



**B**ARTEL  
ASSOCIATES, LLC

**COUNTY OF HUMBOLDT  
MISCELLANEOUS AND SAFETY PLANS**

**CalPERS Actuarial Issues – 6/30/14 Valuation  
Preliminary Results**

*Presented by* **John E. Bartel, President**  
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Wai Man Yam, Actuarial Analyst  
**Bartel Associates, LLC**

June 1, 2016

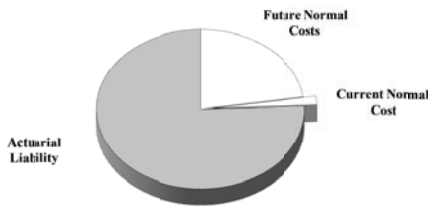
**Agenda**

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## DEFINITIONS

Present Value of Benefits  
June 30, 2014



- **PVB - Present Value of all Projected Benefits:**
  - Discounted value (at valuation date - 6/30/14), 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



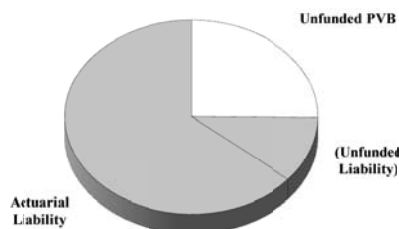
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## DEFINITIONS

Present Value of Benefits  
June 30, 2014



- **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.



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## CALPERS CHANGES

- Contribution policy changes:
  - No asset smoothing
  - No rolling amortization
  - 5-year ramp up
  - Included in 6/30/13 valuation (first impact 15/16 rates; full impact 19/20)
- Assumption changes:
  - Anticipate future mortality improvement
  - Other, less significant, changes
  - Included in 6/30/14 valuation (first impact 16/17 rates; full impact 20/21)
- Risk Mitigation Strategy
  - Move to more conservative investments over time
  - Only when investment return is better than expected
  - Lower discount rate in concert
  - Essentially use  $\approx 50\%$  of investment gains to pay for cost increases
  - Likely get to 6.5% over  $\approx 20$  years



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## CALPERS CHANGES

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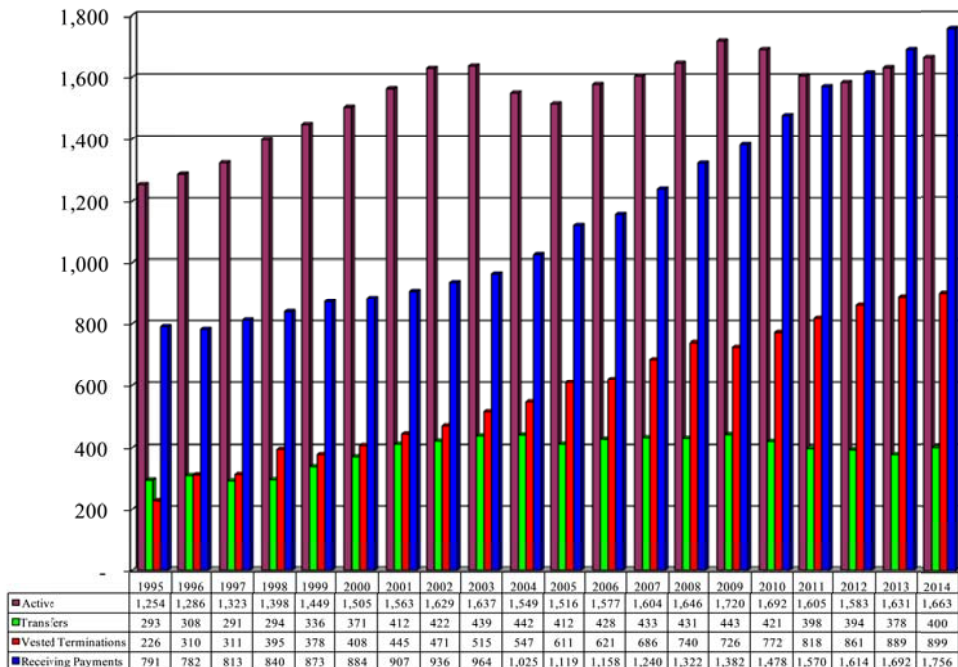
**SUMMARY OF DEMOGRAPHIC INFORMATION - MISCELLANEOUS**

	1995	2004	2013	2014
<b>Actives</b>				
■ Counts	1,254	1,549	1,631	1,663
■ Average				
• Age	44	48	47	47
• County Service	9	9	9	9
• PERSable Wages	\$27,200	\$39,000	\$49,800	\$50,500
■ Total PERSable Wages (millions)	37.3	66.6	88.8	91.8
<b>Receiving Payments</b>				
■ Counts				
• Service		802	1,442	1,504
• Disability		110	113	113
• Beneficiaries		113	137	139
• Total	791	1,025	1,692	1,756
■ Average Annual County Provided Benefit <sup>1</sup>				
• Service		\$12,900	\$19,500	\$20,500
• Disability		9,900	6,900	7,100
• Service Retirements in last 5 years		16,300	21,100	21,600

<sup>1</sup> Average County provided pensions are based on County service & County benefit formula, and are not representative of benefits for long service employees.

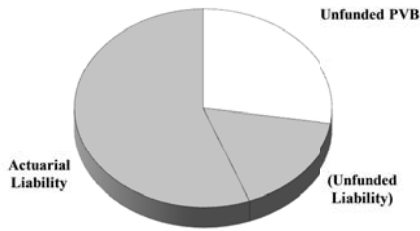


**MEMBERS INCLUDED IN VALUATION - MISCELLANEOUS**

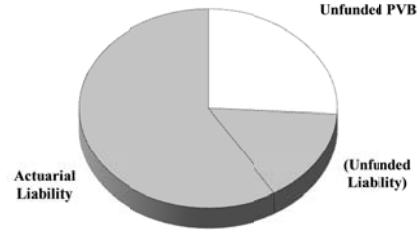


## PLAN FUNDED STATUS - MISCELLANEOUS

Present Value of Benefits  
June 30, 2013



Present Value of Benefits  
June 30, 2014



<u>June 30, 2013</u>		<u>June 30, 2014</u>
\$ 214,900,000	<b>Active AAL</b>	\$ 236,700,000
306,500,000	<b>Retiree AAL</b>	342,400,000
<u>38,800,000</u>	<b>Inactive AAL</b>	<u>39,100,000</u>
560,200,000	<b>Total AAL</b>	618,200,000
<u>391,000,000</u>	<b>Market Asset Value</b>	<u>455,600,000</u>
(169,200,000)	<b>(Unfunded Liability)</b>	(162,600,000)



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## PLAN FUNDED STATUS - MISCELLANEOUS

- What happened between 6/30/13 and 6/30/14?
  - Unfunded Liability (Increase)/Decrease ≈ \$6.6 million
- Reasons for Unfunded Liability increase
  - Asset gain/(loss): ≈ \$38.9 million
  - Assumption Change gain/(loss): ≈ \$(30.2) million
  - Actuarial gain/(loss): ≈ \$1.1 million
    - Average Salary \$49,800 → \$50,500
    - Number of Actives 1,631 → 1,663
    - Number of Inactives 1,267 → 1,299
    - Number of Retirees 1,692 → 1,756
  - Other gain/(loss): ≈ \$(3.2) million
    - Contributions
    - Other (expected)

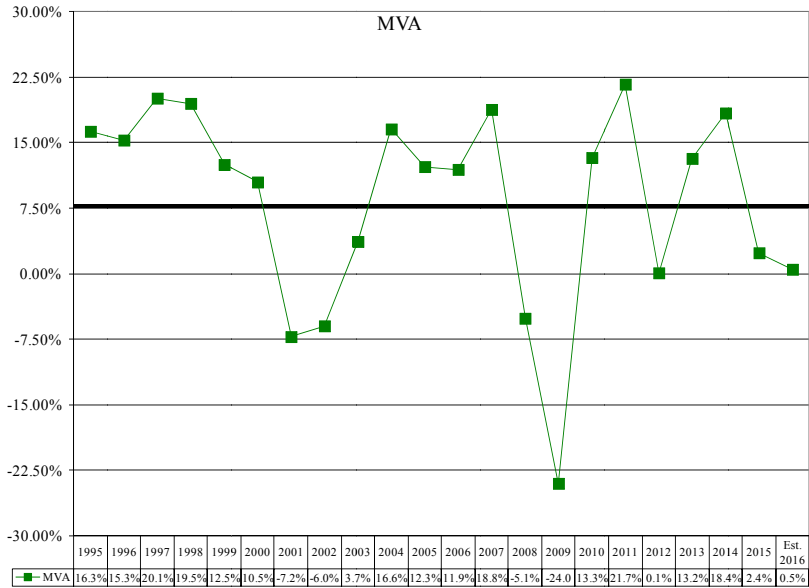


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## INVESTMENT RETURN - MISCELLANEOUS



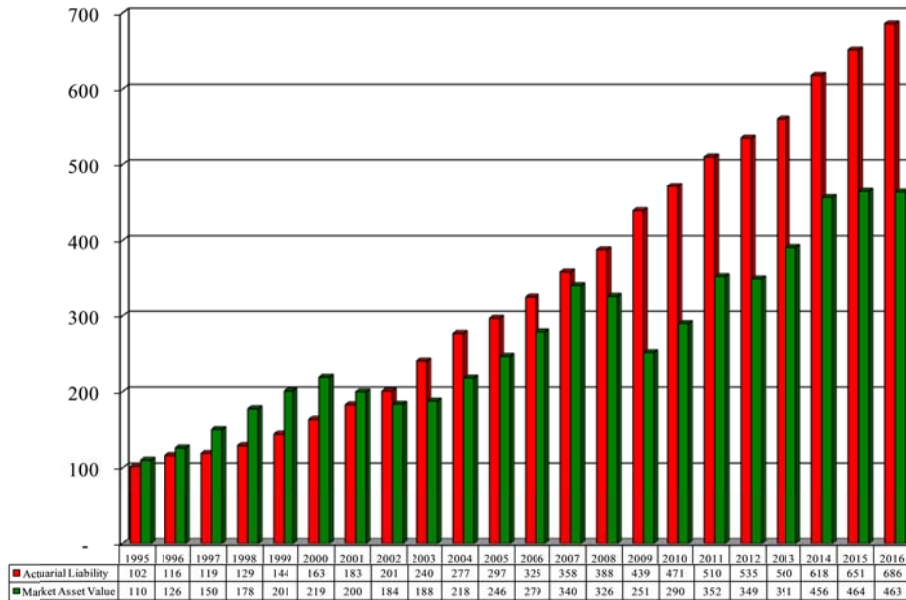
Above assumes contributions, payments, etc. received evenly throughout year.  
 Estimated June 30, 2016 based on CalPERS actual return through 3/31/16 and  
 assumed 7.5% annual return for the remaining 3 months.



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## FUNDED STATUS (MILLIONS) - MISCELLANEOUS



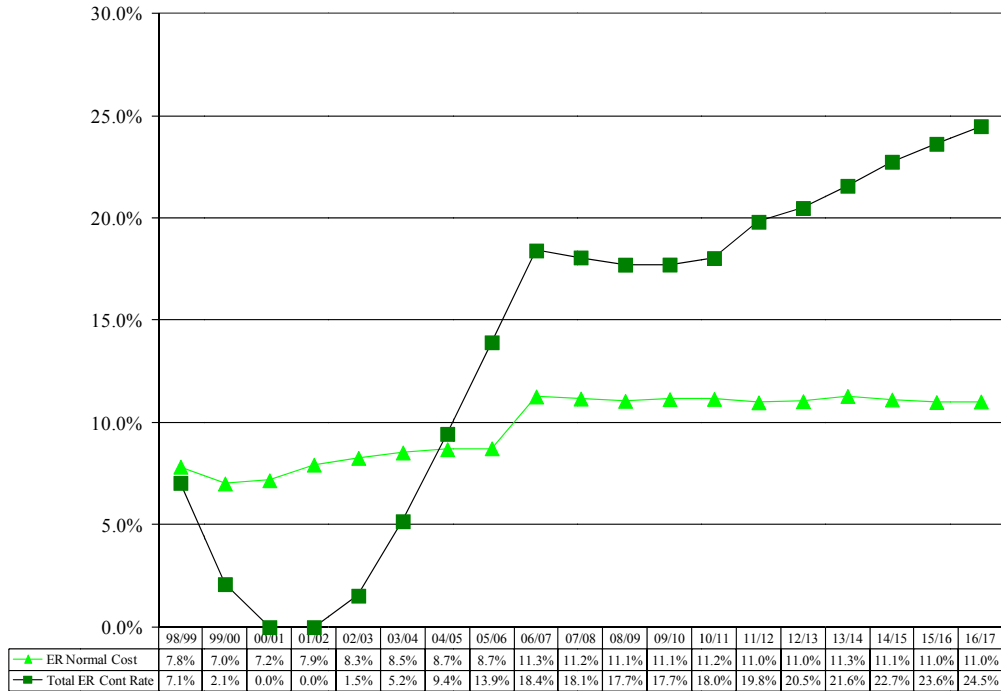
6/30/15 & 6/30/16 funded status estimated



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## CONTRIBUTION RATES - MISCELLANEOUS



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## CONTRIBUTION RATES - MISCELLANEOUS

	<b><u>6/30/13</u></b> <b><u>2015/2016</u></b>	<b><u>6/30/14</u></b> <b><u>2016/2017</u></b>
■ Total Normal Cost	18.7%	18.6%
■ Employee Normal Cost	7.7%	7.6%
■ Employer Normal Cost	11.0%	11.0%
■ Amortization Bases	<u>12.6%</u>	<u>13.5%</u>
■ Total Employer Contribution Rate	23.6%	24.5%
■ Amortization Period	Multiple	Multiple
■ What Happened from 6/30/13 to 6/30/14:		
● 2015/16 Rate	23.6%	
● Asset Method Change (2 <sup>nd</sup> Year)	0.8%	
● Assumption Change (1 <sup>st</sup> Year)	1.2%	
● (Gains)/Losses	<u>(1.1%)</u>	
● 2016/17 Rate	24.5%	



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## CONTRIBUTION PROJECTIONS - MISCELLANEOUS

■ Market Value Investment Return:

- June 30, 2014 18.4%<sup>2</sup>
- June 30, 2015 2.4%<sup>2</sup>
- June 30, 2016 0.5%<sup>2</sup>
- Future returns<sup>2</sup> based on stochastic analysis using 1,000 trials

Single Year Returns at 25<sup>th</sup> Percentile      50<sup>th</sup> Percentile      75<sup>th</sup> Percentile

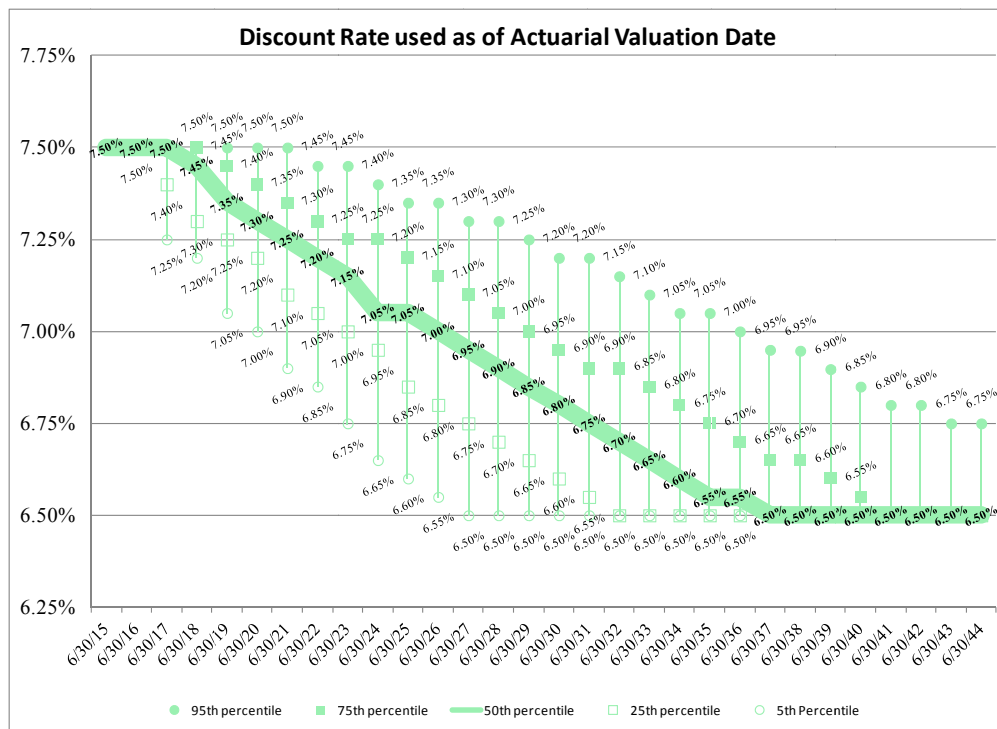
- 7.5% Investment Mix **0.6%** **7.5%** **15.3%**
- 6.5% Investment Mix **1.3%** **6.5%** **11.9%**

- No Other: Gains/Losses, Method/Assumption Changes, Benefit Improvements
- Excludes Employer Paid Member Contributions (EPMC)
- Tier 2 2%@55 FAE3 effective 7/6/12
- New hire assumptions:
  - Assumes 50% of 2013 new hires will be Classic Tier 2 Members and 50% will be New Members with PEPRAs benefits.
  - Assumes Classic Members will decrease from 50% to 0% of new hires over 20 years.

<sup>2</sup> June 30, 2016 return based on CalPERS return of (1.3%) through 3/31/16 and assumed future returns for 3 months.

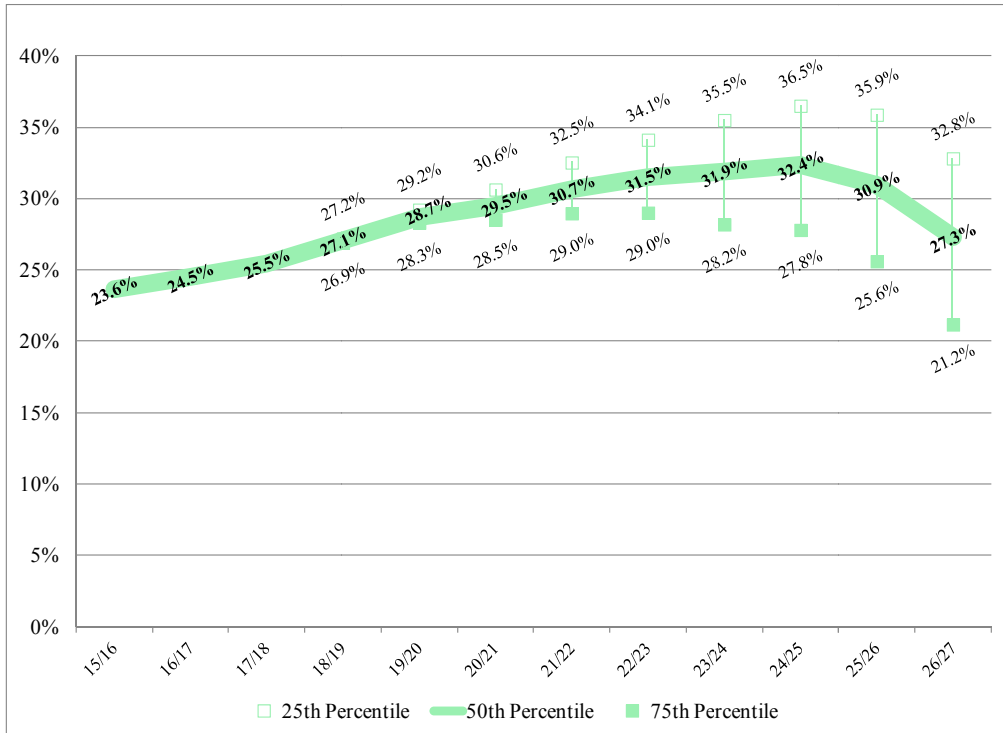


## CONTRIBUTION PROJECTIONS - MISCELLANEOUS





## CONTRIBUTION PROJECTIONS - MISCELLANEOUS

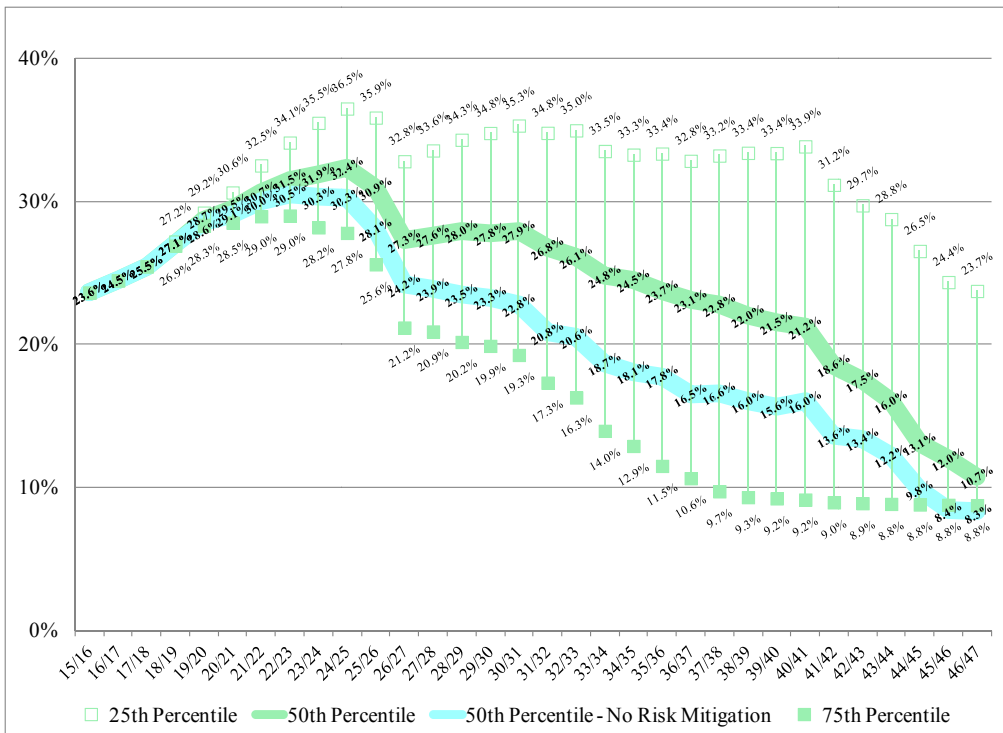


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## CONTRIBUTION PROJECTIONS - MISCELLANEOUS

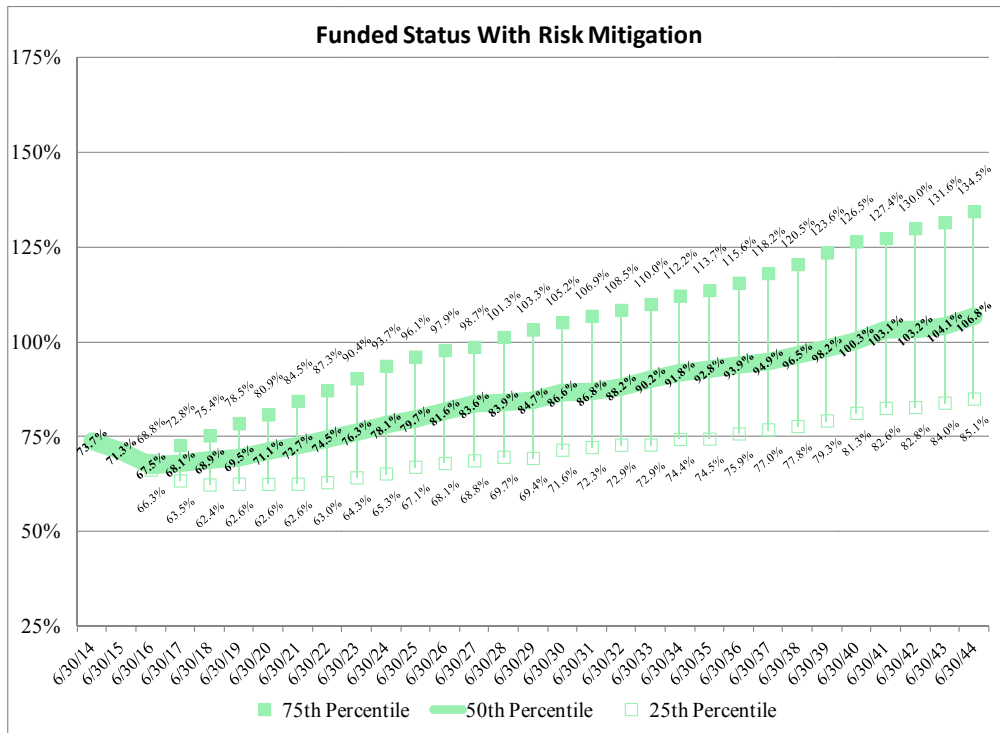


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## CONTRIBUTION PROJECTIONS - MISCELLANEOUS



## CONTRIBUTION PROJECTIONS - MISCELLANEOUS

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## SUMMARY OF DEMOGRAPHIC INFORMATION - SAFETY

	1996	2004	2013	2014
<b>Actives</b>				
■ Counts	230	282	272	273
■ Average				
• Age	39	39	41	41
• County Service	9	8	11	11
• PERSable Wages	\$30,100	\$41,200	\$54,700	\$56,400
■ Total PERSable Wages (millions)	7.9	12.8	16.3	16.8
<b>Receiving Payments</b>				
■ Counts				
• Service		89	157	170
• Disability		62	85	88
• Beneficiaries		18	28	28
• Total	93	169	270	286
■ Average Annual County Provided Benefit <sup>3</sup>				
• Service		\$25,500	\$32,500	\$32,000
• Disability		15,300	17,900	18,100
• Service Retirements in last 5 years		32,700	35,600	32,000

<sup>3</sup> Average County provided pensions are based on County service & County benefit formula, and are not representative of benefits for long service employees.

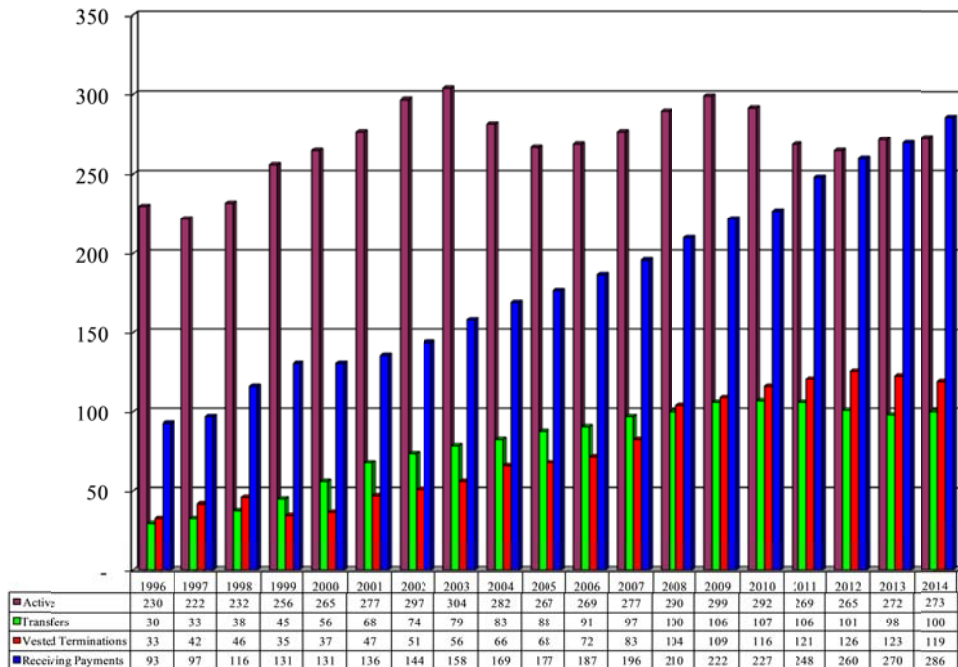


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## MEMBERS INCLUDED IN VALUATION - SAFETY



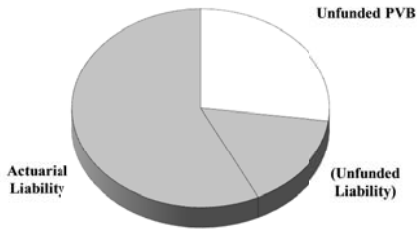
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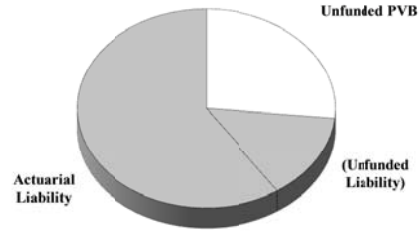


## PLAN FUNDED STATUS - SAFETY

**Present Value of Benefits  
June 30, 2013**



**Present Value of Benefits  
June 30, 2014**



<u>June 30, 2013</u>		<u>June 30, 2014</u>
\$ 56,100,000	<b>Active AAL</b>	\$ 63,900,000
92,900,000	<b>Retiree AAL</b>	102,300,000
<u>10,900,000</u>	<b>Inactive AAL</b>	<u>9,400,000</u>
159,900,000	<b>Total AAL</b>	175,600,000
<u>115,900,000</u>	<b>Market Asset Value</b>	<u>134,100,000</u>
(44,000,000)	<b>(Unfunded Liability)</b>	(41,500,000)

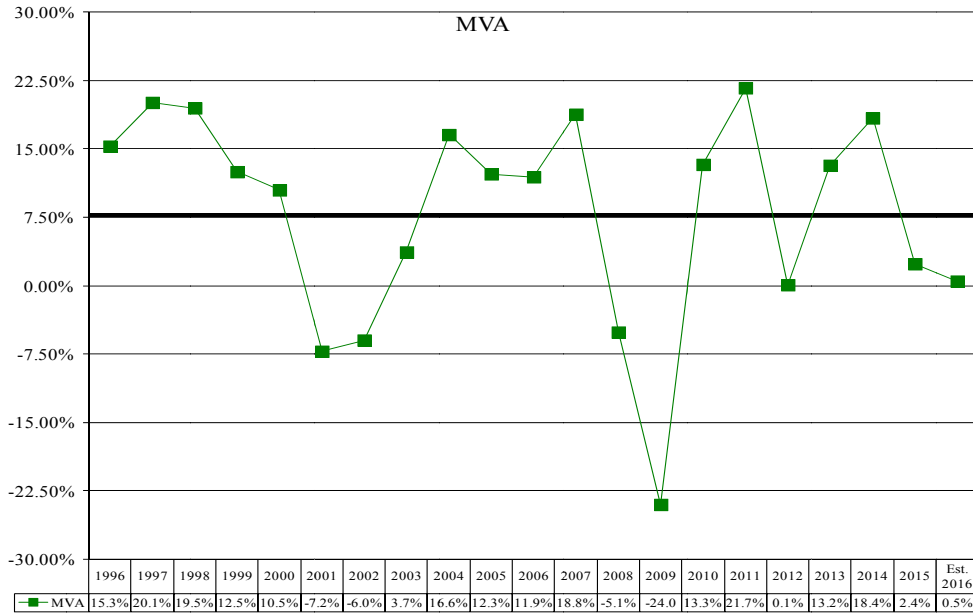


## PLAN FUNDED STATUS - SAFETY

- What happened between 6/30/13 and 6/30/14?
  - Unfunded Liability (Increase)/Decrease ≈ \$2.5 million
- Reasons for Unfunded Liability increase
  - Asset gain/(loss): ≈ \$11.4 million
  - Assumption Change gain/(loss): ≈ \$(8.8) million
  - Actuarial gain/(loss): ≈ \$1.5 million
    - Average Salary \$54,700 → \$56,400
    - Number of Actives 272 → 273
    - Number of Inactives 221 → 219
    - Number of Retirees 270 → 286
  - Other gain/(loss): ≈ \$(1.6) million
    - Contributions
    - Other (expected)



## INVESTMENT RETURN - SAFETY



Above assumes contributions, payments, etc. received evenly throughout year.  
 Estimated June 30, 2016 based on CalPERS actual return through 3/31/16 and  
 assumed 7.5% annual return for the remaining 3 months.

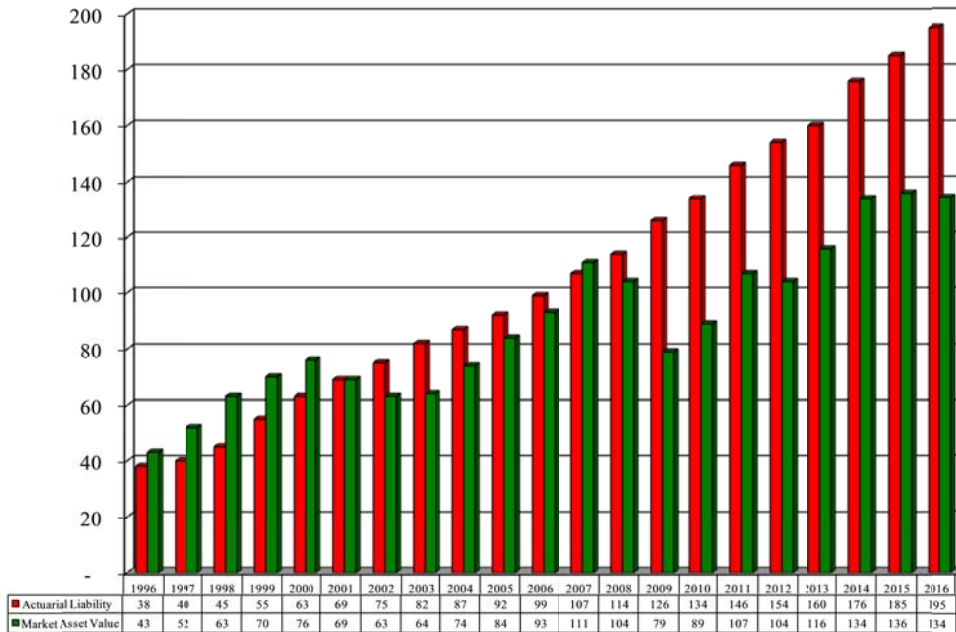


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## FUNDED STATUS (MILLIONS) - SAFETY

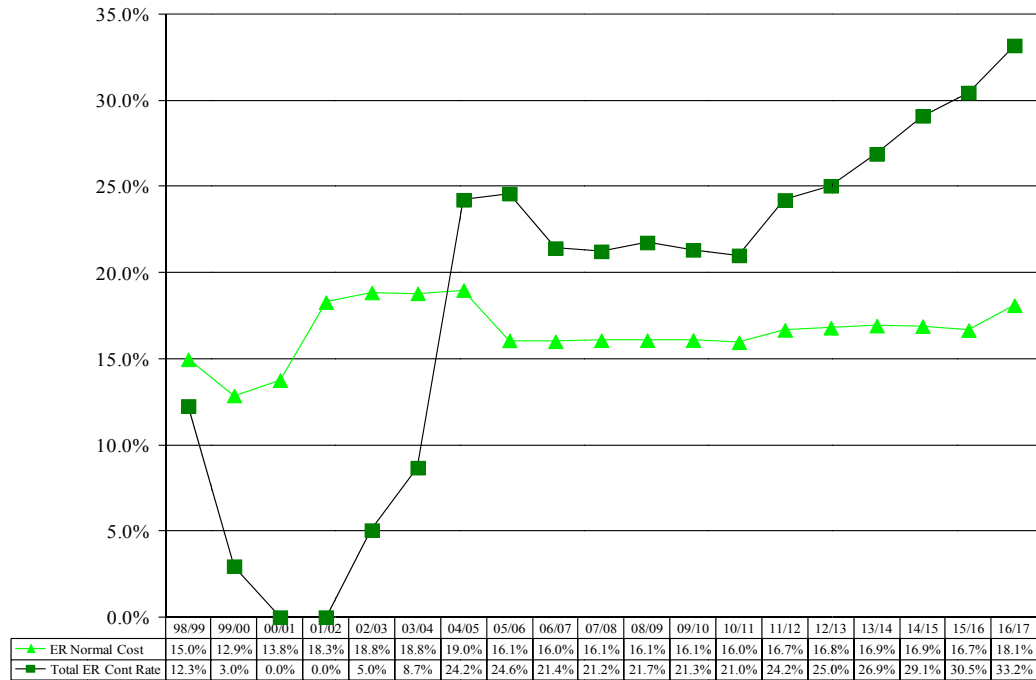


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## CONTRIBUTION RATES - SAFETY



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## CONTRIBUTION RATES - SAFETY

	<b><u>6/30/13</u></b> <b><u>2015/2016</u></b>	<b><u>6/30/14</u></b> <b><u>2016/2017</u></b>
■ Total Normal Cost	25.7%	27.2%
■ Employee Normal Cost	9.0%	9.1%
■ Employer Normal Cost	16.7%	18.1%
■ Amortization Bases	<u>13.8%</u>	<u>15.1%</u>
■ Total Employer Contribution Rate	30.5%	33.2%
■ Amortization Period	Multiple	Multiple
■ What Happened from 6/30/13 to 6/30/14:		
● 2015/16 Rate	30.5%	
● Asset Method Change (2 <sup>nd</sup> Year)	1.3%	
● Assumption Change (1 <sup>st</sup> Year)	2.9%	
● (Gains)/Losses	<u>(1.5)%</u>	
● 2016/17 Rate	33.2%	



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## CONTRIBUTION PROJECTIONS - SAFETY

■ Market Value Investment Return:

- June 30, 2014 18.4%<sup>2</sup>
- June 30, 2015 2.4%<sup>2</sup>
- June 30, 2016 0.5%<sup>2</sup>
- Future returns<sup>4</sup> based on stochastic analysis using 1,000 trials

Single Year Returns at 25<sup>th</sup> Percentile      50<sup>th</sup> Percentile      75<sup>th</sup> Percentile

- 7.5% Investment Mix **0.6%** **7.5%** **15.3%**
- 6.5% Investment Mix **1.3%** **6.5%** **11.9%**

■ No Other: Gains/Losses, Method/Assumption Changes, Benefit Improvements

■ Excludes Employer Paid Member Contributions (EPMC)

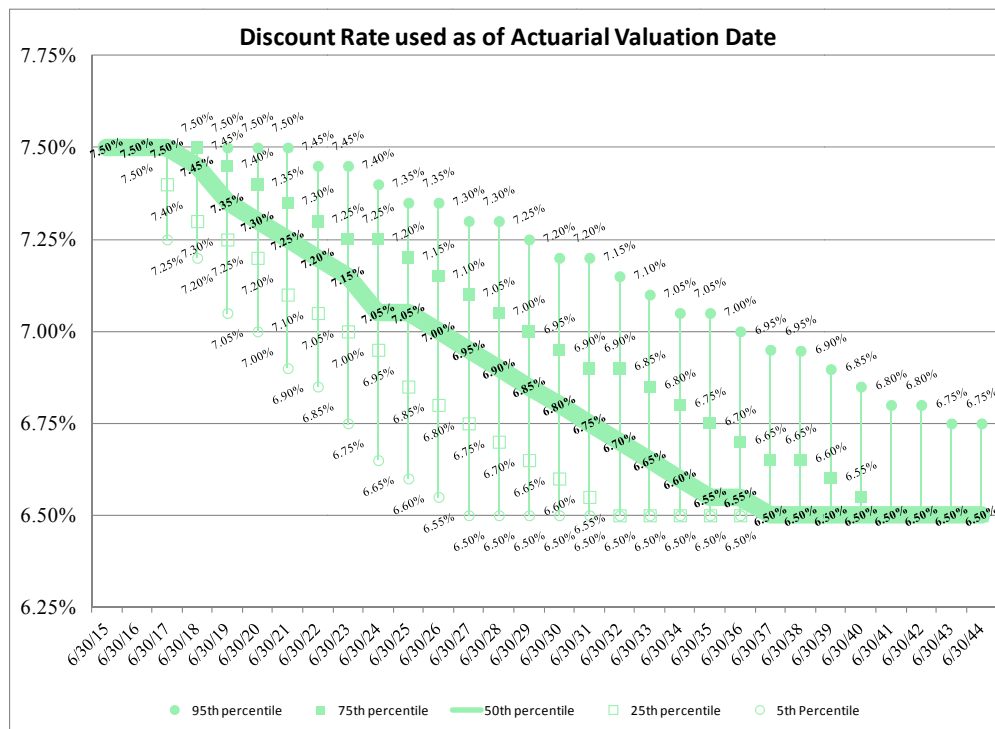
■ New hire assumptions:

- Assumes 50% of 2013 new hires will be Classic Members (3%@50) and 50% will be New Members with PEPRAs benefits.
- Assumes Classic Members will decrease from 50% to 0% of new hires over 10 years

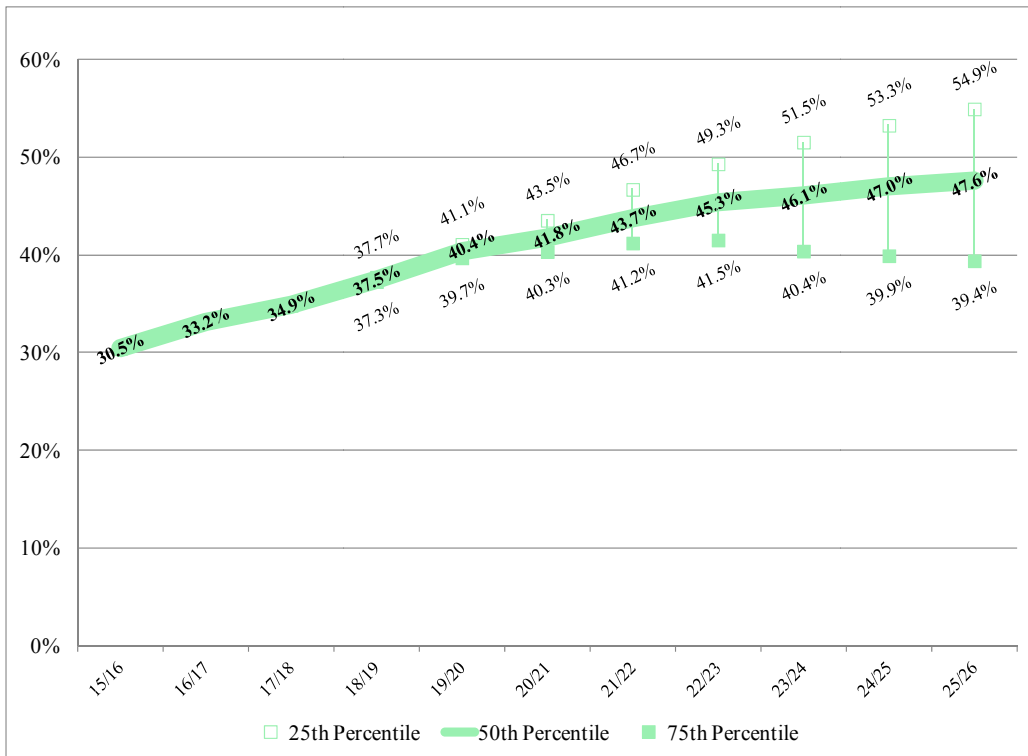
<sup>4</sup> June 30, 2016 return based on CalPERS return of (1.3%) through 3/31/16 and assumed future returns for 3 months.



## CONTRIBUTION PROJECTIONS - SAFETY



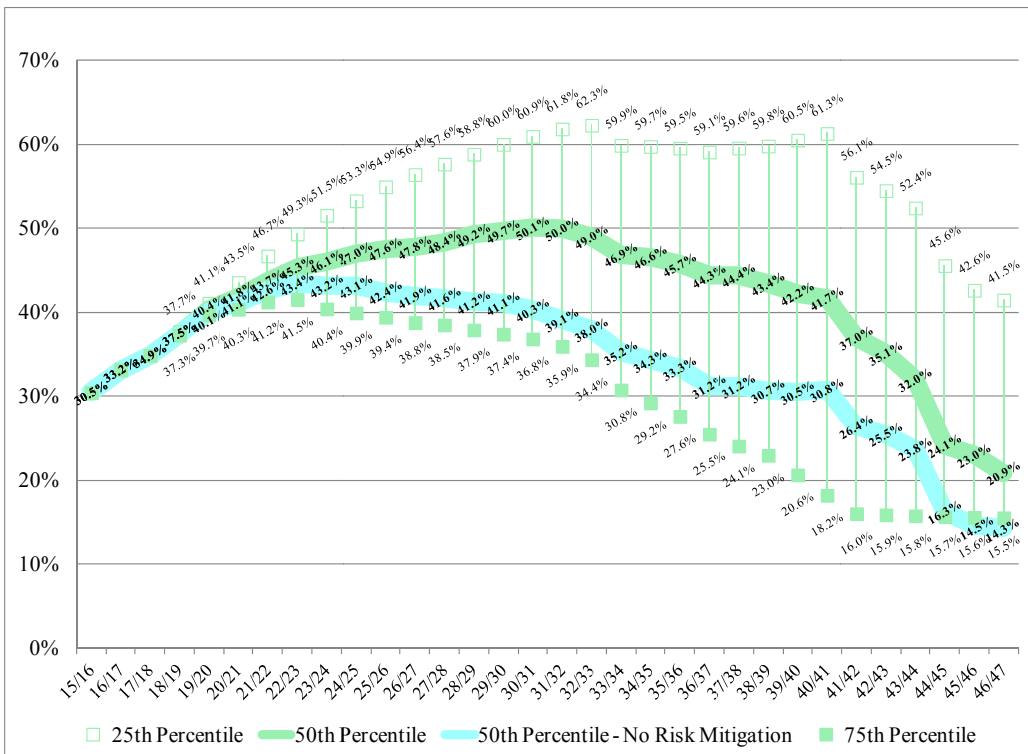
## CONTRIBUTION PROJECTIONS - SAFETY



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## CONTRIBUTION PROJECTIONS - SAFETY

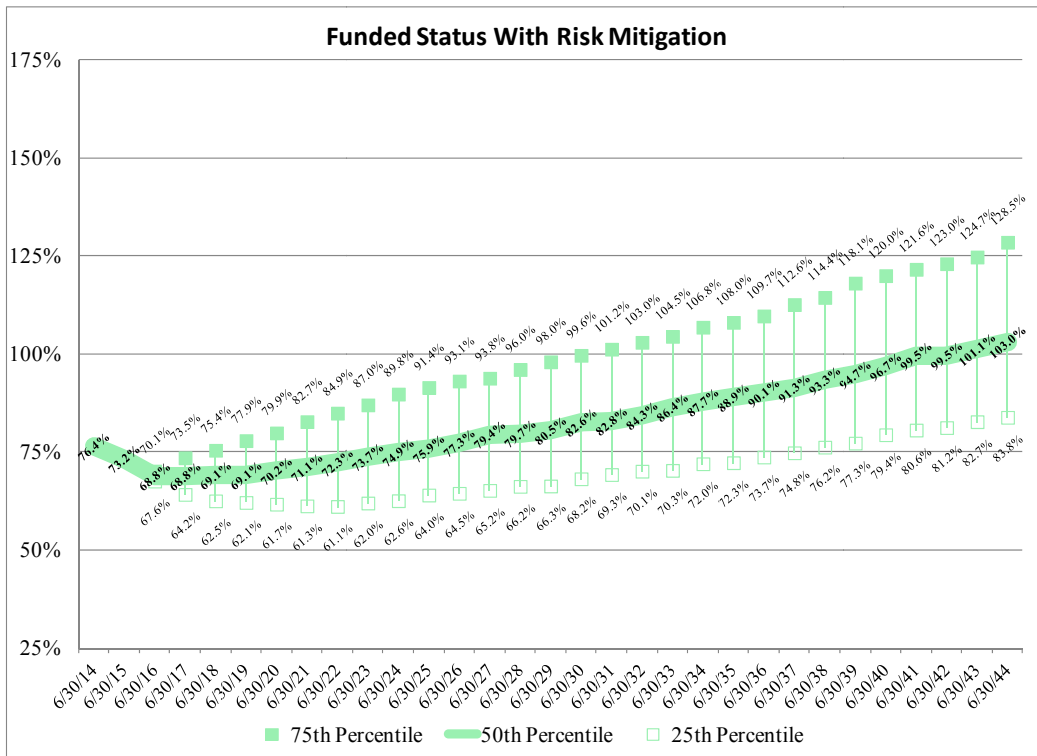


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## CONTRIBUTION PROJECTIONS - SAFETY



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## CONTRIBUTION PROJECTIONS - SAFETY

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## 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

	<u>Current Members</u>		<u>New Members</u>
	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 3</u>
	<u>2.7% @ 55</u>	<u>2% @ 55</u>	<u>2.5% @ 67</u>
	<u>FAE1</u>	<u>FAE3</u>	<u>FAE3</u>
● Employer Normal Cost	11.2%	7.9%	7.00%
● Member Normal Cost	<u>7.9%</u>	<u>6.9%</u>	<u>6.25%</u>
● Total Normal Cost	19.1%	14.8%	13.25%
● 50% Target	9.55%	7.4%	6.63%



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## PEPRA COST SHARING

- Safety Plan

	<u>Current Members</u>		<u>New Members</u>
	<u>Peace</u>	<u>Fire</u>	
	<u>3% @ 50</u>	<u>3% @ 50</u>	<u>2.7% @ 57</u>
	<u>FAE1</u>	<u>FAE3</u>	<u>FAE3</u>
● Employer Normal Cost	18.3%	17.8%	11.60%
● Member Normal Cost	<u>9.0%</u>	<u>9.0%</u>	<u>11.75%</u>
● Total Normal Cost	27.3%	26.8%	23.35%
● 50% Target	13.65%	13.40%	11.70%



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**IRREVOCABLE SUPPLEMENTAL (\$115) PENSION TRUST**

- ≈30 trusts established
- PARS & PFM
- Investments significantly less restricted than County investment funds
  - Designed for long term returns
  - Likely much higher (5% - 7%) investment return
- Assets could not be used by the Board for other purposes
- Can only be used to
  - Reimburse County for CalPERS contributions
  - Make payments directly to CalPERS
- Parameters: Miscellaneous

	A	B	C
● Initial seed money?	\$ 6,000	\$ 8,000	\$ 9,500
● Additional amount contributed in future years?	500	0	0
● Target budget rate?	29%	29%	29%
● Year target budget rate kicks in?	20/21	18/19	20/21
<input type="checkbox"/> Before or after CalPERS rate exceeds budgeted rate?	After	Before	After



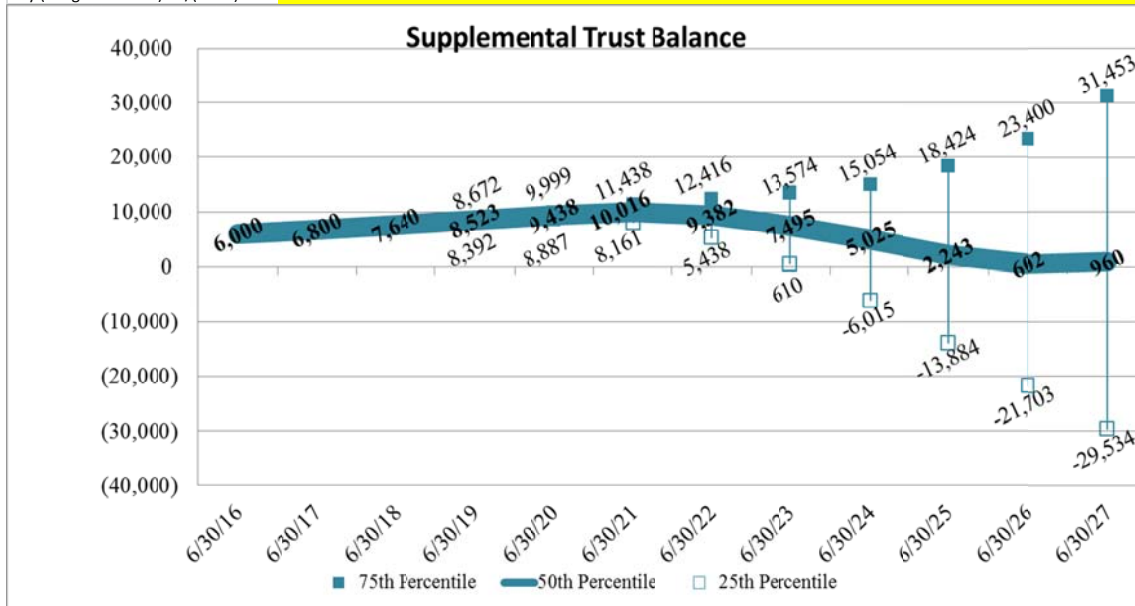
**IRREVOCABLE SUPPLEMENTAL (\$115) PENSION TRUST**

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## IRREVOCABLE SUPPLEMENTAL (\$115) PENSION TRUST

Initial 6/30/16 Fund Balance	6,000	<b>Miscellaneous Plan Rate Stabilization Fund Balance</b>										
Stabilization Fund - Rate of Return	5.0%											
Target Rate	29.0%											
	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	
End of Year Contribution - \$	500	500	500	500	500	500	500	500	500	500	500	
Pay (Budget-CalPERS) To/(From) Trust	N	N	N	N	Y	Y	Y	Y	Y	Y	N	

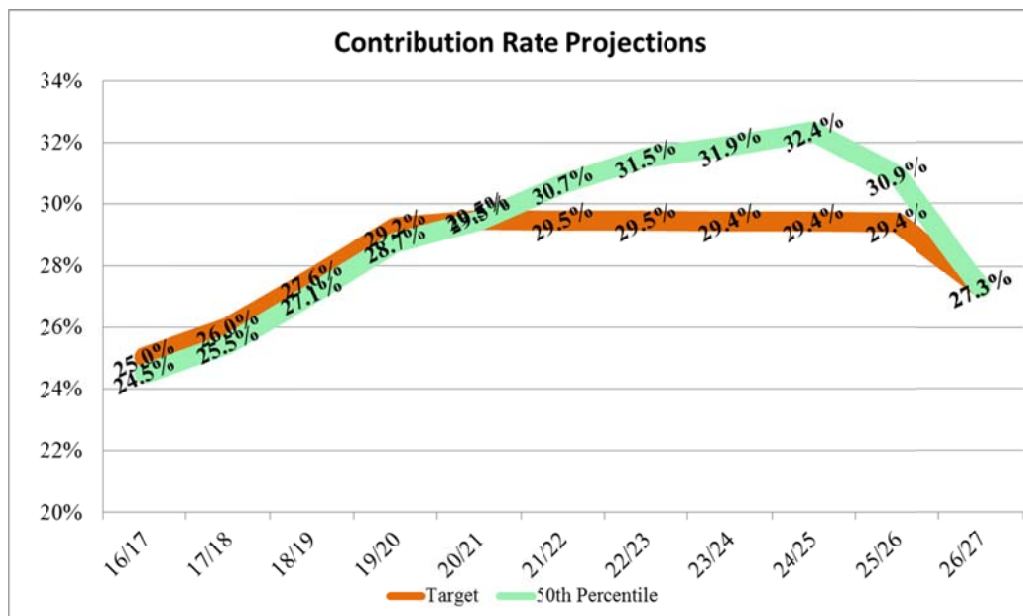


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## IRREVOCABLE SUPPLEMENTAL (\$115) PENSION TRUST



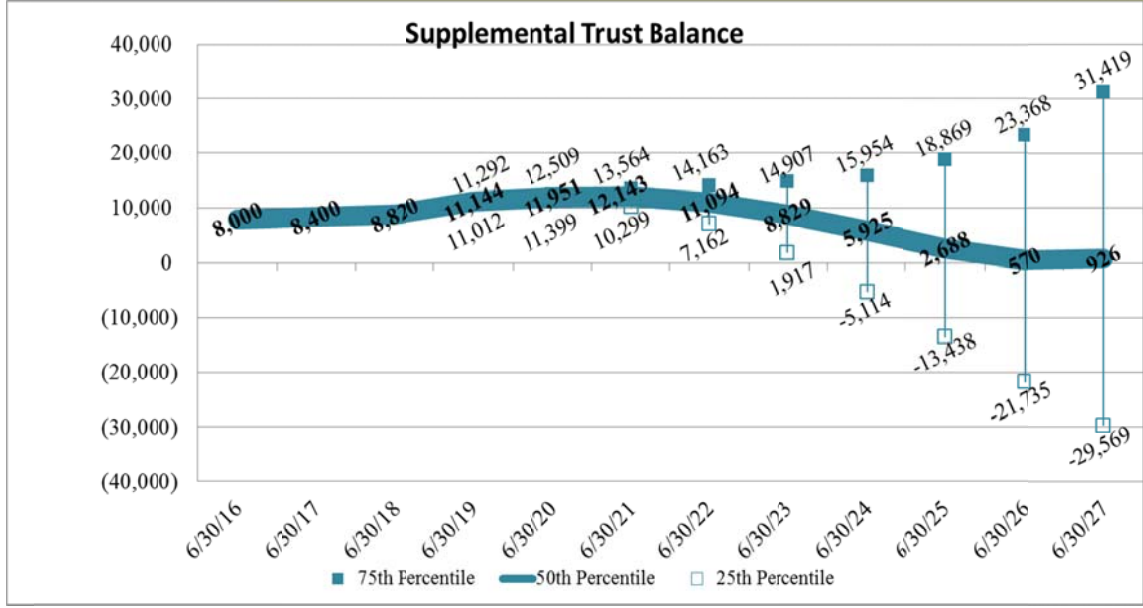
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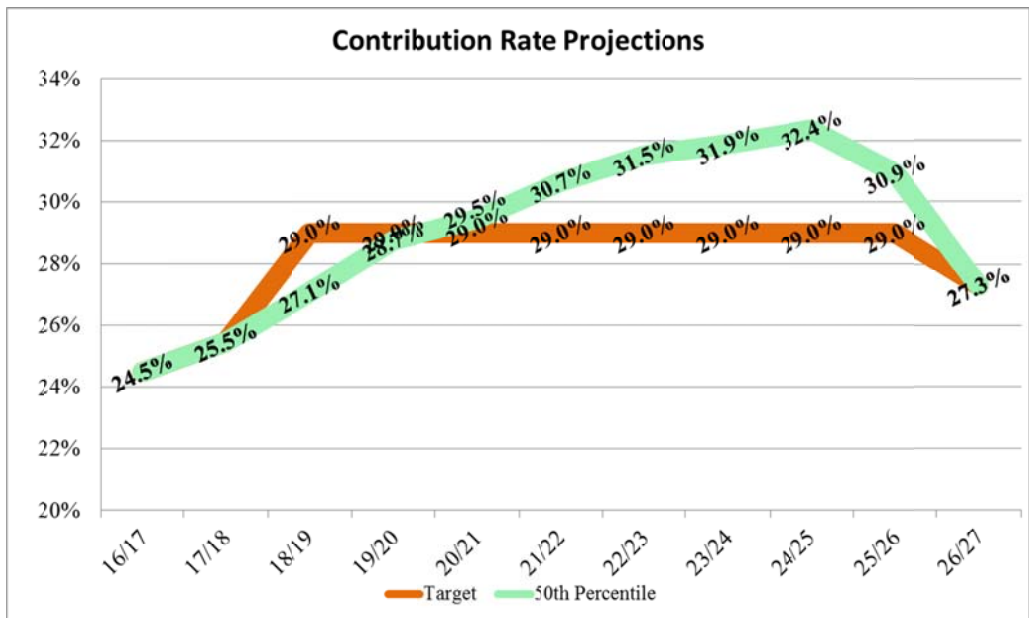


## IRREVOCABLE SUPPLEMENTAL (\$115) PENSION TRUST

Initial 6/30/16 Fund Balance	8,000	<b>Miscellaneous Plan Rate Stabilization Fund Balance</b>										
Stabilization Fund - Rate of Return	5.0%											
Target Rate	29.0%											
		16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
End of Year Contribution - \$												
Pay (Budget-CalPERS) To/(From) Trust		N	N	Y	Y	Y	Y	Y	Y	Y	Y	N

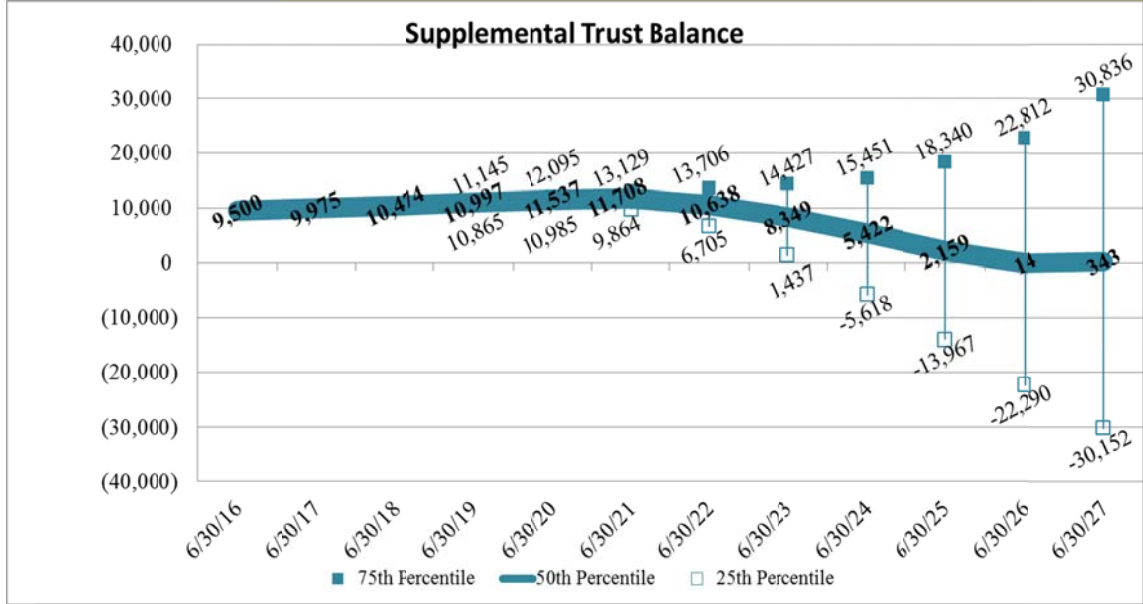


## IRREVOCABLE SUPPLEMENTAL (\$115) PENSION TRUST



## IRREVOCABLE SUPPLEMENTAL (\$115) PENSION TRUST

Initial 6/30/16 Fund Balance	9,500	<b>Miscellaneous Plan Rate Stabilization Fund Balance</b>										
Stabilization Fund - Rate of Return	5.0%											
Target Rate	29.0%											
	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	
End of Year Contribution - \$												
Pay (Budget-CalPERS) To/(From) Trust	N	N	N	N	Y	Y	Y	Y	Y	Y	N	



## IRREVOCABLE SUPPLEMENTAL (\$115) PENSION TRUST

