



COUNTY OF EL DORADO

MISCELLANEOUS AND SAFETY PLANS

BARTEL
ASSOCIATES, LLC

CalPERS Actuarial Issues – 6/30/15 Valuation Preliminary Results

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April 17, 2017

Agenda

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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)
- CalPERS Board will change their discount rate:

	<u>Rate</u>	<u>Initial</u>	<u>Full</u>
● 6/30/16 valuation	7.375%	18/19	22/23
● 6/30/17 valuation	7.25%	19/20	23/24
● 6/30/18 valuation	7.00%	20/21	24/25
● Risk mitigation suspended until 6/30/18			



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CALPERS CHANGES

- CalPERS Board reviewing their Capital Market Assumptions next summer/fall
May result in further discount rate changes
- 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 6.0% over 20+ years



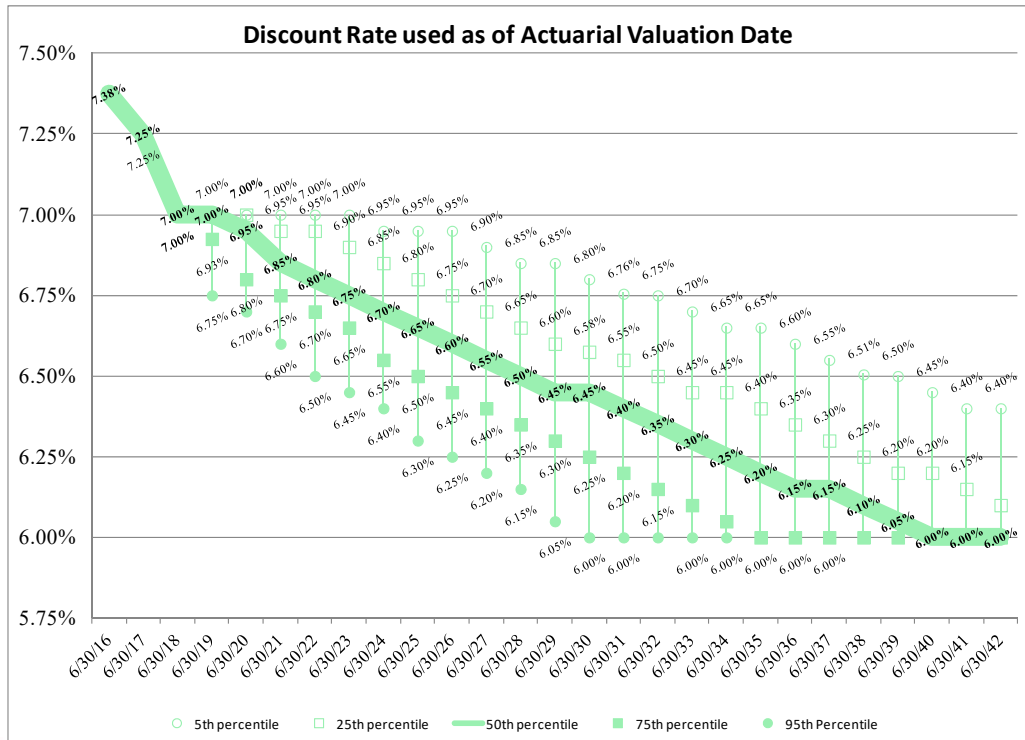
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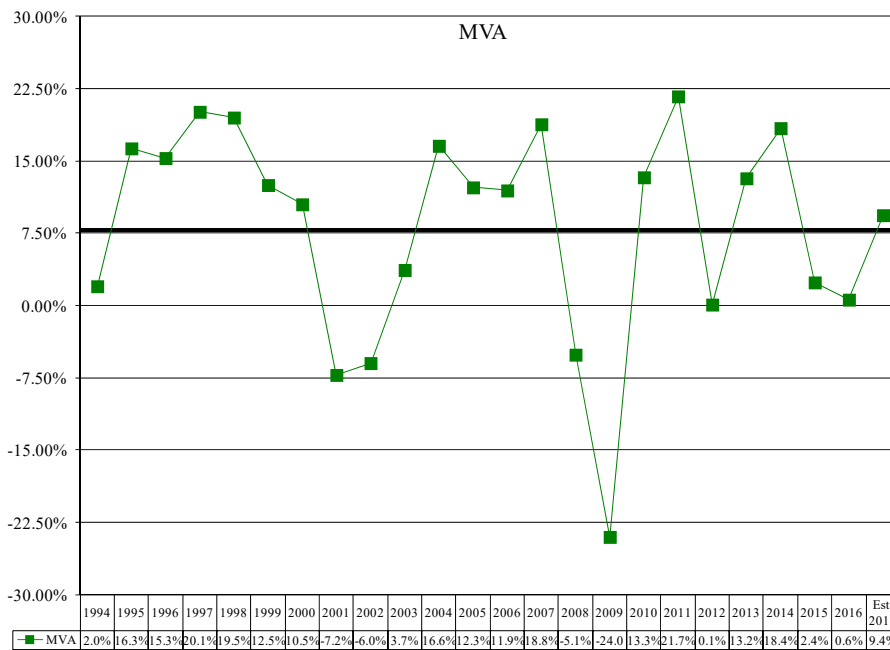
CALPERS CHANGES



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INVESTMENT RETURN



Above assumes contributions, payments, etc. received evenly throughout year.
 Averages (geometric): 7.8% for all years, 7.0% last 20 years, 5.0% last 10 years
 (excludes the estimated 16/17 return).



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SUMMARY OF DEMOGRAPHIC INFORMATION - MISCELLANEOUS

	2006	2010	2014	2015
Actives				
■ Counts	1,614	1,476	1,437	1,461
■ Average				
• Age	47	49	48	48
• County Service	8	10	10	9
• PERSable Wages	\$50,100	\$55,200	\$57,100	\$60,300
■ Total PERSable Wages (millions)	80.8	81.5	82.0	88.2
Receiving Payments				
■ Counts				
• Service		1,448	1,443	1,509
• Disability		117	118	118
• Beneficiaries		179	136	138
• Total	1,456	1,744	1,697	1,765
■ Average Annual County Provided Benefit ¹				
• Service		\$11,500	\$17,400	\$17,800
• Disability		6,700	8,400	8,600
• Service Retirements in last 5 years		15,600	20,500	20,300

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

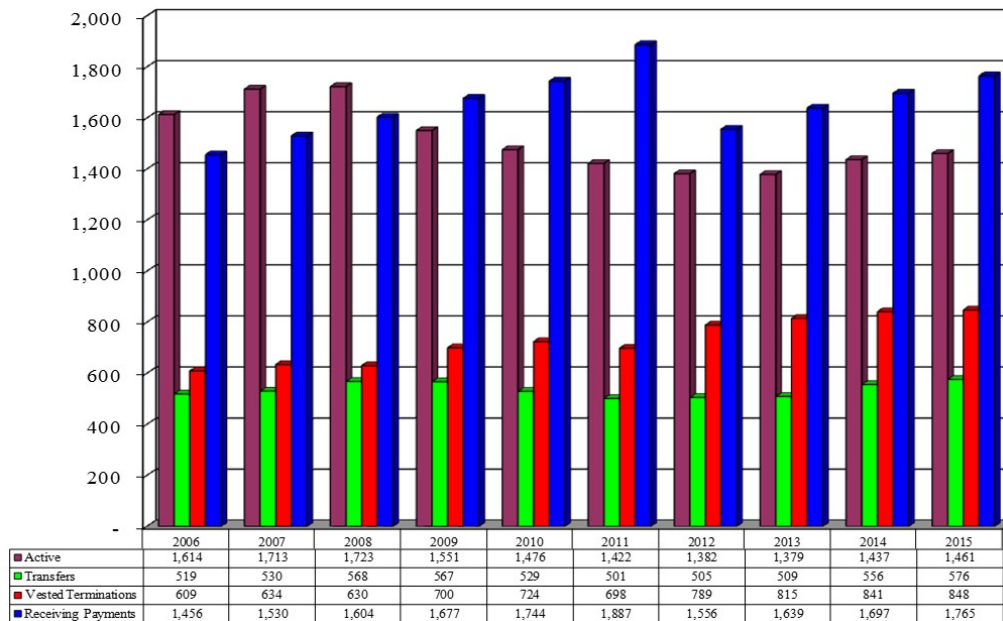


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MEMBERS INCLUDED IN VALUATION - MISCELLANEOUS



Valuations prior to 2012, 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 separately for different coverage groups.



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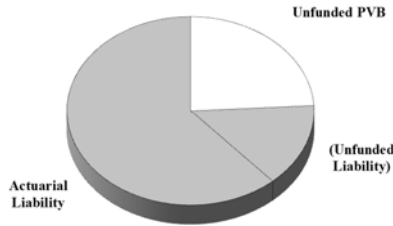
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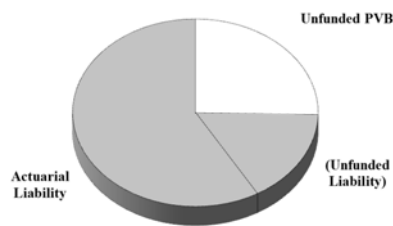
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PLAN FUNDED STATUS - MISCELLANEOUS

Present Value of Benefits
June 30, 2014



Present Value of Benefits
June 30, 2015



<u>June 30, 2014</u>		<u>June 30, 2015</u>
\$ 207,500,000	Active AAL	\$ 223,900,000
334,300,000	Retiree AAL	353,700,000
<u>51,800,000</u>	Inactive AAL	<u>54,700,000</u>
593,600,000	Total AAL	632,300,000
<u>455,100,000</u>	Market Asset Value	<u>457,100,000</u>
(138,500,000)	(Unfunded Liability)	(175,200,000)



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PLAN FUNDED STATUS - MISCELLANEOUS

- What happened between 6/30/14 and 6/30/15?
 - Unfunded Liability (Increase)/Decrease ≈ \$(36.7) million
- Reasons for Unfunded Liability decrease
 - Asset gain/(loss): ≈ \$(24.0) million
 - Actuarial gain/(loss): ≈ \$(10.0) million
 - Average Salary \$57,100 → \$60,300
 - Number of Actives 1,437 → 1,461
 - Number of Inactives 1,397 → 1,424
 - Number of Retirees 1,697 → 1,765
 - Other gain/(loss): ≈ \$(2.7) million
 - Contributions
 - Other (expected)



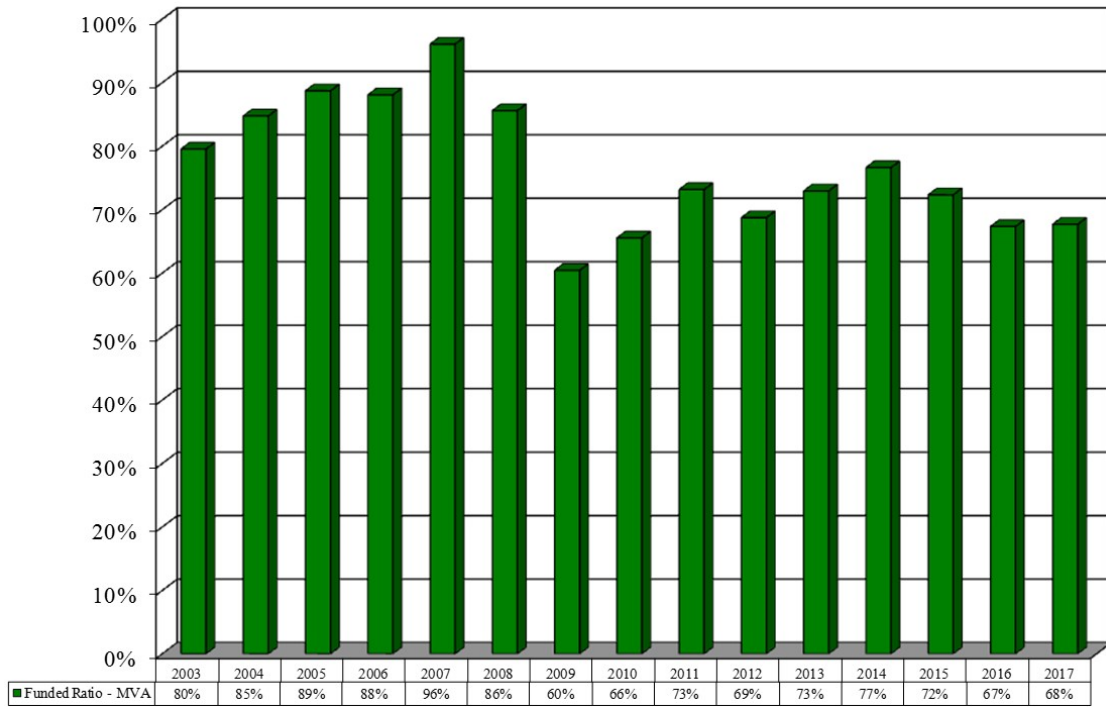
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FUNDED RATIO - MISCELLANEOUS



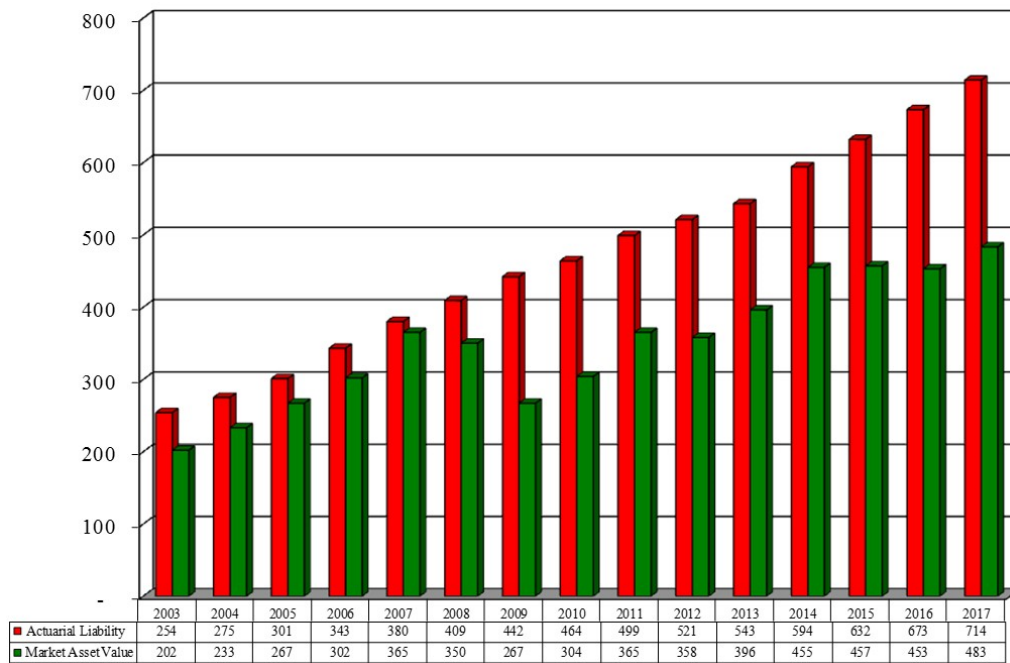
6/30/16 & 6/30/17 funded status estimated.



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FUNDED STATUS (MILLIONS) - MISCELLANEOUS



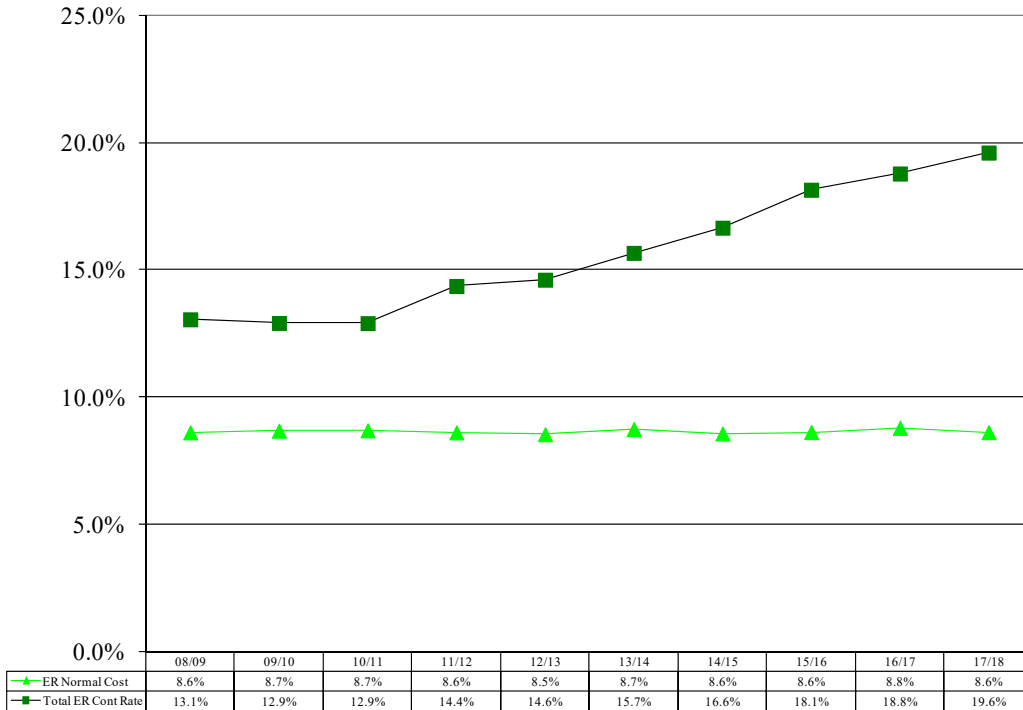
6/30/16 & 6/30/17 funded status estimated.



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CONTRIBUTION RATES - MISCELLANEOUS



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CONTRIBUTION RATES - MISCELLANEOUS

	<u>6/30/14</u> <u>2016/2017</u>	<u>6/30/15</u> <u>2017/2018</u>
■ Total Normal Cost	15.7%	15.5%
■ Employee Normal Cost	6.9%	6.9%
■ Employer Normal Cost	8.8%	8.6%
■ Amortization Bases	<u>10.0%</u>	<u>11.0%</u>
■ Total Employer Contribution Rate	18.8%	19.6%
■ Amortization Period	Multiple	Multiple
■ What Happened from 6/30/14 to 6/30/15:		
● 2016/17 Rate		18.8%
● Asset Method Change (3 rd Year)		0.9%
● Assumption Change (2 nd Year)		0.6%
● 6/30/14 (Gains)/Losses (2 nd Year)		(0.7%)
● Payroll Increased More Than Expected		(0.3%)
● 6/30/15 (Gains)/Losses (1 st Year)		<u>0.3%</u>
● 2017/18 Rate		19.6%



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CONTRIBUTION PROJECTIONS - MISCELLANEOUS

- Market Value Investment Return:
 - June 30, 2016 0.6%²
 - June 30, 2017 9.4%³
 - Future returns based on stochastic analysis using 1,000 trials
- | <u>Single Year Returns at</u> ⁴ | <u>25th Percentile</u> | <u>50th Percentile</u> | <u>75th Percentile</u> |
|--|-----------------------------------|-----------------------------------|-----------------------------------|
| ● 7.0% Investment Mix | 0.1% | 7.0% | 14.8% |
| ● 6.0% Investment Mix | 0.8% | 6.0% | 11.4% |
- Assumes investment returns will, generally be 6.5% (as compared to 7.0%) over the next 10 years and higher beyond that.
- No Other: Gains/Losses, Method/Assumption Changes, Benefit Improvements
 - Excludes Employer Paid Member Contributions (EPMC)
 - Tier 2 (2%@60) effective October 5, 2012

² Based on CalPERS CAFR

³ June 30, 2017 return based on CalPERS return of 7.1% through 2/28/17 and assumed returns for 4 months.

⁴ Nth percentile means N percentage of our trials result in returns lower than the indicated rates.



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CONTRIBUTION PROJECTIONS - MISCELLANEOUS

- New hire assumptions:
 - Assumes 50% of 2013 new hires will be Classic Tier 2 Members (2%@60) and 50% will be New Members with PEPRAs benefits
 - Assumes Classic Tier 2 Members will decrease from 50% to 0% of new hires over 20 years



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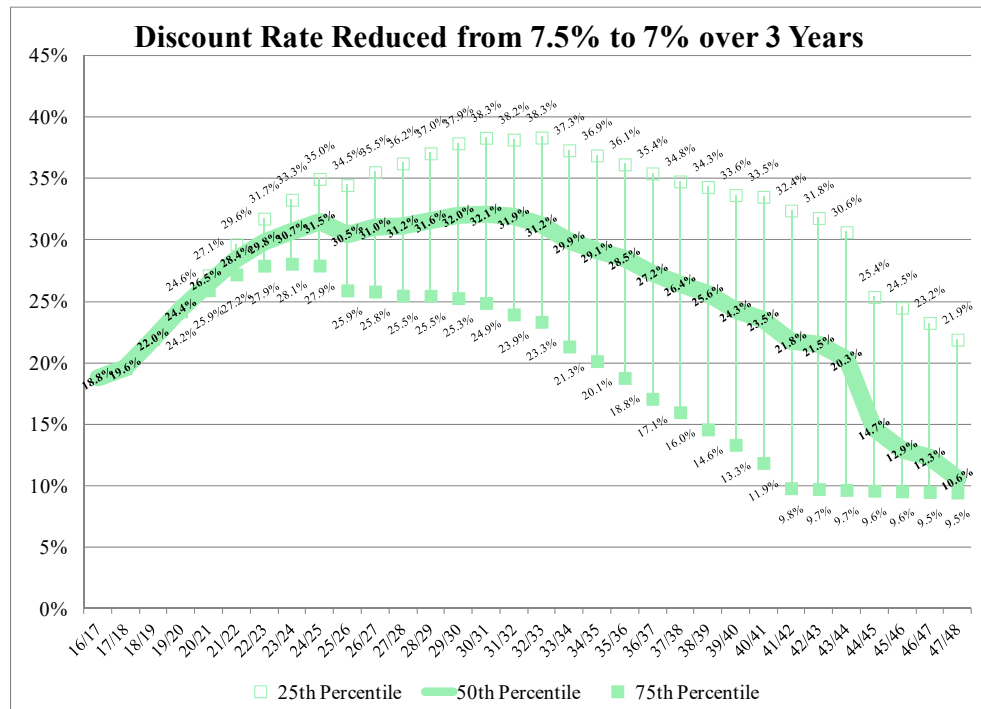
CONTRIBUTION PROJECTIONS - MISCELLANEOUS



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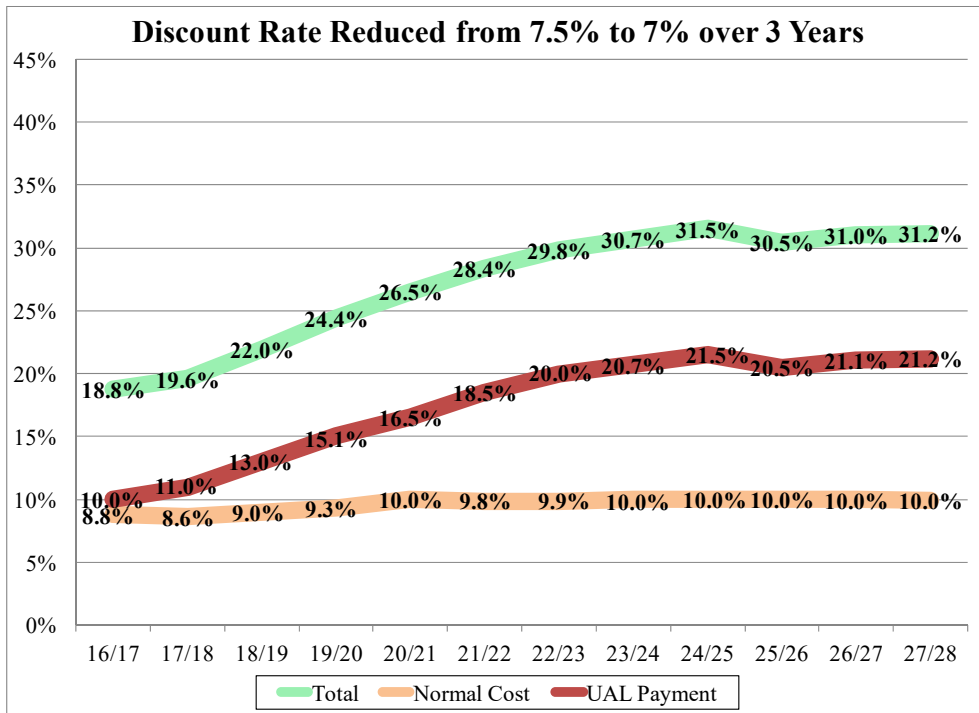
CONTRIBUTION PROJECTIONS - MISCELLANEOUS



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CONTRIBUTION PROJECTIONS - MISCELLANEOUS

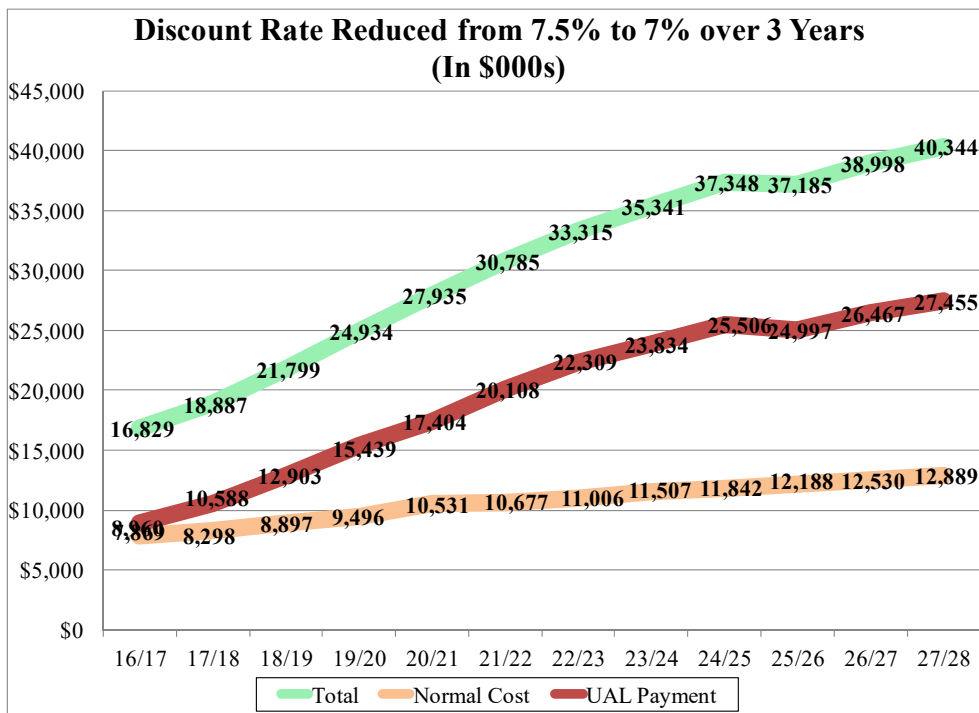


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CONTRIBUTION PROJECTIONS - MISCELLANEOUS

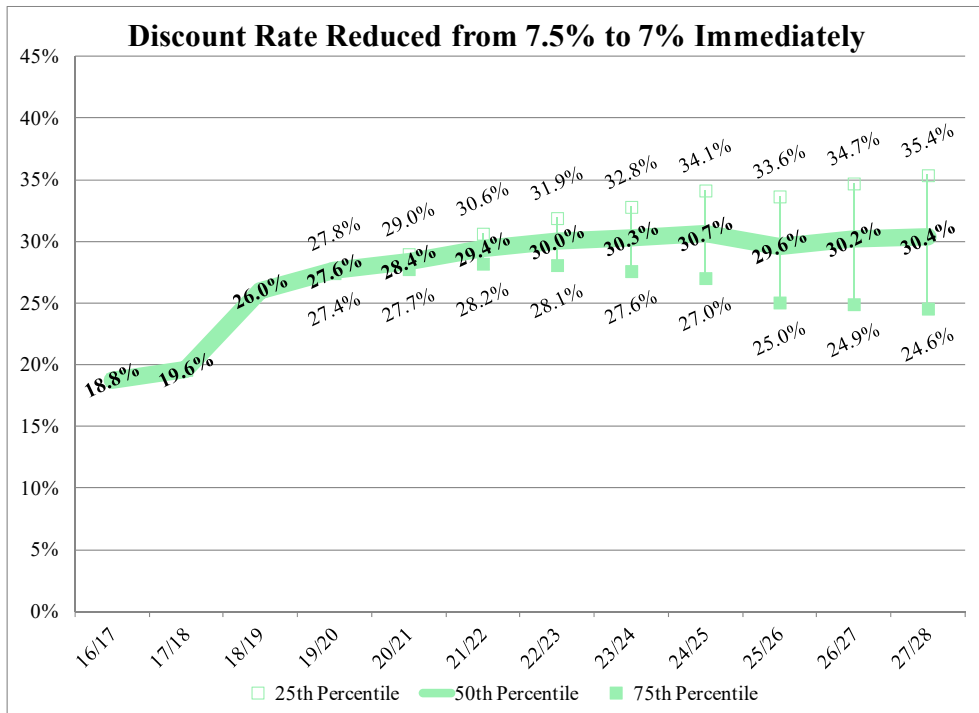


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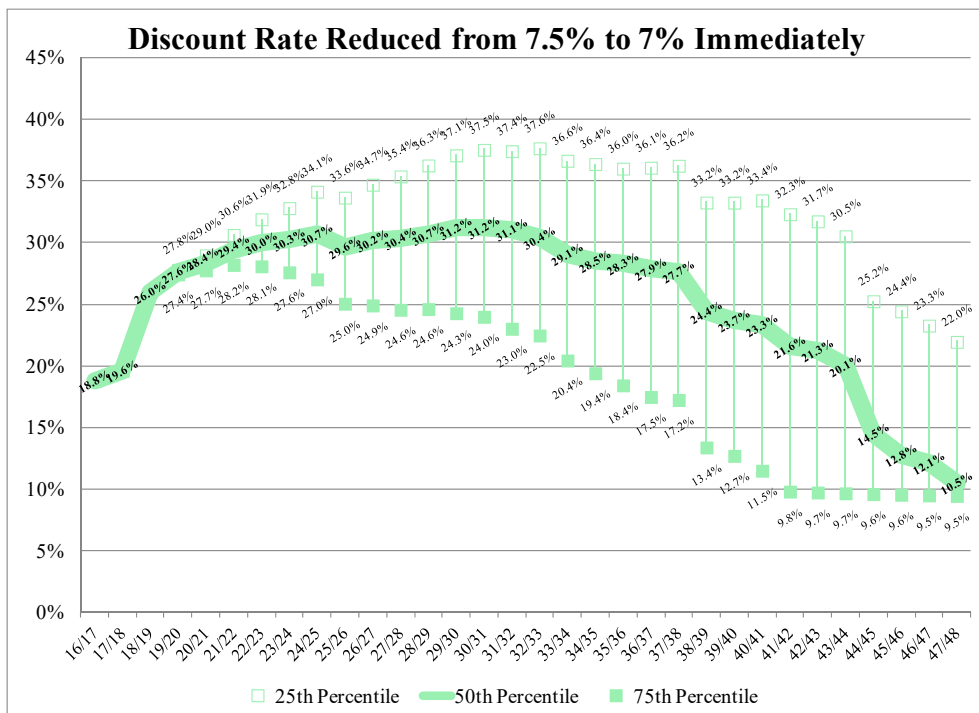
CONTRIBUTION PROJECTIONS - MISCELLANEOUS



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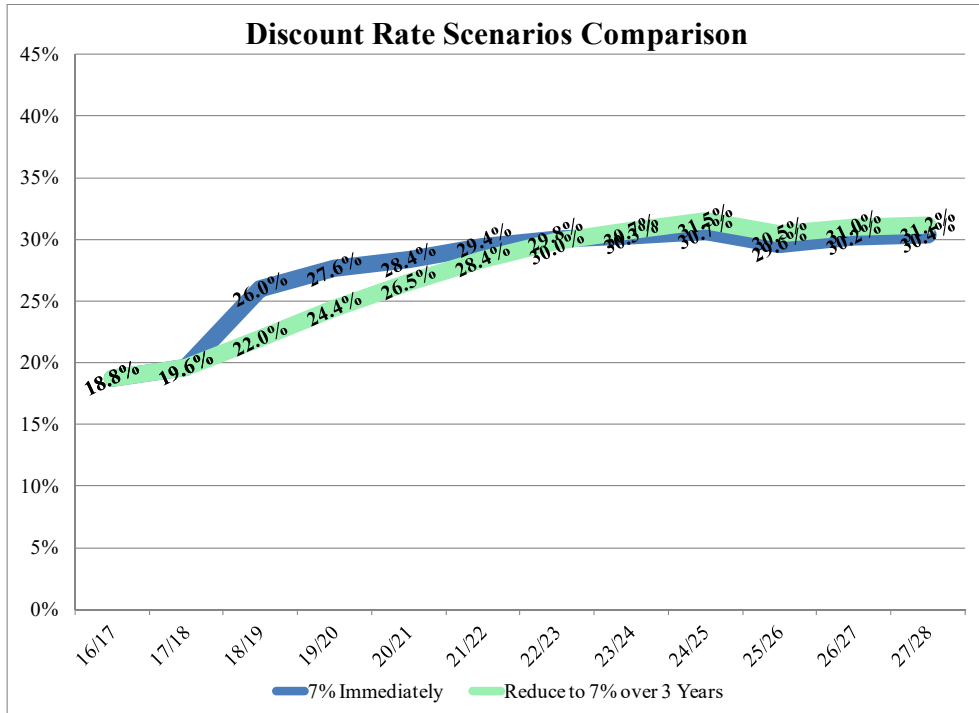
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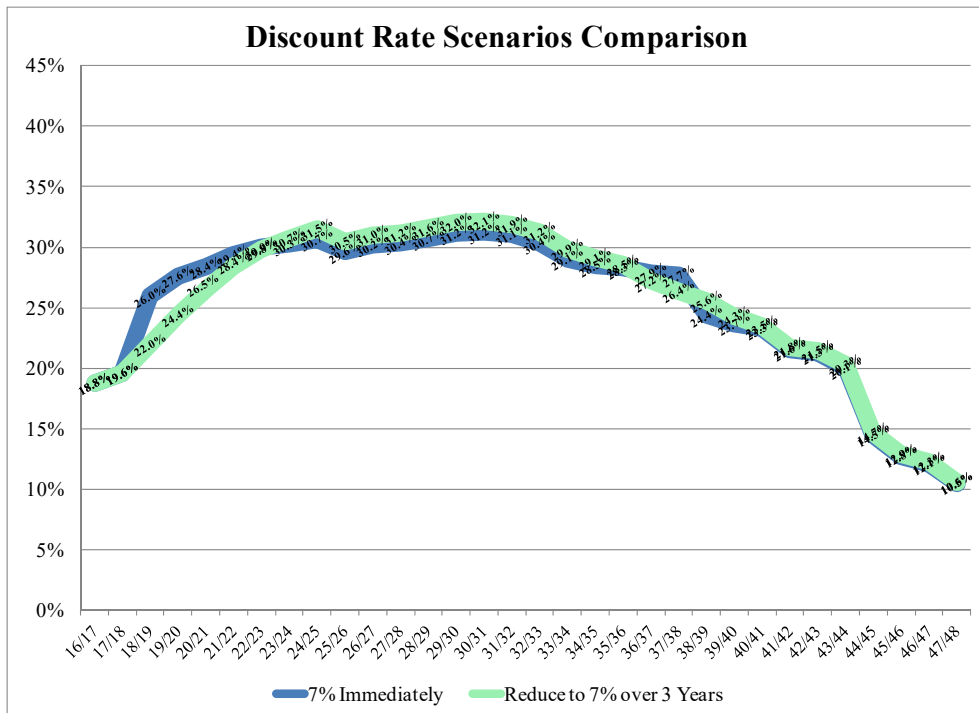
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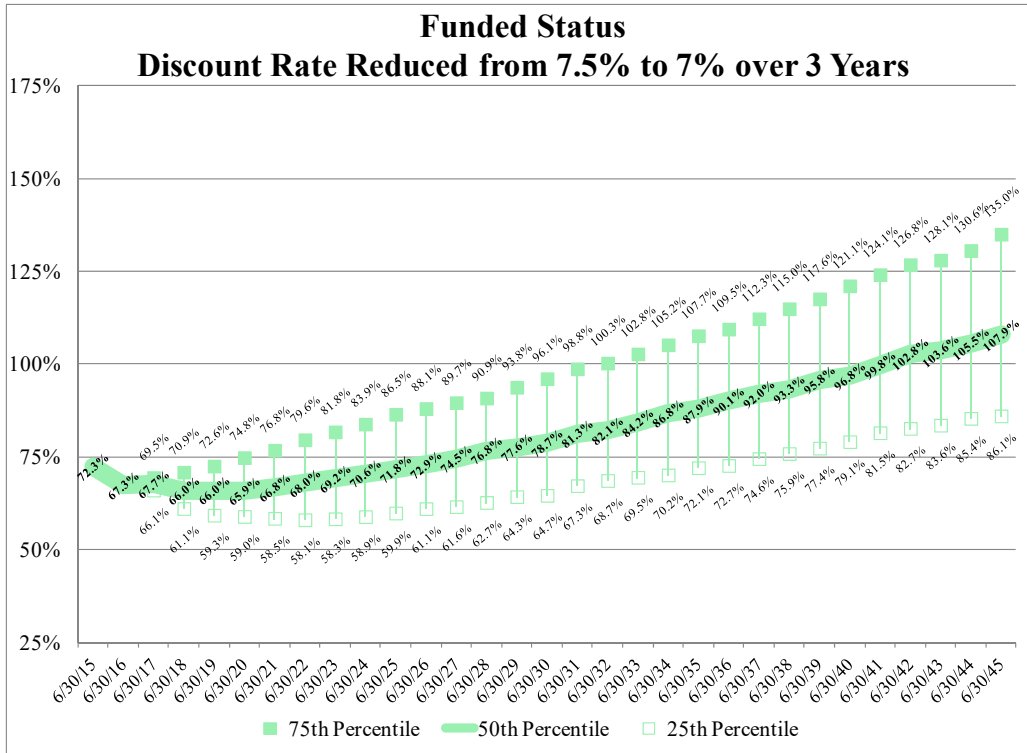
CONTRIBUTION PROJECTIONS - MISCELLANEOUS



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FUNDED STATUS - MISCELLANEOUS



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FUNDED STATUS - MISCELLANEOUS

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SUMMARY OF DEMOGRAPHIC INFORMATION - SAFETY

	2006	2010	2014	2015
Actives				
■ Counts	354	371	371	357
■ Average				
• Age	38	40	39	39
• County Service	8	10	10	10
• PERSable Wages	\$62,700	\$72,100	\$73,500	\$78,200
■ Total PERSable Wages (millions)	22.2	26.8	27.3	27.9
Receiving Payments				
■ Counts				
• Service		164	219	229
• Disability		97	112	118
• Beneficiaries		<u>20</u>	<u>22</u>	<u>25</u>
• Total	232	281	353	372
■ Average Annual County Provided Benefit ⁵				
• Service		\$36,100	\$42,600	\$43,600
• Disability		24,300	30,000	31,200
• Service Retirements in last 5 years		44,700	49,500	48,600

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

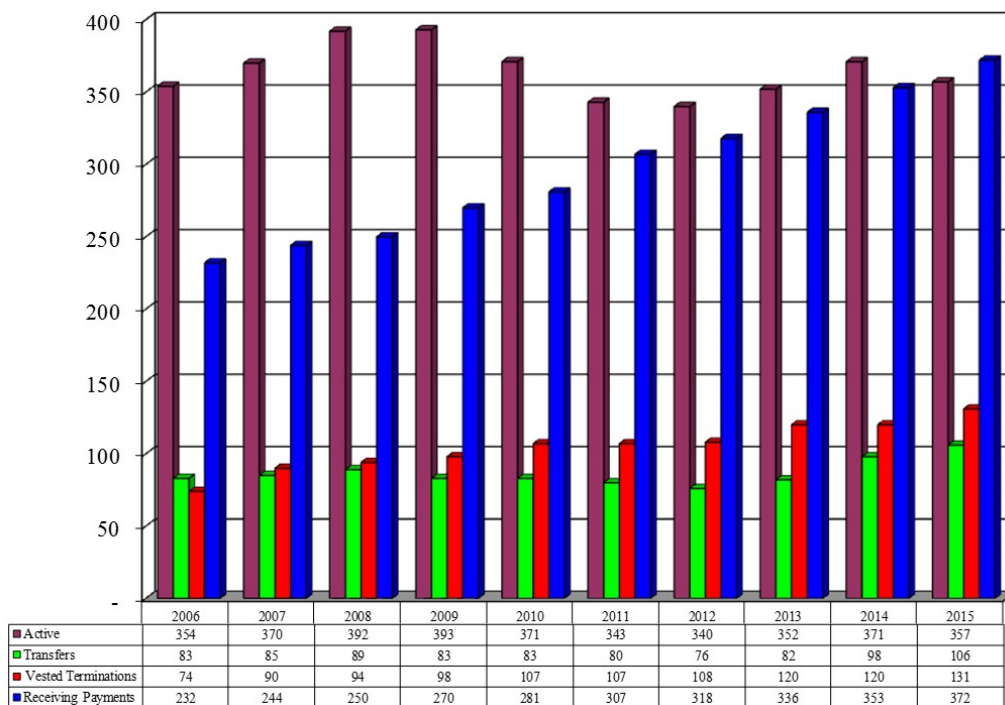


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MEMBERS INCLUDED IN VALUATION - SAFETY



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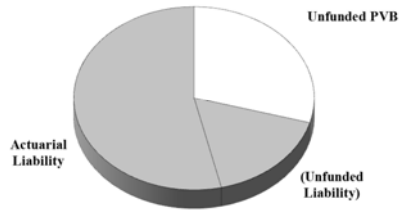
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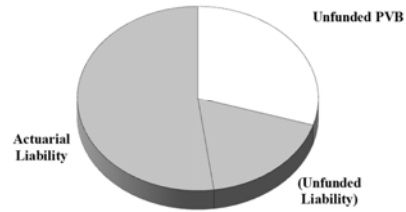
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PLAN FUNDED STATUS - SAFETY

Present Value of Benefits
June 30, 2014



Present Value of Benefits
June 30, 2015



<u>June 30, 2014</u>		<u>June 30, 2015</u>
\$ 98,000,000	Active AAL	\$ 100,000,000
184,100,000	Retiree AAL	197,700,000
<u>8,000,000</u>	Inactive AAL	<u>9,600,000</u>
290,100,000	Total AAL	307,300,000
<u>198,400,000</u>	Market Asset Value	<u>200,500,000</u>
(91,700,000)	(Unfunded Liability)	(106,800,000)



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PLAN FUNDED STATUS - SAFETY

- What happened between 6/30/14 and 6/30/15?
 - Unfunded Liability (Increase)/Decrease ≈ \$(15.1) million
- Reasons for Unfunded Liability decrease
 - Asset gain/(loss): ≈ \$(10.5) million
 - Actuarial gain/(loss): ≈ \$(2.2) million
 - Average Salary \$73,500 → \$78,200
 - Number of Actives 371 → 357
 - Number of Inactives 218 → 237
 - Number of Retirees 353 → 372
 - Other gain/(loss): ≈ \$(2.4) million
 - Contributions
 - Other (expected)



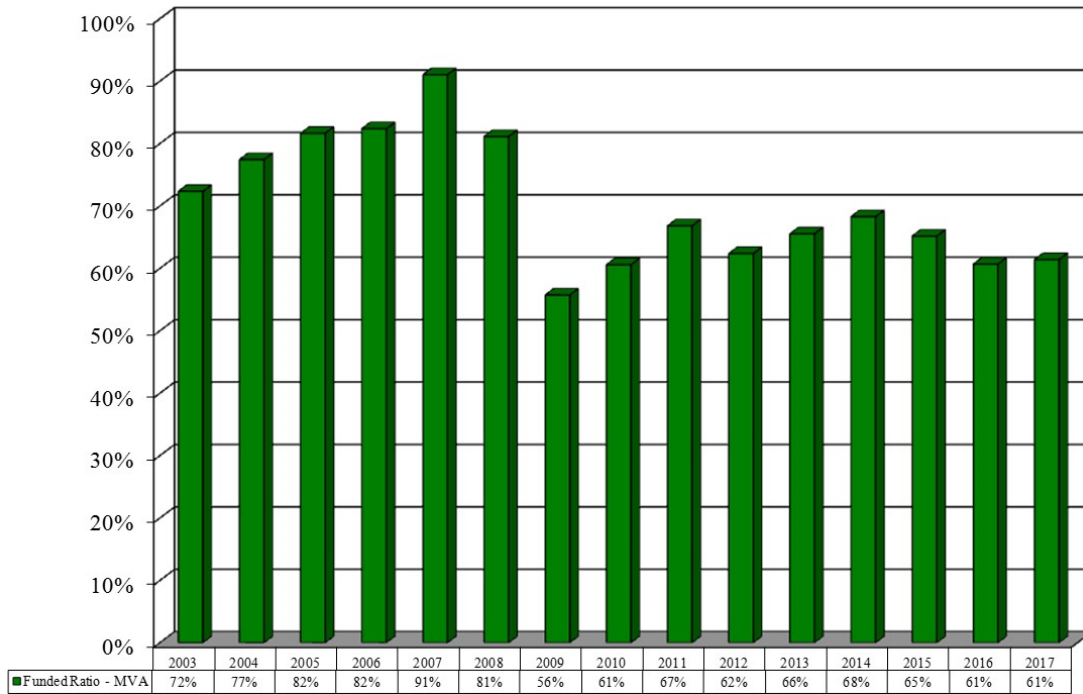
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FUNDED RATIO - SAFETY



6/30/16 & 6/30/17 funded status estimated.

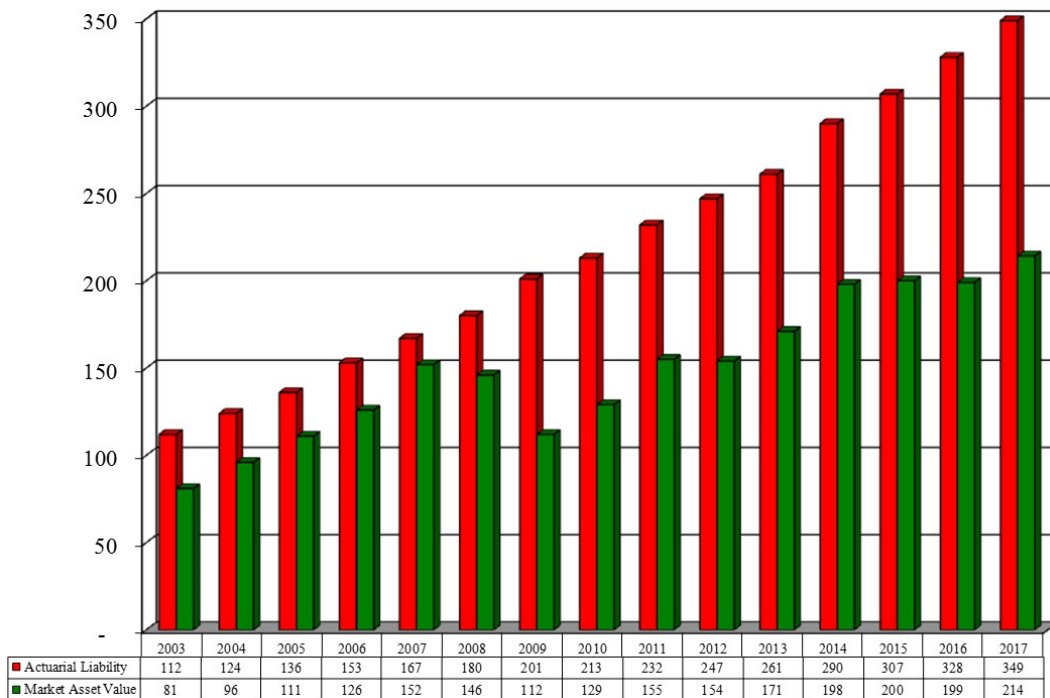


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FUNDED RATIO - SAFETY



6/30/16 & 6/30/17 funded status estimated.

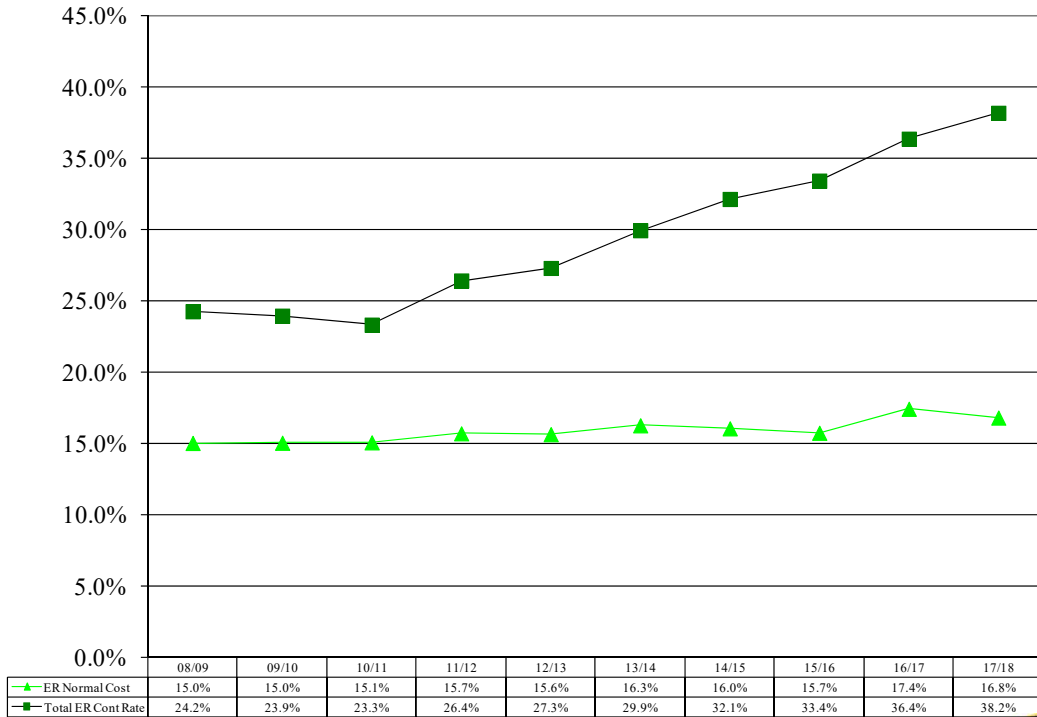


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CONTRIBUTION RATES – SAFETY



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CONTRIBUTION RATES – SAFETY

	<u>6/30/14</u> <u>2016/2017</u>	<u>6/30/15</u> <u>2017/2018</u>
■ Total Normal Cost	26.5%	26.0%
■ Employee Normal Cost	9.1%	9.2%
■ Employer Normal Cost	17.4%	16.8%
■ Amortization Bases	<u>18.9%</u>	<u>21.4%</u>
■ Total Employer Contribution Rate	36.4%	38.2%
■ Amortization Period	Multiple	Multiple
■ What Happened from 6/30/14 to 6/30/15:		
● 2016/17 Rate		36.4%
● Asset Method Change (3 rd Year)		1.4%
● Assumption Change (2 nd Year)		1.2%
● 6/30/14 (Gains)/Losses (2 nd Year)		(0.9%)
● 6/30/15 (Gains)/Losses (1 st Year)		<u>0.1%</u>
● 2017/18 Rate		38.2%



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CONTRIBUTION PROJECTIONS - SAFETY

- Market Value Investment Return:
 - June 30, 2016 0.6%⁶
 - June 30, 2017 9.4%⁷
 - Future returns based on stochastic analysis using 1,000 trials

<u>Single Year Returns at⁸</u>	<u>25th Percentile</u>	<u>50th Percentile</u>	<u>75th Percentile</u>
● 7.0% Investment Mix	0.1%	7.0%	14.8%
● 6.0% Investment Mix	0.8%	6.0%	11.4%

 - Assumes investment returns will, generally be 6.5% (as compared to 7.0%) over the next 10 years and higher beyond that.
- No Other: Gains/Losses, Method/Assumption Changes, Benefit Improvements
- Excludes Employer Paid Member Contributions (EPMC)
- Safety Tier 2 2%@50 effective October 5, 2012

⁶ Based on CalPERS press release on 7/18/16, preliminary investment return of 0.61%.

⁷ June 30, 2017 return based on CalPERS return of 7.1% through 2/28/17 and assumed returns for 4 months.

⁸ Nth percentile means N percentage of our trials result in returns lower than the indicated rates.



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CONTRIBUTION PROJECTIONS - SAFETY

- New hire assumptions:
 - Assumes 50% of 2013 new hires will be Classic Tier 2 Members (2%@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



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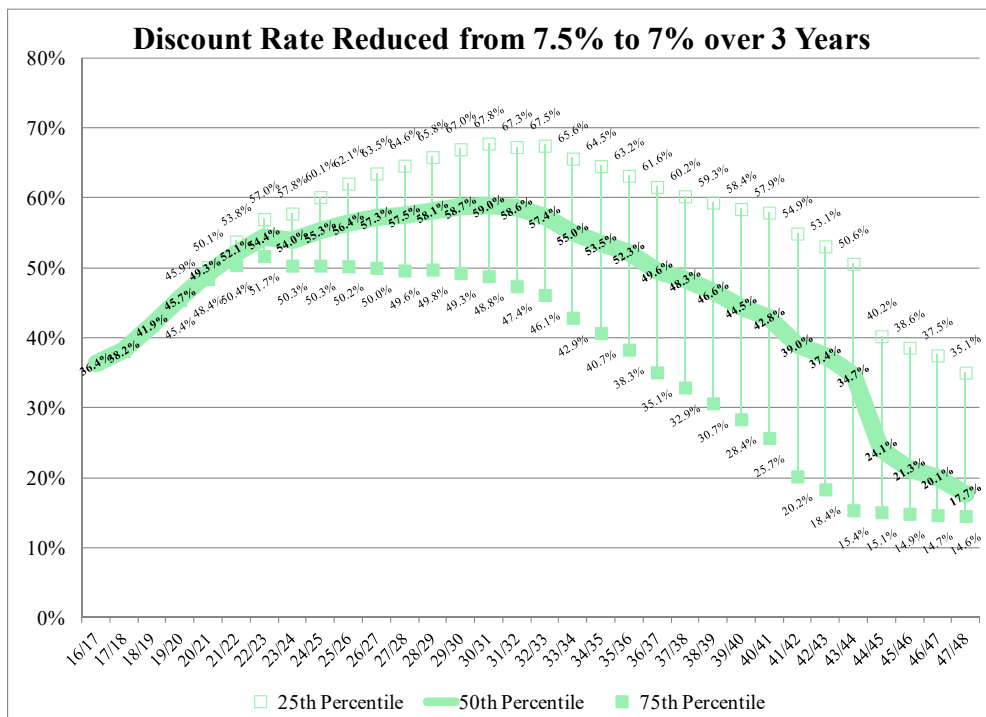
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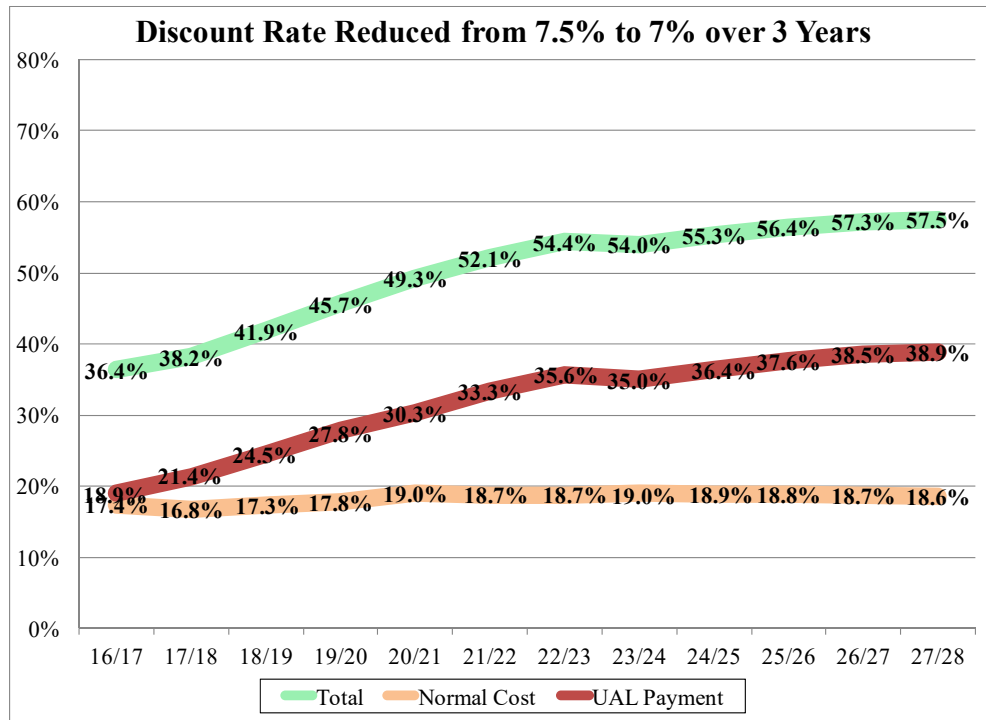
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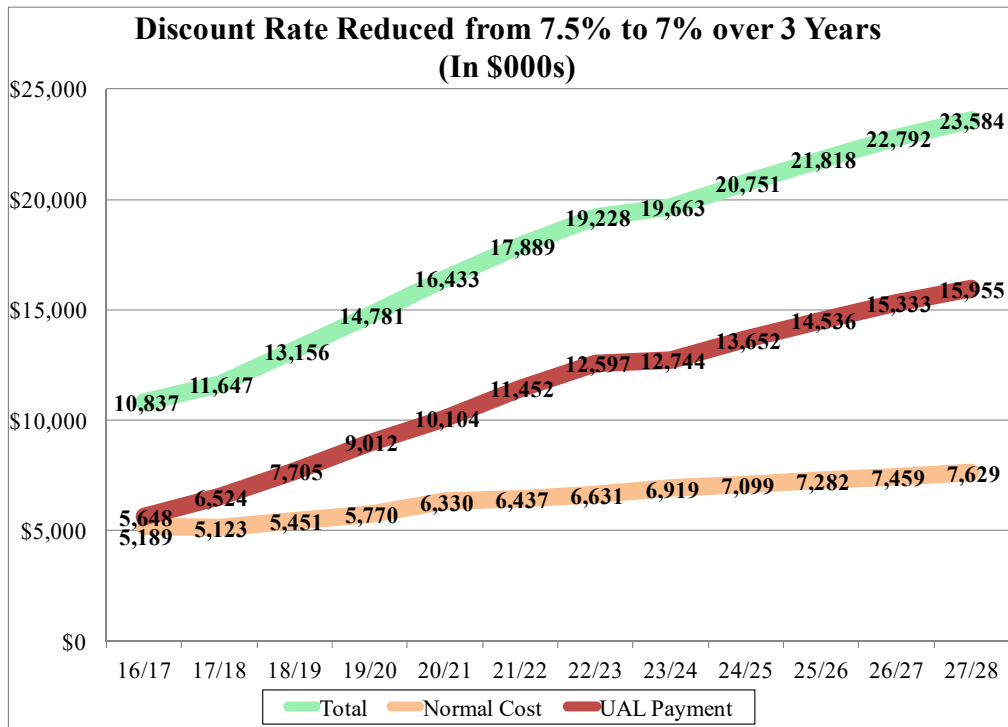


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CONTRIBUTION PROJECTIONS - SAFETY

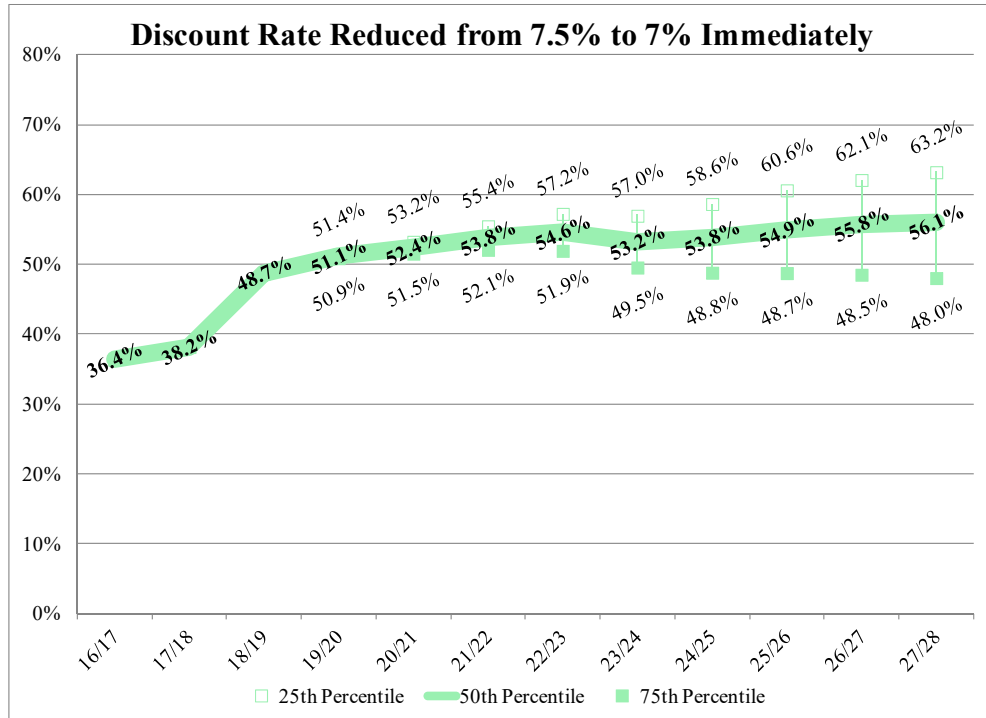


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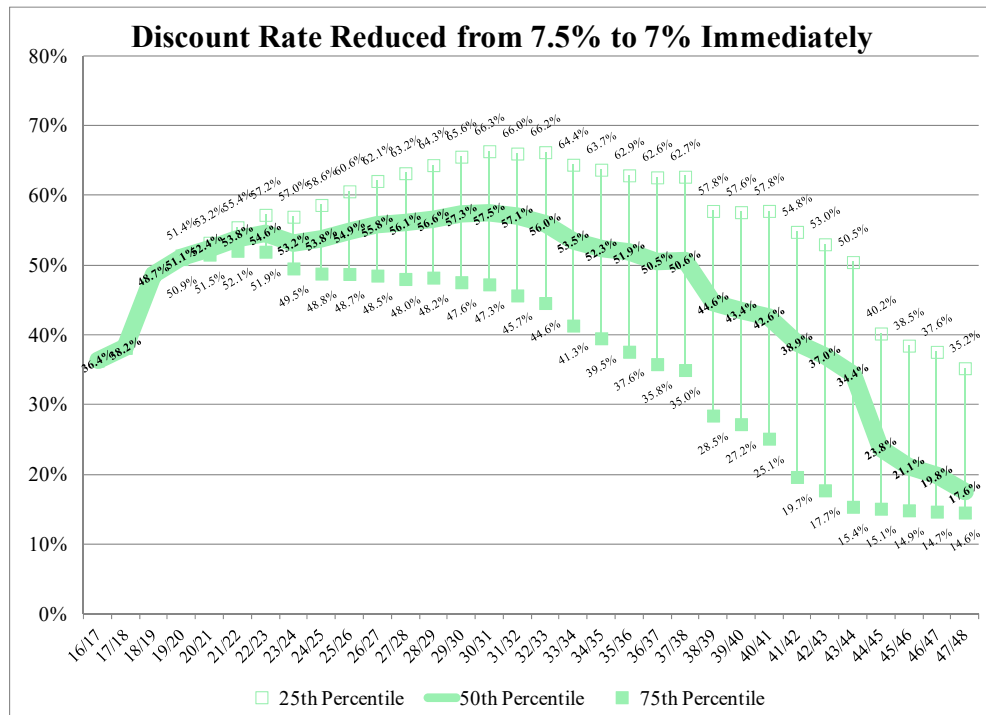
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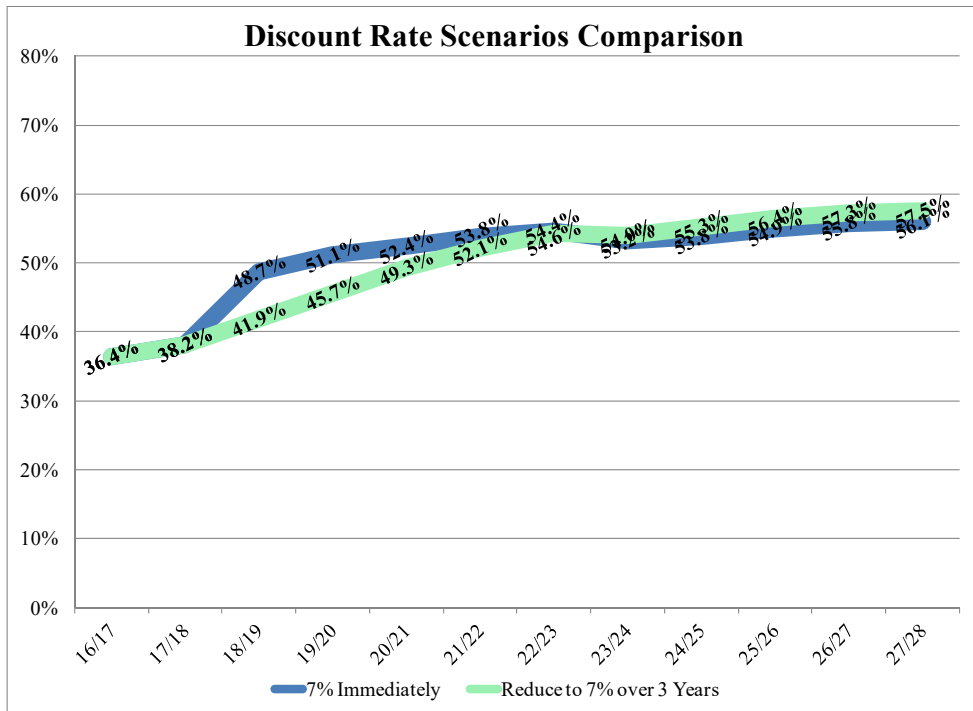
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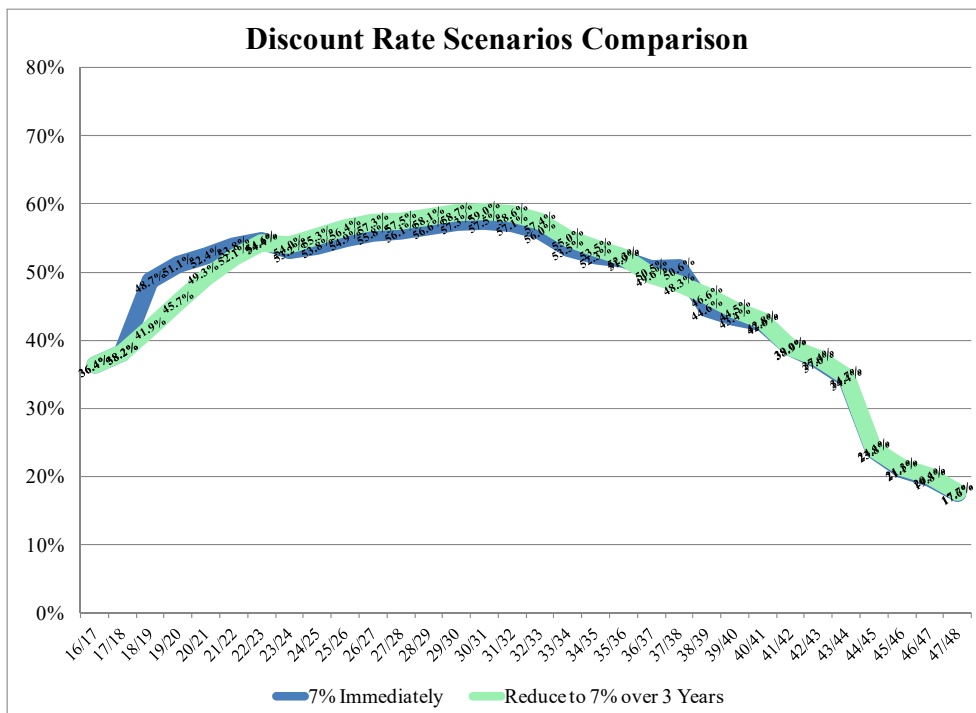
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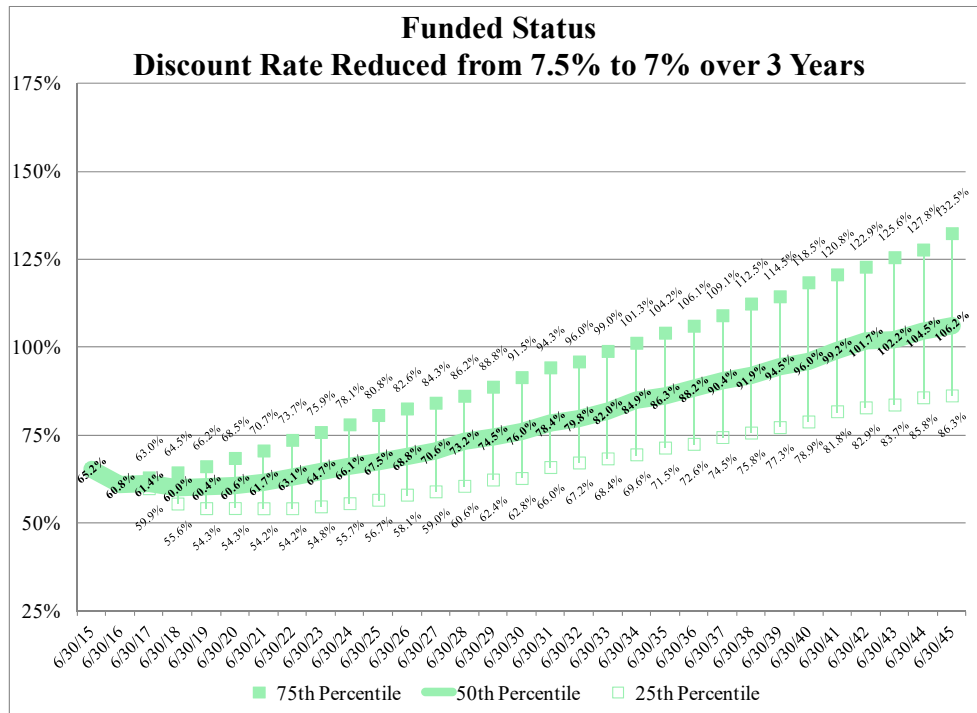
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FUNDED STATUS - SAFETY



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FUNDED STATUS - SAFETY

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PEPRA

- 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>Classic Members</u>		<u>New Members</u>
	<u>Tier 1</u> <u>2%@55</u>	<u>Tier 2</u> <u>2.0%@60</u>	<u>PEPRA</u> <u>2%@62</u>
● Employer Normal Cost	8.8%	7.1%	6.89%
● Member Normal Cost	<u>7.0%</u>	<u>7.0%</u>	<u>6.25%</u>
● Total Normal Cost	15.8%	14.1%	13.14%
● 50% Target	7.9%	7.1%	6.57%



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PEPRA

- Safety Plan:

	<u>Classic Members</u>		<u>New Members</u>
	<u>Tier 1</u> <u>3%@50</u>	<u>Tier 2</u> <u>2%@50</u>	<u>PEPRA</u> <u>2.7%@57</u>
● Employer Normal Cost	17.4%	14.2%	10.77%
● Member Normal Cost	<u>9.0%</u>	<u>9.0%</u>	<u>10.75%</u>
● Total Normal Cost	26.4%	23.2%	21.52%
● 50% Target	13.2%	11.6%	10.76%



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PAYING DOWN THE UNFUNDED LIABILITY

- Pension Obligation Bond (POB)
 - Interest arbitrage between expected CalPERS earnings and rate paid on POB
 - Not guaranteed
- Borrow from General Fund
 - Pay GF back like a loan
 - Payments come from all funds
- One time payments
 - County resolution to use portion of one time money
- Internal Service Fund
 - Restricted investments
 - Likely low (0.5% - 1.0%) investment returns
 - Short term/high quality
 - Designed for preservation of principal
 - Assets could be used by Board for other purposes



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PAYING DOWN THE UNFUNDED LIABILITY

Approximate Years to Attain Funded Percent

	<u>80%</u>	<u>90%</u>	<u>100%</u>
■ Miscellaneous	16	21	27
■ Safety	18	22	27
■ Ad-hoc payments applied to all amortization bases will not shorten amortization period but will reduce contribution			
■ Only ways to shorten period are:			
● Request shorter amortization period of CalPERS			
<input type="checkbox"/> Higher short term payments			
<input type="checkbox"/> Less interest and lower long term payments			
● Make ad-hoc payment that targets specific bases with longer amortization periods			
<input type="checkbox"/> Modestly lower (short & long term) payments			
<input type="checkbox"/> Less interest			



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IRREVOCABLE SUPPLEMENTAL (§115) PENSION TRUST

- > 40 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
- GASB will almost certainly weigh in on certain accounting issues
 - Can Supplemental Pension Trust assets be included in Fiduciary Net Position?
 - If assets can be included would inclusion impact discount rate?



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IRREVOCABLE SUPPLEMENTAL (§115) PENSION TRUST

- Parameters:
 - Initial seed money?
 - Additional amount contributed in future years?
 - Target budget rate?
 - Year target budget rate kicks in?
 - Before or after CalPERS rate exceeds budgeted rate?



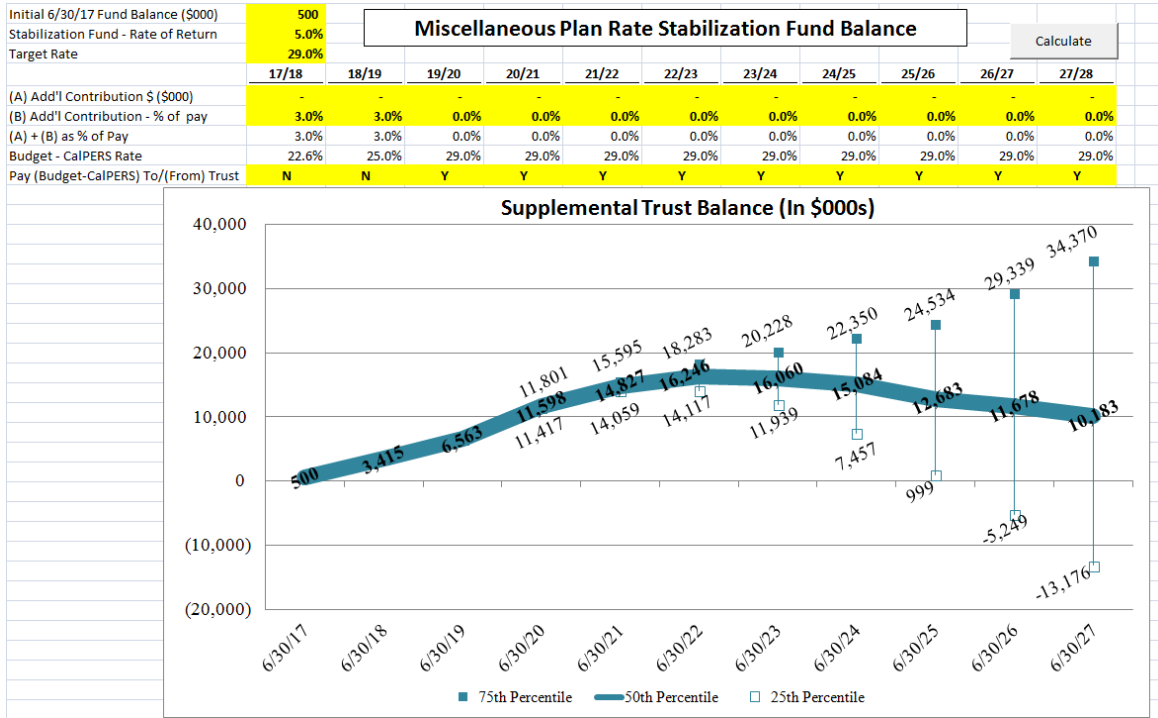
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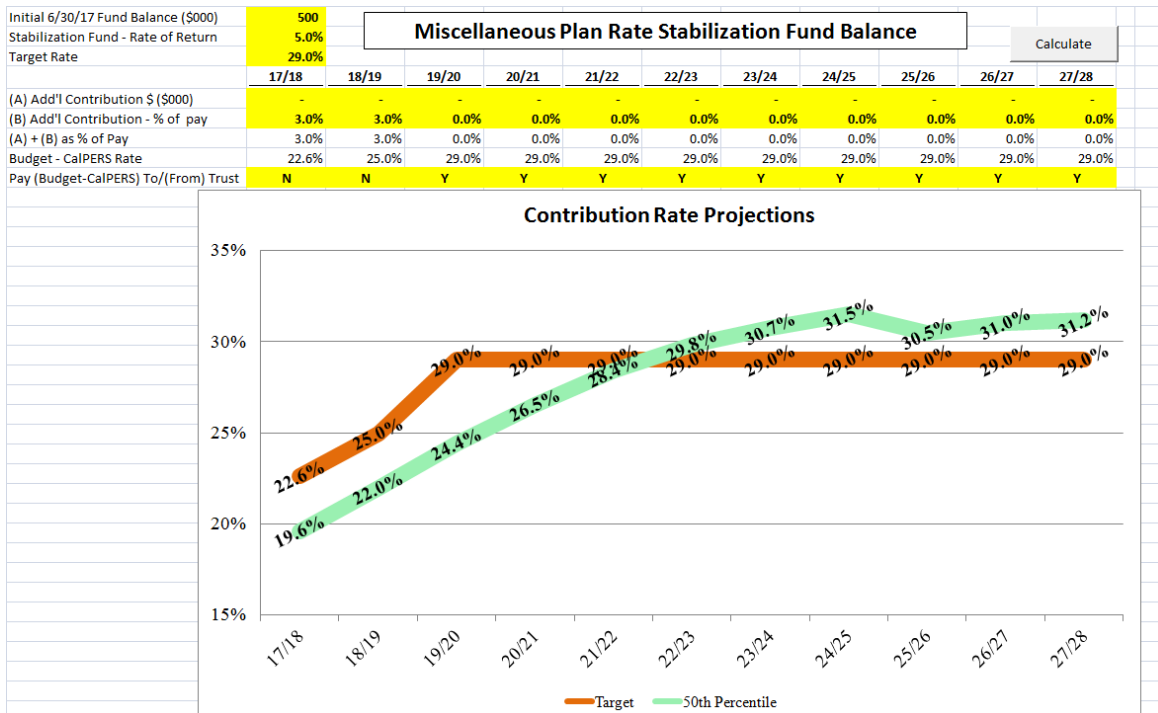
IRREVOCABLE SUPPLEMENTAL (§115) PENSION TRUST



April 17, 2017



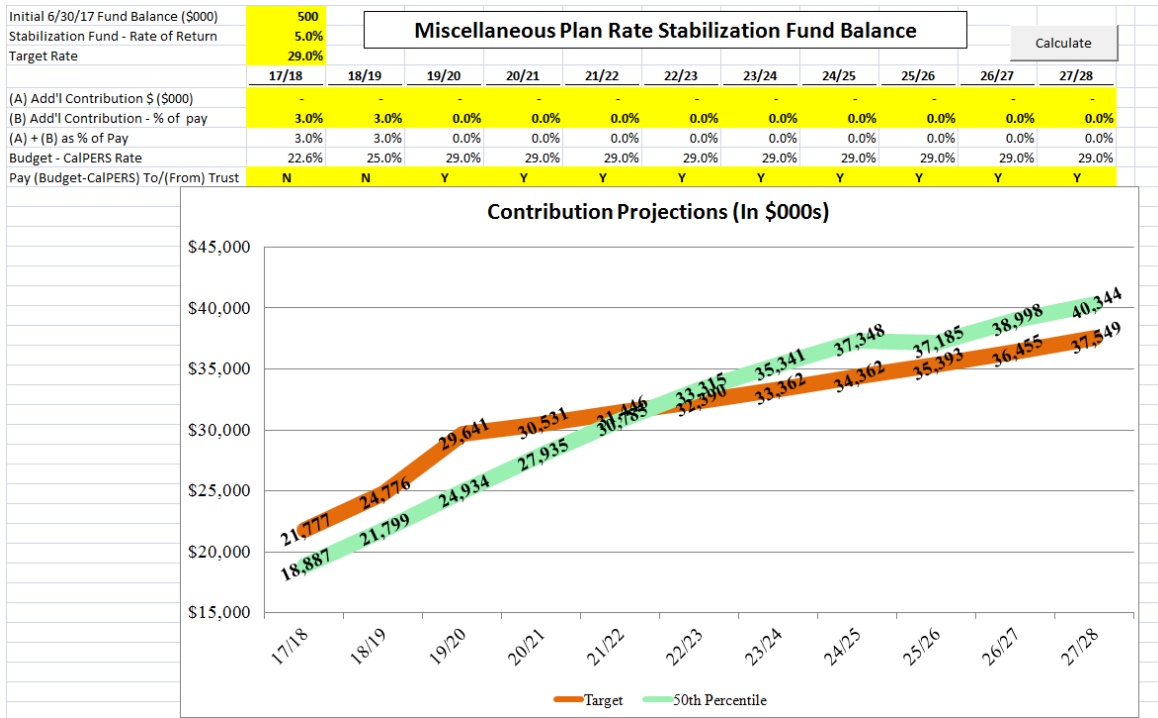
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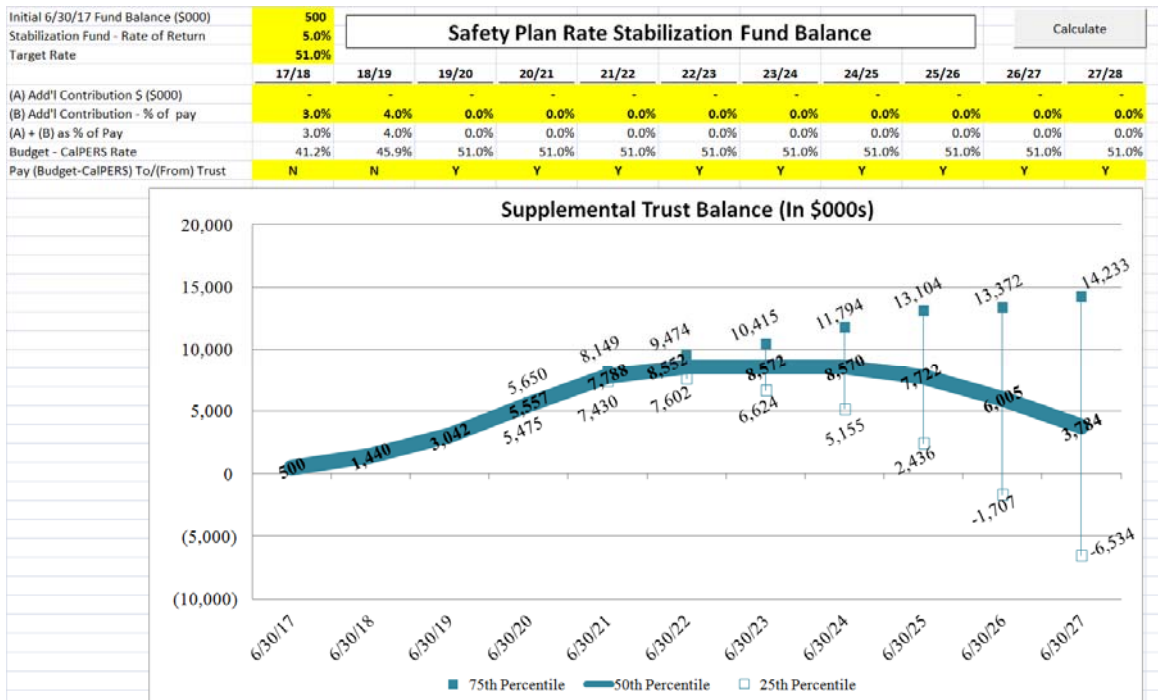
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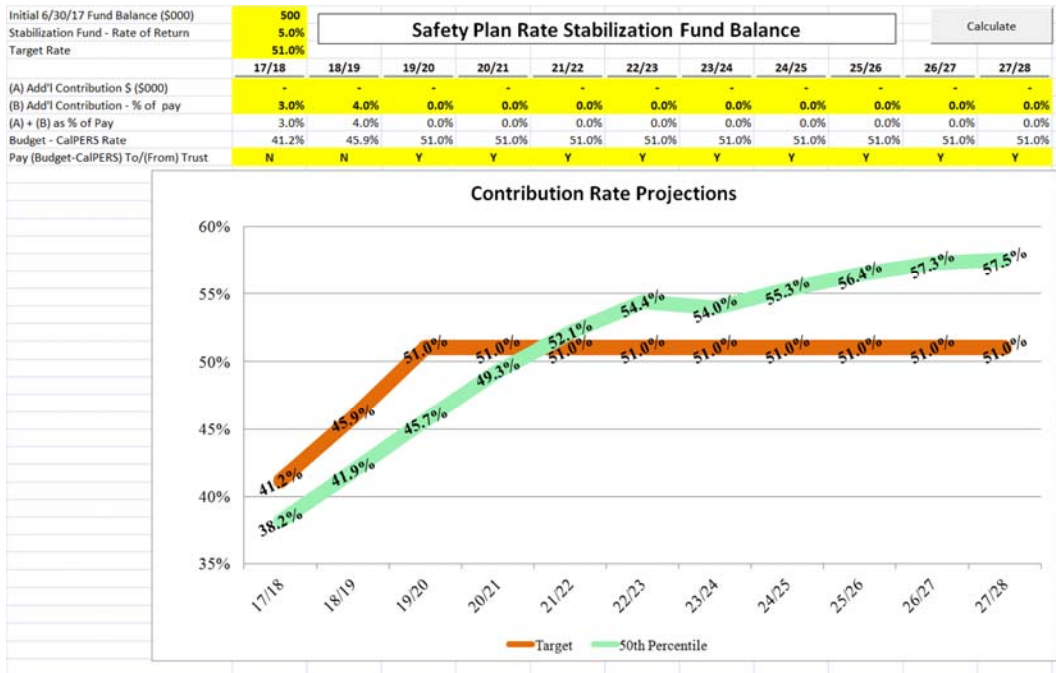
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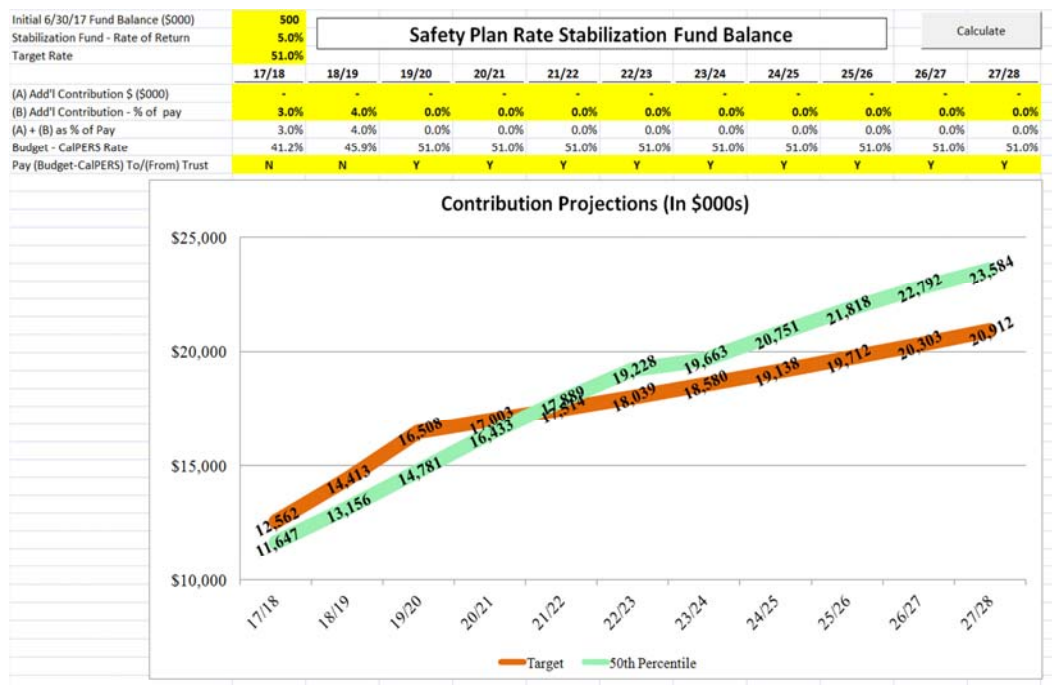
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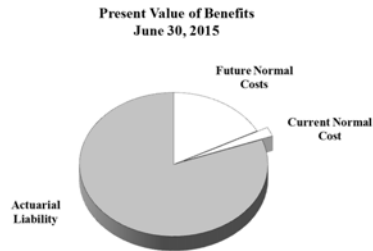
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- **PVB - Present Value of all Projected Benefits:**
 - Discounted value (at valuation date - 6/30/15), of all future expected benefit payments based on various (actuarial) assumptions
- **Actuarial Liability:**
 - Discounted value (at valuation date) 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

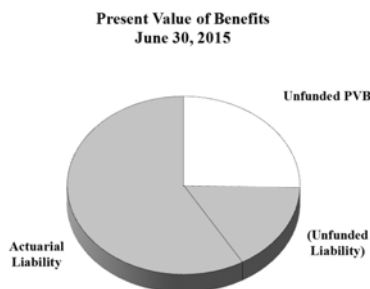


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- **Target-** Have money in the bank to cover Actuarial Liability (past service)
- **Unfunded Liability** - Money short of target at valuation date
- **Excess Assets / Surplus:**
 - Money over and above target at that point in time
 - Doesn't mean 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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