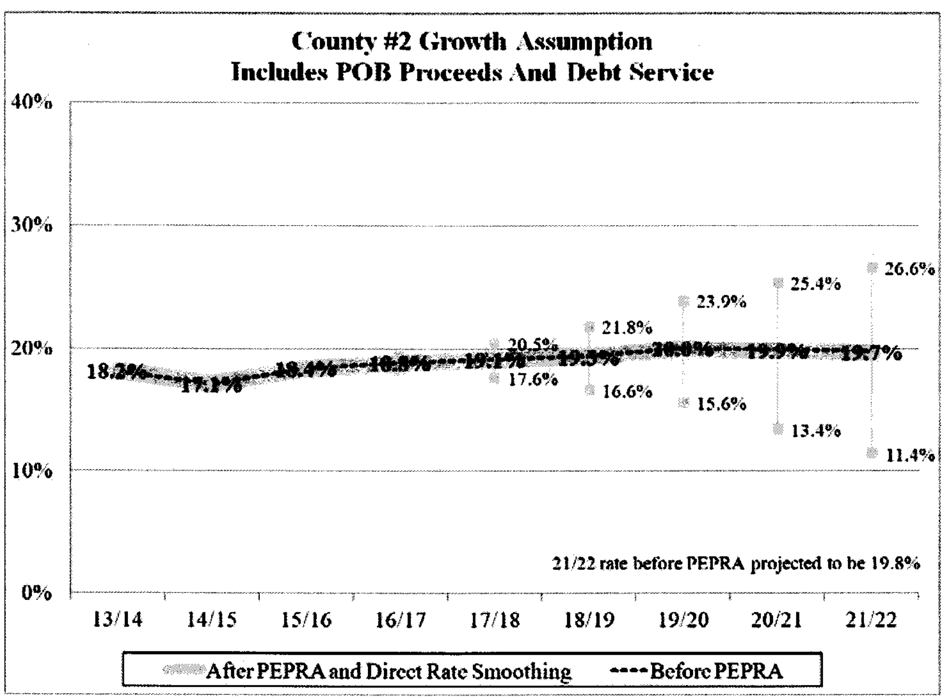


CONTRIBUTION PROJECTIONS - MISCELLANEOUS





CONTRIBUTION PROJECTIONS - MISCELLANEOUS



CONTRIBUTION PROJECTIONS - MISCELLANEOUS

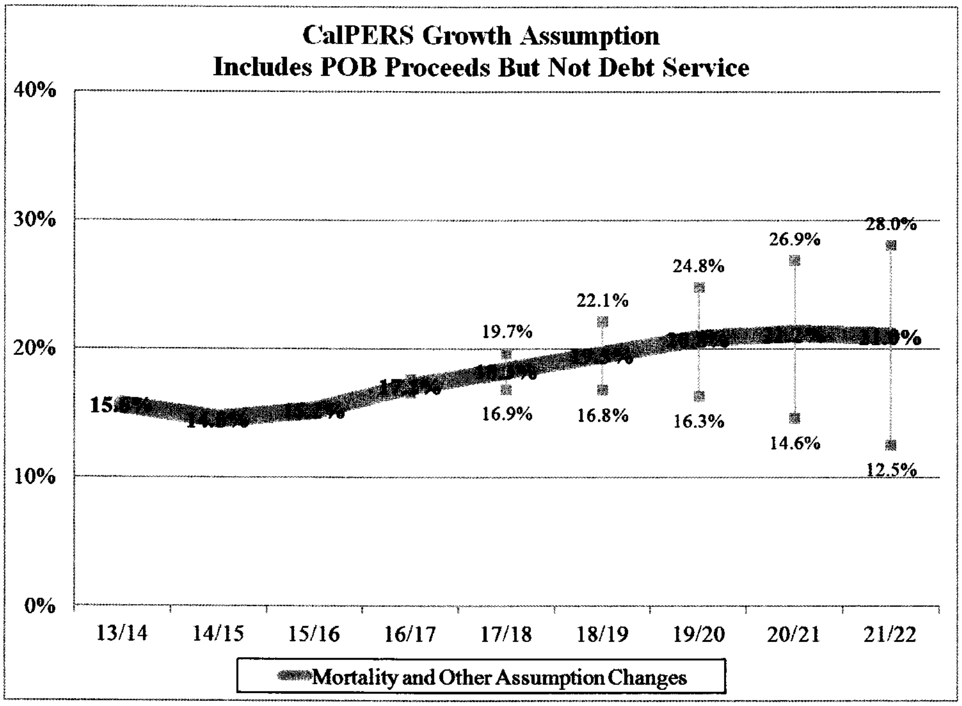
Employer Contribution Rate if Market Value of Assets were used

	Actuarial 2014/15	Market 2014/15
■ Plan Assets	AVA	MVA
■ ER Normal cost	10.3%	10.3%
■ Amortization bases:	4.2%	10.2%
■ Total Contribution Rate	14.5%	**20.6%**
■ Amortization period	≈ 22 years	22 years

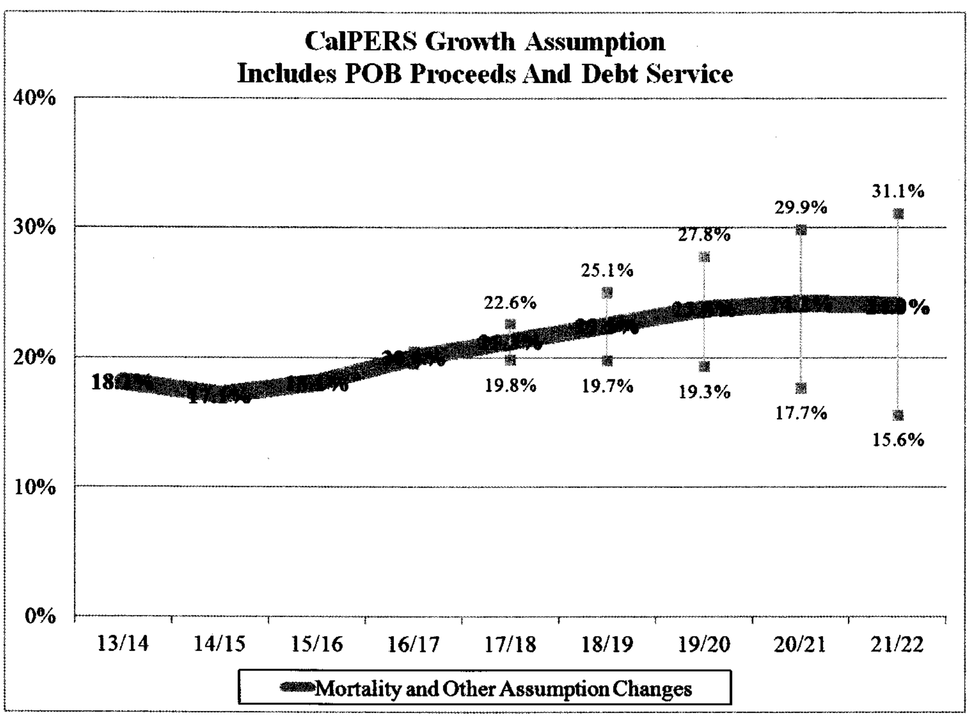
CONTRIBUTION PROJECTIONS WITH APPROVED MORTALITY AND OTHER ASSUMPTION CHANGES - MISCELLANEOUS

- In addition contribution projections also include new assumption changes
- Changes will take place in June 30, 2014 valuation first affecting 2016/17 contribution rates

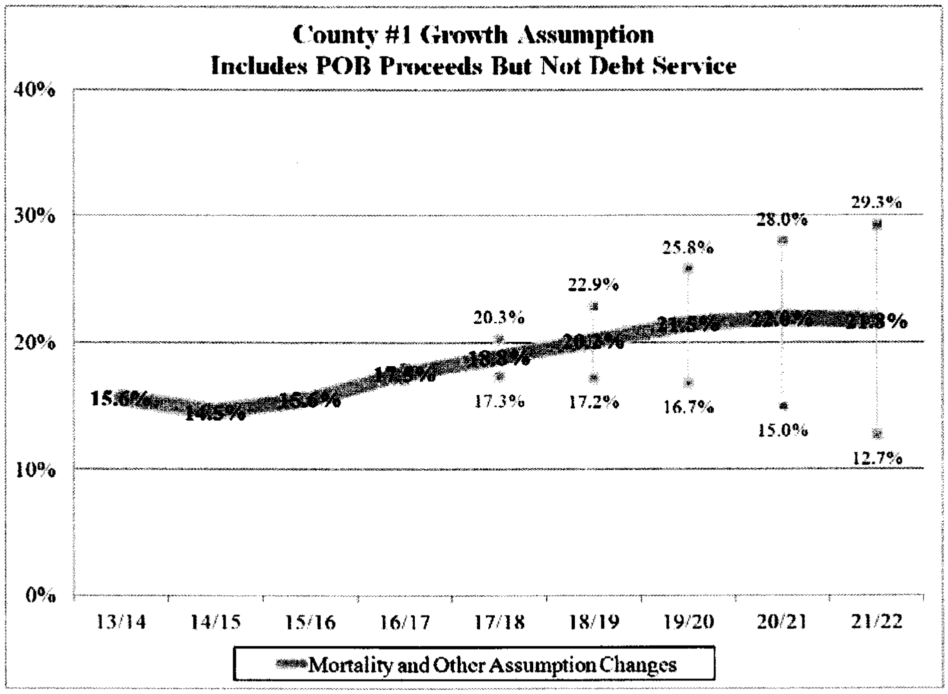
CONTRIBUTION PROJECTIONS WITH APPROVED MORTALITY AND OTHER ASSUMPTION CHANGES - MISCELLANEOUS



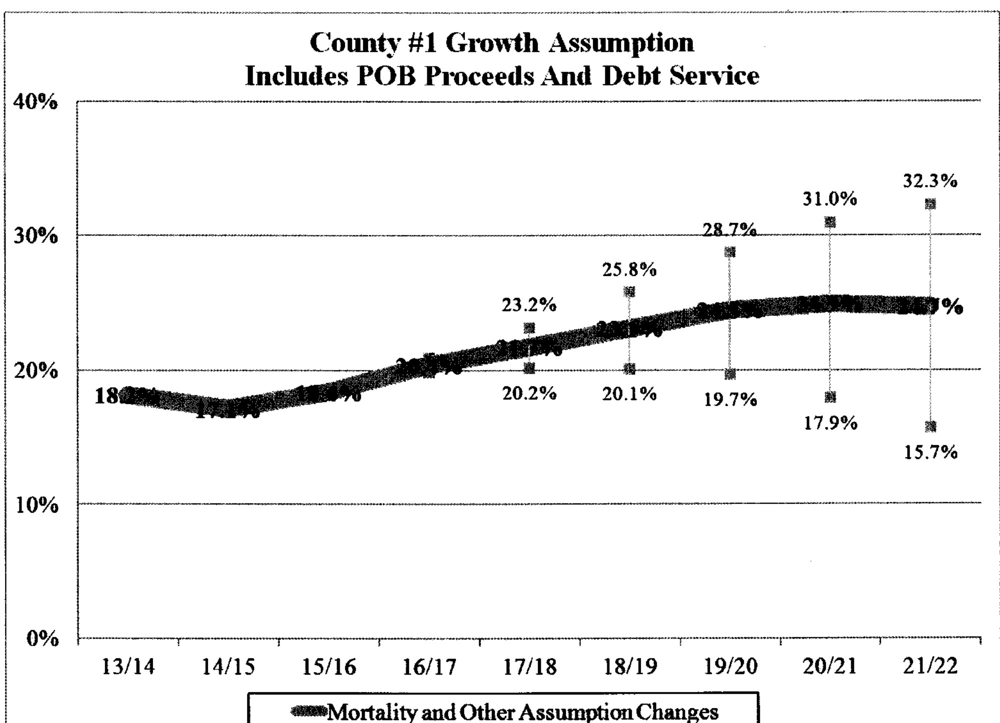
CONTRIBUTION PROJECTIONS WITH APPROVED MORTALITY AND OTHER ASSUMPTION CHANGES - MISCELLANEOUS



CONTRIBUTION PROJECTIONS WITH APPROVED MORTALITY AND OTHER ASSUMPTION CHANGES - MISCELLANEOUS

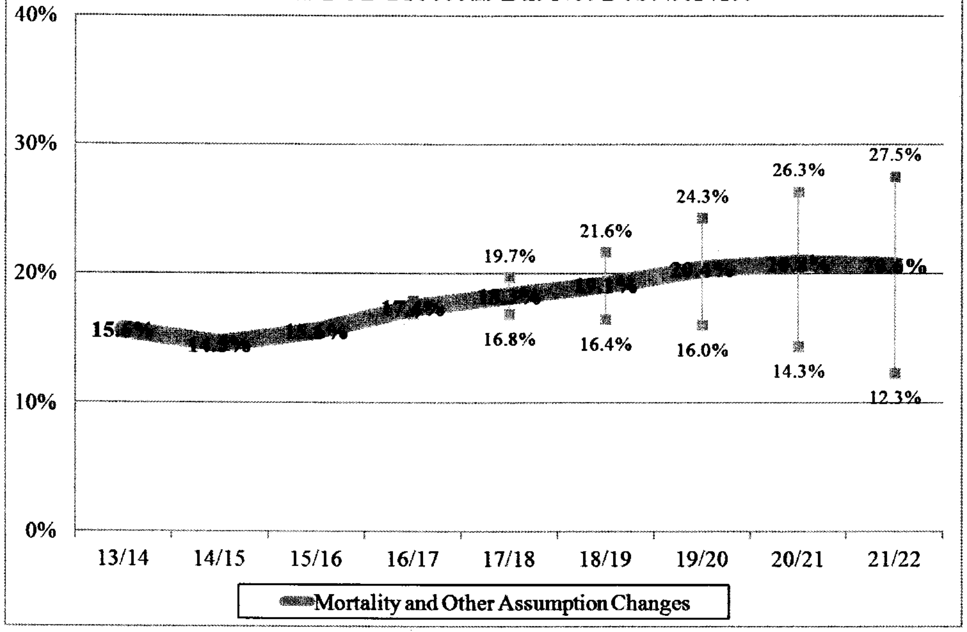


CONTRIBUTION PROJECTIONS WITH APPROVED MORTALITY AND OTHER ASSUMPTION CHANGES - MISCELLANEOUS



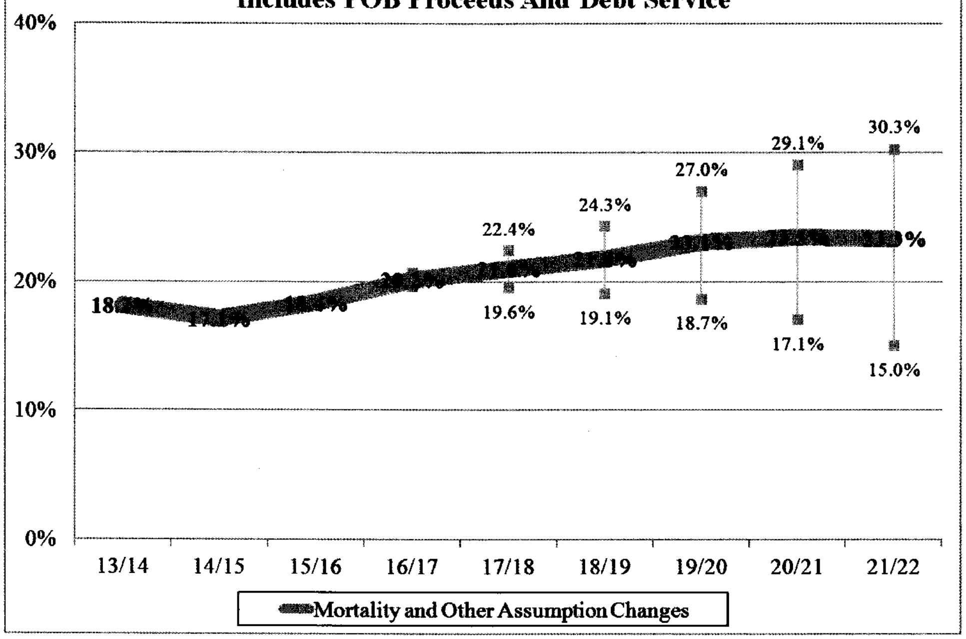
Contribution Projections With Approved Mortality and Other Assumption Changes - Miscellaneous

County #2 Growth Assumption
Includes POB Proceeds But Not Debt Service



Contribution Projections With Approved Mortality and Other Assumption Changes - Miscellaneous

County #2 Growth Assumption
Includes POB Proceeds And Debt Service

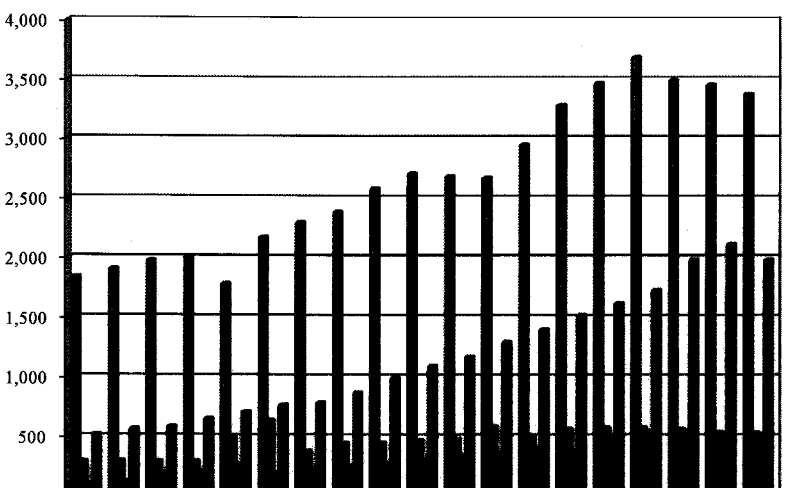


Summary of Demographic Information - Safety

	1994	2003	2011	2012
Actives				
■ Counts	1,839	2,708	3,455	3,374
■ Average				
• Age	38	39	39	39
• County Service	10	9	9	10
• PERSable Wages	$44,200	$54,500	$79,100	$77,600
■ Total PERSable Wages (millions)	88.8	162.4	298.5	286.0
Receiving Payments				
■ Counts				
• Service		540	1,401	1,277
• Disablity		442	547	538
• Beneficiaries		108	164	165
• Total	520	1,090	2,112	1,980
■ Average Annual County Provided Benefit[5]				
• Service		$28,100	$39,400	$49,100
• Disability		19,200	24,200	26,000
• Service Retirements in last 5 years		29,800	43,400	55,600

[5] Average County provided pensions are based on County service & County benefit formula, and are not representative of benefits for long service employees.

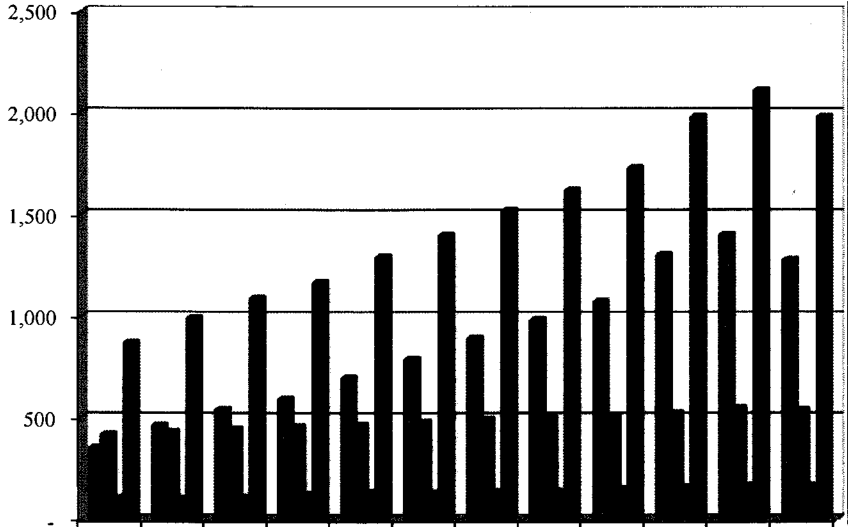
Members Included in Valuation - Safety



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
■Active	1,839	1,906	1,976	2,010	1,782	2,172	2,296	2,385	2,581	2,708	2,684	2,670	2,947	3,282	3,467	3,687	3,490	3,455	3,374
■Transfers	289	294	289	292	485	636	378	444	444	470	479	584	502	563	574	577	564	536	534
■ Vested Terminations	100	119	185	205	269	189	217	254	274	306	332	360	399	380	496	537	544	513	508
■Receiving Payments	520	567	586	651	711	767	785	872	993	1,090	1,168	1,292	1,398	1,521	1,619	1,728	1,982	2,112	1,980

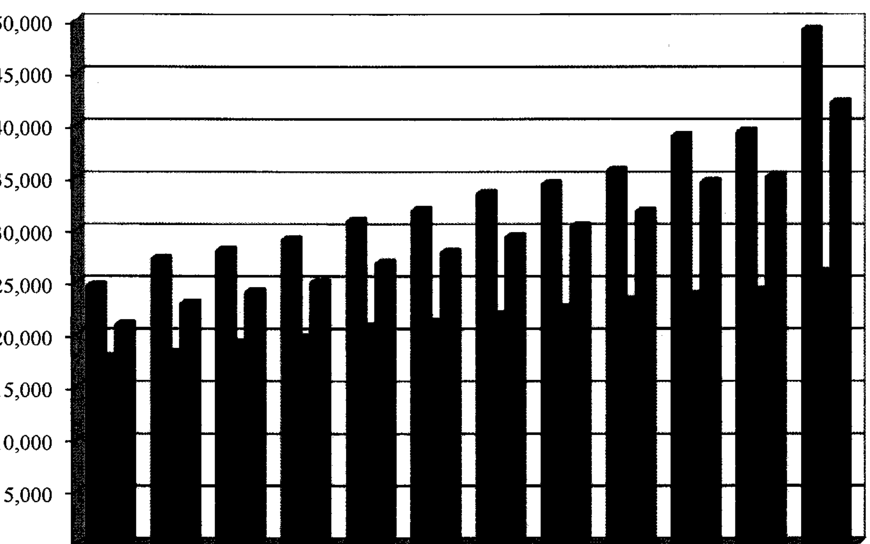
Agencies switched to and from Social Security coverage have separate coverage group for service before and after the switch with the same rate plan. In prior valuations, inactives were counted separately under each coverage group. Starting 2012, My|CalPERS data extract combines all benefits from the same rate plan together, no longer counting inactives separately for different coverage groups.

Members Receiving Payments - Safety



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
■Service Retirement	353	462	540	592	696	791	895	985	1,073	1,302	1,401	1,277
■Disability Retirement	417	430	442	455	464	477	490	498	505	522	547	538
■Beneficiaries	102	101	108	121	132	130	136	136	150	158	164	165
■Total Retirements	872	993	1,090	1,168	1,292	1,398	1,521	1,619	1,728	1,982	2,112	1,980

Average Annuity - Safety



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
■Average Serivce Ret	24,700	27,300	28,100	29,100	30,900	31,900	33,500	34,400	35,700	39,000	39,400	49,100
■Average Disabled Ret	17,900	18,300	19,200	19,700	20,800	21,200	21,900	22,600	23,300	23,800	24,200	26,000
■Average Ret Annuity	21,000	23,000	24,100	25,000	26,900	27,900	29,400	30,400	31,800	34,600	35,100	42,200

AVERAGE ANNUITY - SAFETY

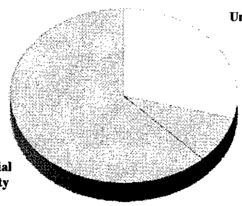
Years Retired	Service Retirement Retirees' Benefit 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Under 5	$25,410	$28,618	$29,840	$31,179	$33,743	$34,479	$35,472	$36,745	$38,145	$42,927	$43,393	$55,597
5~9	26,844	28,779	27,501	27,368	27,163	28,123	33,159	32,663	34,196	36,699	37,848	47,530
10~14	26,808	26,587	29,249	29,933	30,681	30,133	29,406	32,464	32,436	30,916	31,020	44,419
15-19	21,763	27,324	27,928	29,250	26,964	29,224	30,587	31,357	32,982	34,805	34,981	33,755
20-24	13,781	14,519	12,651	11,994	19,537	20,399	25,112	29,849	34,166	33,624	32,642	33,911
25-29	10,288	11,069	13,487	15,318	19,288	20,385	20,993	21,005	19,198	20,761	28,500	27,026
Over 30	15,207	15,511	10,162	16,455	30,776	31,920	28,299	27,267	29,573	28,211	27,756	29,250
All Years	24,718	27,306	28,111	29,141	30,929	31,915	33,481	34,389	35,729	38,956	39,395	49,084

AVERAGE ANNUITY - SAFETY

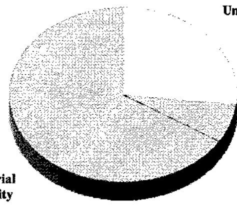
Attained Age	Service Retirement Retirees' Benefit 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
50-54	$20,025	$25,957	$28,252	$26,541	$32,567	$33,130	$35,650	$35,300	$37,007	$44,173	$42,235	$55,811
55-59	30,032	31,824	31,929	34,435	34,387	35,298	36,108	36,764	36,697	40,669	41,700	54,077
60-64	29,058	30,745	29,848	31,148	32,237	33,440	34,861	36,194	37,904	39,455	40,275	50,777
65-69	24,112	24,239	26,224	25,829	28,826	28,986	29,985	32,552	34,509	35,161	37,497	46,105
70-74	21,428	23,823	24,635	25,451	24,448	24,980	28,068	27,947	30,079	31,361	32,759	36,008
75-79	15,609	16,445	20,918	21,740	23,092	23,810	26,745	28,006	29,780	28,419	27,586	31,318
80-84	8,264	13,491	10,934	14,589	19,692	21,258	19,489	25,344	27,089	26,978	27,831	29,142
85 & over	6,621	5,589	6,758	8,475	13,285	13,803	19,099	15,185	18,624	28,647	32,476	27,928
All Ages	24,718	27,306	28,111	29,141	30,929	31,915	33,481	34,389	35,729	38,956	39,395	49,084

PLAN FUNDED STATUS - SAFETY

Present Value of Benefits
June 30, 2011



Present Value of Benefits
June 30, 2012



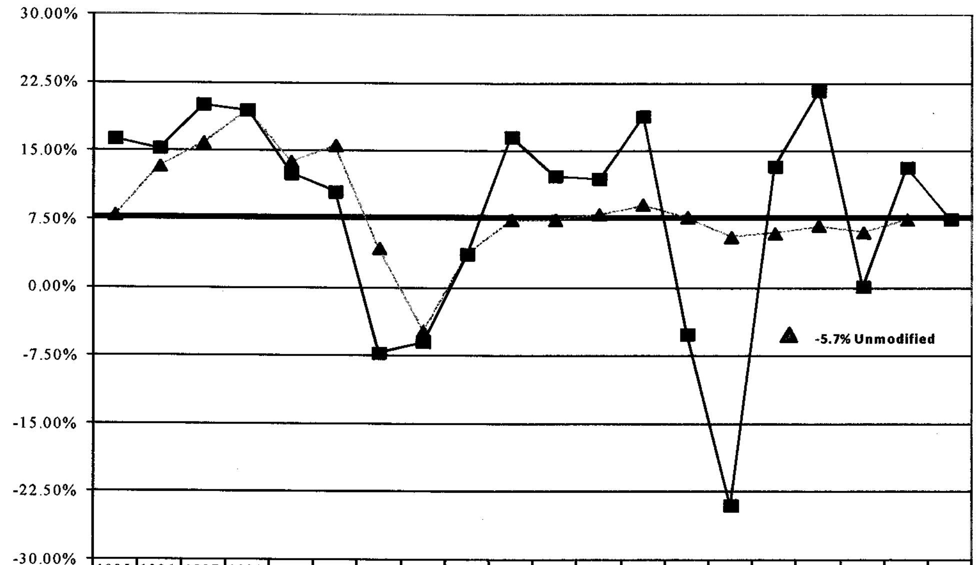
June 30, 2011		June 30, 2012
$ 2,032,000,000	**Actuarial Liability**	$ 2,086,400,000
1,745,900,000	**Actuarial Asset Value**	1,860,600,000
(286,100,000)	**(Unfunded Liability)**	(225,800,000)

June 30, 2011		June 30, 2012
$ 2,032,000,000	**Actuarial Liability**	$ 2,086,400,000
1,565,800,000	**Market Asset Value**	1,567,400,000
(466,200,000)	**(Unfunded Liability)**	(519,000,000)

PLAN FUNDED STATUS - SAFETY

- What happened between 6/30/11 and 6/30/12?
  - Market Value Asset Gain/(Loss) ≈ (115.9) million
  - Unfunded Liability (Increase)/Decrease ≈ 60.3 million
- Reasons for Unfunded Liability increase
  - Actuarial Asset gain/(loss): ≈ (20.9) million
    - $293.2 million remaining unrecognized asset losses
  - Actuarial gain/(loss): ≈ 92.9 million
    - Average Salary $79,100 → $77,600
    - Number of Actives 3,455 → 3,374
    - Number of Inactives 1,049 → 1,042
    - Number of Retirees 2,112 → 1,980
  - Other gain/(loss): ≈ (11.7) million
    - Contributions
    - Other (expected)

ACTUARIAL INVESTMENT RETURN - SAFETY



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
AVA	8.0%	13.3%	15.9%	19.4%	13.8%	15.6%	4.3%	-4.7%	3.7%	7.4%	7.4%	8.1%	9.1%	7.8%	5.6%	6.0%	6.8%	6.1%	7.5%	
MVA	16.3%	15.3%	20.1%	19.5%	12.5%	10.5%	-7.2%	-6.0%	3.7%	16.6%	12.3%	11.9%	18.8%	-5.1%	-24.0	13.3%	21.7%	0.1%	13.2%	7.5%

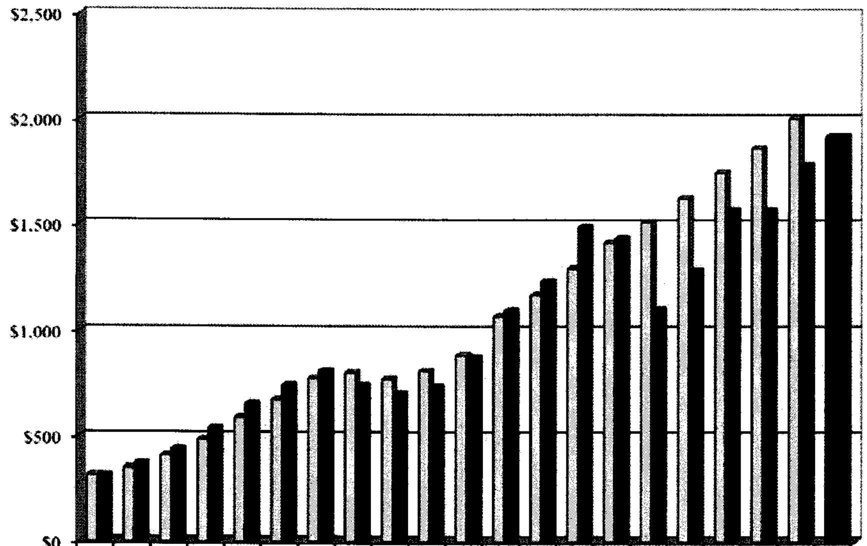
Above assumes contributions, payments, etc. received evenly throughout year.
June 30, 2013 return of 13.2% from CalPERS 6/30/13 CAFR.

ACTUARIAL INVESTMENT RETURN - SAFETY

	Market	Actuarial
■ June 30, 2008	(5.1%)	7.8%
● Gain/(Loss)	**(12.9%)**	**0.0%**
■ June 30, 2009	(24.0)%	5.6%
● Gain/(Loss)	**(31.8)%**	**(2.2)%**
■ June 30, 2010	13.3%	6.0%
● Gain/(Loss)	**5.5%**	**(1.8)%**
■ June 30, 2011	21.7%	6.8%
● Gain/(Loss)	**13.9%**	**(1.0)%**
■ June 30, 2012	0.1%	6.1%
● Gain/(Loss)	**(7.4)%**	**(1.7)%**
■ June 30, 2013	13.2%	7.5%
● Gain/(Loss)	**5.7%**	**(0.0)%**

- Accumulated Market Value Gains/(Losses) through June 30, 2013 ≈ (27.0)%
  [(12.9)% + (31.8)% + 5.5% + 13.9% + (7.4%) + 5.7%]

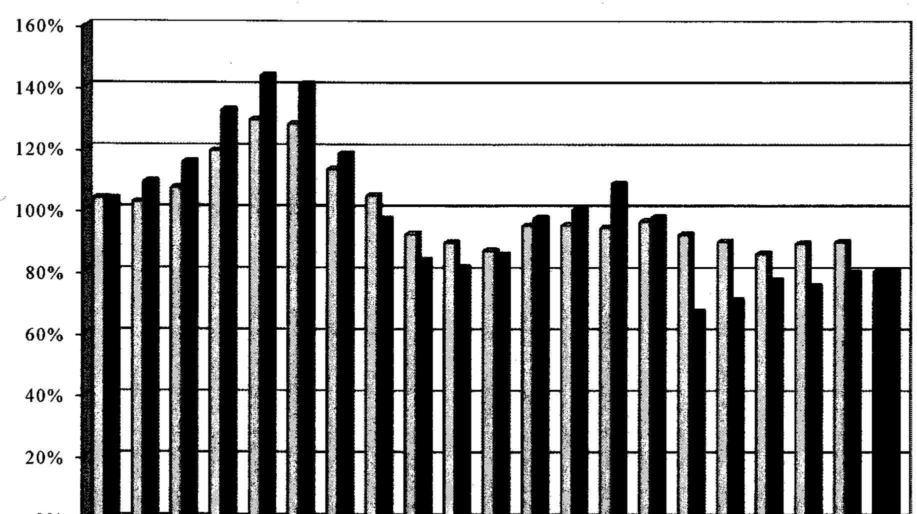
ASSET VALUES (MILLIONS) - SAFETY



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Actuarial	315	351	409	486	591	677	777	804	774	812	887	1069	1170	1291	1414	1511	1625	1746	1861	2004	1919
Market	314	374	441	540	657	746	812	745	704	738	874	1097	1234	1487	1432	1100	1280	1566	1567	1779	1919

6/30/13 & 6/30/14 asset values estimated.
AVA is being set equal to MVA and a separate AVA will not be used in future years.

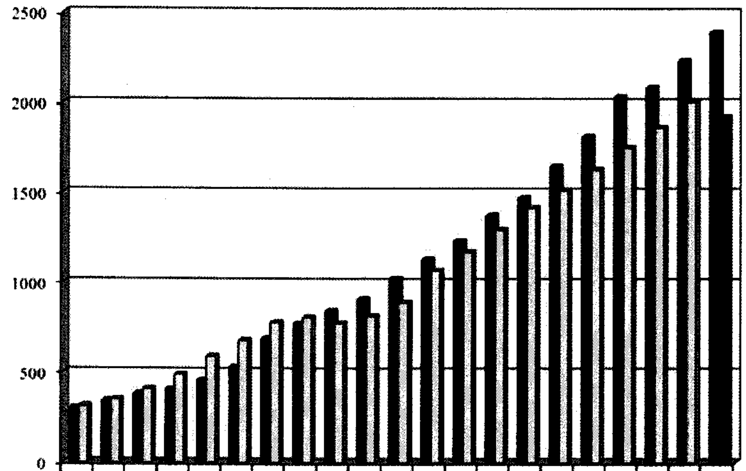
FUNDED RATIO - SAFETY



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Funded Ratio - AVA	104%	103%	107%	119%	129%	128%	113%	105%	92%	90%	87%	95%	95%	94%	96%	92%	90%	86%	89%	90%	80%
Funded Ratio - MVA	104%	109%	116%	133%	144%	141%	118%	97%	84%	81%	86%	97%	100%	109%	97%	67%	71%	77%	75%	80%	80%

6/30/13 & 6/30/14 funded status estimated
AVA is being set equal to MVA and a separate AVA will not be used in future years.

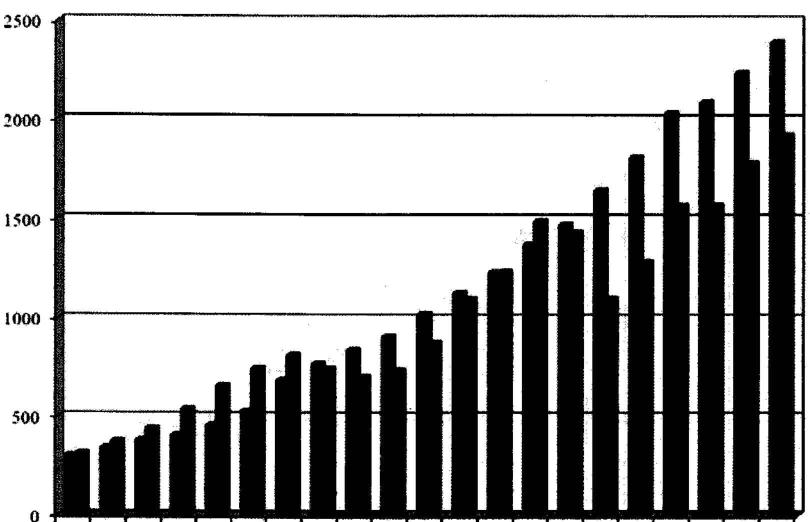
FUNDED STATUS (MILLIONS) - SAFETY



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Actuarial Liability	303	342	381	407	457	529	686	768	840	907	1021	1127	1232	1370	1469	1643	1809	2032	2086	2235	2390
Actuarial Asset Value	315	351	409	486	591	677	777	804	774	812	887	1069	1170	1291	1414	1511	1625	1746	1861	2004	1919

6/30/13 & 6/30/14 funded status estimated.
AVA is being set equal to MVA and a separate AVA will not be used in future years.

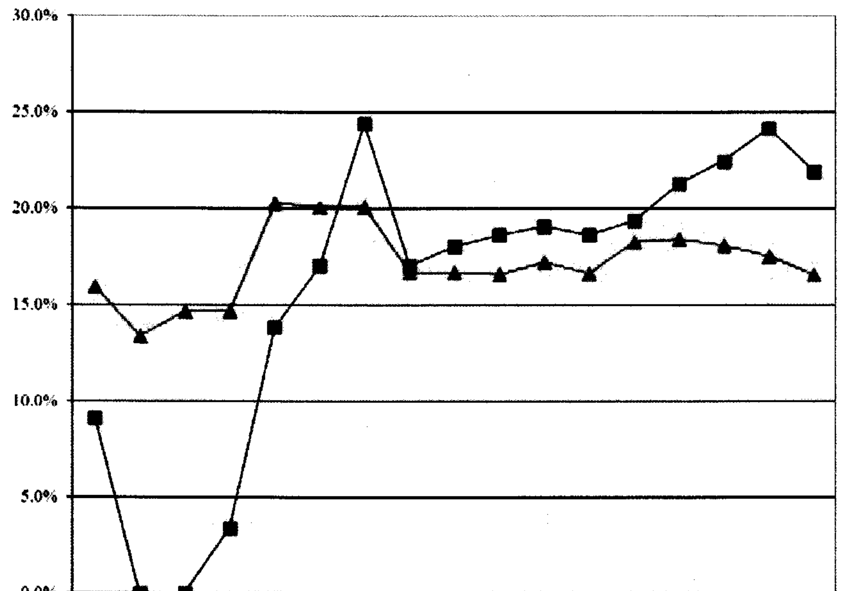
FUNDED STATUS (MILLIONS) - SAFETY



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Actuarial Liability	303	342	381	407	457	529	686	768	840	907	1021	1127	1232	1370	1469	1643	1809	2032	2086	2235	2390
Market Asset Value	314	374	441	540	657	746	812	745	704	738	874	1097	1234	1487	1432	1100	1280	1566	1567	1779	1919

6/30/13 & 6/30/14 funded status estimated

CONTRIBUTION RATES - SAFETY



	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15
ER Normal Cost	16.0%	13.4%	14.7%	14.7%	20.3%	20.1%	20.1%	16.7%	16.7%	16.6%	17.2%	16.6%	18.2%	18.4%	18.1%	17.5%	16.6%
Total ER Cont Rate	9.1%	0.0%	0.0%	3.4%	13.8%	17.0%	24.4%	17.0%	18.0%	18.6%	19.0%	18.6%	19.3%	21.3%	22.5%	24.1%	21.9%

CONTRIBUTION RATES - SAFETY

	6/30/11 2013/2014	6/30/12 2014/2015
■ Total Normal Cost	26.5%	25.6%
■ Employee Normal Cost	9.0%	9.0%
■ Employer Normal Cost	17.5%	16.6%
■ Amortization Bases:	6.6%	5.3%
■ Total Employer Contribution Rate	24.1%	21.9%
■ Amortization Period	Multiple ≈ 23 years	Multiple ≈ 23 years

- What Happened from 6/30/11 to 6/30/12:
  - 2013/14 Rate 24.1%
  - (Gains)/Losses -2.2
  - 2014/15 Rate 21.9%

CONTRIBUTION PROJECTIONS - SAFETY

- Market Value Investment Return:
  - June 30, 2012 — 0.1%[6]
  - June 30, 2013 — 13.2%[7]
  - June 30, 2014 - 2019
    - Poor Investment Return: ≈ **0.2% - 4.3%**
    - Expected Investment Ret: ≈ **7.50%**
    - Good Investment Return: ≈ **10.6% - 15.1%**
- No Other: Gains/Losses, Method/Assumption Changes, Benefit Improvements
- Excludes Employer Paid Member Contributions (EPMC)
- County opted out of 2011 assumption changes phase in
- Tier 2 2@50 effective 10/1/2011
- New hire assumptions:
  - Assumes 50% of 2013 new hires will be Classic Tier 2 Members (2%@50) and 50% will be New Members with PEPRA benefits.
  - Assumes Classic Members will decrease from 50% to 0% of new hires over 10 years

.

[6] Based on CalPERS CAFR.
[7] Based on CalPERS CAFR.

CONTRIBUTION PROJECTIONS - SAFETY

Payroll Growth Assumptions

	2013/14	2014/15	2015/16	2016/17	2017/18
County #1	3.00%	3.00%	3.00%	3.00%	3.00%
County #2	8.13%	5.16%	5.33%	3.00%	3.00%
CalPERS	3.00%	3.00%	3.00%	3.00%	3.00%

	2018/19	2019/20	2020/21	2021/22
County #1	3.00%	3.00%	3.00%	3.00%
County #2	3.00%	3.00%	3.00%	3.00%
CalPERS	3.00%	3.00%	3.00%	3.00%

Projected PERSable Wages ('000)

	2012/13	2013/14	2014/15	2015/16	2016/17
County #1	$ 261,467	$269,311	$277,390	$285,712	$294,284
County #2	261,467	282,724	297,313	313,160	322,555
CalPERS	269,555	277,641	285,971	294,550	303,386

	2017/18	2018/19	2019/20	2020/21	2021/22
County #1	$303,112	$312,205	$321,572	$ 331,219	$ 341,155
County #2	332,231	342,198	352,464	363,038	373,929
CalPERS	312,488	321,863	331,518	341,464	351,708

CONTRIBUTION PROJECTIONS - SAFETY

- In addition to above assumptions, contribution projections also include new Contribution Policy Changes

- Changes will take place June 30, 2013 affecting 2015/16 contribution rates

CONTRIBUTION PROJECTIONS - SAFETY

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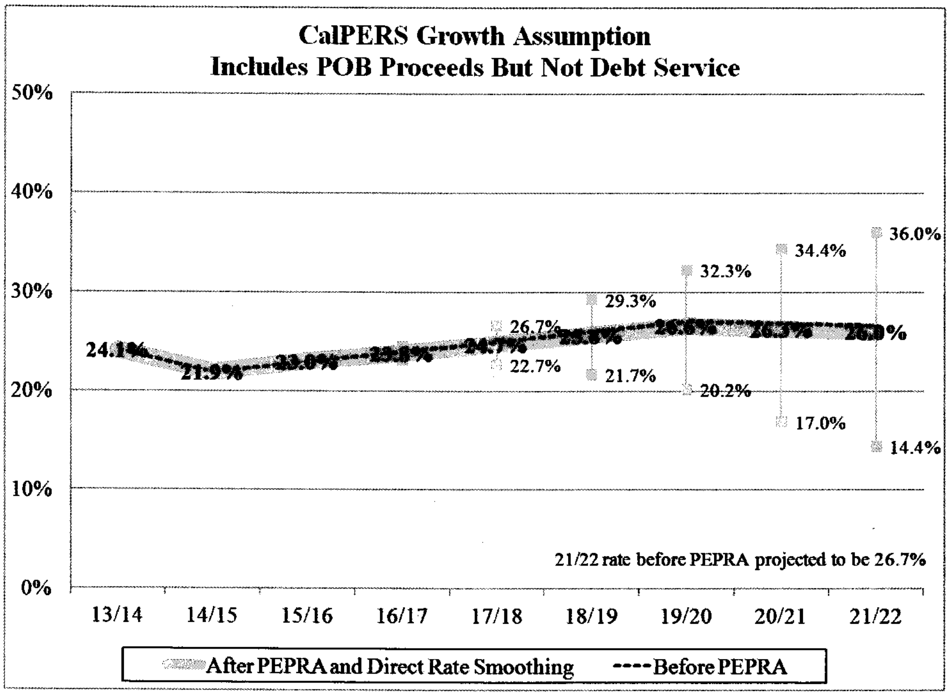
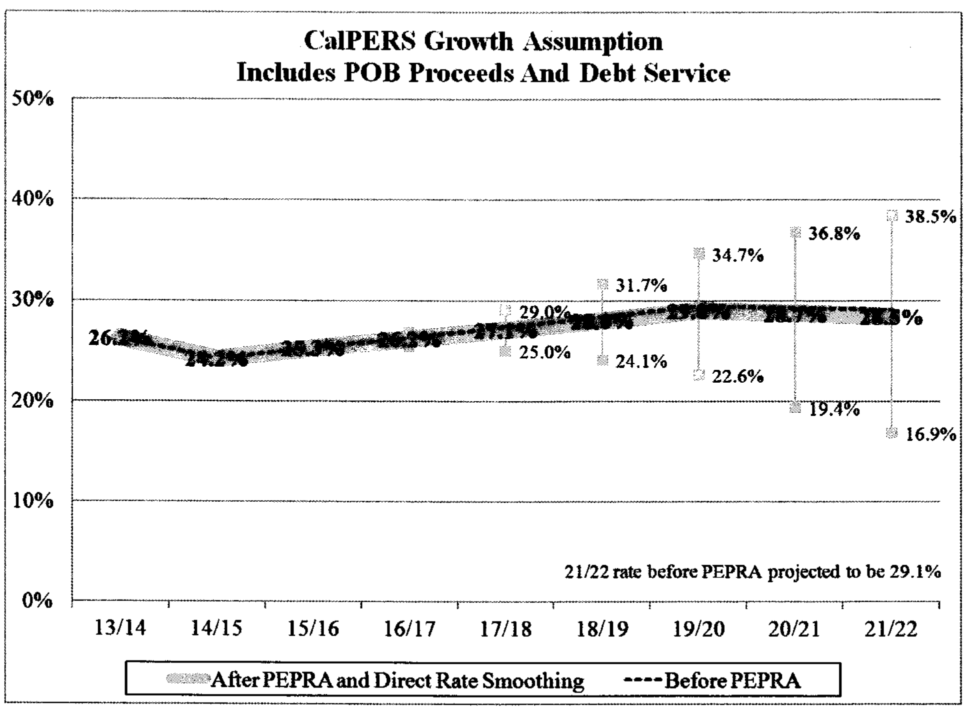
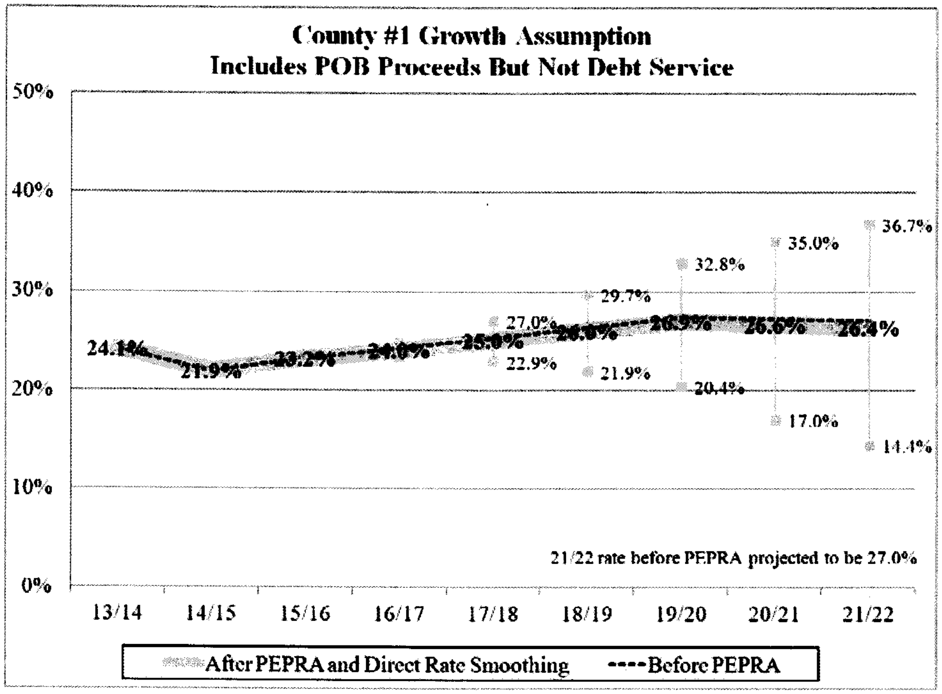
CONTRIBUTION PROJECTIONS - SAFETY



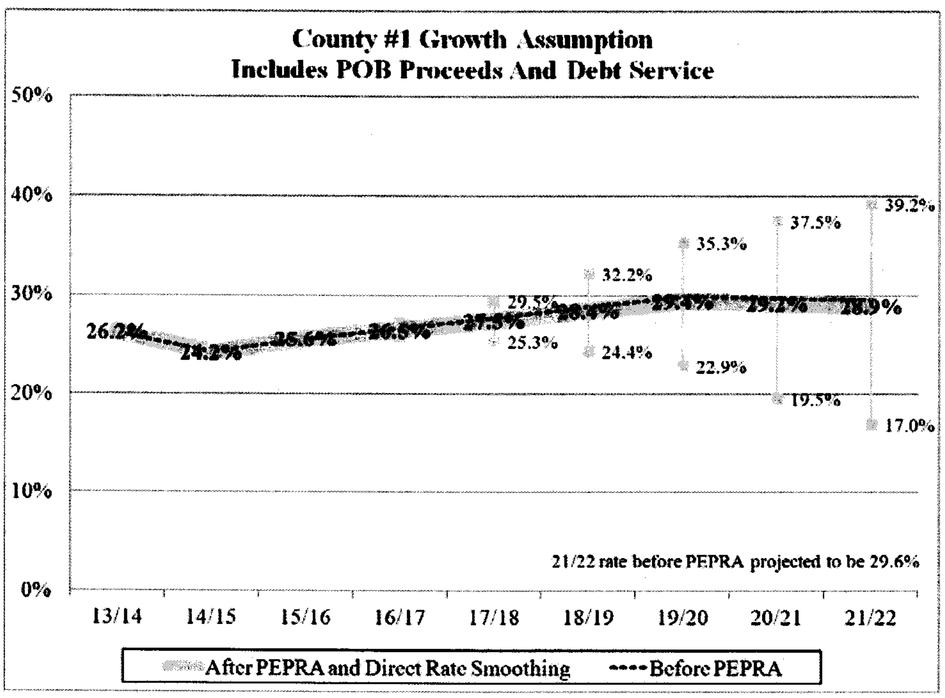
CONTRIBUTION PROJECTIONS - SAFETY



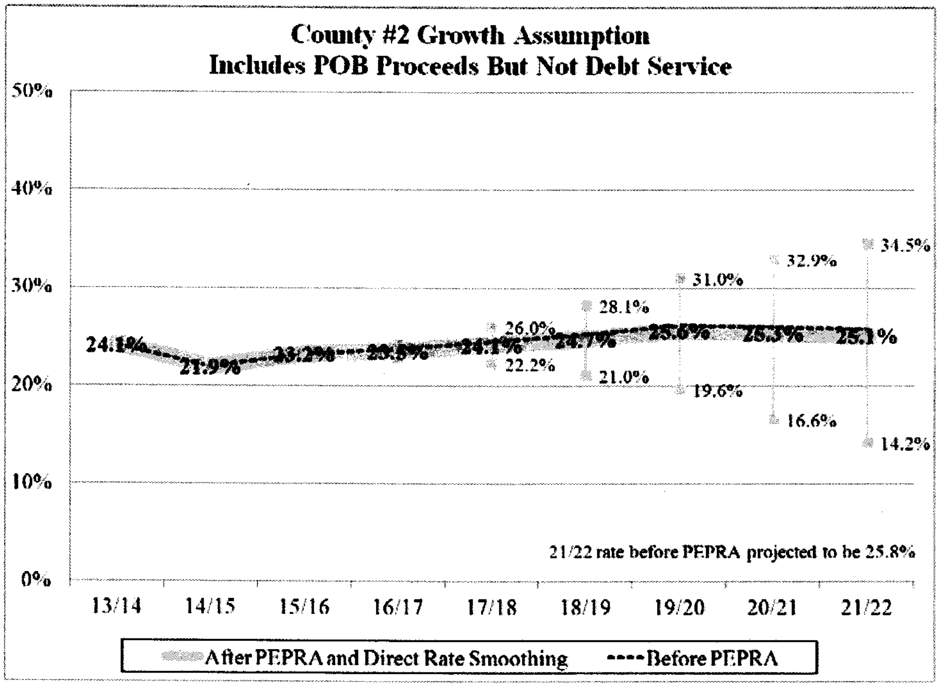
CONTRIBUTION PROJECTIONS - SAFETY



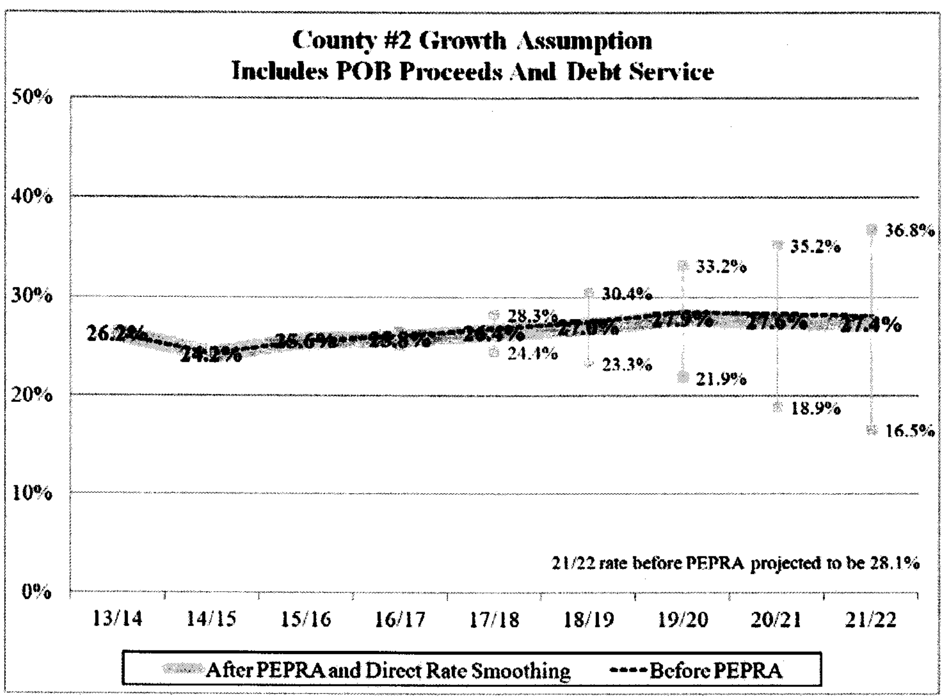
CONTRIBUTION PROJECTIONS - SAFETY



CONTRIBUTION PROJECTIONS - SAFETY



CONTRIBUTION PROJECTIONS - SAFETY



CONTRIBUTION PROJECTIONS - SAFETY

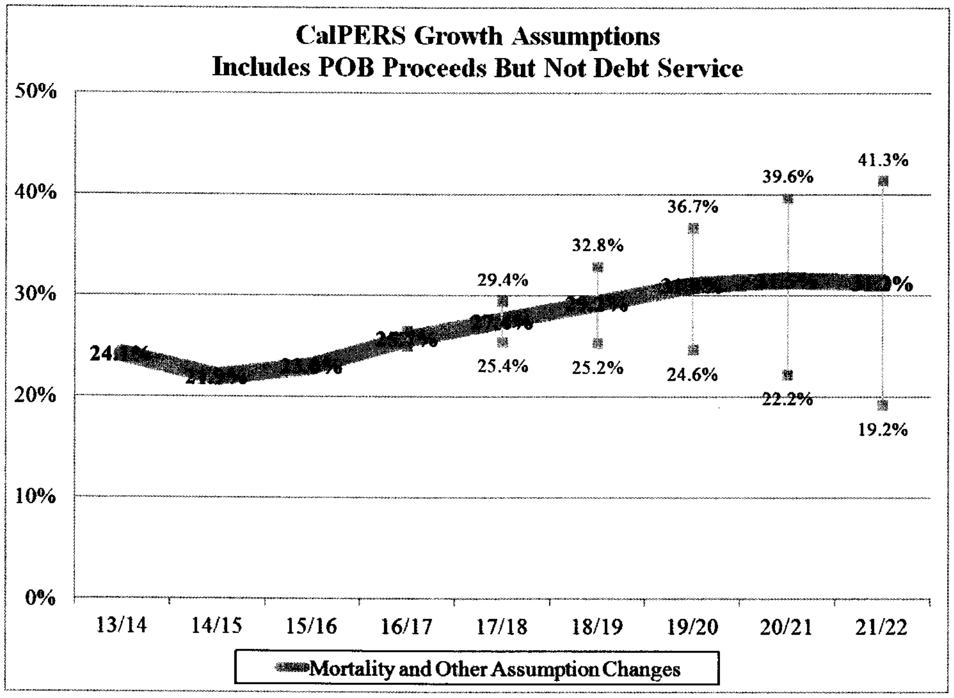
Employer Contribution Rate if Market Value of Assets were used

	Actuarial 2014/15	Market 2014/15
Plan Assets	AVA	MVA
ER Normal cost	16.6%	16.6%
Amortization bases:	5.3%	13.8%
Total Contribution Rate	21.9%	**30.4%**
Amortization period	≈ 23 years	23 years

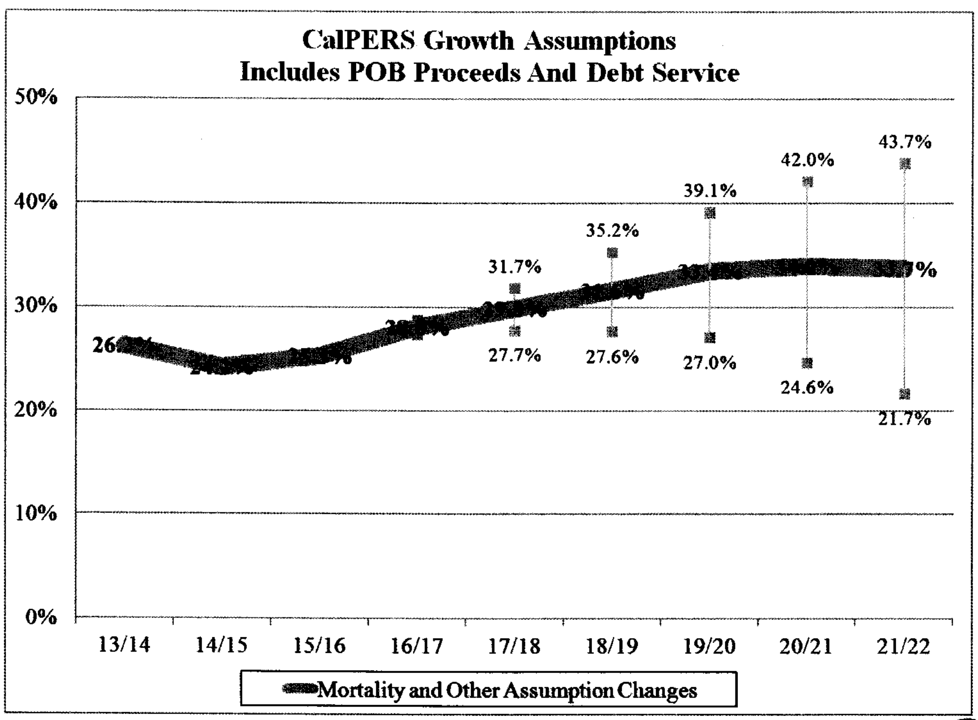
CONTRIBUTION PROJECTIONS WITH APPROVED MORTALITY AND OTHER ASSUMPTION CHANGES - SAFETY

- In addition contribution projections also include new assumption changes
- Changes will take place in June 30, 2014 valuation first affecting 2016/17 contribution rates

CONTRIBUTION PROJECTIONS WITH APPROVED MORTALITY AND OTHER ASSUMPTION CHANGES - SAFETY

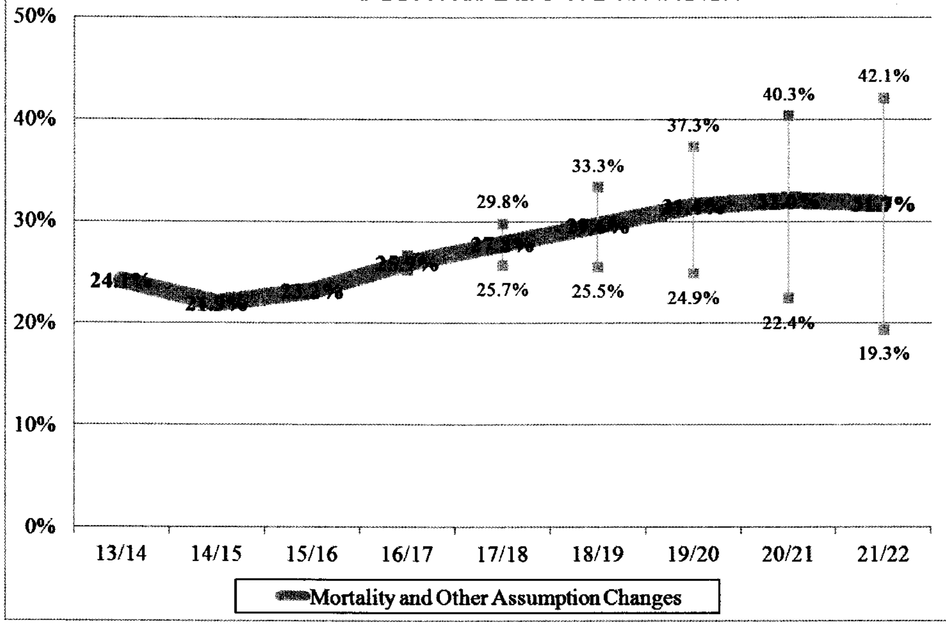


CONTRIBUTION PROJECTIONS WITH APPROVED MORTALITY AND OTHER ASSUMPTION CHANGES - SAFETY



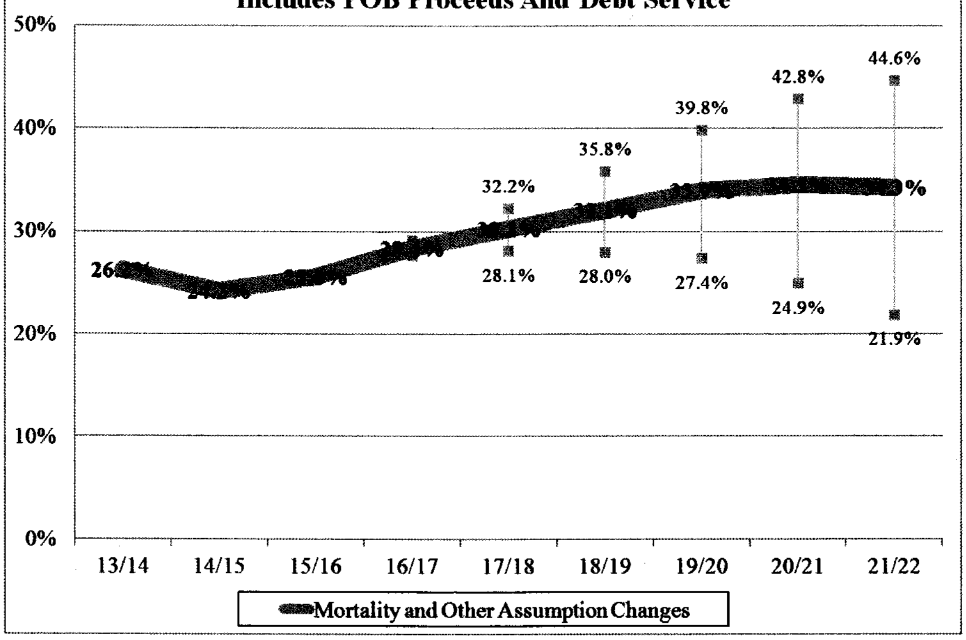
Contribution Projections With Approved Mortality and Other Assumption Changes - Safety

County #1 Growth Assumptions
Includes POB Proceeds But Not Debt Service

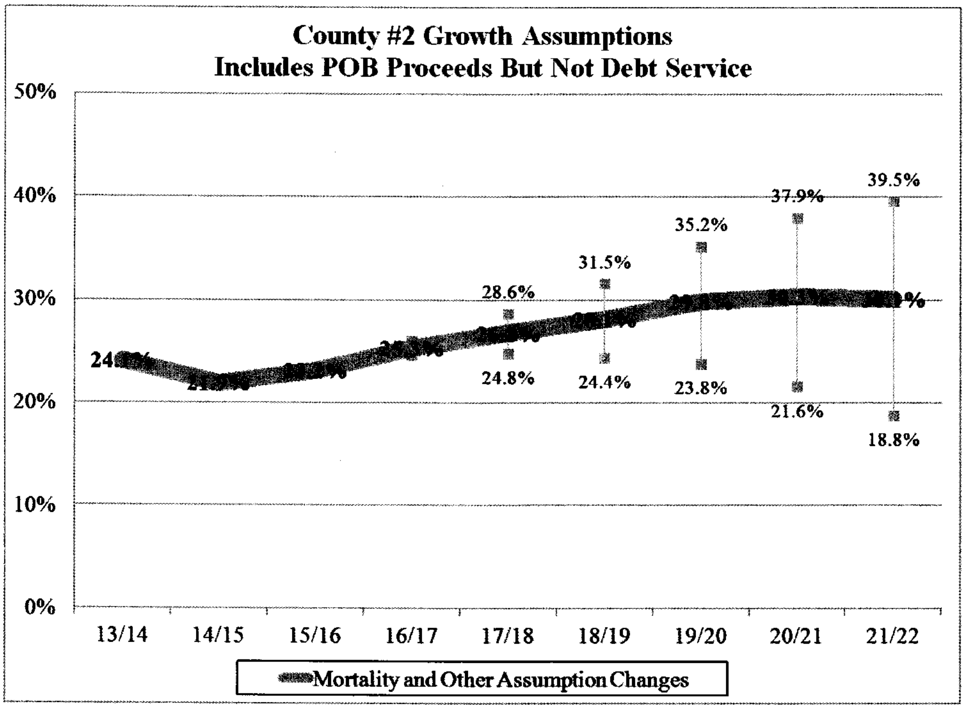


Contribution Projections With Approved Mortality and Other Assumption Changes - Safety

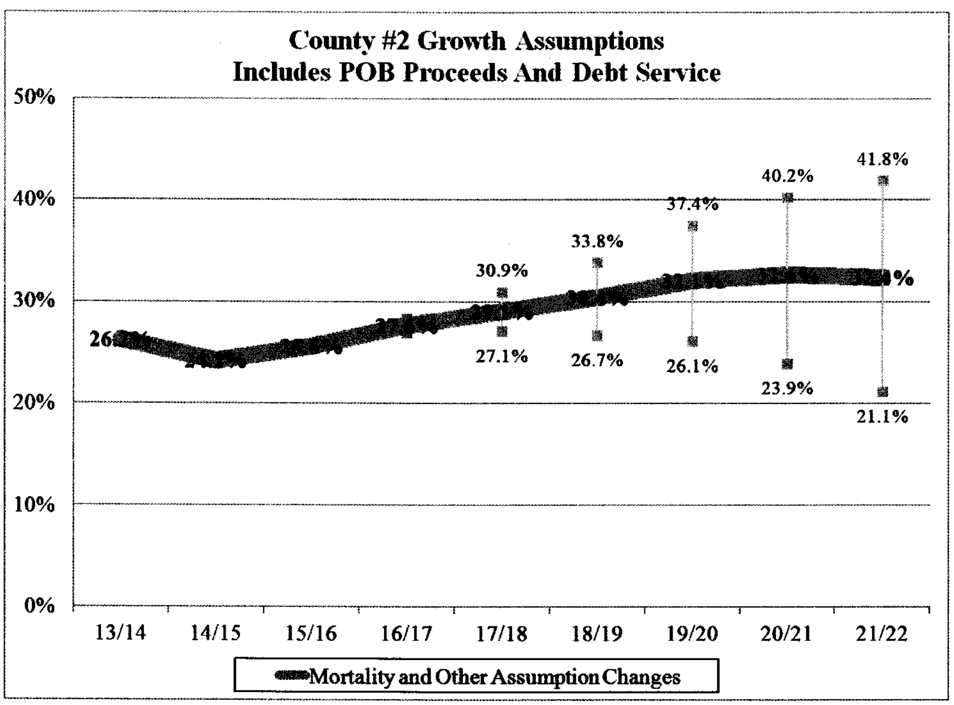
County #1 Growth Assumptions
Includes POB Proceeds And Debt Service



CONTRIBUTION PROJECTIONS WITH APPROVED MORTALITY AND OTHER ASSUMPTION CHANGES - SAFETY



CONTRIBUTION PROJECTIONS WITH APPROVED MORTALITY AND OTHER ASSUMPTION CHANGES - SAFETY



Impact of Eliminating EPMC

Impact of Eliminating EPMC	Miscellaneous	Safety
■ County Paid EPMC[8]	5.4%	7.6%
■ PERSable EPMC[9]	0.2%	0.3%
■ Total	5.6%	7.9%

- Assumes EPMC elimination not offset by similar salary increase
- Above contribution projections have not been adjusted for EPMC elimination

[8] County paid full member contribution for non exempt management for all years (8% for Miscellaneous and 9% for Safety). For the rest of employees, County paid full member contributions after 5 years of service for Miscellaneous and 3 years of service for Safety. The combination of this resulted in the County paying approximately 5.4% of Miscellaneous and 7.6% of Safety PERSable wages.

[9] EPMC was included in PERSable wages for unrepresented, non exempt and DDAA for Miscellaneous and for Law Enforcement Management for Safety. Average PERSable EPMC was 1.6% for Miscellaneous and 1.6% for Safety.

POB (Millions) Bond Proceeds Balance

	Safety	Misc.	Total
■ POB @ 2/16/05	**$ 85.7**	**$ 311.2**	**$ 396.9**
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.			
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■ **Balance @ 6/30/13**	**80.5**	**292.1**	**372.6**
■ Earning 7/1/13 - 2/15/14[10]	3.7	13.5	17.2
■ Amortization payment through 2/15/14[11]	(3.0)	(11.0)	(14.0)
■ **Balance @ 2/15/14**	**81.2**	**294.7**	**375.8**

[10] Based on assumed 7.5% investment return for 2013/14.

[11] Based on a rolling 30 year amortization

POB (Millions) Bond Proceeds Balance

		Payments			
		Principal	**Interest**	**Total**	**Balance**
■	2/17/05	n/a	n/a	n/a	$400.0
■	8/15/05	n/a	$9.4	$9.4	400.0
	. . . . .				
■	2/15/2013	$10.8	8.7	19.4	346.8
■	8/15/2013	n/a	8.4	8.4	346.8
■	2/15/2014	12.3	8.4	20.7	334.5

POB (Millions)

- Net Estimated Gains through February 15, 2014:

A.	CalPERS Estimated Balance	$ 375.8
B.	Bond Proceeds Balance	334.5
C.	Cash Flow Savings/(Deficit) [Payments that would have been paid to CalPERS less POB debt service]	(10.0)
D.	Net [(A) – (B) + (C)]	31.3

- Net Estimated Gains through February 15, 2014:

E.	CalPERS Investment Earnings	$198.3
F.	POB Interest Payments	163.9
G.	Cost of Issuance	3.1
H.	Net [(E) – (F) – (G)]	31.3

- Above estimates based on market rate of return. Savings (losses) based on actuarial rate of return would be higher (lower).

NET FUNDED RATIO (MILLIONS)

		Safety			
		6/30/11	6/30/12	Proj. 6/30/13[12]	Proj. 6/30/14[13]
(1)	AAL	$ 2,032	$ 2,086	$ 2,235	$ 2,390
(2)	AVA/MVA[14]	1,748	1,861	1,779	1,919
(3)	UAAL [(1) - (2)]	284	225	456	471
(4)	Funding Ratio [(2)/(1)]	86.0%	89.2%	79.6%	80.3%
(5)	POB Balance	$ 79	$ 77	$ 75	$ 72
(6)	Net AVA/MVA [(2) - (5)]	1,669	1,784	1,704	1,847
(7)	Net Funding Ratio [(6)/(1)]	82.1%	85.5%	76.2%	77.3%

12 6/30/13 CalPERS published rate 13.2%.
13 Projected 6/30/14 MVA based on assumed 2013/14 CalPERS investment return 7.5%.
14 AVA is being set equal to MVA at 6/30/13 and a separate AVA will not be used in future years

NET FUNDED RATIO (MILLIONS)

		Miscellaneous			
		6/30/11	6/30/12	Proj. 6/30/13[15]	Proj. 6/30/14[16]
(1)	AAL	$ 4,462	$ 4,709	$ 5,037	$ 5,392
(2)	AVA/MVA[17]	3,923	4,172	3,990	4,307
(3)	UAAL [(1) - (2)]	539	537	1047	1085
(4)	Funding Ratio [(2)/(1)]	87.9%	88.6%	79.2%	79.9%
(5)	POB Balance	$ 288	$ 280	$ 272	$ 262
(6)	Net AVA/MVA [(2) - (5)]	3,635	3,892	3,718	4,045
(7)	Net Funding Ratio [(6)/(1)]	81.5%	82.6%	73.8%	75.0%

15 6/30/13 CalPERS published rate 13.2%.
16 Projected 6/30/14 MVA based on assumed 2013/14 CalPERS investment return 7.5%.
17 AVA is being set equal to MVA at 6/30/13 and a separate AVA will not be used in future years

NET FUNDED RATIO (MILLIONS)

		Total			
		6/30/11	6/30/12	Proj. 6/30/13[18]	Proj. 6/30/14[19]
(1)	AAL	$ 6,494	$ 6,795	$ 7,272	$ 7,782
(2)	AVA/MVA[20]	5,671	6,033	5,769	6,226
(3)	UAAL [(1) - (2)]	823	762	1503	1556
(4)	Funding Ratio [(2)/(1)]	87.3%	88.8%	79.3%	80.0%
(5)	POB Balance	$ 367	$ 358	$ 347	$ 335
(6)	Net AVA/MVA [(2) - (5)]	5,304	5,675	5,422	5,891
(7)	Net Funding Ratio [(6)/(1)]	81.7%	83.5%	74.6%	75.7%

18 6/30/12 CalPERS published rate 1.0%.
19 Projected 6/30/14 MVA based on assumed 2013/14 CalPERS investment return 7.5%.
20 AVA is being set equal to MVA at 6/30/13 and a separate AVA will not be used in future years

NET FUNDED RATIO (MILLIONS)

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GASB 68

- **Pension Accounting:**
  - GASB 68, Accounting for Employers, approved June 25, 2012
  - Replaces GASB 27
  - Effective 2014/15
- **Major Issues:**
  - Unfunded liability on balance sheet
  - Expense calculation disconnected from contribution calculation
  - Discount rate is
    - ☐ Expected return on plan assets when assets sufficient to pay benefits
    - ☐ Municipal bond rate when assets not sufficient to pay benefits

    Likely caused CalPERS to modify assets smoothing and/or amortization policy to avoid using discount rate lower than expected return (7.5%).
- **June 30, 2012 Unfunded Actuarial Liability** (in Millions)

Plan	Total Pension Liability (AAL)	Fiduciary Net Position (MVA)	Net Pension Liability (UAL)
Safety	$2,086.4	$1,567.4	$519.0
Miscellaneous	4,708.9	3,520.2	1,188.7
Total Net Pension Liability			**$1,707.7**

GASB 68

- CalPERS:
  - Actuaries have approval from CalPERS Board to make necessary system changes & have begun work.
  - Will likely not be ready to provide information for fiscal years < 2014/15.
  - Expect to provide information but only upon request.
  - Will charge small fee.

PEPRA Cost Sharing

- Target of 50% of total normal cost for everyone
- *New members* must pay greater of 50% of total normal cost or bargained amount if higher
- Employer cannot pay any part of *new member* required employee contributions
- Employer may impose current employees pay 50% of total normal cost (limited to certain amounts) if not agreed through collective bargaining by 1/1/18
- Miscellaneous Plan:

	Tier 1	Tier 2	
• Total Normal Cost	Current Members		New Members
• Employer Normal Cost	10.3%	6.8%	6.5%
• Member Normal Cost	7.8%	7.0%	6.5%
• Total Normal Cost	18.1%	13.8%	13.0%
• 50% Target	9.05%	6.9%	6.5%

PEPRA Cost Sharing

- Safety Plan

	Tier 1	Tier 2	
• Total Normal Cost	Current Members		New Members
• Employer Normal Cost	16.6%	13.2%	10.75%
• Member Normal Cost	9.0%	9.0%	10.75%
• Total Normal Cost	25.6%	22.2%	21.50%
• 50% Target	12.8%	11.1%	10.75%

California Public Employees' Retirement System
Actuarial Office
P.O. Box 942701
Sacramento, CA 94229-2701
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www.calpers.ca.gov

October 2013

MISCELLANEOUS PLAN OF THE COUNTY OF RIVERSIDE (CalPERS ID: 5982690295)
Annual Valuation Report as of June 30, 2012

Dear Employer,

As an attachment to this letter, you will find a copy of the June 30, 2012 actuarial valuation report of your pension plan. Your 2012 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 October 31, 2013.

Future Contribution Rates

The exhibit below displays the Minimum Employer Contribution Rate for fiscal year 2014-15 and a projected contribution rate for 2015-16, before any cost sharing. The projected rate for 2015-16 is based on the most recent information available, including an estimate of the investment return for fiscal year 2012-13, namely 12 percent, and the impact of the new smoothing methods adopted by the CalPERS Board in April 2013 that will impact employer rates for the first time in fiscal year 2015-16. For a projection of employer rates beyond 2015-16, please refer to the "Analysis of Future Investment Return Scenarios" in the "Risk Analysis" section, which includes rate projections through 2019-20 under a variety of investment return scenarios. Please disregard any projections that we may have provided you in the past.

Fiscal Year	Employer Contribution Rate
2014-15	14.527%
2015-16	15.5% (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 2015-16 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 2015-16 will be provided in next year's report.

Changes since the Prior Year's Valuation

On January 1, 2013, the Public Employees' Pension Reform Act of 2013 (PEPRA) took effect. The impact of most of the PEPRA changes will first show up in the rates and the benefit provision listings of the June 30, 2013 valuation for the 2015-16 rates. For more information on PEPRA, please refer to the CalPERS website.

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 will no longer use an actuarial value of assets and will employ an amortization and smoothing policy that will pay 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. The impact of this new actuarial methodology is reflected in the "Analysis of Future Investment Return Scenarios" subsection of the "Risk Analysis" section of your report.

A review of the preferred asset allocation mix for CalPERS investment portfolio will be performed in late 2013, which could influence future discount rates. In addition, CalPERS will review economic and demographic assumptions, including mortality rate improvements that are likely to increase employer contribution rates in future years. The "Analysis of Future Investment Return Scenarios" subsection does **not** reflect the impact of assumption changes that we expect will also impact future rates.

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."

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 October 31 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

ALAN MILLIGAN
Chief Actuary

CalPERS

ACTUARIAL VALUATION

as of June 30, 2012

for the
MISCELLANEOUS PLAN
of the
COUNTY OF RIVERSIDE

(CalPERS ID: 5982690295)

REQUIRED CONTRIBUTIONS
FOR FISCAL YEAR
July 1, 2014 – June 30, 2015

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 COUNTY OF RIVERSIDE. This valuation is based on the member and financial data as of June 30, 2012 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.

TODD TAUZER, ASA, MAAA
Associate 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, 2012 actuarial valuation of the MISCELLANEOUS PLAN OF THE COUNTY OF RIVERSIDE of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the fiscal year 2014-15 required employer contribution rates.

On January 1, 2013, the Public Employees' Pension Reform Act of 2013 (PEPRA) took effect. The impact of most of the PEPRA changes will first show up in the rates and the benefit provision listings of the June 30, 2013 valuation, which sets the 2015-16 contribution rates. For more information on PEPRA, please refer to the CalPERS website.

On April 17, 2013, the CalPERS Board of Administration approved a recommendation to change the CalPERS amortization and smoothing policies. Prior to this change, CalPERS employed an amortization and smoothing policy, which spread investment returns over a 15-year period while experience gains and losses were amortized over a rolling 30-year period. Effective with the June 30, 2013 valuations, CalPERS will no longer use an actuarial value of assets and will employ an amortization and smoothing policy that will spread rate increases or decreases over a 5-year period, and will amortize all experience gains and losses over a fixed 30-year period.

The new amortization and smoothing policy will be used for the first time in the June 30, 2013 actuarial valuations. These valuations will be performed in the fall of 2014 and will set employer contribution rates for the fiscal year 2015-16.

As stewards of the System, CalPERS must ensure that the pension fund is sustainable over multiple generations. Our strategic plan calls for us to take an integrated view of our assets and liabilities and to take steps designed to achieve a fully funded plan. A review of the preferred asset allocation mix for CalPERS investment portfolio will be performed in late 2013, which could influence future discount rates. In addition, CalPERS will review economic and demographic assumptions, including mortality rate improvements that are likely to increase employer contribution rates in future years.

Purpose of the Report

The actuarial valuation was prepared by the CalPERS Actuarial Office using data as of June 30, 2012. The purpose of the report is to:

- Set forth the actuarial assets and accrued liabilities of this plan as of June 30, 2012;
- Determine the required employer contribution rate for the fiscal year July 1, 2014 through June 30, 2015;
- Provide actuarial information as of June 30, 2012 to the CalPERS Board of Administration and other interested parties, and to;
- Provide pension information as of June 30, 2012 to be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement Number 27 for a Single Employer Defined Benefit Pension Plan.

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 19.

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% plus or minus change in the discount rate.

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.

Required Employer Contribution

		Fiscal Year 2013-14		Fiscal Year 2014-15
Actuarially Determined Employer Contributions				
1. Contribution in Projected Dollars				
a) Total Normal Cost	$	167,320,797	$	165,493,790
b) Employee Contribution[1]		68,796,020		70,979,443
c) Employer Normal Cost [(1a) – (1b)]		98,524,777		94,514,347
d) Unfunded Contribution		34,640,635		38,256,546
e) Required Employer Contribution [(1c) + (1d)]	$	133,165,412	$	132,770,893
Projected Annual Payroll for Contribution Year	$	887,690,577	$	913,976,858
2. Contribution as a Percentage of Payroll				
a) Total Normal Cost		18.849%		18.107%
b) Employee Contribution[1]		7.750%		7.766%
c) Employer Normal Cost [(2a) – (2b)]		11.099%		10.341%
d) Unfunded Rate		3.902%		4.186%
e) Required Employer Rate [(2c) + (2d)]		15.001%		14.527%
Minimum Employer Contribution Rate[2]		**15.001%**		**14.527%**
Annual Lump Sum Prepayment Option[3]	$	128,436,128	$	128,055,620

[1]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. 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.

[3]Payment must be received by CalPERS before the first payroll reported to CalPERS of the new fiscal year and after June 30. If there is contractual cost sharing or other change, this amount will change.

Plan's Funded Status

		June 30, 2011		June 30, 2012
1. Present Value of Projected Benefits	$	5,706,172,110	$	5,914,245,070
2. Entry Age Normal Accrued Liability		4,461,553,672		4,708,881,750
3. Actuarial Value of Assets (AVA)		3,923,498,630		4,172,401,219
4. Unfunded Liability (AVA Basis) [(2) – (3)]	$	538,055,042	$	536,480,531
5. Funded Ratio (AVA Basis) [(3) / (2)]		87.9%		88.6%
6. Market Value of Assets (MVA)	$	3,525,640,733	$	3,520,189,846
7. Unfunded Liability (MVA Basis) [(2) – (6)]	$	935,912,939	$	1,188,691,904
8. Funded Ratio (MVA Basis) [(6) / (2)]		79.0%		74.8%
Superfunded Status		No		No

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, 2013, 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 future annual premiums in the absence of surplus or unfunded liability) 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 (the sum of an apple and an orange if you will). To communicate the total cost, either the Normal Cost (i.e., future percent of payroll) must be converted to a lump sum dollar amount (in which case the total cost is the present value of benefits), or the Past Service Cost (i.e., the lump sum) must be converted to a percent of payroll (in which case the total cost is expressed as the employer's rate, part of which is permanent and part temporary). 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.

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 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.

Public Employees' Pension Reform Act of 2013 (PEPRA)

On January 1, 2013, the Public Employees' Pension Reform Act of 2013 (PEPRA) took effect, requiring that 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 normal cost rate. Beginning July 1, 2013, this means that some plans with surplus will be paying more than they otherwise would. For more information on PEPRA, please refer to the CalPERS website.

Subsequent Events

Actuarial Methods and Assumptions

On April 17, 2013, the CalPERS Board of Administration approved a recommendation to change the CalPERS amortization and smoothing policies. Beginning with the June 30, 2013 valuations that set the 2015-16 rates, CalPERS will no longer use an actuarial value of assets and will employ an amortization and rate smoothing policy that will pay 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. The impact of this new actuarial methodology is reflected in the "Expected Rate Increases" subsection of the "Risk analysis" section of your report.

Not reflected in the "Expected Rate Increases" subsection of the "Risk analysis" section is the impact of assumption changes that we expect will also, impact future rates. A review of the preferred asset allocation mix for CalPERS investment portfolio will be performed in late 2013, which could influence future discount rates. In addition, CalPERS will review economic and demographic assumptions, including mortality rate improvements that are likely to increase employer contribution rates in future years.

ASSETS

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

Reconciliation of the Market Value of Assets

1.	Market Value of Assets as of 6/30/11 Including Receivables	$	3,525,640,733
2.	Receivables for Service Buybacks as of 6/30/11		6,464,360
3.	Market Value of Assets as of 6/30/11		3,519,176,373
4.	Employer Contributions		113,494,679
5.	Employee Contributions		66,728,133
6.	Benefit Payments to Retirees and Beneficiaries		(170,567,770)
7.	Refunds		(6,156,995)
8.	Lump Sum Payments		0
9.	Transfers and Miscellaneous Adjustments		(9,858,217)
10.	Investment Return		(7,396,627)
11.	Market Value of Assets as of 6/30/12	$	3,505,419,576
12.	Receivables for Service Buybacks as of 6/30/12		14,770,270
13.	Market Value of Assets as of 6/30/12 Including Receivables	$	3,520,189,846

Development of the Actuarial Value of Assets

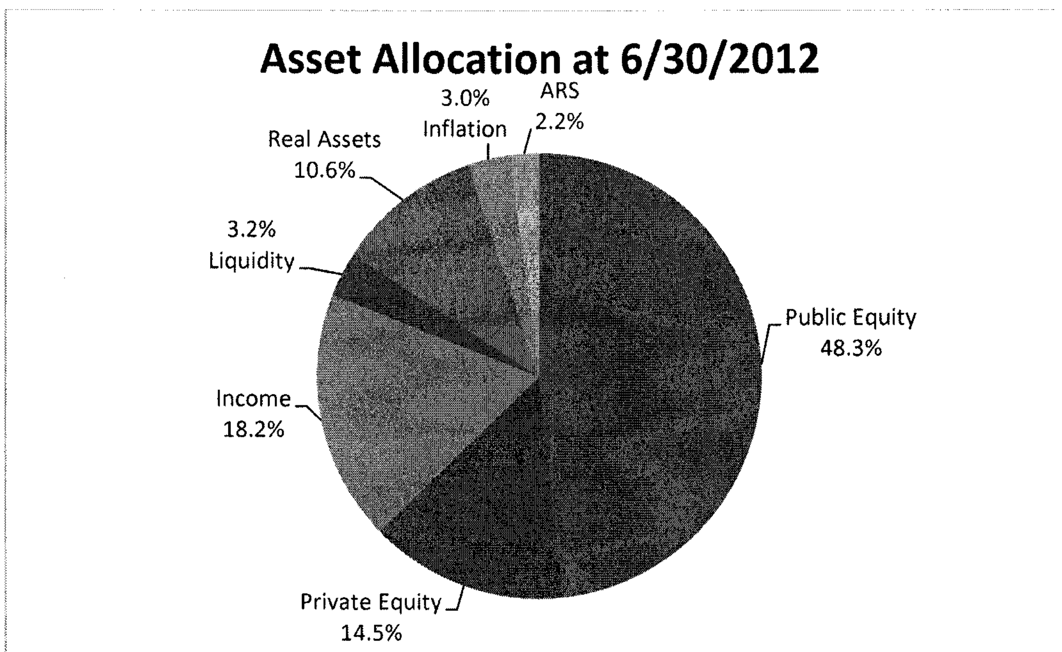
1.	Actuarial Value of Assets as of 6/30/11 Used For Rate Setting Purposes	$	3,923,498,630
2.	Receivables for Service Buybacks as of 6/30/11		6,464,360
3.	Actuarial Value of Assets as of 6/30/11		3,917,034,270
4.	Employer Contributions		113,494,679
5.	Employee Contributions		66,728,133
6.	Benefit Payments to Retirees and Beneficiaries		(170,567,770)
7.	Refunds		(6,156,995)
8.	Lump Sum Payments		0
9.	Transfers and Miscellaneous Adjustments		(9,858,217)
10.	Expected Investment Income at 7.5%		293,543,376
11.	Expected Actuarial Value of Assets	$	4,204,217,476
12.	Market Value of Assets as of 6/30/12	$	3,505,419,576
13.	Preliminary Actuarial Value of Assets [(11) + ((12) – (11)) / 15]		4,157,630,949
14.	Maximum Actuarial Value of Assets (120% of (12))		4,206,503,491
15.	Minimum Actuarial Value of Assets (80% of (12))		2,804,335,661
16.	Actuarial Value of Assets {Lesser of [(14), Greater of ((13), (15))]}		4,157,630,949
17.	Actuarial Value to Market Value Ratio		118.5%
18.	Receivables for Service Buybacks as of 6/30/12		14,770,270
19.	Actuarial Value of Assets as of 6/30/12 Used for Rate Setting Purposes	$	4,172,401,219

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 recognizes that over 90 percent of the variation in investment returns of a well-diversified pool of assets can typically be attributed to asset allocation decisions. In December 2010 the Board approved the policy asset class targets and ranges listed below. These policy asset allocation targets and ranges are expressed as a percentage of total assets and were expected to be implemented over a period of one to two years beginning July 1, 2011 and reviewed again in December 2013.

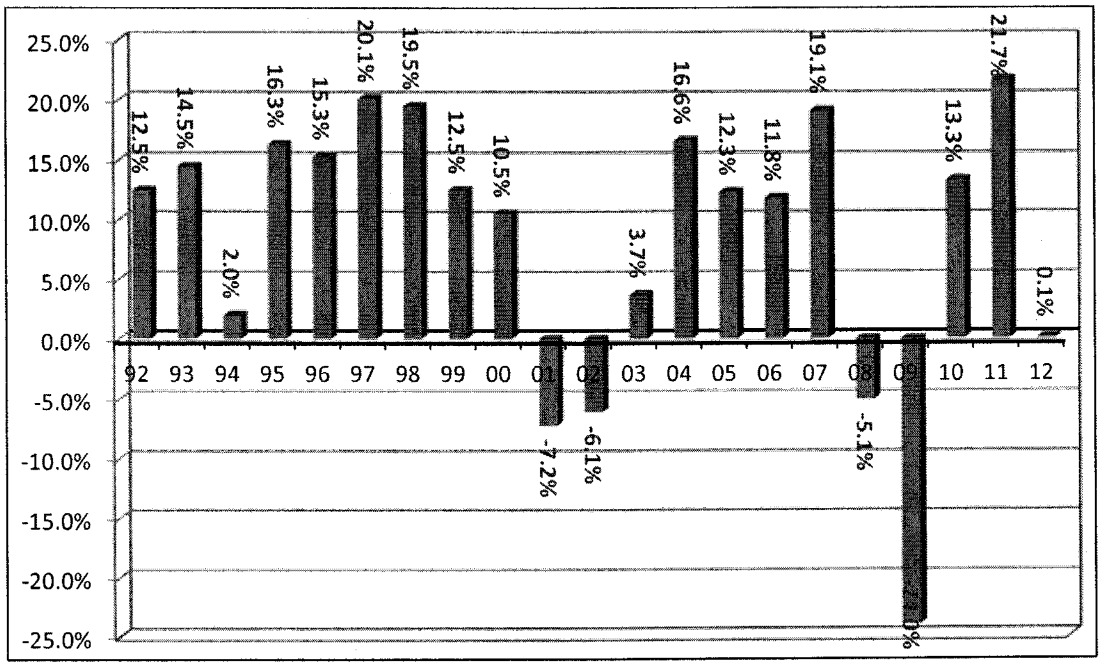
The asset allocation and market value of assets shown below reflect the values of the Public Employees Retirement Fund (PERF) in its entirety as of June 30, 2012. The assets for COUNTY OF RIVERSIDE MISCELLANEOUS PLAN are part of the Public Employees Retirement Fund (PERF) and are invested accordingly.

(A) Asset Class	(B) Market Value ($ Billion)	(C) Policy Target Allocation	(D) Policy Target Range
1) Public Equity	113.0	50.0%	+/- 7%
2) Private Equity	33.9	14.0%	+/- 4%
3) Fixed Income	42.6	17.0%	+/- 5%
4) Cash Equivalents	7.5	4.0%	+/- 5%
5) Real Assets	24.8	11.0%	+/- 3%
6) Inflation Assets	7.0	4.0%	+/- 3%
7) Absolute Return Strategy (ARS)	5.1	0.0%	N/A
Total Fund	**$233.9**	**100.0%**	**N/A**



CalPERS History of Investment Returns

The following is a chart with 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.



LIABILITIES AND RATES

- **DEVELOPMENT OF ACCRUED AND UNFUNDED LIABILITIES**
- **(GAIN) / LOSS ANALYSIS 06/30/11 - 06/30/12**
- **SCHEDULE OF AMORTIZATION BASES**
- **RECONCILIATION OF REQUIRED EMPLOYER CONTRIBUTIONS**
- **EMPLOYER CONTRIBUTION RATE HISTORY**
- **FUNDING HISTORY**

Development of Accrued and Unfunded Liabilities

1.	Present Value of Projected Benefits		
	a) Active Members	$	3,447,977,659
	b) Transferred Members		225,760,782
	c) Terminated Members		124,180,139
	d) Members and Beneficiaries Receiving Payments		2,116,326,490
	e) Total	$	5,914,245,070
2.	Present Value of Future Employer Normal Costs	$	663,763,585
3.	Present Value of Future Employee Contributions	$	541,599,735
4.	Entry Age Normal Accrued Liability		
	a) Active Members [(1a) - (2) - (3)]	$	2,242,614,339
	b) Transferred Members (1b)		225,760,782
	c) Terminated Members (1c)		124,180,139
	d) Members and Beneficiaries Receiving Payments (1d)		2,116,326,490
	e) Total	$	4,708,881,750
5.	Actuarial Value of Assets (AVA)	$	4,172,401,219
6.	Unfunded Accrued Liability (AVA Basis) [(4e) – (5)]	$	536,480,531
7.	Funded Ratio (AVA Basis) [(5) / (4e)]		88.6%
8.	Market Value of Assets (MVA)	$	3,520,189,846
9.	Unfunded Liability (MVA Basis) [(4e) - (8)]	$	1,188,691,904
10.	Funded Ratio (MVA Basis) [(8) / (4e)]		74.8%

(Gain) /Loss Analysis 6/30/11 – 6/30/12

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 6/30/11	$	538,055,042
	2.	Expected Payment on the UAL during 2011/2012		16,902,017
	3.	Interest through 6/30/12 [.075 x (A1) - ((1.075)$^{1/2}$ - 1) x (A2)]		39,731,761
	4.	Expected UAL before all other changes [(A1) - (A2) + (A3)]		560,884,786
	5.	Change due to plan changes		0
	6.	Change due to assumption change		0
	7.	Expected UAL after all other changes [(A4) + (A5) + (A6)]		560,884,786
	8.	Actual UAL as of 6/30/12		536,480,531
	9.	Total (Gain)/Loss for 2011/2012 [(A8) - (A7)]	$	(24,404,255)
B	**Contribution (Gain)/Loss for the Year**			
	1.	Expected Contribution (Employer and Employee)	$	174,559,344
	2.	Interest on Expected Contributions		6,427,636
	3.	Actual Contributions		180,222,812
	4.	Interest on Actual Contributions		6,636,177
	5.	Expected Contributions with Interest [(B1) + (B2)]		180,986,980
	6.	Actual Contributions with Interest [(B3) + (B4)]		186,858,989
	7.	Contribution (Gain)/Loss [(B5) - (B6)]	$	(5,872,009)
C	**Asset (Gain)/Loss for the Year**			
	1.	Actuarial Value of Assets as of 6/30/11 Including Receivables	$	3,923,498,630
	2.	Receivables as of 6/30/11		6,464,360
	3.	Actuarial Value of Assets as of 6/30/11		3,917,034,270
	4.	Contributions Received		180,222,812
	5.	Benefits and Refunds Paid		(176,724,765)
	6.	Transfers and miscellaneous adjustments		(9,858,217)
	7.	Expected Int. [.075 x (C3) + ((1.075)$^{1/2}$ - 1) x ((C4) + (C5) + (C6))]		293,543,376
	8.	Expected Assets as of 6/30/12 [(C3) + (C4) + (C5) + (C6) + (C7)]		4,204,217,476
	9.	Receivables as of 6/30/12		14,770,270
	10.	Expected Assets Including Receivables		4,218,987,746
	11.	Actual Actuarial Value of Assets as of 6/30/12		4,172,401,219
	12.	Asset (Gain)/Loss [(C10) - (C11)]	$	46,586,527
D	**Liability (Gain)/Loss for the Year**			
	1.	Total (Gain)/Loss (A9)	$	(24,404,255)
	2.	Contribution (Gain)/Loss (B7)		(5,872,009)
	3.	Asset (Gain)/Loss (C12)		46,586,527
	4.	Liability (Gain)/Loss [(D1) - (D2) - (D3)]	$	(65,118,773)

Development of the (Gain)/Loss Balance as of 6/30/12

1.	(Gain)/Loss Balance as of 6/30/11	$	233,750,977
2.	Payment Made on the Balance during 2011/2012		14,036,974
3.	Interest through 6/30/12 [.075 x (1) - ((1.075)$^{1/2}$ - 1) x (2)]		17,014,453
4.	Scheduled (Gain)/Loss Balance as of 6/30/12 [(1) - (2) + (3)]	$	236,728,456
5.	(Gain)/Loss for Fiscal Year ending 6/30/12 [(A9) above]		(24,404,255)
6.	Final (Gain)/Loss Balance as of 6/30/12 [(4) + (5)]	$	212,324,201

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, 2012.
- The employer contribution rate determined by the valuation is for the fiscal year beginning two years after the valuation date; fiscal year 2014-15.

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 2014-15		
Reason for Base	**Date Established**	**Amorti-zation Period**	**Balance 6/30/12**	**Expected Payment 2012-13**	**Balance 6/30/13**	**Expected Payment 2013-14**	**Balance 6/30/14**	**Scheduled Payment for 2014-15**	**Payment as Percent-age of Payroll**
FS 30-YEAR AMORTIZATION	06/30/08	26	$(9,943,459)	$(619,812)	$(10,046,584)	$(636,735)	$(10,139,897)	$(655,837)	(0.072%)
GOLDEN HANDSHAKE	06/30/09	17	$33,704,065	$2,637,178	$33,497,586	$2,708,104	$33,202,083	$2,789,348	0.305%
ASSUMPTION CHANGE	06/30/09	17	$85,923,540	$6,723,096	$85,397,151	$6,903,912	$84,643,809	$7,111,030	0.778%
SPECIAL (GAIN)/LOSS	06/30/09	27	$112,729,135	$6,901,592	$114,028,097	$7,090,290	$115,228,835	$7,302,999	0.799%
GOLDEN HANDSHAKE	06/30/10	18	$1,180,249	$89,353	$1,176,125	$91,769	$1,169,186	$94,523	0.010%
SPECIAL (GAIN)/LOSS	06/30/10	28	$78,889,345	$4,748,399	$79,882,801	$4,878,767	$80,815,598	$5,025,130	0.550%
GOLDEN HANDSHAKE	06/30/11	19	$30,379,570	$0	$32,658,038	$2,465,859	$32,550,734	$2,539,835	0.278%
ASSUMPTION CHANGE	06/30/11	19	$91,966,027	$(3,240,502)	$102,223,303	$7,718,415	$101,887,428	$7,949,967	0.870%
SPECIAL (GAIN)/LOSS	06/30/11	29	$(40,859,065)	$0	$(43,923,495)	$(2,637,629)	$(44,483,005)	$(2,716,758)	(0.297%)
PAYMENT (GAIN)/LOSS	06/30/12	30	$(59,813,076)	$(4,377,410)	$(59,760,461)	$3,378,110	$(67,744,994)	$(4,068,123)	(0.445%)
(GAIN)/LOSS	06/30/12	30	$212,324,200	$14,249,852	$213,473,954	$14,394,624	$214,559,837	$12,884,432	1.410%
TOTAL			**$536,480,531**	**$27,111,746**	**$548,606,515**	**$46,355,486**	**$541,689,614**	**$38,256,546**	**4.186%**

The special (gain)/loss bases were established using the temporary modification recognized in the 2009, 2010 and 2011 annual valuations. Unlike the gain/loss occurring in previous and subsequent years, the gain/loss recognized in the 2009, 2010, and 2011 annual valuations will be amortized over fixed and declining 30-year periods so that these annual gain/losses will be fully paid off in 30 years. The gain/loss recognized in 2012 and later valuations will be combined with the gain/loss from 2008 and earlier valuations.

Reconciliation of Required Employer Contributions

	Percentage of Projected Payroll	Estimated $ Based on Projected Payroll
1. Contribution for 7/1/13 – 6/30/14	15.001%	$ 133,165,412
2. Effect of changes since the prior year annual valuation		
a) Effect of unexpected changes in demographics and financial results	(0.474%)	(4,337,724)
b) Effect of plan changes	0.000%	0
c) Effect of changes in Assumptions	0.000%	0
d) Effect of change in payroll	-	3,943,205
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)]	(0.474%)	(394,519)
3. Contribution for 7/1/14 – 6/30/15 [(1)+(2g)]	14.527%	132,770,893

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
2010 - 2011	11.084%	1.081%	12.165%
2011 - 2012	10.370%	2.742%	13.112%
2012 - 2013	10.227%	3.267%	13.494%
2013 - 2014	11.099%	3.902%	15.001%
2014 - 2015	10.341%	4.186%	14.527%

Funding History

The Funding History below shows the recent history of the actuarial accrued liability, the market value of assets, the actuarial value of assets, funded ratios and the annual covered payroll. The Actuarial Value of Assets is used to establish funding requirements and the funded ratio on this basis represents the progress toward fully funding future benefits for current plan participants. The funded ratio based on the Market Value of Assets is an indicator of the short-term solvency of the plan.

Valuation Date	Accrued Liability	Actuarial Value of Assets (AVA)	Market Value of Assets (MVA)	Funded Ratio AVA	Funded Ratio MVA	Annual Covered Payroll
06/30/08	$ 3,350,222,866	$ 3,174,974,787	$ 3,222,895,376	94.8%	96.2%	$ 841,612,805
06/30/09	3,790,232,824	3,401,036,977	2,482,332,809	89.7%	65.5%	841,103,683
06/30/10	4,097,191,707	3,652,860,802	2,882,444,152	89.2%	70.4%	854,932,117
06/30/11	4,461,553,672	3,923,498,630	3,525,640,733	87.9%	79.0%	812,362,628
06/30/12	4,708,881,750	4,172,401,219	3,520,189,846	88.6%	74.8%	836,418,298

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

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, 2012**
1. Market Value of Assets without Receivables	$	3,505,419,576
2. Payroll		836,418,298
3. Asset Volatility Ratio (AVR = 1. / 2.)		4.2
4. Accrued Liability	$	4,708,881,750
5. Liability Volatility Ratio (4. / 2.)		5.6

Projected Rates

On April 17, 2013, the CalPERS Board of Administration approved a recommendation to change the CalPERS amortization and smoothing policies. Beginning with the June 30, 2013 valuations that will set the 2015-16 rates, CalPERS will employ an amortization and rate smoothing policy that will pay 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. The table below shows projected employer contribution rates (before cost sharing) for the next five Fiscal Years, ***assuming CalPERS earns 12% for fiscal year 2012-13 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 between now and the beginning of the fiscal year 2015-16. ***Consequently, these projections do not take into account potential rate increases from likely future assumption changes.*** Nor do they take into account the positive impact PEPRA is expected to gradually have on the normal cost.

	New Rate	Projected Future Employer Contribution Rates				
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Contribution Rates:	14.527%	15.5%	16.4%	17.3%	18.3%	19.2%

Analysis of Future Investment Return Scenarios

In July 2013, the investment return for fiscal year 2012-13 was announced to be 12.5 percent. Note that this return is before administrative expenses and also does not reflect final investment return information for real estate and private equities. The final return information for these two asset classes is expected to be available later in October. For purposes of projecting future employer rates, we are assuming a 12 percent investment return for fiscal year 2012-13.

The investment return realized during a fiscal year first affects the contribution rate for the fiscal year 2 years later. Specifically, the investment return for 2012-13 will first be reflected in the June 30, 2013 actuarial valuation that will be used to set the 2015-16 employer contribution rates, the 2013-14 investment return will first be reflected in the June 30, 2014 actuarial valuation that will be used to set the 2016-17 employer contribution rates and so forth.

Based on a 12 percent investment return for fiscal year 2012-13 **and the April 17, 2013 CalPERS Board-approved amortization and rate smoothing method change,** 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 2015-16, the effect on the 2015-16 Employer Rate is as follows: (Note that this estimated rate does not reflect additional assumption changes as discussed in the "Subsequent Events" section.)

Estimated 2015-16 Employer Rate	**Estimated Increase in Employer Rate between 2014-15 and 2015-16**
15.5%	1.0%

As part of this report, a sensitivity analysis was performed to determine the effects of various investment returns during fiscal years 2013-14, 2014-15 and 2015-16 on the 2016-17, 2017-18 and 2018-19 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 5^{th} percentile return from July 1, 2013 through June 30, 2016. The 5^{th} percentile return corresponds to a -4.1 percent return for each of the 2013-14, 2014-15 and 2015-16 fiscal years.
- The second scenario is what one would expect if the markets were to give us a 25^{th} percentile return from July 1, 2013 through June 30, 2016. The 25^{th} percentile return corresponds to a 2.6 percent return for each of the 2013-14, 2014-15 and 2015-16 fiscal years.
- The third scenario assumed the return for 2013-14, 2014-15, 2015-16 would be our assumed 7.5 percent investment return which represents about a 49^{th} percentile event.
- The fourth scenario is what one would expect if the markets were to give us a 75^{th} percentile return from July 1, 2013 through June 30, 2016. The 75^{th} percentile return corresponds to a 11.9 percent return for each of the 2013-14, 2014-15 and 2015-16 fiscal years.
- Finally, the last scenario is what one would expect if the markets were to give us a 95^{th} percentile return from July 1, 2013 through June 30, 2016. The 95^{th} percentile return corresponds to a 18.5 percent return for each of the 2013-14, 2014-15 and 2015-16 fiscal years.

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

2013-16 Investment Return Scenario	Estimated Employer Rate			Estimated Change in Employer Rate between 2015-16 and 2018-19
	2016-17	2017-18	2018-19	
-4.1% (5th percentile)	17.2%	19.6%	22.7%	7.2%
2.6% (25th percentile)	16.7%	18.3%	20.2%	4.7%
7.5%	16.4%	17.3%	18.3%	2.8%
11.9%(75th percentile)	16.1%	16.4%	16.4%	0.9%
18.5%(95th percentile)	15.7%	15.1%	13.5%	-2.0%

Analysis of Discount Rate Sensitivity

The following analysis looks at the 2014-15 employer contribution rates under two different discount rate scenarios. Shown below are the employer contribution 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 required employer contribution rates 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 employer contribution rates.

2014-15 Employer Contribution Rate			
As of June 30, 2012	**6.50% Discount Rate (-1%)**	**7.50% Discount Rate (assumed rate)**	**8.50% Discount Rate (+1%)**
Employer Normal Cost	14.756%	10.341%	6.974%
Unfunded Rate Payment	10.184%	4.186%	(1.737%)
Total	24.940%	14.527%	5.237%

Hypothetical Termination Liability

Below is an estimate of the financial position of your plan if you had terminated your contract with CalPERS as of June 30, 2012 using the discount rates shown below. Your plan liability on a termination basis is calculated differently compared to the plan's ongoing funding liability. In December 2012, the CalPERS Board adopted a more conservative investment policy and asset allocation strategy for the Terminated Agency Pool. Since the Terminated Agency Pool has limited funding sources, expected benefit payments are secured by risk-free assets. With this change, CalPERS increased benefit security for members while limiting its funding risk. 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.

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 advises you to consult with your plan actuary before beginning this process.

Valuation Date	Hypothetical Termination Liability[1]	Market Value of Assets (MVA)	Unfunded Termination Liability	Termination Funded Ratio	Termination Liability Discount Rate[2]
06/30/11	$ 6,004,192,526	$ 3,525,640,733	$ 2,478,551,793	58.7%	4.82%
06/30/12	8,224,423,393	3,520,189,846	4,704,233,547	42.8%	2.98%

[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 discount rate assumption used for termination valuations is a weighted average of the 10 and 30-year US Treasury yields in effect on the valuation date that equal the duration of the pension liabilities. For purposes of this hypothetical termination liability estimate, the discount rate used, 2.98 percent, is the yield on the 30-year US Treasury Separate Trading of Registered Interest and Principal of Securities (STRIPS) as of June 30, 2012. In last year's report the May 2012 rate of 2.87 percent was inadvertently shown rather than the June rate of 2.98 percent. Please note, as of June 30, 2013 the 30-year STRIPS yield was 3.72 percent.

MISCELLANEOUS PLAN of the COUNTY OF RIVERSIDE

Information for Compliance with GASB Statement No. 27

Disclosure under GASB 27 follows. However, note that effective for financial statements for fiscal years beginning after June 15, 2014, GASB 68 replaces GASB 27. GASB 68 will require additional reporting. CalPERS is planning to provide GASB 68 disclosure information upon request for an additional fee. We urge you to start discussions with your auditors on how to implement GASB 68.

Under GASB 27, an employer reports an annual pension cost (APC) equal to the annual required contribution (ARC) plus an adjustment for the cumulative difference between the APC and the employer's actual plan contributions for the year. The cumulative difference is called the net pension obligation (NPO). The ARC for the period July 1, 2013 to June 30, 2014 has been determined by an actuarial valuation of the plan as of June 30, 2012. The unadjusted GASB compliant contribution rate for the indicated period is 14.527 percent of payroll. In order to calculate the dollar value of the ARC for inclusion in financial statements prepared as of June 30, 2014, this contribution rate, less any employee cost sharing, as modified by any amendments for the year, would be multiplied by the payroll of covered employees that was actually paid during the period July 1, 2013 to June 30, 2014. The employer and the employer's auditor are responsible for determining the NPO and the APC.

A summary of principal assumptions and methods used to determine the ARC is shown below.

	Retirement Program
Valuation Date	June 30, 2012
Actuarial Cost Method	Entry Age Normal Cost Method
Amortization Method	Level Percent of Payroll
Average Remaining Period	24 Years as of the Valuation Date
Asset Valuation Method	15 Year Smoothed Market
Actuarial Assumptions	
Discount Rate	7.50% (net of administrative expenses)
Projected Salary Increases	3.30% to 14.20% depending on Age, Service, and type of employment
Inflation	2.75%
Payroll Growth	3.00%
Individual Salary Growth	A merit scale varying by duration of employment coupled with an assumed annual inflation growth of 2.75% and an annual production growth of 0.25%.

Initial unfunded liabilities are amortized over a closed period that depends on the plan's date of entry into CalPERS. Subsequent plan amendments are amortized as a level percentage of pay over a closed 20-year period. Gains and losses that occur in the operation of the plan are amortized over a 30-year rolling period, which results in an amortization of about 6 percent of unamortized gains and losses each year. If the plan's accrued liability exceeds the actuarial value of plan assets, then the amortization payment on the total unfunded liability may not be lower than the payment calculated over a 30-year amortization period. More detailed information on assumptions and methods is provided in Appendix A of this report. Appendix B contains a description of benefits included in the valuation.

The Schedule of Funding Progress below shows the recent history of the actuarial accrued liability, actuarial value of assets, their relationship and the relationship of the unfunded actuarial accrued liability to payroll.

Valuation Date	Accrued Liability (a)	Actuarial Value of Assets (AVA) (b)	Unfunded Liability (UL) (a)-(b)	Funded Ratios (AVA) (b)/(a)	Funded Ratios Market Value	Annual Covered Payroll (c)	UL As a % of Payroll [(a)-(b)]/(c)
06/30/08	$ 3,350,222,866	$ 3,174,974,787	$ 175,248,079	94.8%	96.2%	$ 841,612,805	20.8%
06/30/09	3,790,232,824	3,401,036,977	389,195,847	89.7%	65.5%	841,103,683	46.3%
06/30/10	4,097,191,707	3,652,860,802	444,330,905	89.2%	70.4%	854,932,117	52.0%
06/30/11	4,461,553,672	3,923,498,630	538,055,042	87.9%	79.0%	812,362,628	66.2%
06/30/12	4,708,881,750	4,172,401,219	536,480,531	88.6%	74.8%	836,418,298	64.1%

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						
	Receiving	Active	Active	Active	Active	Active	Active
Benefit Provision							
Benefit Formula		2.0% @ 55	2.0% @ 55	3.0% @ 60	3.0% @ 60	2.0% @ 55	3.0% @ 60
Social Security Coverage		Yes	No	Yes	No	Yes	Yes
Full/Modified		Modified	Full	Modified	Full	Modified	Modified
Final Average Compensation Period		12 mos.	12 mos.	12 mos.	12 mos.	12 mos.	12 mos.
Sick Leave Credit		No	No	No	No	No	No
Non-Industrial Disability		Standard	Standard	Standard	Standard	Standard	Standard
Industrial Disability		No	No	No	No	No	No
Pre-Retirement Death Benefits							
Optional Settlement 2W		No	No	No	No	No	No
1959 Survivor Benefit Level		No	Indexed	No	Indexed	No	No
Special		No	No	No	No	No	No
Alternate (firefighters)		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%	2%

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	Active	
Benefit Formula	3.0% @ 60		
Social Security Coverage	No	No	
Full/Modified	Full		
Final Average Compensation Period	12 mos.		
Sick Leave Credit	No	No	
Non-Industrial Disability	Standard		
Industrial Disability	No	No	
Pre-Retirement Death Benefits			
Optional Settlement 2W	No	No	
1959 Survivor Benefit Level	Indexed	No	
Special	No	No	
Alternate (firefighters)	No	No	
Post-Retirement Death Benefits			
Lump Sum	$500	$500	
Survivor Allowance (PRSA)	Yes	No	
COLA	2%		

APPENDICES

- **APPENDIX A – ACTUARIAL METHODS AND ASSUMPTIONS**
- **APPENDIX B – PRINCIPAL PLAN PROVISIONS**
- **APPENDIX C – SUMMARY OF PARTICIPANT DATA**
- **APPENDIX D – 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 actuarial value of plan assets is called the unfunded actuarial accrued liability. Funding requirements are determined by adding the normal cost and an amortization of the unfunded liability as a level percentage of assumed future payrolls. All changes in liability due to plan amendments, changes in actuarial assumptions, or changes in actuarial methodology are amortized separately over a 20-year period. All new gains or losses are tracked and amortized over a rolling 30-year period. If a plan's accrued liability exceeds the actuarial value of assets, the annual contribution with respect to the total unfunded liability may not be less than the amount produced by a 30-year amortization of the unfunded liability.

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% by June 30, 2043; or
- Reach a level of 75% 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. As mentioned above, if the annual contribution on the total unfunded liability was less than the amount produced by a 30-year amortization of the unfunded liability, the plan actuary would implement a 30-year fresh start. 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 less than five years, nor greater than 30 years.

Asset Valuation Method

In order to dampen the effect of short-term market value fluctuations on employer contribution rates, the following asset smoothing technique is used. First, an Expected Value of Assets is computed by bringing forward the prior year's Actuarial Value of Assets and the contributions received and benefits paid during the year at the assumed actuarial rate of return. The Actuarial Value of Assets is then computed as the Expected Value of Assets plus one-fifteenth of the difference between the actual Market Value of Assets and the Expected Value of Assets, as of the valuation date. However, in no case will the Actuarial Value of Assets be less than 80% or greater than 120% of the actual Market Value of Assets.

In June 2009, the CalPERS Board adopted changes to the asset smoothing method in order to phase in over a three-year period the impact of the negative -24 percent investment loss experienced by CalPERS in fiscal year 2008-2009. The following changes were adopted:

- Increase the corridor limits for the actuarial value of assets from 80 percent/120 percent of market value to 60 percent/140 percent of market value on June 30, 2009
- Reduce the corridor limits for the actuarial value of assets to 70 percent/130 percent of market value on June 30, 2010
- Return to the 80 percent/120 percent of market value corridor limits for the actuarial value of assets on June 30, 2011 and thereafter

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 will employ an amortization and smoothing policy that will pay 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. Details of the agenda item can be found on our website CalPERS On-Line:
http://www.calpers.ca.gov/index.jsp?bc=/about/committee-meetings/archives/pension-201304.xml

Actuarial Assumptions

Economic Assumptions

Discount Rate

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

Termination Liability Discount Rate

The discount rate used for termination valuation is a weighted average of the 10 and 30-year US Treasury yields in effect on the valuation date that equal the duration of the pension liabilities. For purposes of this hypothetical termination liability estimate, the discount rate used, 2.98 percent, is the yield on the 30-year US Treasury Separate Trading of Registered Interest and Principal of Securities (STRIPS) as of June 30, 2012. Please note, as of June 30, 2013 the 30-year STRIPS yield was 3.72 percent.

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	0.1420	0.1240	0.0980
1	0.1190	0.1050	0.0850
2	0.1010	0.0910	0.0750
3	0.0880	0.0800	0.0670
4	0.0780	0.0710	0.0610
5	0.0700	0.0650	0.0560
10	0.0480	0.0460	0.0410
15	0.0430	0.0410	0.0360
20	0.0390	0.0370	0.0330
25	0.0360	0.0360	0.0330
30	0.0360	0.0360	0.0330

Public Agency Fire

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1050	0.1050	0.1020
1	0.0950	0.0940	0.0850
2	0.0870	0.0830	0.0700
3	0.0800	0.0750	0.0600
4	0.0740	0.0680	0.0510
5	0.0690	0.0620	0.0450
10	0.0510	0.0460	0.0350
15	0.0410	0.0390	0.0340
20	0.0370	0.0360	0.0330
25	0.0350	0.0350	0.0330
30	0.0350	0.0350	0.0330

Salary Growth (continued)

Public Agency Police

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1090	0.1090	0.1090
1	0.0930	0.0930	0.0930
2	0.0810	0.0810	0.0780
3	0.0720	0.0700	0.0640
4	0.0650	0.0610	0.0550
5	0.0590	0.0550	0.0480
10	0.0450	0.0420	0.0340
15	0.0410	0.0390	0.0330
20	0.0370	0.0360	0.0330
25	0.0350	0.0340	0.0330
30	0.0350	0.0340	0.0330

Public Agency County Peace Officers

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1290	0.1290	0.1290
1	0.1090	0.1060	0.1030
2	0.0940	0.0890	0.0840
3	0.0820	0.0770	0.0710
4	0.0730	0.0670	0.0610
5	0.0660	0.0600	0.0530
10	0.0460	0.0420	0.0380
15	0.0410	0.0380	0.0360
20	0.0370	0.0360	0.0340
25	0.0350	0.0340	0.0330
30	0.0350	0.0340	0.0330

Schools

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1080	0.0960	0.0820
1	0.0940	0.0850	0.0740
2	0.0840	0.0770	0.0670
3	0.0750	0.0700	0.0620
4	0.0690	0.0640	0.0570
5	0.0630	0.0600	0.0530
10	0.0450	0.0440	0.0410
15	0.0390	0.0380	0.0350
20	0.0360	0.0350	0.0320
25	0.0340	0.0340	0.0320
30	0.0340	0.0340	0.0320

- 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	0.00047	0.00016	0.00003
25	0.00050	0.00026	0.00007
30	0.00053	0.00036	0.00010
35	0.00067	0.00046	0.00012
40	0.00087	0.00065	0.00013
45	0.00120	0.00093	0.00014
50	0.00176	0.00126	0.00015
55	0.00260	0.00176	0.00016
60	0.00395	0.00266	0.00017
65	0.00608	0.00419	0.00018
70	0.00914	0.00649	0.00019
75	0.01220	0.00878	0.00020
80	0.01527	0.01108	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	0.00239	0.00125	0.01632	0.01245	0.00443	0.00356
55	0.00474	0.00243	0.01936	0.01580	0.00563	0.00546
60	0.00720	0.00431	0.02293	0.01628	0.00777	0.00798
65	0.01069	0.00775	0.03174	0.01969	0.01388	0.01184
70	0.01675	0.01244	0.03870	0.03019	0.02236	0.01716
75	0.03080	0.02071	0.06001	0.03915	0.03585	0.02665
80	0.05270	0.03749	0.08388	0.05555	0.06926	0.04528
85	0.09775	0.07005	0.14035	0.09577	0.11799	0.08017
90	0.16747	0.12404	0.21554	0.14949	0.16575	0.13775
95	0.25659	0.21556	0.31025	0.23055	0.26108	0.23331
100	0.34551	0.31876	0.45905	0.37662	0.40918	0.35165
105	0.58527	0.56093	0.67923	0.61523	0.64127	0.60135
110	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

The mortality assumptions are based on mortality rates resulting from the most recent CalPERS Experience Study adopted by the CalPERS Board, first used in the June 30, 2009 valuation. For purposes of the post-retirement mortality rates, those revised rates include 5 years of projected on-going mortality improvement using Scale AA published by the Society of Actuaries until June 30, 2010. There is no margin for future mortality improvement beyond the valuation date. The mortality assumption will be reviewed with the next experience study expected to be completed for the June 30, 2013 valuation to determine an appropriate margin to be used.

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 are. 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
50	450%
51	250%
52 through 56	200%
57 through 60	150%
61 through 64	125%
65 and above	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	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
25	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
30	0.0002	0.0002	0.0001	0.0002	0.0001	0.0002	0.0001
35	0.0006	0.0009	0.0001	0.0003	0.0004	0.0006	0.0004
40	0.0015	0.0016	0.0001	0.0004	0.0007	0.0014	0.0009
45	0.0025	0.0024	0.0002	0.0005	0.0013	0.0028	0.0017
50	0.0033	0.0031	0.0005	0.0008	0.0018	0.0044	0.0030
55	0.0037	0.0031	0.0010	0.0013	0.0010	0.0049	0.0034
60	0.0038	0.0025	0.0015	0.0020	0.0006	0.0043	0.0024

- 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	0.0002	0.0007	0.0003
25	0.0012	0.0032	0.0015
30	0.0025	0.0064	0.0031
35	0.0037	0.0097	0.0046
40	0.0049	0.0129	0.0063
45	0.0061	0.0161	0.0078
50	0.0074	0.0192	0.0101
55	0.0721	0.0668	0.0173
60	0.0721	0.0668	0.0173

- 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	0.011	0.015	0.018	0.021	0.023	0.026
51	0.009	0.013	0.016	0.018	0.020	0.023
52	0.013	0.018	0.022	0.025	0.028	0.031
53	0.011	0.016	0.019	0.022	0.025	0.028
54	0.015	0.021	0.025	0.028	0.032	0.036
55	0.023	0.032	0.039	0.044	0.049	0.055
56	0.019	0.027	0.032	0.037	0.041	0.046
57	0.025	0.035	0.042	0.048	0.054	0.060
58	0.030	0.042	0.051	0.058	0.065	0.073
59	0.035	0.049	0.060	0.068	0.076	0.085
60	0.062	0.087	0.105	0.119	0.133	0.149
61	0.079	0.110	0.134	0.152	0.169	0.190
62	0.132	0.186	0.225	0.255	0.284	0.319
63	0.126	0.178	0.216	0.244	0.272	0.305
64	0.122	0.171	0.207	0.234	0.262	0.293
65	0.173	0.243	0.296	0.334	0.373	0.418
66	0.114	0.160	0.194	0.219	0.245	0.274
67	0.159	0.223	0.271	0.307	0.342	0.384
68	0.113	0.159	0.193	0.218	0.243	0.273
69	0.114	0.161	0.195	0.220	0.246	0.276
70	0.127	0.178	0.216	0.244	0.273	0.306

Service Retirement

Public Agency Miscellaneous 2% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.015	0.020	0.024	0.029	0.033	0.039
51	0.013	0.016	0.020	0.024	0.027	0.033
52	0.014	0.018	0.022	0.027	0.030	0.036
53	0.017	0.022	0.027	0.032	0.037	0.043
54	0.027	0.034	0.041	0.049	0.056	0.067
55	0.050	0.064	0.078	0.094	0.107	0.127
56	0.045	0.057	0.069	0.083	0.095	0.113
57	0.048	0.061	0.074	0.090	0.102	0.122
58	0.052	0.066	0.080	0.097	0.110	0.131
59	0.060	0.076	0.092	0.111	0.127	0.151
60	0.072	0.092	0.112	0.134	0.153	0.182
61	0.089	0.113	0.137	0.165	0.188	0.224
62	0.128	0.162	0.197	0.237	0.270	0.322
63	0.129	0.164	0.199	0.239	0.273	0.325
64	0.116	0.148	0.180	0.216	0.247	0.294
65	0.174	0.221	0.269	0.323	0.369	0.439
66	0.135	0.171	0.208	0.250	0.285	0.340
67	0.133	0.169	0.206	0.247	0.282	0.336
68	0.118	0.150	0.182	0.219	0.250	0.297
69	0.116	0.147	0.179	0.215	0.246	0.293
70	0.138	0.176	0.214	0.257	0.293	0.349

Public Agency Miscellaneous 2.5% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.026	0.033	0.040	0.048	0.055	0.062
51	0.021	0.026	0.032	0.038	0.043	0.049
52	0.021	0.026	0.032	0.038	0.043	0.049
53	0.026	0.033	0.040	0.048	0.055	0.062
54	0.043	0.054	0.066	0.078	0.089	0.101
55	0.088	0.112	0.136	0.160	0.184	0.208
56	0.055	0.070	0.085	0.100	0.115	0.130
57	0.061	0.077	0.094	0.110	0.127	0.143
58	0.072	0.091	0.111	0.130	0.150	0.169
59	0.083	0.105	0.128	0.150	0.173	0.195
60	0.088	0.112	0.136	0.160	0.184	0.208
61	0.083	0.105	0.128	0.150	0.173	0.195
62	0.121	0.154	0.187	0.220	0.253	0.286
63	0.105	0.133	0.162	0.190	0.219	0.247
64	0.105	0.133	0.162	0.190	0.219	0.247
65	0.143	0.182	0.221	0.260	0.299	0.338
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 Miscellaneous 2.7% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.028	0.035	0.043	0.050	0.058	0.065
51	0.022	0.028	0.034	0.040	0.046	0.052
52	0.022	0.028	0.034	0.040	0.046	0.052
53	0.028	0.035	0.043	0.050	0.058	0.065
54	0.044	0.056	0.068	0.080	0.092	0.104
55	0.091	0.116	0.140	0.165	0.190	0.215
56	0.061	0.077	0.094	0.110	0.127	0.143
57	0.063	0.081	0.098	0.115	0.132	0.150
58	0.074	0.095	0.115	0.135	0.155	0.176
59	0.083	0.105	0.128	0.150	0.173	0.195
60	0.088	0.112	0.136	0.160	0.184	0.208
61	0.085	0.109	0.132	0.155	0.178	0.202
62	0.124	0.158	0.191	0.225	0.259	0.293
63	0.107	0.137	0.166	0.195	0.224	0.254
64	0.107	0.137	0.166	0.195	0.224	0.254
65	0.146	0.186	0.225	0.265	0.305	0.345
66	0.107	0.137	0.166	0.195	0.224	0.254
67	0.107	0.137	0.166	0.195	0.224	0.254
68	0.107	0.137	0.166	0.195	0.224	0.254
69	0.107	0.137	0.166	0.195	0.224	0.254
70	0.129	0.164	0.199	0.234	0.269	0.304

Public Agency Miscellaneous 3% @ 60

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.026	0.033	0.040	0.048	0.055	0.062
51	0.021	0.026	0.032	0.038	0.043	0.049
52	0.019	0.025	0.030	0.035	0.040	0.046
53	0.025	0.032	0.038	0.045	0.052	0.059
54	0.039	0.049	0.060	0.070	0.081	0.091
55	0.083	0.105	0.128	0.150	0.173	0.195
56	0.055	0.070	0.085	0.100	0.115	0.130
57	0.061	0.077	0.094	0.110	0.127	0.143
58	0.072	0.091	0.111	0.130	0.150	0.169
59	0.080	0.102	0.123	0.145	0.167	0.189
60	0.094	0.119	0.145	0.170	0.196	0.221
61	0.088	0.112	0.136	0.160	0.184	0.208
62	0.127	0.161	0.196	0.230	0.265	0.299
63	0.110	0.140	0.170	0.200	0.230	0.260
64	0.110	0.140	0.170	0.200	0.230	0.260
65	0.149	0.189	0.230	0.270	0.311	0.351
66	0.110	0.140	0.170	0.200	0.230	0.260
67	0.110	0.140	0.170	0.200	0.230	0.260
68	0.110	0.140	0.170	0.200	0.230	0.260
69	0.110	0.140	0.170	0.200	0.230	0.260
70	0.132	0.168	0.204	0.240	0.276	0.312

Service Retirement

Public Agency Fire ½ @ 55 and 2% @ 55

Age	Rate	Age	Rate
50	0.01588	56	0.11079
51	0.00000	57	0.00000
52	0.03442	58	0.09499
53	0.01990	59	0.04409
54	0.04132	60	1.00000
55	0.07513		

Public Agency Police ½ @ 55 and 2% @ 55

Age	Rate	Age	Rate
50	0.02552	56	0.06921
51	0.00000	57	0.05113
52	0.01637	58	0.07241
53	0.02717	59	0.07043
54	0.00949	60	1.00000
55	0.16674		

Public Agency Police 2%@ 50

	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	0.023	0.040
52	0.026	0.026	0.026	0.026	0.048	0.086
53	0.052	0.052	0.052	0.052	0.096	0.171
54	0.070	0.070	0.070	0.070	0.128	0.227
55	0.090	0.090	0.090	0.090	0.165	0.293
56	0.064	0.064	0.064	0.064	0.117	0.208
57	0.071	0.071	0.071	0.071	0.130	0.232
58	0.063	0.063	0.063	0.063	0.115	0.205
59	0.140	0.140	0.140	0.140	0.174	0.254
60	0.140	0.140	0.140	0.140	0.172	0.251
61	0.140	0.140	0.140	0.140	0.172	0.251
62	0.140	0.140	0.140	0.140	0.172	0.251
63	0.140	0.140	0.140	0.140	0.172	0.251
64	0.140	0.140	0.140	0.140	0.172	0.251
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	0.007	0.007	0.007	0.007	0.010	0.015
51	0.008	0.008	0.008	0.008	0.013	0.019
52	0.017	0.017	0.017	0.017	0.027	0.040
53	0.047	0.047	0.047	0.047	0.072	0.107
54	0.064	0.064	0.064	0.064	0.098	0.147
55	0.087	0.087	0.087	0.087	0.134	0.200
56	0.078	0.078	0.078	0.078	0.120	0.180
57	0.090	0.090	0.090	0.090	0.139	0.208
58	0.079	0.079	0.079	0.079	0.122	0.182
59	0.073	0.073	0.073	0.073	0.112	0.168
60	0.114	0.114	0.114	0.114	0.175	0.262
61	0.114	0.114	0.114	0.114	0.175	0.262
62	0.114	0.114	0.114	0.114	0.175	0.262
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

Public Agency Police 3%@ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.019	0.019	0.019	0.019	0.040	0.060
51	0.024	0.024	0.024	0.024	0.049	0.074
52	0.024	0.024	0.024	0.024	0.051	0.077
53	0.059	0.059	0.059	0.059	0.121	0.183
54	0.069	0.069	0.069	0.069	0.142	0.215
55	0.116	0.116	0.116	0.116	0.240	0.363
56	0.076	0.076	0.076	0.076	0.156	0.236
57	0.058	0.058	0.058	0.058	0.120	0.181
58	0.076	0.076	0.076	0.076	0.157	0.237
59	0.094	0.094	0.094	0.094	0.193	0.292
60	0.141	0.141	0.141	0.141	0.290	0.438
61	0.094	0.094	0.094	0.094	0.193	0.292
62	0.118	0.118	0.118	0.118	0.241	0.365
63	0.094	0.094	0.094	0.094	0.193	0.292
64	0.094	0.094	0.094	0.094	0.193	0.292
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

Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.012	0.012	0.012	0.018	0.028	0.033
51	0.008	0.008	0.008	0.012	0.019	0.022
52	0.018	0.018	0.018	0.027	0.042	0.050
53	0.043	0.043	0.043	0.062	0.098	0.114
54	0.057	0.057	0.057	0.083	0.131	0.152
55	0.092	0.092	0.092	0.134	0.211	0.246
56	0.081	0.081	0.081	0.118	0.187	0.218
57	0.100	0.100	0.100	0.146	0.230	0.268
58	0.081	0.081	0.081	0.119	0.187	0.219
59	0.078	0.078	0.078	0.113	0.178	0.208
60	0.117	0.117	0.117	0.170	0.267	0.312
61	0.078	0.078	0.078	0.113	0.178	0.208
62	0.098	0.098	0.098	0.141	0.223	0.260
63	0.078	0.078	0.078	0.113	0.178	0.208
64	0.078	0.078	0.078	0.113	0.178	0.208
65	1.000	1.000	1.000	1.000	1.000	1.000

Public Agency Police 3%@ 50

Age	Duration of Service					
	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.070	0.070	0.070	0.131	0.193	0.249
51	0.050	0.050	0.050	0.095	0.139	0.180
52	0.061	0.061	0.061	0.116	0.171	0.220
53	0.069	0.069	0.069	0.130	0.192	0.247
54	0.071	0.071	0.071	0.134	0.197	0.255
55	0.090	0.090	0.090	0.170	0.250	0.322
56	0.069	0.069	0.069	0.130	0.191	0.247
57	0.080	0.080	0.080	0.152	0.223	0.288
58	0.087	0.087	0.087	0.164	0.242	0.312
59	0.090	0.090	0.090	0.170	0.251	0.323
60	0.135	0.135	0.135	0.255	0.377	0.485
61	0.090	0.090	0.090	0.170	0.251	0.323
62	0.113	0.113	0.113	0.213	0.314	0.404
63	0.090	0.090	0.090	0.170	0.251	0.323
64	0.090	0.090	0.090	0.170	0.251	0.323
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.