

### CalPERS Actuarial Issues – 6/30/08 Valuation

### JOHN E. BARTEL



March 16, 2010

### Agenda

Topic	<u>Page</u>
Definitions	1
Study Highlights	3
Historical Investment Rates	5
Historical Impact of Benefit Improvements	7
Tier 2 Alternative Benefits	
Current Benefits	8
Alternative Benefits	9
Projected Payroll	11
Estimated Savings	15
Benefits Compared to other Agencies	19
Miscellaneous Contribution Rates	21
Police Safety Contribution Rates	25
Fire Safety Contribution Rates	29
Side Fund	33
Study Highlights	39
CalPERS Rate Smoothing	41



### **Definitions**

Present Value of Benefits
June 30, 2008

Future Normal
Costs

Current Normal
Cost

### ■ PVB - Present Value of all Projected Benefits:

• Discounted value (at valuation date - 6/30/08), 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

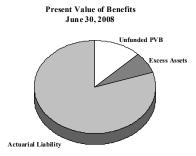


March 16, 2010

1



### **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.





March 16, 2010 2

### **Study Highlights**

- CalPERS investment losses will:
  - Significantly increase pension contributions, but
  - Rate smoothing and modifications will delay increases
- Second benefit tier:
  - Limited to Normal Cost difference between the old & new tiers;
  - Very modest until the second tier payroll becomes dominant, and
  - Even ultimately does not generate large savings.
  - Reasons to consider a second tier are not financial.





### **Study Highlights**

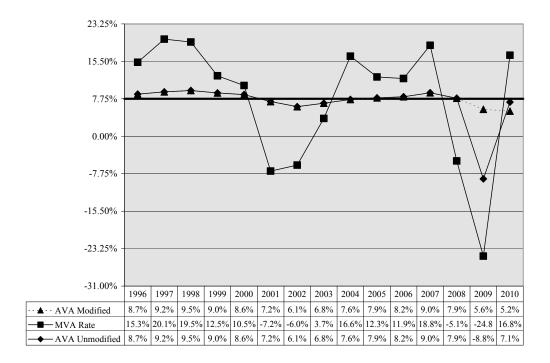
3

- Side Fund:
  - City can realize significant savings by paying off its "Side Fund" for each plan (Miscellaneous, Fire Safety & Police Safety
  - Balances are charge 7.75%.
  - For example Police Safety
    - \$3.1 million June 30, 2010 balance
    - ☐ If paid off at June 30, results in a \$2.1 million cash savings;
    - ☐ If cash savings discounted at 4%, then savings becomes \$0.8 million.
  - Miscellaneous and Fire Safety Plans have similar (although smaller in magnitude) results.





### **Historical Investment Rates**







### **Historical Investment Rates**

5

- Above assumes contributions, payments, etc. received evenly throughout year.
- **6**/30/08:

•	Market Value return	$\approx (5.1)\%$
•	Actuarial Value return	$\approx 0.1 \%$

**6**/30/09:

• Market Value return  $\approx (24.8)\%^{-1}$ 

Actuarial Value return

□ Modified  $\approx 5.6 \%$  Unmodified  $\approx (8.8)\%$ 

**6**/30/10:

• Market Value return through  $1/31/10 \approx 10.8 \%$ 

• Estimated Annualized MVA Return<sup>2</sup>  $\approx 16.8 \%$ 

• Est. Annualized Modified AVA Return  $\approx 7.1 \%$ 

6

March 16, 2010

Estimated based on CalPERS 6/30/09 published rate of return or -23.5%, adjusted by published 6/30/09 values for real estates and AIM.

Estimated based on CalPERS 1/31/10 published rate of return of 10.8%, an additional gain of 3.0% through 3/08/10 based on CalPERS market value from the website and 7.75% thereafter.

### **Historical Impact of Benefit Improvements**

Benefit Amendments	Miscellaneous	Police Safety	Fire Safety
3%@55	n/a	7.0%³	6.1% <sup>4</sup>
2.5%@55	3.1% <sup>5</sup>	n/a	n/a





### **Current Benefits**

	Miscellaneous	Police Safety	Fire Safety
Benefit Formula	2.5% @ 55	3% @ 55	3% @ 55
• FAE	One Year (FAE1)	One Year (FAE1)	One Year (FAE1)
<ul><li>PRSA</li></ul>	Yes	Yes	Yes
• COLA	2%	2%	2%
• EPMC	None	None	9%, by Resolution
• 10/11 ER Contr.			
Normal Cost	8.5%	13.3%	13.3%
> Class 1 Ben.	1.5	2.6	2.6
Pool Amort.	1.2	2.3	2.3
Side Fund	<u>1.5</u>	<u>14.8</u>	8.9 27.1
> Subtotal	12.7	33.0	27.1
<ul><li>EPMC</li></ul>	0.0	0.0	9.0
<ul> <li>Rates on EPMC</li> </ul>			
Normal Cost	0.0	0.0	1.4
Pool Amort.	0.0	0.0	0.2
Side Fund	<u>0.0</u>	0.0	0.8
> Subtotal	0.0	0.0	2.4
<ul><li>Total</li></ul>	12.7	33.0	38.5





The contribution rate was 0.0% at 6/30/99 before and after the amendment because the plan was super-funded. The 7.0% is the estimated increase of contribution if the plan was not super-funded and the AAL increase was amortized over 20 years.

The contribution rate was 0.0% at 6/30/99 before and after the amendment because the plan was super-funded. The 6.1% is the estimated increase of contribution if the plan was not super-funded and the AAL increase was amortized over 20 years.

The contribution rate was 0.0% at 6/30/01 before and after the amendment because the plan was super-funded. The 3.1% is the estimated increase of contribution if the plan was not super-funded the AAL increase was amortized over 20 years.

### **Alternative Benefits**

■ Alternative Benefits<sup>6</sup> – Employees Hired  $\geq 7/1/10$ 

Miscellaneous: 2%@55, 2%@60
Police Safety: 2%@50, 2%@55
Fire Safety: 2%@50, 2%@55

**■** Estimated ER Normal Cost

• Employer Pays Member Contribution - Fire only

	Fire	
Formula	2%@50	2%@55
> Normal Cost	11.2%	11.0%
Surcharge for Class 1	2.1	1.8
> Pool Amortization	2.0	0.6
> Subtotal	15.6	13.4
> EPMC	9.0	8.0
> Rates on EPMC	<u>1.4</u>	1.0
> Total	26.0	22.4
> Saving from current formula	2.9%	6.4%

All formulas includes FAE1 and PRSA Class 1 benefits.



March 16, 2010

9



### **Alternative Benefits**

• Employee Pays Member Contribution

	Misc		Police		Fire	
Formula	2@55	2@60	2@50	2@55	2@50	2@55
Normal Cost	7.7%	6.6%	11.2%	11.0%	11.2%	11.0%
Class 1Surcharge	1.4	1.2	2.1	1.8	2.1	1.8
> Pool	0.7	0.2	2.0	0.6	2.0	0.6
Amortization	9.9	8.0	15.6	13.4	15.6	13.4
> Subtotal	0.0	0.0	0.0	0.0	0.0	0.0
> EPMC	0.0	0.0	0.0	0.0	0.0	0.0
Rates on EPMC	9.9	8.0	15.6	13.4	15.6	13.4
> Total						
> Saving from current formula	1.4%	3.3%	2.6%	4.8%	13.3%	15.5%

### **■** Estimated Savings

• Projection based on benefits earned, not benefits being paid out

10

• Savings % apply to Tier 2 payroll





March 16, 2010

# Projected Payroll (000's)

### Miscellaneous

	Tie	er 1	Т	ier 2	7	Total
Year	Counts	Payroll	Counts	Payroll	Counts	Payroll
2010/11	40	\$ 2,831	2	\$ 175	42	\$ 3,006
2011/12	37	2,732	5	372	42	3,104
2012/13	35	2,653	7	552	42	3,205
2013/14	33	2,570	9	739	42	3,309
2014/15	30	2,472	12	944	42	3,416
2015/16	28	2,385	14	1,142	42	3,527
2016/17	26	2,274	16	1,368	42	3,642
2017/18	24	2,163	18	1,597	42	3,760
2018/19	22	2,053	20	1,830	42	3,883
2019/20	20	1,922	22	2,087	42	4,009
2020/21	18	1,804	24	2,335	42	4,139





# Projected Payroll (000's)

11

### **Police Safety**

	Tie	er 1	Ti	ier 2	Т	otal
Year	Counts	Payroll	Counts	Payroll	Counts	Payroll
2010/11	19	\$ 1,910	1	\$ 78	20	\$ 1,989
2011/12	18	1,891	2	162	20	2,053
2012/13	18	1,859	2	261	20	2,120
2013/14	17	1,815	3	374	20	2,189
2014/15	15	1,748	5	512	20	2,260
2015/16	15	1,696	5	638	20	2,333
2016/17	14	1,632	6	777	20	2,409
2017/18	13	1,565	7	923	20	2,488
2018/19	12	1,479	8	1,089	20	2,568
2019/20	11	1,393	9	1,259	20	2,652
2020/21	10	1,311	10	1,427	20	2,738



# Projected Payroll (000's)

Fire Safety
Both Tier 1 & Tier 2 with EPMC

	Tie	Tier 1		ier 2	To	otal
Year	Counts	Payroll	Counts	Payroll	Counts	Payroll
2010/11	13	\$ 1,266	1	\$ 52	14	\$ 1,318
2011/12	13	1,254	1	107	14	1,361
2012/13	12	1,233	2	173	14	1,405
2013/14	12	1,203	2	248	14	1,451
2014/15	11	1,159	3	340	14	1,498
2015/16	10	1,124	4	423	14	1,547
2016/17	9	1,082	5	515	14	1,597
2017/18	9	1,037	5	612	14	1,649
2018/19	8	980	6	722	14	1,703
2019/20	7	923	7	835	14	1,758
2020/21	7	869	7	946	14	1,815



March 16, 2010

13



# Projected Payroll (000's)

Fire Safety
Tier 1 with EPMC, Tier 2 without EPMC

Tier I with El Me, Tier 2 without El Me						
	Tier 1		Tier 2		To	otal
Year	Counts	Payroll	Counts	Payroll	Counts	Payroll
2010/11	13	\$ 1,266	1	\$ 48	14	\$ 1,314
2011/12	13	1,254	1	99	14	1,352
2012/13	12	1,233	2	159	14	1,391
2013/14	12	1,203	2	228	14	1,430
2014/15	11	1,159	3	312	14	1,470
2015/16	10	1,124	4	388	14	1,512
2016/17	9	1,082	5	472	14	1,555
2017/18	9	1,037	5	561	14	1,599
2018/19	8	980	6	662	14	1,643
2019/20	7	923	7	766	14	1,689
2020/21	7	869	7	868	14	1,737



# Estimated Savings (000's)

### Miscellaneous

Year	2% @ 55	2% @ 60
2010/11	\$ 2	\$ 6
2011/12	5	12
2012/13	8	18
2013/14	10	24
2014/15	13	31
2015/16	16	37
2016/17	19	44
2017/18	22	52
2018/19	25	59
2019/20	29	68
2020/21	32	76





# Estimated Savings (000's)

15

### **Police Safety**

Year	2% @ 50	2% @ 55
2010/11	\$ 2	\$ 4
2011/12	4	8
2012/13	7	13
2013/14	10	18
2014/15	13	25
2015/16	17	31
2016/17	20	37
2017/18	24	44
2018/19	29	52
2019/20	33	61
2020/21	37	69



# Estimated Savings (000's) Fire Safety

### Tier 1 & Tier 2 with EPMC

	2%@50					2%@55																
Year	Employer Contr. Savings		Contr.		Contr.		Contr.				Contr		C	ployee ontr. vings	To Savi		Co	ployer ontr. vings	C	ployee ontr. wings		otal vings
2010/11	\$ 1		\$	-	\$	1	\$	3	\$	0	\$	3										
2011/12	3	}		_		3		5		1		6										
2012/13	5	,		-		5		8		2		10										
2013/14	7	7		-		7		12		2		14										
2014/15	9	)		-		9		16		3		19										
2015/16	11	-		-		11		20		4		24										
2016/17	13	}		-		13		25		5		30										
2017/18	16	)		-		16		29		6		35										
2018/19	19	)		-		19		35		7		42										
2019/20	22	2		-		22		40		8		48										
2020/21	25	,		-		25		46		9		55										



March 16, 2010

17



# Estimated Savings (000's) Fire Safety Tier 1 with EPMC, Tier2 without EPMC

		2%@50	·	2%@55				
Year	Employer Contr. Savings	Employee Contri. Savings	Total Savings	Employer Contr. Savings	Employee Contr. Savings	Total Savings		
2010/11	\$ 2	\$ 4	\$ 6	\$ 3	\$ 4	\$ 7		
2011/12	4	9	13	6	9	15		
2012/13	7	14	21	10	14	24		
2013/14	10	21	31	15	21	36		
2014/15	13	28	41	20	28	48		
2015/16	17	35	52	25	35	60		
2016/17	20	42	62	30	42	72		
2017/18	24	50	74	36	50	86		
2018/19	28	60	88	43	60	103		
2019/20	33	69	102	49	69	118		
2020/21	37	78	115	56	78	134		





### Benefits Compared to Other Agencies Miscellaneous

	1		ı								İ
	Member Type	Employee Group	Pension Agency	Plan Tier	Plan Tier Effective Date	Final Yr. Calculation	Maximum COLA	EPMC Pickup	Maximum Benefit	Pay Into Soc. Sec.?	Comments
NOVATO	Miscellaneous	All Mgmt and non-safety	PERS	2% @ 55	7/1/2000	Single Highest	2.0%	7.0%	No max.	No	Benefit factor 2.418% @ age 63+. No limit on years of
ROSS	Miscellaneous	All Mgmt and non-safety	PERS	2% @ 55	?	Highest 3 yrs	2.0%	0.0%	100%	Yes	
TIBURON	Miscellaneous	All Non-Safety	PERS	2% @ 55	7/1/2001	Single Highest	2.0%	100.0%	100%	No	
BELVEDERE	Miscellaneous	All Non-Safety	PERS	2% @ 55	2/1/2001	Single Highest	2.0%	7.0%	100%	No	
TWIN CITIES POLICE AUTHORITY	Misc. Tier 2	All Non-Safety	PERS	2% @ 55	7/1/2002 thru 6/30/08	Single Highest	2.0%	7.00%	100%	No	Highest 3 years from 7/1/2002 through 12/31/2002
SAN ANSELMO	Miscellaneous - Tier II	All others incl non-sworn police	PERS	2% @ 55	2/1/2007	single highest	2%	no **	no cap	Yes	** Town pays employee share but contributions
FAIRFAX	Misc. Tier 2	Dispatch & CSO	PERS	2% @ 55	1/1/2010	Avg 3 Highest	3.0%	8.0%	100%	No	*Currently under negotiation
FAIRFAX	Misc. Tier 2	Management	PERS	2% @ 55	1/1/2010	Avg 3 Highest	3.0%	8.0%	100%	No	*Currently under negotiation
FAIRFAX	Misc. Tier 2	Public Works	PERS	2% @ 55	1/1/2010	Avg 3 Highest	3.0%	8.0%	100%	No	*Currently under negotiation
TWIN CITIES POLICE AUTHORITY	Misc. Tier 1	All Non-Safety	PERS	2% @ 60	Pre 7/1/2002	Highest 3 yrs	2.0%	7.00%	100%	No	Hired after 1986
COUNTY OF MARIN	Misc Tier 3	All Tier 2 Mgmt and non- safety who did not opt out of	MCERA	2% at 55	7/8/2002	Highest 3 yrs	2.0%	n/a	100%	No	3
COUNTY OF MARIN	Misc Tier 1	All Mgmt and non-safety	MCERA	2% at 55.5	Before 7/1/1980	Single Highest	4.0%	n/a	100%	No	1
COUNTY OF MARIN	Misc Tier 2	All Tier 2 Mgmt and non- safety who opted out of Tier 3	MCERA	2% at 61	7/1/1980	Highest 3 yrs	2.0%	n/a	100%	No	2
MILL VALLEY	Miscellaneous	AFSCME	PERS	2.5% @ 55	5/3/2003	Single Highest	2.0%	6.0%	100%	No	
SAUSALITO	Misc	All non safety employees	PERS	2.5% @ 55	7/1/2003	Single Highest	2.0%	0.0%	not capped	No	See below
TWIN CITIES POLICE AUTHORITY	Misc. Tier 3	All Non-Safety	PERS	2.5% @ 55	7/1/2008	Single Highest	2.0%	4.50%	100%	No	
LARKSPUR	Miscellaneous	All Non-Safety	PERS	2.5% @ 55	8/1/2009	Single Highest	2.0%	7.00%	100%	No	Was 2.0@55 prior to 8/1/09
FAIRFAX	Misc. Tier 1	Dispatch & CSO	PERS	2.5% @ 55	7/1/2002	Avg 3 Highest	3.0%	8.0%	100%	No	
MILL VALLEY	Miscellaneous	Management	PERS	2.5% @ 55	5/3/2003	Single Highest	2.0%	8.0%	100%	No	
FAIRFAX	Misc. Tier 1	Management	PERS	2.5% @ 55	7/1/2005	Avg 3 Highest	3.0%	8.0%	100%	No	
CORTE MADERA	Misc.	Other	PERS	2.5% @ 55	7/18/2005	Single Highest	2.00%	8.00%	100%	No	
FAIRFAX	Misc. Tier 1	Public Works	PERS	2.5% @ 55	7/1/2003	Avg 3 Highest	3.0%	8.0%	100%	No	
CORTE MADERA	Misc.	SEIU	PERS	2.5% @ 55	7/18/2005	Single Highest	2.00%	comment	100%	No	\$80 per month for employees share of PERS
SAN RAFAEL	Miscellaneous	All Mgmt and non-safety	MCERA	2.7% @ 55	7/1/2004	Single Highest	3.0%	0.0%	100%	No	
SAN ANSELMO	Miscellaneous - Tier I	All others incl non-sworn police	PERS	2.7% @ 55	7/1/2004	single highest	2.0%	no **	no cap	Yes	** Town pays employee share but contributions

Prepared by City Staff

19



.0



# **Benefits Compared to Other Agencies Safety**

					Sarety	′					
	Member Type	Employee Group	Pension Agency	Plan Tier	Plan Tier Effective Date	Final Yr. Calculation	Maximum COLA	EPMC Pickup	Maximum Benefit	Pay Into Soc. Sec.?	Comments
BELVEDERE	Safety	Police	PERS	2% @ 50	4/1/1975	Highest 3 yrs	2.0%	8.0%	90%	No	
TWIN CITIES POLICE AUTHOR	Safety - Tier 1	Police	PERS	2% @ 50	Pre 1/1/2003	Highest 3 yrs	2.0%	9.0%	90%	No	Hired after 1986
COUNTY OF MARIN	Safety Tier 2B	All Safety (Sheriff, Fire, Probation)	MCERA	3% @ 50	1/2/2005*	Highest 3 yrs	2.0%	n/a	100%	No	2B
COUNTY OF MARIN	Safety Tier 1A	All Safety (Sheriff, Fire, Probation)	MCERA	3% @ 50	1/2/2005*	Single Highest	4.0%	n/a	100%	No	1A
FAIRFAX	Safety - Tier 1	Sworn	PERS	3% @ 50	7/1/2002	Avg 3 Highest	3.0%	9.0%	100%	No	
SAN ANSELMO	Safety - Tier 1	Sworn Police	PERS	3% @ 50	11/1/1966	single highest	2.0%	no **	90%	Yes	I own pays employee share but contributions belong to
COUNTY OF MARIN	Safety Tier 2	All Safety (Sheriff, Fire, Probation)	MCERA	3% @ 55	7/1/1980	Highest 3 yrs	2.0%	n/a	100%	No	2
COUNTY OF MARIN	Safety Tier 1	All Safety (Sheriff, Fire, Probation)	MCERA	3% @ 55	Before 7/1/1980	Single Highest	4.0%	n/a	100%	No	1
SAN RAFAEL	Safety	Fire	MCERA	3% @ 55	7/1/2004	Single Highest	3.0%	0.0%	100%	No	
MILL VALLEY	Safety - Tier 1	Fire	PERS	3% @ 55	7/8/1972	Single Highest	2.0%	6.0%	90%	No	
MILL VALLEY	Safety - Tier II	Fire	PERS	3% @ 55	7/19/1986	Highest 3 yrs	2.0%	6.0%	90%	No	
ROSS	Safety	Fire	PERS	3% @ 55	?	Single Highest	2.0%	0.0%	90%	Yes	
LARKSPUR	Safety	Fire	PERS	3% @ 55	12/1/2000	Single Highest	2.0%	9.0%	90%	No	
SAUSALITO	Safety	Fire	PERS	3% @ 55	6/2/2000	Single Highest	2.0%	9.0%	90%	No	See below
CORTE MADERA	Safety	Fire - Battalion Chieft	PERS	3% @ 55	1/6/2003	Single Highest	2.00%	9.00%	90%	No	
CORTE MADERA	Safety	Fire - CMFA	PERS	3% @ 55	1/6/2003	Single Highest	2.00%	0%	90%	No	
MILL VALLEY	Safety - Tier 1	Fire Chiefs	PERS	3% @ 55	7/8/1972	Single Highest	2.0%	9.0%	90%	No	
MILL VALLEY	Safety - Tier II	Fire Chiefs	PERS	3% @ 55	7/19/1986	Highest 3 yrs	2.0%	9.0%	90%	No	
TIBURON	Safety	Police	PERS	3% @ 55	6/1/2004	Average 3 Highest	2.0%	100.0%	90%	No	
NOVATO	Safety	Police	PERS	3% @ 55	7/1/2001	Single Highest	2.0%	9.0%	90%	No	
SAN RAFAEL	Safety	Police	MCERA	3% @ 55	7/1/2004	Single Highest	3.0%	0.0%	100%	No	
MILL VALLEY	Safety - Tier 1	Police	PERS	3% @ 55	7/8/1972	Single Highest	2.0%	9.0%	90%	No	
MILL VALLEY	Safety - Tier II	Police	PERS	3% @ 55	7/19/1986	Highest 3 yrs	2.0%	9.0%	90%	No	
ROSS	Safety	Police	PERS	3% @ 55	?	Single Highest	2.0%	9.0%	90%	Yes	
TWIN CITIES POLICE AUTHOR	Safety - Tier 2	Police	PERS	3% @ 55	1/1/2003	Single Highest	2.0%	9.0%	90%	No	
SAUSALITO	Safety	Police	PERS	3% @ 55	6/1/2000	Single Highest	2.0%	0.0%	90%	No	See below
FAIRFAX	Safety - Tier 2	Sworn	PERS	3% @ 55	7/1/2009	Avg 3 Highest	3.0%	9.0%	100%	No	
SAN ANSELMO	Safety - Tier II	Sworn Police	PERS	3% @ 55	2/1/2007	single highest	2%	no **	90%	Yes	** Town pays employee share but contributions belong to

Prepared by City Staff





March 16, 2010 20

### Pooled Plan Contributions Miscellaneous

	6/30/07 2009/2010	6/30/08 2010/2011
■ Employer Contribution Required		
<ul> <li>Normal Cost</li> </ul>		
<ul><li>Pool Rate</li></ul>	8.4%	8.5%
<ul> <li>Surcharge for Class 1 Benefits</li> </ul>	1.5%	1.5%
<ul><li>Phase out of Normal Cost</li></ul>	0.3%	0.0%
Difference		
<ul><li>Subtotal</li></ul>	10.2%	10.0%
<ul> <li>Amortization Bases</li> </ul>		
<ul><li>Risk Pool's Payment on Bases</li></ul>	0.8%	1.2%
<ul> <li>Amortization of Side Fund</li> </ul>	1.4%	1.5%
<ul><li>Subtotal</li></ul>	<u>2.2%</u>	<u>2.7%</u>
<ul> <li>Total Employer Contribution:</li> </ul>	12.4%	12.7%





### Pooled Plan Contribution Rates Miscellaneous

21

■ What Happened from 6/30/07 to 6/30/08:

•	2009/10 Rate	12.4%
•	Normal Cost	0.1
•	Phase out of Normal Cost	-0.3
•	Risk Pool's Payments on Bases	0.4
•	Side Fund Amortization	0.1
•	2010/11 Rate	12.7%



### Pooled Plan Contribution Rates Miscellaneous

■ Market Value Investment Return:

June 30, 2009
 June 30, 2010
 -24.8%<sup>7</sup>
 16.8%<sup>8</sup>

• June 30, 2011 - 2014 75% Confidence Limit<sup>9</sup>:  $\approx$  **0.4% - 3.6%** 

50% Confidence Limit:  $\approx$  7.75%

25% Confidence Limit:  $\approx 11.8\% - 15.3\%$ 

■ Payroll Increases:

Aggregate payroll increases 3.25% each year

■ No Other:

Gains or Losses

Method or Assumption Changes

Benefit Improvements

Estimated based on CalPERS 6/30/09 published rate of return or -23.5%, adjusted by published 6/30/09 values for real estates and AIM.

Confidence Limits – Actual Return will exceed the given rate with indicated probabilities, rates vary by year.



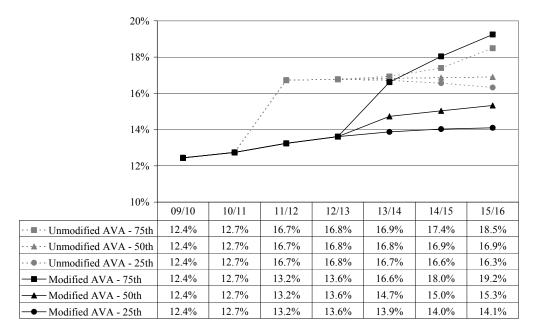
March 16, 2010

23



### Pooled Plan Contribution Rates Miscellaneous

### **Investment Return Varies**







Estimated based on CalPERS 1/31/10 published rate of return of 10.8%, an additional gain of 3.0% through 3/08/10 based on CalPERS market value from the website and 7.75% thereafter.

### Pooled Plan Contributions Police Safety

	6/30/07 2009/2010	6/30/08 2010/2011
Employer Contribution Required		
<ul> <li>Normal Cost</li> </ul>		
<ul><li>Pool Rate</li></ul>	13.4%	13.3%
<ul> <li>Surcharge for Class 1 Benefits</li> </ul>	2.6%	2.6%
<ul> <li>Phase out of Normal Cost</li> </ul>	<u>-0.0%</u>	0.0%
Difference		
<ul><li>Subtotal</li></ul>	16.0%	15.9%
<ul> <li>Amortization Bases</li> </ul>		
<ul><li>Risk Pool's Payment on Bases</li></ul>	1.7%	2.3%
<ul> <li>Amortization of Side Fund</li> </ul>	<u>16.6%</u>	<u>14.8%</u>
<ul><li>Subtotal</li></ul>	<u>18.3%</u>	<u>17.1%</u>
<ul><li>Total Employer Contribution:</li></ul>	34.3%	33.0%





# **Pooled Plan Contribution Rates Police Safety**

25

■ What Happened from 6/30/07 to 6/30/08:

•	2009/10 Rate	34.3%
•	Normal Cost	-0.1
•	Risk Pool's Payments on Bases	0.6
•	Side Fund Amortization	1.8
•	2010/11 Rate	33.0%



### Pooled Plan Contribution Rates Police Safety

Market Value Investment Return:

June 30, 2009
 June 30, 2010
 -24.8%<sup>10</sup>
 16.8%<sup>11</sup>

• June 30, 2011 - 2014 75% Confidence Limit<sup>12</sup>:  $\approx$  **0.4% - 3.6%** 

50% Confidence Limit:  $\approx$  7.75%

25% Confidence Limit:  $\approx 11.8\% - 15.3\%$ 

■ Payroll Increases:

• Aggregate payroll increases 3.25% each year

■ No Other:

Gains or Losses

Method or Assumption Changes

Benefit Improvements

Estimated based on CalPERS 6/30/09 published rate of return or -23.5%, adjusted by published 6/30/09 values for real estates and AIM.

<sup>&</sup>lt;sup>12</sup> Confidence Limits – Actual Return will exceed the given rate with indicated probabilities, rates vary by year.



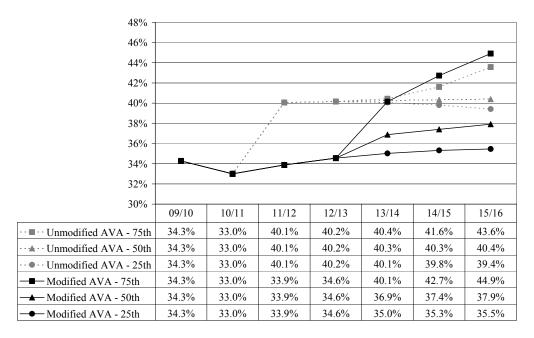
March 16, 2010

27



### Pooled Plan Contribution Rates Police Safety

### **Investment Return Varies**



28





March 16, 2010

Estimated based on CalPERS 1/31/10 published rate of return of 10.8%, an additional gain of 3.0% through 3/08/10 based on CalPERS market value from the website and 7.75% thereafter.

### Pooled Plan Contributions Fire Safety

	6/30/07	6/30/08
	<u>2009/2010</u>	<u>2010/2011</u>
Employer Contribution Required		
<ul><li>Normal Cost</li></ul>		
<ul><li>Pool Rate</li></ul>	13.4%	13.3%
<ul><li>Surcharge for Class 1 Benefits</li></ul>	2.6%	2.6%
<ul><li>Phase out of Normal Cost</li></ul>	0.0%	0.0%
Difference		
<ul><li>Subtotal</li></ul>	16.0%	15.9%
<ul> <li>Amortization Bases</li> </ul>		
<ul><li>Risk Pool's Payment on Bases</li></ul>	1.7%	2.3%
<ul><li>Amortization of Side Fund</li></ul>	9.0%	<u>8.9%</u>
<ul><li>Subtotal</li></ul>	<u>10.7%</u>	<u>11.2%</u>
<ul> <li>Total Employer Contribution</li> </ul>	<b>26.7%</b>	27.1%





**Pooled Plan Contribution Rates Fire Safety** 

29

■ What Happened from 6/30/07 to 6/30/08:

•	2009/10 Rate	26.7%
•	Normal Cost	-0.1
•	Risk Pool's Payments on Bases	0.6
•	Side Fund Amortization	<u>-0.1</u>
•	2010/11 Rate	27.1%



## **Pooled Plan Contribution Rates Fire Safety**

■ Market Value Investment Return:

June 30, 2009
 June 30, 2010
 -24.8%<sup>13</sup>
 16.8%<sup>14</sup>

• June 30, 2011 - 2014 75% Confidence Limit<sup>15</sup>:  $\approx$  **0.4% - 3.6%** 

50% Confidence Limit:  $\approx$  7.75%

25% Confidence Limit:  $\approx 11.8\% - 15.3\%$ 

■ Payroll Increases:

• Aggregate payroll increases 3.25% each year

■ No Other:

Gains or Losses

Method or Assumption Changes

Benefit Improvements

Estimated based on CalPERS 6/30/09 published rate of return or -23.5%, adjusted by published 6/30/09 values for real estates and AIM.

<sup>15</sup> Confidence Limits – Actual Return will exceed the given rate with indicated probabilities, rates vary by year.



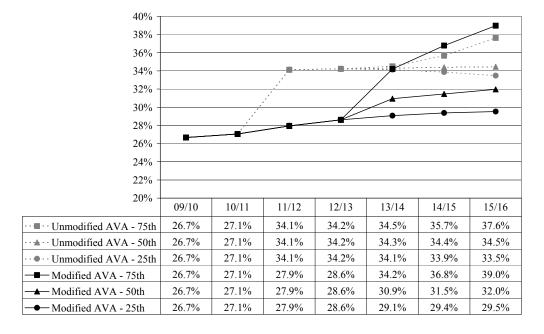
March 16, 2010

31



### **Pooled Plan Contribution Rates Fire Safety**

### **Investment Return Varies**







Estimated based on CalPERS 1/31/10 published rate of return of 10.8%, an additional gain of 3.0% through 3/08/10 based on CalPERS market value from the website and 7.75% thereafter.

### Side Fund Miscellaneous

- CalPERS requires side fund paid off with amortization schedule:
  - June 30, 2010 Balance \$440 thousand
  - 7.75% interest
  - Level percent of pay: 3.25% payroll increase
  - Payment for 2010/11 = \$45,061
  - Actual amounts paid based on percentage (1.5%) times actual 2010/11 payroll.

	<u>Payroll</u>	<u>Contribution</u>
Expected	\$ 3,006,100	\$ 45,100
Example 1	3,506,100	52,600
Example 2	2,506,100	37,600

- Cash savings if side fund paid off at June 30, 2010:
  - \$272 thousand
  - \$108 thousand if discounted at 4%
- Contribution Pre-payment
  - Cost effective if City expects actual 2010/11 payroll will be > \$3,006,097.
  - Prepay gets 3.7% discount [e.g. for each \$100 expected, pay ≈ \$96.34]



March 16, 2010

33



### Side Fund Miscellaneous

- Difference between expected and actual payments:
  - goes to pool
  - overpayments (underpayments) do not decrease (increase) the side fund's outstanding balance
- Contribution rate (1.5%) adjusted each year based on
  - amortization payment and
  - CalPERS expected City projected payroll.
- Expected amortization payment:

	<u>CalPERS</u>	<b>Interest Rate 6% (Level \$)</b>
2010/11	\$ 45,100	\$ 48,500
2011/12	46,500	48,500
2012/13	48,000	48,500
$\downarrow$	$\downarrow$	$\downarrow$
2022/23	66,100	48,500
2023/24	0	0





### Side Fund Police Safety

- CalPERS requires side fund paid off with amortization schedule:
  - June 30, 2010 Balance \$3.1 million
  - 7.75% interest
  - Level percent of pay: 3.25% payroll increase
  - Payment for 2010/11 = \$294,777
  - Actual amounts paid based on percentage (14.8%) times actual 2010/11 payroll.

	<u>Payroll</u>	<b>Contribution</b>
Expected	\$ 1,988,600	\$ 294,800
Example 1	2,188,600	324,400
Example 2	1,788,600	265,100

- Cash savings if paid off at June 30, 2010:
  - \$2.1 million
  - \$0.8 million if discounted at 4 %
- Contribution Pre-payment
  - Cost effective if City expects actual 2010/11 payroll will be > \$1,988,635.
  - Prepay gets 3.7% discount [e.g. for each \$100 expected, pay ≈ \$96.34]



March 16, 2010

35



### Side Fund Police Safety

- Difference between expected and actual payments:
  - goes to pool
  - overpayments (underpayments) do not decrease (increase) the side fund's outstanding balance
- Contribution rate (14.8%) adjusted each year based on
  - amortization payment and
  - CalPERS expected City projected payroll.
- Expected amortization payment:

	<u>CalPERS</u>	Interest Rate 6% (Level \$)
2010/11	\$ 294,800	\$ 319,500
2011/12	304,400	319,500
2012/13	314,200	319,500
$\downarrow$	$\downarrow$	$\downarrow$
2023/24	446,800	319,500
2019/20	0	0





## **Side Fund Fire Safety**

- CalPERS requires side fund paid off with amortization schedule:
  - June 30, 2010 Balance \$1.4 million
  - 7.75% interest
  - Level percent of pay: 3.25% payroll increase
  - Payment for 2010/11 = \$117,112
  - Actual amounts paid based on percentage (8.9%) times actual 2010/11 payroll.

	<u>Payroll</u>	<b>Contribution</b>
Expected	\$ 1,318,200	\$ 117,100
Example 1	1,518,200	134,900
Example 2	1,118,200	99,300

- Cash savings if paid off at June 30, 2010:
  - \$1.2 million
  - \$0.5 million if discounted at 4%
- Contribution Pre-payment
  - Cost effective if City expects actual 2010/11 payroll will be > \$1,318,230.
  - Prepay gets 3.7% discount [e.g. for each \$100 expected, pay ≈ \$96.34]



March 16, 2010

37



# **Side Fund Fire Safety**

- Difference between expected and actual payments:
  - goes to pool
  - overpayments (underpayments) do not decrease (increase) the side fund's outstanding balance
- Contribution rate (8.9%) adjusted each year based on
  - amortization payment and
  - CalPERS expected City projected payroll.
- Expected amortization payment:

	<u>CalPERS</u>	Interest Rate 6% (Level \$)
2010/11	\$ 117,100	\$ 129,200
2011/12	120,900	129,200
2012/13	124,800	129,200
$\downarrow$	$\downarrow$	$\downarrow$
2026/27	195,400	129,200
2027/28	0	0





### **Study Highlights**

- CalPERS investment losses will:
  - Significantly increase pension contributions, but
  - Rate smoothing and modifications will delay increases
- Second benefit tier:
  - Limited to Normal Cost difference between the old & new tiers;
  - Very modest until the second tier payroll becomes dominant, and
  - Even ultimately does not generate large savings.
  - Reasons to consider a second tier are not financial.





### **Study Highlights**

39

- Side Fund:
  - City can realize significant savings by paying off its "Side Fund" for each plan (Miscellaneous, Fire Safety & Police Safety
  - Balances are charge 7.75%.
  - For example Police Safety
    - □ \$3.1 million June 30, 2010 balance
    - ☐ If paid off at June 30, results in a \$2.1 million cash savings;
    - ☐ If cash savings discounted at 4%, then savings becomes \$0.8 million.
  - Miscellaneous and Fire Safety Plans have similar (although smaller in magnitude) results.





### **CalPERS Rate Smoothing**

6/30/2008:	Unmodified	Modified
Market Value	100.0%	100.0%
Actuarial Value	97.8%	97.8%
6/30/2009:	-24.8%	-24.8%
Market Value	75.2%	75.2%
Actuarial Value:		
1. Project @ 7.75%	105.4%	105.4%
2. Adjust:[(MV-AV) x (1/15)]	103.4%	103.4%
3. Limited by corridor [Unmodified: 120%,		
Modified: 140%]	90.2%	103.4%
Actuarial Rate of Return	-7.7%	5.7%
Ratio of Actuarial Value to Market Value	120.0%	137.5%





### **CalPERS Rate Smoothing**

41

Actuarial Asset Values	<b>Unmodified</b>	Modified
<ul> <li>Project Assets forward</li> </ul>	7.75%	7.75%
<ul> <li>Asset Gain/Losses Recognized</li> </ul>	15 Years	15 Years
<ul> <li>Ratio of Actuarial to Market Value of Assets</li> <li>Actuarial Asset Methods</li> </ul>	80-120%	60-140%
<ul> <li>Amortization</li> </ul>		
o Years	30 Years	30 Years
o Factor	6%	6%
• Minimum	Normal Cost less 30 Year Amortization of Surplus	Normal Cost less 30 Year Amortization of Surplus



