



BARTHEL
ASSOCIATES, LLC

YOLO COUNTY

RETIREE HEALTHCARE PLAN

June 30, 2016 GASB 45 Actuarial Valuation

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Bartel Associates, LLC

November 11, 2016

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BENEFIT SUMMARY

■ Eligibility	● Service (50 ¹ & 5 yrs CalPERS service)/disability retirement from County		
■ Medical Benefit Cap (monthly)			
	Group	2014 Valuation ²	2016 Valuation
	Attorney	\$ 370	\$ 370
	Corr. Officer	668.45/1,055.60/1,154.80	340 Effective 1/1/16
	Dept Heads	374.83	374.83
	Deputy Sheriff	668.45/1,055.60/1,154.80	375 Effective 7/1/18
	Elected Officials ³	1,861.49	375 Effective 1/1/19
	General	668.45/1,055.60/1,154.80	220 Effective 1/1/16
	Investigator	668.45/1,055.60/1,154.80	Unit abolished ⁴
	Management	370.67	400
	Probation	220	220
	Sheriff Mgmt	375	375
	Sup Attorney	370.67	370
Supervisor	746	789 Effective 10/1/16	
Unrepresented	370.67	370.67	

¹ Age 52 for PEPRA New Hires.

² 90% of Kaiser varies based on single/dual/family coverage (2014) for Correctional Officers, Deputy Sheriffs, General, and Investigators

³ Average Bay Area family premium excluding high/ low in 2014. Average based on Sacramento premiums in 2016.

⁴ Moved under Deputy Sheriffs.



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BENEFIT SUMMARY

■ Medical Benefit Cap (monthly) – Grandfathered Retirees	● Benefits for retirees before certain dates differ from benefits above for the following groups: <table><tr><th>Group</th><th>2016 Cap</th><th>Retirement Date</th></tr><tr><td>Correctional Officers & General⁵</td><td>\$643/1,156/1,255</td><td>< 1/1/16</td></tr><tr><td>Deputy Sheriff</td><td>625.50/1,091.12/1,098.21</td><td>< 7/1/18</td></tr><tr><td>Elected Officials⁶</td><td>2,082.82</td><td>< 1/1/19</td></tr></table>	Group	2016 Cap	Retirement Date	Correctional Officers & General ⁵	\$643/1,156/1,255	< 1/1/16	Deputy Sheriff	625.50/1,091.12/1,098.21	< 7/1/18	Elected Officials ⁶	2,082.82	< 1/1/19
Group	2016 Cap	Retirement Date											
Correctional Officers & General ⁵	\$643/1,156/1,255	< 1/1/16											
Deputy Sheriff	625.50/1,091.12/1,098.21	< 7/1/18											
Elected Officials ⁶	2,082.82	< 1/1/19											
■ Surviving Spouse Medical Benefit	● Retirement plan election ● Contribution continues to surviving spouse												
■ Dental	● Self insured ● Spouse coverage available at retiree cost												
■ Other	● No vision, life, & Medicare Part B paid by County												

⁵ Caps based on 90% Kaiser Bay Area premiums, reduced at Medicare eligibility age 65. and freeze at 2016 premiums.

⁶ Average Sacramento family premium excluding high/low. Cap freeze will be frozen in 2018.



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BENEFIT SUMMARY

■ Pay-As-You-Go (amounts in 000's)	<u>Fiscal Year</u>	<u>Medical</u>	<u>Dental</u> ⁷	<u>Total</u>
	2015/16	n/a	n/a	\$ 4,361 ⁸
	2014/15	3,863	423	4,286
	2013/14	3,678	427	4,104
	2012/13	3,289	406	3,695
	2011/12	3,466	386	3,852
	2010/11	3,110	352	3,462
	2009/10	2,534	330	2,864

⁷ Retiree only costs.

⁸ Includes estimated final 6 months payments for General and Correctional Officers units.



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BENEFIT SUMMARY

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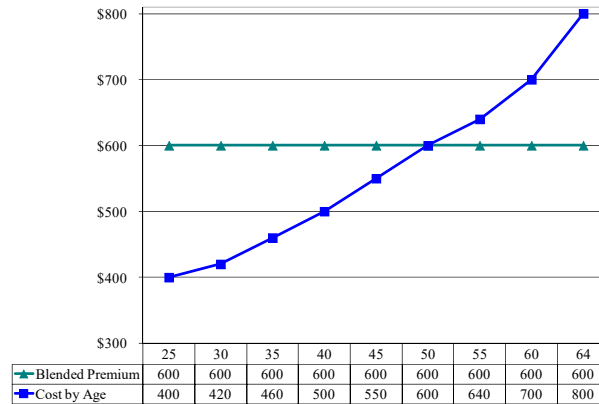
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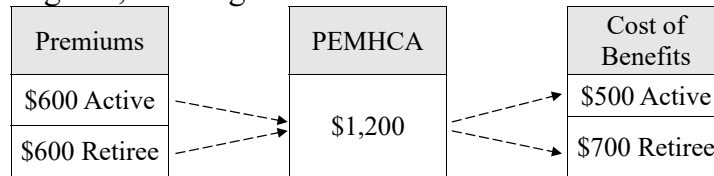
IMPLIED SUBSIDY

Implied Subsidy

- For PEMHCA, employer cost for allowing retirees to participate at active rates.
 - General trend:



- Sample active age 40, retire age 60:



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IMPLIED SUBSIDY

- GASB 45 defers to actuarial standards of practice.
- Prior Actuarial Standards of Practice No. 6⁹ (ASOP 6) allowed community rated plans to value liability using premiums, resulting in no implied subsidy.
- In May 2014, Actuarial Standards Board released revised ASOP 6:
 - Requires implied subsidy valued for community rated plans such as PEMHCA.
 - Timing: effective with all valuations on or after March 31, 2015
- June 30, 2014 and 2016 valuations include the implied subsidy.

⁹ Measuring Retiree Group Benefits Obligations and Determining Retiree Group Benefits Plan Costs or Contributions.



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PARTICIPANT STATISTICS

Actives

	6/30/08	6/30/10	6/30/12	6/30/14	6/30/16
■ Count					
• Miscellaneous	1,324	978	963	1,033	1,138
• Safety	<u>317</u>	<u>291</u>	<u>292</u>	<u>281</u>	<u>289</u>
• Total	1,641	1,269	1,255	1,314	1,427
■ Averages					
• Age	43.7	43.5	43.9	43.5	42.7
• County Service	8.4	9.2	9.9	9.9	9.3
• Salary	\$ 55,100	\$ 62,300	\$ 64,000	\$ 63,700	\$ 67,100
■ Total Salary (000's) ¹⁰	90,478	79,070	80,292	83,753	95,781

¹⁰ Total and average salary are for 2007/08, 2010/11, 2011/12, 2013/14, and 2015/16.



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PARTICIPANT STATISTICS

Retirees

	6/30/08	6/30/10	6/30/12	6/30/14	6/30/16
■ Count					
• Miscellaneous	372	497	542	572	583
• Safety	<u>76</u>	<u>96</u>	<u>85</u>	<u>95</u>	<u>102</u>
• Total (w/Medical)	448	593	627	667	685
• Dental Only	<u>244</u>	<u>300</u>	<u>295</u>	<u>308</u>	<u>294</u>
• Total	692	893	922	975	979
■ Averages					
• Age (w/Medical)	69.9	68.4	69.0	69.5	70.3
• Retirement Age (service)					
➤ Miscellaneous	n/a	60.2	60.1	60.1	60.2
➤ Safety	n/a	57.4	57.5	57.7	58.0



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ACTUARIAL ASSUMPTIONS HIGHLIGHTS

Assumption	June 30, 2014 Valuation	June 30, 2016 Valuation
■ Valuation Date	• June 30, 2014 • 2013/14 & 2014/15	• June 30, 2016 • 2015/16 & 2016/17
■ Funding Policy	• \$800,000 to trust in 14/15 • 15-year phase-in to full ARC starting 2015/16	• Same
■ Discount Rate	• Select and ultimate assumption (4.00% for portion not funded 6.50% for portion funded) 2015/16 4.17% 2016/17 4.33% 2017/18 4.50% 2018/19 4.67% : 2028/29 6.33% 2029/30+ 6.50%	• Same



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ACTUARIAL ASSUMPTIONS HIGHLIGHTS

Assumption	June 30, 2014 Valuation			June 30, 2016 Valuation		
■ Medical Trend		<u>Increase from Prior Year</u>			<u>Increase from Prior Year</u>	
	<u>Year</u>	<u>Non-Medicare</u>	<u>Medicare</u>	<u>Year</u>	<u>Non-Medicare</u>	<u>Medicare</u>
	2014	Actual Premiums		2014	n/a	
	2015	Actual Premiums		2015	n/a	
	2016	7.5%	7.8%	2016	Actual Premiums	
	2017	7.0%	7.2%	2017	Actual Premiums	
	2018	6.5%	6.7%	2018	6.5%	6.7%
	2019	6.0%	6.1%	2019	6.0%	6.1%
	2020	5.5%	5.6%	2020	5.5%	5.6%
	2021+	5.0%	5.0%	2021+	5.0%	5.0%



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ACTUARIAL ASSUMPTIONS HIGHLIGHTS

Assumption	June 30, 2014 Valuation	June 30, 2016 Valuation
■ Cap Increases ¹¹	- General, CO, Supervisors, Deputy Sheriffs, Investigator, and Elected Officials: Medical trend - All other groups: None	- General and Probation: CPI (3.0%) - Grandfathered Correctional Officer, General, Deputy Sheriff, and Elected Officials: Medical Trend until new caps effective - All other groups: None

¹¹ Assumption based on guidance from County.



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ACTUARIAL ASSUMPTIONS HIGHLIGHTS

Assumption	June 30, 2014 Valuation	June 30, 2016 Valuation																																								
■ Service Retirement	● CalPERS 1997-2011 Experience Study <table><thead><tr><th></th><th><u>Safety</u></th><th><u>Safety – Sheriffs</u></th><th><u>Misc</u></th></tr></thead><tbody><tr><td>Tier 1</td><td>3%@55</td><td>3%@50</td><td>2.5%@55</td></tr><tr><td>ERA</td><td>≈ 56.7</td><td>≈ 54.2</td><td>≈ 58.4</td></tr><tr><td>PEPRA</td><td>2.7%@57</td><td>2.7%@57</td><td>2%@62</td></tr><tr><td>ERA</td><td>≈ 56.8</td><td>≈ 56.8</td><td>≈ 60.6</td></tr></tbody></table>		<u>Safety</u>	<u>Safety – Sheriffs</u>	<u>Misc</u>	Tier 1	3%@55	3%@50	2.5%@55	ERA	≈ 56.7	≈ 54.2	≈ 58.4	PEPRA	2.7%@57	2.7%@57	2%@62	ERA	≈ 56.8	≈ 56.8	≈ 60.6	● CalPERS 1997-2011 Experience Study <table><thead><tr><th></th><th><u>Safety</u></th><th><u>Safety – Sheriffs</u></th><th><u>Misc</u></th></tr></thead><tbody><tr><td>Tier 1</td><td>3%@55</td><td>3%@50</td><td>2.5%@55</td></tr><tr><td>ERA</td><td>≈ 57.6</td><td>≈ 54.5</td><td>≈ 60.4</td></tr><tr><td>PEPRA</td><td>2.7%@57</td><td>2.7%@57</td><td>2%@62</td></tr><tr><td>ERA</td><td>≈ 58.0</td><td>≈ 57.6</td><td>≈ 61.5</td></tr></tbody></table> ● No accelerated retirement assumed during grandfathered benefit windows		<u>Safety</u>	<u>Safety – Sheriffs</u>	<u>Misc</u>	Tier 1	3%@55	3%@50	2.5%@55	ERA	≈ 57.6	≈ 54.5	≈ 60.4	PEPRA	2.7%@57	2.7%@57	2%@62	ERA	≈ 58.0	≈ 57.6	≈ 61.5
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■ Dental Claims	● \$33/month	● \$38/month																																								



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ACTUARIAL ASSUMPTIONS HIGHLIGHTS

Assumption	June 30, 2014 Valuation	June 30, 2016 Valuation
■ Marital Status	- Currently covered: same as current marital status - Currently waived: 80% married	- Currently covered: same as current marital status - Currently waived: 25% married
■ Mortality, Termination, Disability	- CalPERS 1997-2011 Experience Study - Post-retirement mortality projected with Scale AA	- CalPERS 1997-2011 Experience Study - Fully generational with Scale MP14 modified to converge to ultimate improvement rates in 2022 for pre and post-retirement mortality



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ACTUARIAL ASSUMPTIONS HIGHLIGHTS

Assumption	June 30, 2014 Valuation	June 30, 2016 Valuation
■ Participation at Retirement	- Currently covered: 100% - Currently waived: 80%	- General, Management, Attorney, Sup. Attorney, CO, Sher. Mgmt, Probation, Unrepresented, Dept. Heads, Deputy Sheriff, and Elected Officials: 80% - Supervisor: 90%
■ Waived Retiree Re-election	- Waived retiree data not available - Retirees with dental but no medical coverage assumed waived with similar demographics - Pre-65: 20% re-elect at 65 - Post-65: 0%	- Waived retiree data not available - Retirees with dental but no medical coverage assumed waived with similar demographics - Pre-65: 10% re-elect at 65 - Post-65: 0%



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ACTUARIAL ASSUMPTIONS HIGHLIGHTS

Assumption	June 30, 2014 Valuation	June 30, 2016 Valuation
■ Affordable Care Act Excise Tax	• None	• Grandfathered Deputy Sheriff, Investigators, and Elected Officials: 2% increase in cash subsidy liability • Other Groups: None



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ACTUARIAL METHODS

Method	June 30, 2014 Valuation	June 30, 2016 Valuation
■ Cost Method	• Entry Age Normal	• Same
■ Amortization Method	• Level percent of payroll	• Same
■ Actuarial Value of Assets	• Investment gains and losses spread over a 5-yr open period • Not less than 80% nor more than 120% of market value	• Same
■ Amortization Period	• 6/30/14 UAAL – 20-year fixed (closed) period	• Same (18 years remaining)
■ Future New Entrants	• None – closed group	• Same



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ASSETS

Market Value of Plan Assets

(Amounts in 000's)

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
■ Market Value (Beginning of Year)	\$ -	\$ 500	\$ 515	\$ 864	\$ 989	\$ 1,805
• Contributions	500	-	300	4,119 ¹²	800	2,494 ¹³
• Benefit Payments	-	-	-	(4,119) ¹⁴	-	-
• Admin. Expenses	-	(6)	(6)	(7)	(8)	(9)
• Investment Earnings	-	21	55	131	24	(7)
■ Market Value (End of Year)	500	515	864	989	1,805	4,282
■ Approximate Return	n/a	2.9%	8.8%	14.4%	1.3%	(0.9%)

¹² Fiscal year 13/14 pay-go of \$4.119 million deposited at end of June 2014.

¹³ August 9, 2016 \$2.494 million contribution included. County should discuss treatment with its' auditors.

¹⁴ Reimbursement to County for fiscal year 13/14 pay-go paid from Trust in July 2014 and treated as accrued 6/30/14.



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ASSETS

Actuarial Value of Plan Assets

(Amounts in 000's)

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
■ Actuarial Value (Beginning of Year)	\$ -	\$ 500	\$ 529	\$ 866	\$ 936	\$ 1,809
• Contributions	500	-	300	4,119	800	2,494
• Benefit Payments	-	-	-	(4,119)	-	-
• Credited Return	-	29	37	70	74	90
■ Actuarial Value (End of Year)	500	529	866	936	1,809	4,393
■ Approximate Return	n/a	5.8%	6.4%	8.0%	6.4%	5.0%



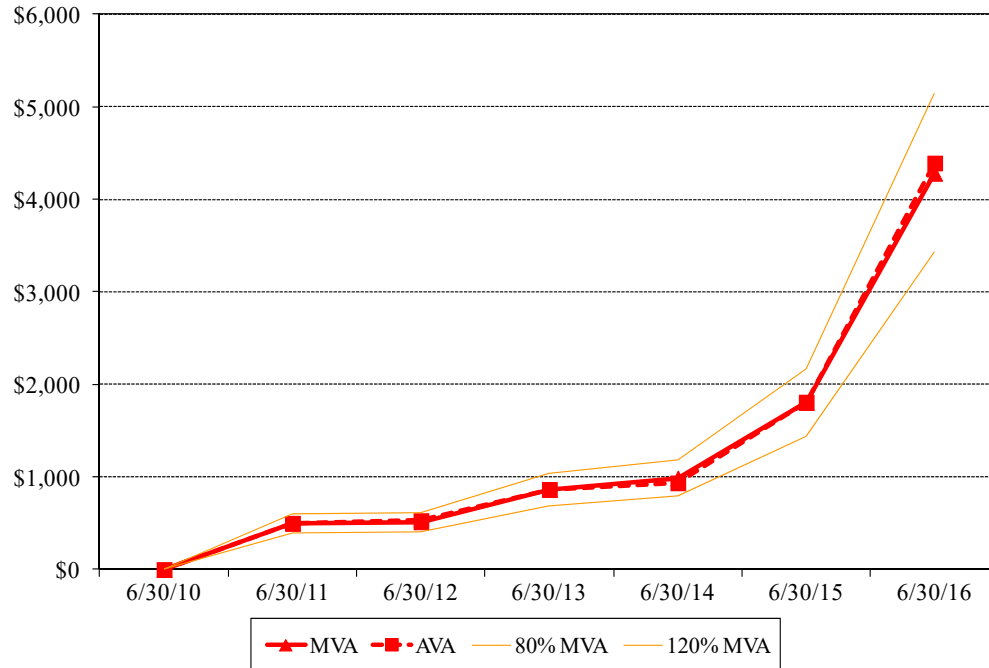
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ASSETS

Historical Assets



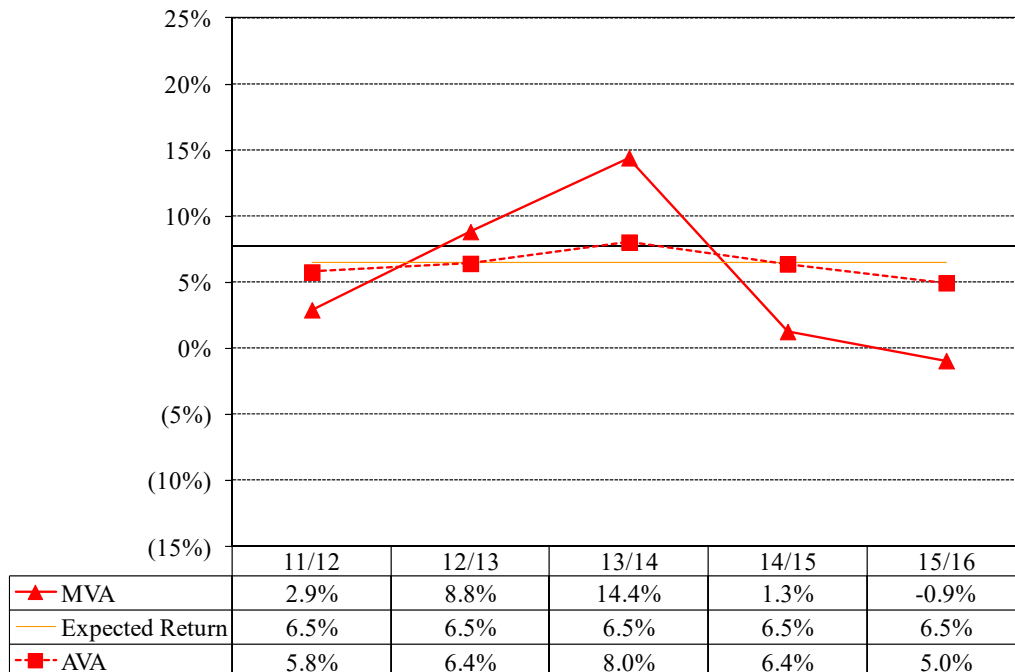
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ASSETS

Historical Returns



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RESULTS

Funded Status

(Amounts in 000's)

	6/30/08	6/30/10	6/30/12	6/30/14	6/30/16
■ Present Value of Benefits					
• Actives	\$169,853	\$177,841	\$167,781	\$162,514	\$ 62,110
• Retirees	<u>40,135</u>	<u>66,022</u>	<u>63,782</u>	<u>70,792</u>	<u>55,450</u>
• Total	209,988	243,863	231,563	233,306	117,560
■ Actuarial Accrued Liability					
• Actives	67,232	75,752	74,827	83,235	31,069
• Retirees	<u>40,135</u>	<u>66,022</u>	<u>63,782</u>	<u>70,792</u>	<u>55,450</u>
• Total	107,367	141,774	138,609	154,027	86,519
■ Actuarial Value of Assets	-	-	529	936	4,393
■ Unfunded AAL	107,367	141,774	138,080	153,091	82,126
■ Normal Cost	9,247	10,389	9,684	8,315	3,710
■ Pay-As-You-Go Cost	1,762	2,864	3,852	4,865	5,113



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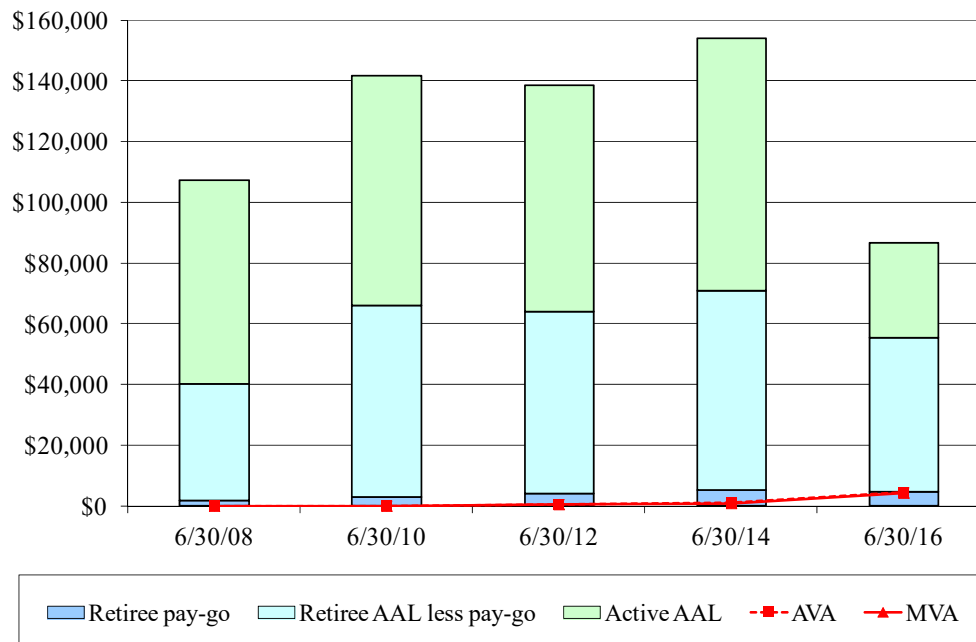
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Funded Status

(Amounts in 000's)



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Actuarial Accrued Liability Gain/Loss

(Amounts in 000's)

	AAL
■ Actual 6/30/14	\$154,027
■ Expected 6/30/16	173,957
■ Changes	
• Medical premiums/caps lower than expected	(18,686)
• Plan changes (caps)	(26,246)
• Cap increase assumption change	(22,238)
• Participation at retirement assumption	(8,234)
• Waived retiree re-election assumption	(545)
• Mortality improvement MP-2014	3,066
• Excise tax	143
• Actives leaving County at rates > assumed	(6,950)
• Actives changing coverage and elections	(1,763)
• Other experience	<u>(5,985)</u>
• Total	(87,438)
■ Actual 6/30/16	86,519



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RESULTS

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RESULTS

Annual Required Contributions (ARC)

(Amounts in 000's)

	6/30/14 Valuation		6/30/16 Valuation	
	2013/14	2014/15	2015/16	2016/17
■ ARC - \$				
• Normal Cost	\$ 8,315	\$ 8,585	\$ 3,710	\$ 3,831
• UAAL Amortization	<u>8,667</u>	<u>9,718</u>	<u>5,501</u>	<u>5,738</u>
• Total	16,982	18,303	9,211	9,569
■ Projected Payroll	81,117	83,753	95,781	98,894
■ ARC - %				
• Normal Cost	10.3%	10.3%	3.9%	3.9%
• UAAL Amortization	<u>10.7%</u>	<u>11.6%</u>	<u>5.7%</u>	<u>5.8%</u>
• Total	20.9%	21.9%	9.6%	9.7%



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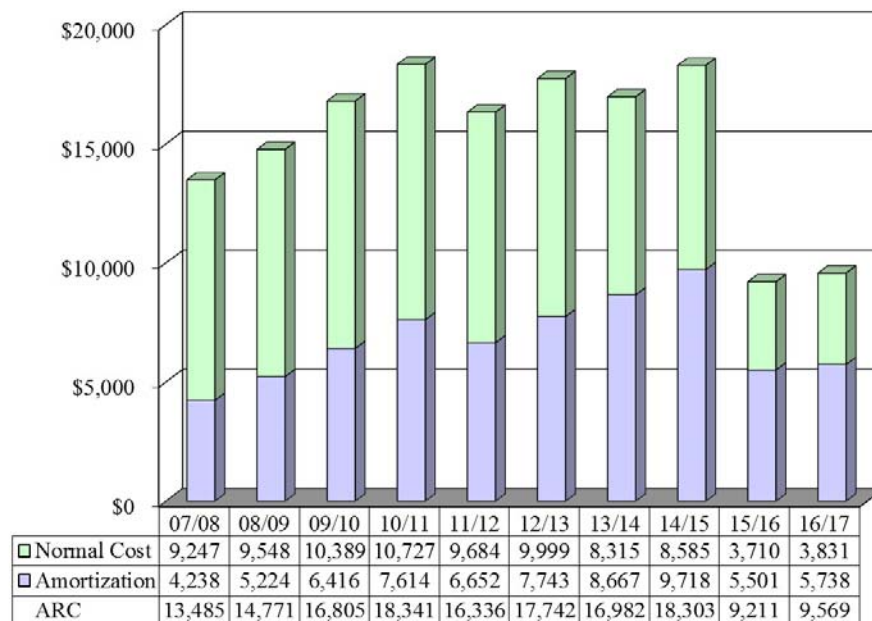
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Annual Required Contribution

(Amounts in 000's)



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Amortization Bases

(Amounts in 000's)

	6/30/2014 Valuation		6/30/2016 Valuation	
	6/30/2013	6/30/2014	6/30/2015	6/30/2016
■ Outstanding Balance				
• Initial UAAL	\$ 107,187	\$ 105,018	\$ 102,720	\$ 100,161
• (Gains)/Losses & Assumption Changes				
➤ 2010 Valuation	581	569	557	543
➤ 2012 Valuation	(27,042)	(26,538)	(25,958)	(25,311)
➤ 2014 Valuation	(6,146)	(6,022)	(5,890)	(5,743)
➤ 2016 Valuation	-	-	(83,361)	(81,284)
• Contributions < ARC	<u>75,062</u>	<u>86,185</u>	<u>97,955</u>	<u>96,387</u>
• Total	149,641	159,212	86,023	84,752



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RESULTS

Amortization Payments

(Amounts in 000's)

	6/30/2014 Valuation		6/30/2016 Valuation	
	2013/14 ¹⁵	2014/15	2015/16	2016/17
■ Amortization Payment				
• Initial UAAL	\$ 6,208	\$ 6,410	\$ 6,568	\$ 6,782
• (Gains)/Losses & Assumption Changes				
➤ 2010 Valuation	34	35	36	37
➤ 2012 Valuation	(1,566)	(1,620)	(1,660)	(1,714)
➤ 2014 Valuation	(356)	(368)	(377)	(389)
➤ 2016 Valuation	-	-	(5,330)	(5,504)
• Contributions < ARC	<u>4,348</u>	<u>5,261</u>	<u>6,264</u>	<u>6,526</u>
• Total	8,667	9,718	5,501	5,738
■ Average Amort. Period	20.0	19.0	18.0	17.0

¹⁵ Amortized over 20 years.



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RESULTS

Net OPEB Obligation (NOO)

(Amounts in 000's)

	CAFR		2015/16	Estimate 2016/17
	2013/14	2014/15		
■ NOO at Beginning of Year	\$ 72,175	\$ 82,735	\$ 94,034	\$ 92,384
■ Annual OPEB Cost				
• Annual Required Contribution	16,982	18,303	9,211	9,569
• Interest on NOO	2,791	3,343	3,816	3,893
• Adjustment to ARC	(4,348)	(5,261)	(7,070) ¹⁶	(6,526)
• Annual OPEB Cost	15,425	16,385	5,957	6,936
■ Contributions				
• Benefit Pmts – Cash	4,104	4,286	4,361 ¹⁷	4,327
• Benefit Pmts – Implied Subsidy	761	n/a	752	805
• Total Benefit Payments	4,865	4,286	5,113	5,132
• Trust	-	800	2,494 ¹⁸	536
• Total Contribution	4,865	5,086	7,607	5,668
■ NOO at End of Year	82,735	94,034	92,384	93,652

¹⁶ Includes adjustment for 2014/15 year implied subsidy payments (\$806,000) not included in 6/30/15 NOO development.

¹⁷ Estimated Cash benefit payment provided by the City.

¹⁸ August 9, 2016 \$2.494 million contribution included. County should discuss treatment with its' auditors.



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RESULTS

Projected Contributions

(Amounts in 000's)

Fiscal Year	Benefit Payments			Full ADC ¹⁹	Phase-In Percent	Trust Contrib.
	Cash	Implied Subsidy	Total			
2016/17	\$ 4,327	\$ 805	\$ 5,132	\$ 9,149	13%	\$536
2017/18	4,366	775	5,141	9,738	20%	919
2018/19	4,492	829	5,321	10,378	27%	1,348
2019/20	4,599	892	5,491	11,061	33%	1,857
2020/21	4,689	866	5,555	11,788	40%	2,493
2021/22	4,792	917	5,709	12,567	47%	3,200
2022/23	4,919	1,021	5,940	13,393	53%	3,974
2023/24	5,025	1,024	6,049	14,259	60%	4,926
2024/25	5,154	1,123	6,277	15,170	67%	5,928
2025/26	5,312	1,257	6,569	16,113	73%	7,000

¹⁹ Annually Determined Contribution (ADC) based on 6.5% discount rate.



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RESULTS

Cash & Implied Subsidy

(Amounts in 000's)

	Cash Subsidy	Implied Subsidy	Total
■ Present Value of Benefits	\$ 93,686	\$ 23,874	\$ 117,560
■ Funded Status			
• Actives	21,041	10,029	31,069
• Retirees	<u>51,372</u>	<u>4,078</u>	<u>55,450</u>
• Actuarial Accrued Liability	72,413	14,107	86,519
■ Actuarial Value of Assets ²⁰	<u>3,677</u>	<u>716</u>	<u>4,393</u>
■ Unfunded Actuarial Accrued Liability	68,736	13,391	82,126

²⁰ AVA allocation based on AAL.



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RESULTS

Cash & Implied Subsidy

(Amounts in 000's)

	Cash Subsidy	Implied Subsidy	Total
■ 2015/16 ARC - \$			
• Normal Cost	\$ 2,702	\$ 1,008	\$ 3,710
• UAAL Amortization	<u>4,635</u>	<u>866</u>	<u>5,501</u>
• Total	7,337	1,874	9,211



November 11, 2016

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RESULTS

Funded Status by Agency

(Amounts in 000's)

	County	Habitat	Children's Alliance	First 5	LAFCO	Total ²¹
■ PVB						
• Actives	\$ 61,758	\$ -	\$ 46	\$ 170	\$ 136	\$ 62,110
• Retirees	<u>55,364</u>	<u>77</u>	<u>-</u>	<u>-</u>	<u>9</u>	<u>55,450</u>
• Total	117,122	77	46	170	145	117,560
■ AAL						
• Actives	30,909	-	27	79	55	31,069
• Retirees	<u>55,364</u>	<u>77</u>	<u>-</u>	<u>-</u>	<u>9</u>	<u>55,450</u>
• Total	86,273	77	27	79	64	86,519
■ AVA²²	<u>4,381</u>	<u>4</u>	<u>1</u>	<u>4</u>	<u>3</u>	<u>4,393</u>
■ UAAL	81,892	73	26	75	61	82,126
■ 2015/16 Normal Cost	3,684	-	2	14	9	3,710
■ 2015/16 Pay-Go	5,105	7	-	-	1	5,113

²¹ Includes 3 LAFCO actives, 1 LAFCO retiree, 1 Children's Alliance active, 5 First Five actives, and 1 Habitat retiree.

²² AVA allocation based on AAL.



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RESULTS

Annual Required Contributions (ARC) by Agency

(Amounts in 000's)

	County	Habitat	Children's Alliance	First 5	LAFCO	Total
■ 2015/16 ARC - \$						
• Normal Cost	\$ 3,684	\$ -	\$ 2	\$ 14	\$ 9	\$ 3,710
• UAAL Amort ²³	<u>5,486</u>	<u>5</u>	<u>2</u>	<u>4</u>	<u>3</u>	<u>5,501</u>
• Total	9,211	5	4	18	12	9,211
■ Projected Payroll	95,044	-	96	398	243	95,781
■ 2015/16 ARC - %						
• Normal Cost	3.9%	n/a	2.1%	3.5%	3.7%	3.9%
• UAAL Amort	<u>5.8%</u>	<u>n/a</u>	<u>1.6%</u>	<u>1.0%</u>	<u>1.4%</u>	<u>5.7%</u>
• Total	9.6%	n/a	3.7%	4.5%	5.1%	9.6%

²³ Allocated between employee groups in proportion to the AAL.



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ACTUARIAL CERTIFICATION

This report presents the County of Yolo Retiree Healthcare Plan ("Plan") June 30, 2016 actuarial valuation. The purpose of this valuation is to:

- Determine the Governmental Accounting Standards Board Statement Nos. 43 and 45 June 30, 2016 Benefit Obligations,
- Determine the Plan's June 30, 2016 Funded Status, and
- Calculate the 2015/16 and 2016/17 Annual Required Contributions.

The report provides information intended for reporting under GASB 43 and 45, but may not be appropriate for other purposes. Information provided in this report may be useful to the County for the Plan's financial management. Future valuations may differ significantly if the Plan's experience differs from our assumptions or if there are changes in Plan design, actuarial methods, or actuarial assumptions. The project scope did not include an analysis of this potential variation.

The valuation is based on Plan provisions, participant data, and asset information provided by the County as summarized in this report, which we relied on and did not audit. We reviewed the participant data for reasonableness.

To the best of my knowledge, this report is complete and accurate and has been conducted using generally accepted actuarial principles and practices. Additionally, in my opinion, actuarial methods and assumptions comply with GASB 43 and 45. As a member of the American Academy of Actuaries meeting the Academy Qualification Standards, I certify the actuarial results and opinions herein.

Respectfully submitted,



Doug Pryor, ASA, EA, MAAA
Vice President
Bartel Associates, LLC
November 11, 2016



November 11, 2016

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ACTUARIAL CERTIFICATION

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PREMIUMS

2016 PEMHCA Monthly Premiums

Bay Area

Medical Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Anthem Select	\$ 721.79	\$ 1,443.58	\$ 1,876.65	n/a	n/a	n/a
Anthem Traditional	855.42	1,710.84	2,224.09	n/a	n/a	n/a
Blue Shield Access+	1,016.18	2,032.36	2,642.07	n/a	n/a	n/a
Blue Shield NetValue	1,033.86	2,067.72	2,688.04	n/a	n/a	n/a
Health Net SmartCare	808.44	1,616.88	2,101.94	n/a	n/a	n/a
Kaiser	746.47	1,492.94	1,940.82	\$ 297.23	\$ 594.46	\$ 891.69
UnitedHealthcare	955.44	1,910.88	2,484.14	320.98	641.96	962.94
PERS Choice	798.36	1,596.72	2,075.74	366.38	732.76	1,099.14
PERS Select	730.07	1,460.14	1,898.18	366.38	732.76	1,099.14
PERSCare	889.27	1,778.54	2,312.10	408.04	816.08	1,224.12
PORAC	699.00	1,399.00	1,789.00	442.00	881.00	1,408.00



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PREMIUMS

2017 PEMHCA Monthly Premiums

Bay Area

Medical Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Anthem Select	\$ 783.46	\$ 1,566.92	\$ 2,037.00	n/a	n/a	n/a
Anthem Traditional	990.05	1,980.10	2,574.13	n/a	n/a	n/a
Blue Shield Access+	1,024.85	2,049.70	2,664.61	n/a	n/a	n/a
Health Net SmartCare	733.29	1,466.58	1,906.55	n/a	n/a	n/a
Kaiser	733.39	1,466.78	1,906.81	\$ 300.48	\$ 600.96	\$ 901.44
UnitedHealthcare	1,062.26	2,124.52	2,761.88	324.21	648.42	972.63
PERS Choice	830.30	1,660.60	2,158.78	353.63	707.26	1,060.89
PERS Select	736.27	1,472.54	1,914.30	353.63	707.26	1,060.89
PERSCare	932.39	1,864.78	2,424.21	389.76	779.52	1,169.28
PORAC	699.00	1,467.00	1,876.00	464.00	924.00	1,477.00



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PREMIUMS

2016 PEMHCA Monthly Premiums

Sacramento

Medical Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Anthem Select	\$ 902.07	\$ 1,804.14	\$ 2,345.38	n/a	n/a	n/a
Anthem Traditional	1,112.54	2,225.08	2,892.60	n/a	n/a	n/a
Blue Shield Access+	885.33	1,770.66	2,301.86	n/a	n/a	n/a
Blue Shield NetValue	900.73	1,801.46	2,341.90	n/a	n/a	n/a
Health Net SmartCare	747.55	1,495.10	1,943.63	n/a	n/a	n/a
Kaiser	695.11	1,390.22	1,807.29	\$ 297.23	\$ 594.46	\$ 891.69
UnitedHealthcare	686.36	1,372.72	1,784.54	320.98	641.96	962.94
PERS Choice	727.58	1,455.16	1,891.71	366.38	732.76	1,099.14
PERS Select	665.35	1,330.70	1,729.91	366.38	732.76	1,099.14
PERSCare	810.40	1,620.80	2,107.04	408.04	816.08	1,224.12
PORAC	699.00	1,399.00	1,789.00	442.00	881.00	1,408.00



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PREMIUMS

2017 PEMHCA Monthly Premiums

Sacramento

Medical Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Anthem Select	\$ 907.08	\$ 1,814.16	\$ 2,358.41	n/a	n/a	n/a
Anthem Traditional	1,286.41	2,572.82	3,344.67	n/a	n/a	n/a
Blue Shield Access+	859.42	1,718.84	2,234.49	n/a	n/a	n/a
Health Net SmartCare	672.66	1,345.32	1,748.92	n/a	n/a	n/a
Kaiser	690.56	1,381.12	1,795.46	\$ 300.48	\$ 600.96	\$ 901.44
UnitedHealthcare	756.78	1,513.56	1,967.63	324.21	648.42	972.63
PERS Choice	723.47	1,446.94	1,881.02	353.63	707.26	1,060.89
PERS Select	641.47	1,282.94	1,667.82	353.63	707.26	1,060.89
PERSCare	812.40	1,624.80	2,112.24	389.76	779.52	1,169.28
PORAC	699.00	1,467.00	1,876.00	464.00	924.00	1,477.00



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DATA SUMMARY

June 30, 2016

	Misc	Safety	Total
■ Actives			
• Count	1,138	289	1,427
• Average age	43.2	40.5	42.7
• Average County service	9.1	10.1	9.3
• Average pay	\$ 66,600	\$ 69,300	\$ 67,100
• Total payroll (000's)	75,746	20,035	95,781
■ Retirees			
• Counts			
➤ Medical Under 65	154	37	191
➤ Medical Over 65	<u>429</u>	<u>65</u>	<u>494</u>
➤ Total Medical	583	102	685 ²⁷
➤ Dental only	<u>n/a</u>	<u>n/a</u>	<u>294</u>
➤ Total	n/a	n/a	979
• Average age (medical)	70.6	68.4	70.3
• Average ret age (service)	60.2	58.0	60.0

²⁷ Includes 645 with dental.



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DATA SUMMARY

June 30, 2014

	Misc	Safety	Total
■ Actives			
• Count	1,033	281	1,314
• Average age	44.3	40.3	43.5
• Average County service	9.8	10.3	9.9
• Average pay	\$ 62,700	\$ 67,500	\$ 63,700
• Total payroll (000's)	64,795	18,958	83,753
■ Retirees			
• Counts			
➤ Medical Under 65	188	32	220
➤ Medical Over 65	<u>384</u>	<u>63</u>	<u>447</u>
➤ Total Medical	572	95	667 ²⁸
➤ Dental only	<u>n/a</u>	<u>n/a</u>	<u>308</u>
➤ Total	n/a	n/a	975
• Average age (medical)	69.9	67.5	69.5
• Average ret age (service)	60.1	56.5	59.6

²⁸ Includes 631 with dental.



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DATA SUMMARY

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DATA SUMMARY

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DATA SUMMARY

Medical Plan Participation **Non-Waived Participants**

Medical Plan	Actives	Retirees	
		< 65	≥ 65
Anthem Select	1%	1%	-
Anthem Traditional	1%	-	-
Blue Shield Access+	4%	7%	-
Blue Shield NetValue	10%	19%	-
Health Net SmartCare	9%	9%	-
Kaiser	42%	26%	28%
UnitedHealthcare	27%	11%	43%
PERS Choice	4%	20%	20%
PERS Select	1%	2%	-
PERSCare	1%	4%	9%
PORAC	0%	1%	-
Total	100%	100%	100%



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DATA SUMMARY

Active Medical Coverage

Medical Plan	Single	2-Party	Family	Waived	Total
Anthem Select	4	2	1	-	7
Anthem Traditional	4	-	2	-	6
Blue Shield Access+	23	8	9	-	40
Blue Shield NetValue	34	35	40	-	109
Health Net SmartCare	34	25	41	-	100
Kaiser	166	100	207	-	473
UnitedHealthcare	95	53	165	-	313
PERS Choice	22	11	18	-	51
PERS Select	9	-	6	-	15
PERSCare	4	-	3	-	7
PORAC	1	1	1	-	3
Waived	-	-	-	303	303
Total	396	235	493	303	1,427



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DATA SUMMARY

Retiree Medical Coverage Under Age 65

Medical Plan	Single	2-Party	Family	Total
Anthem Select	1	-	-	1
Blue Shield Access+	11	2	1	14
Blue Shield NetValue	28	6	3	37
Health Net SmartCare	12	4	2	18
Kaiser	32	11	8	51
United HealthCare	8	11	2	21
PERS Choice	24	11	3	38
PERS Select	-	2	1	3
PERSCare	6	1	-	7
PORAC	-	1	-	1
Total	122	49	20	191



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DATA SUMMARY

Retiree Medical Coverage Over Age 65

Medical Plan	Single	2-Party	Family	Total
Anthem Select	-	-	-	-
Blue Shield Access+	3	-	-	3
Blue Shield NetValue	-	-	-	-
Health Net SmartCare	-	-	-	-
Kaiser	92	40	4	136
United HealthCare	129	76	5	210
PERS Choice	58	38	1	97
PERS Select	-	1	-	1
PERSCare	33	13	1	47
PORAC	-	-	-	-
Total	315	168	11	494



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DATA SUMMARY

Actives by Age and County Service Miscellaneous

Age	County Service							Total
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	
< 25	11	12	-	-	-	-	-	23
25-29	39	90	4	-	-	-	-	133
30-34	29	94	41	12	-	-	-	176
35-39	21	57	35	34	18	-	-	165
40-44	13	33	33	39	27	4	-	149
45-49	12	27	28	32	33	12	5	149
50-54	8	17	24	28	27	13	23	140
55-59	3	12	22	24	26	8	16	111
60-64	3	4	14	10	13	5	10	59
≥ 65	-	3	4	10	7	4	5	33
Total	139	349	205	189	151	46	59	1,138

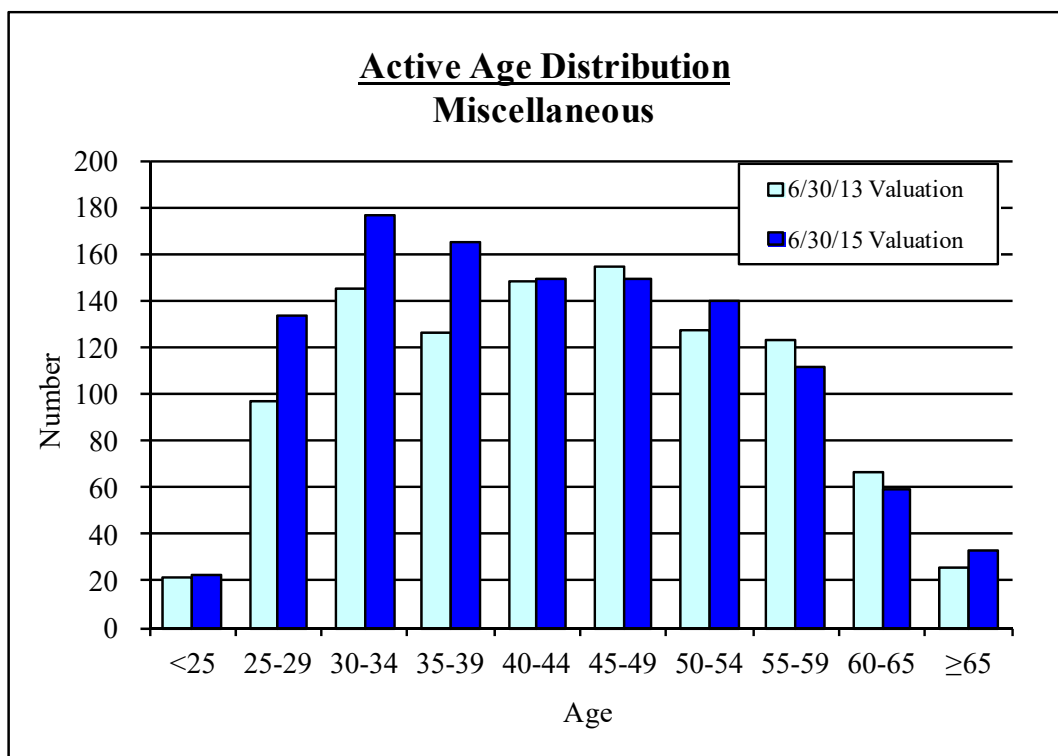


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DATA SUMMARY

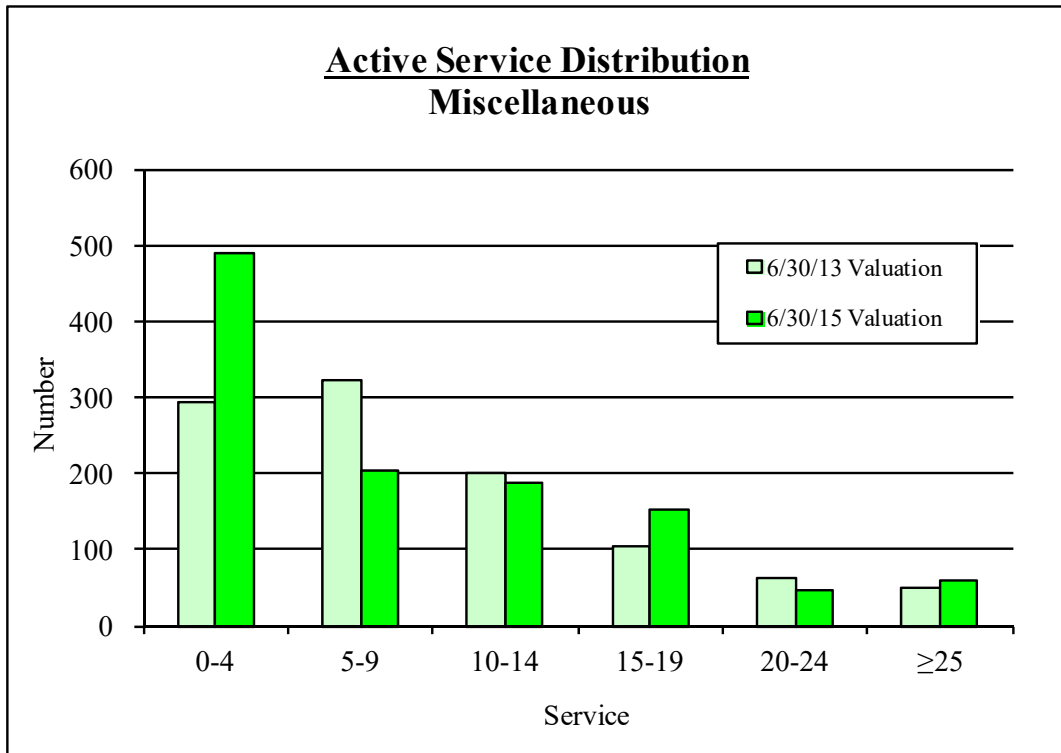


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DATA SUMMARY



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DATA SUMMARY

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DATA SUMMARY

Actives by Age and County Service Safety

Age	County Service							Total
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	
< 25	6	2	-	-	-	-	-	8
25-29	10	14	2	-	-	-	-	26
30-34	9	13	18	10	-	-	-	50
35-39	3	12	17	25	4	-	-	61
40-44	2	5	14	21	16	1	-	59
45-49	3	2	4	9	9	10	2	39
50-54	1	4	3	5	7	6	4	30
55-59	2	1	2	3	2	1	2	13
60-64	-	-	-	-	-	3	-	3
≥ 65	-	-	-	-	-	-	-	-
Total	36	53	60	73	38	21	8	289

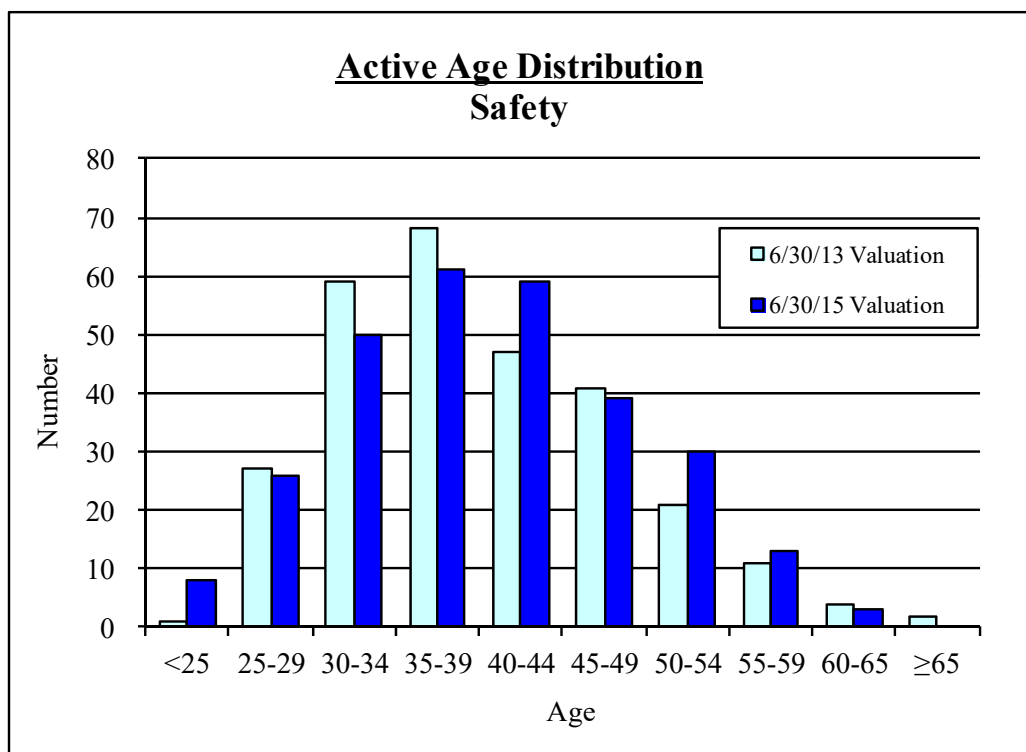


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DATA SUMMARY

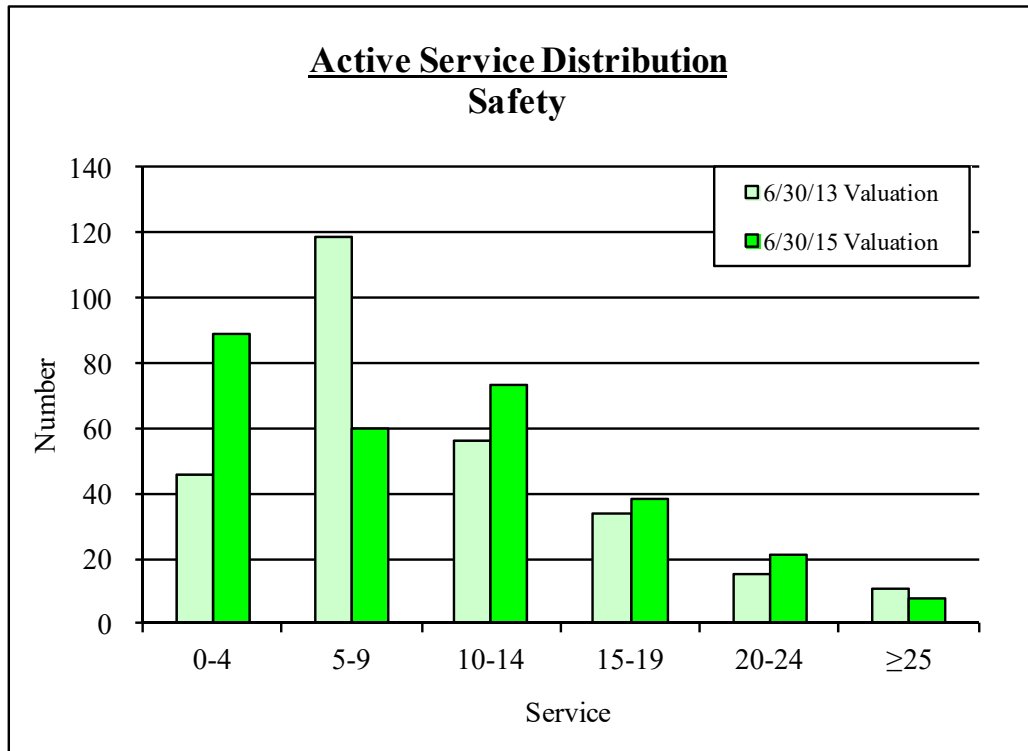


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DATA SUMMARY

Actives by Age and County Service Total

Age	County Service							Total
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	
< 25	17	14	-	-	-	-	-	31
25-29	49	104	6	-	-	-	-	159
30-34	38	107	59	22	-	-	-	226
35-39	24	69	52	59	22	-	-	226
40-44	15	38	47	60	43	5	-	208
45-49	15	29	32	41	42	22	7	188
50-54	9	21	27	33	34	19	27	170
55-59	5	13	24	27	28	9	18	124
60-64	3	4	14	10	13	8	10	62
≥ 65	-	3	4	10	7	4	5	33
Total	175	402	265	262	189	67	67	1,427

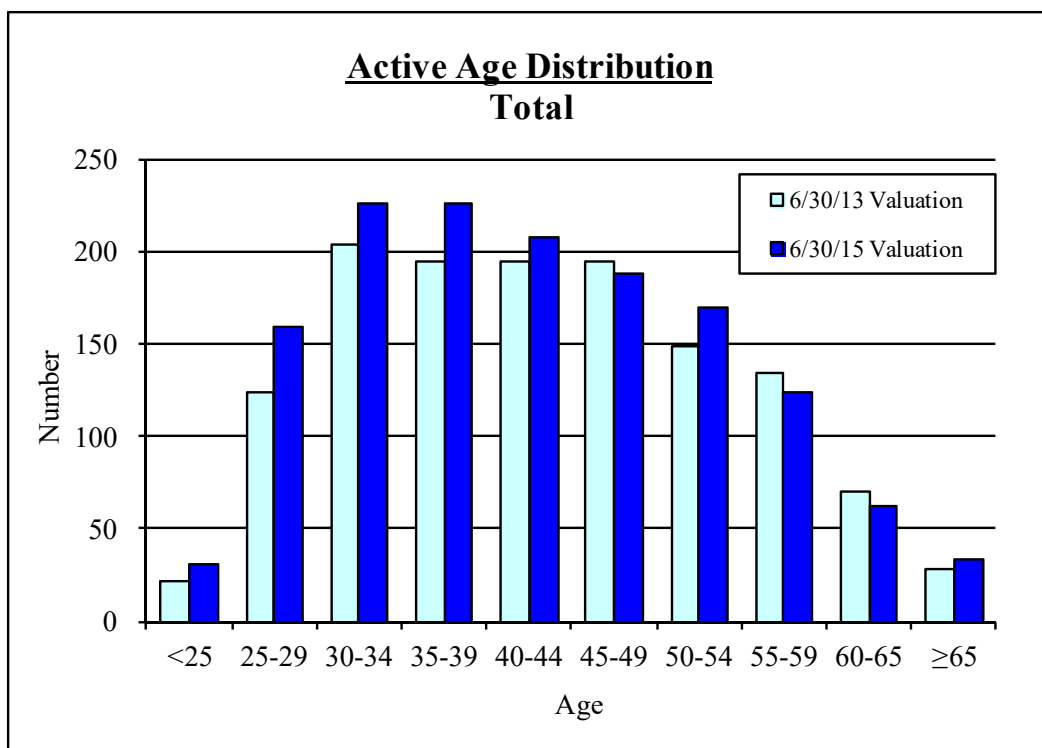


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DATA SUMMARY

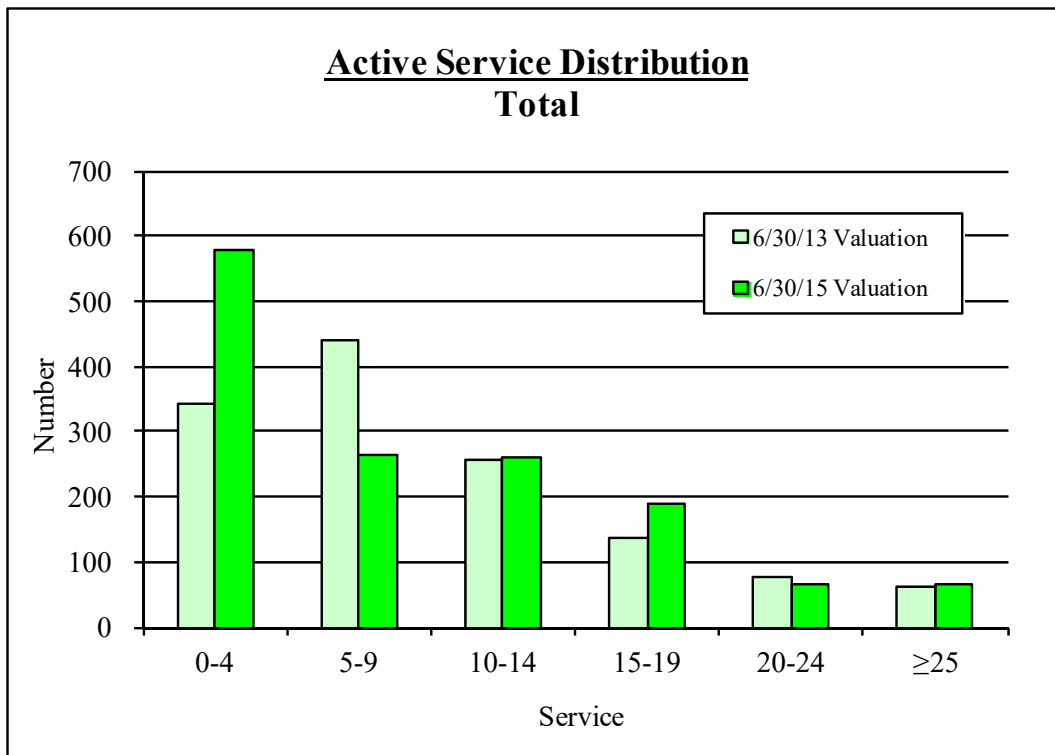


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DATA SUMMARY



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DATA SUMMARY

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DATA SUMMARY

Retiree Medical Coverage by Age Group **Miscellaneous**

Age	Single	2-Party	Family	Total
Under 50	-	-	1	1
50-54	6	-	1	7
55-59	20	12	4	36
60-64	72	30	8	110
65-69	97	65	4	166
70-74	66	38	3	107
75-79	46	21	2	69
80-84	40	4	-	44
Over 85	40	3	-	43
Total	387	173	23	583
Average Age	71.7	69.0	63.3	71.3



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DATA SUMMARY

Retiree Medical Coverage by Age Group **Safety**

Age	Single	2-Party	Family	Total
Under 50	-	-	1	1
50-54	5	1	3	9
55-59	11	1	-	12
60-64	8	5	2	15
65-69	6	9	1	16
70-74	10	12	1	23
75-79	7	9	-	16
80-84	3	4	-	7
Over 85	-	3	-	3
Total	50	44	8	102
Average Age	66.3	72.6	58.1	66.7



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ASSET ALLOCATION

Asset Allocation

(Amounts in 000's)

	Target Allocation ²⁹
■ Total Fixed (fixed + inflation linked)	30% - 50%
■ Cash	0% - 20%
■ Global Equities	50% - 70%

²⁹ Balanced/Moderately Aggressive HighMark PLUS investment Strategy.



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ASSET ALLOCATION

PARS Standard Investment Options

	Capital Appreciation	Balanced	Moderate	Moderately Conservative	Conservative
■ Target Allocation					
• Equity	75%	60%	50%	30%	15%
• Fixed Income	20%	35%	45%	65%	80%
• Cash	5%	5%	5%	5%	5%
• Total	100%	100%	100%	100%	100%
■ Median Return	7.39%	6.88%	6.48%	5.67%	5.00%
■ Discount Rate- Confidence Level					
• 50%	7.50%	7.00%	6.50%	5.75%	5.00%
• 55%	7.00%	6.50%	6.25%	5.50%	4.75%
• 60%	6.75%	6.25%	6.00%	5.25%	4.50%



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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2014 Valuation	June 30, 2016 Valuation																																								
■ General Inflation	● 3.00%	● Same																																								
■ Service Retirement	● CalPERS 1997-2011 Experience Study <table><thead><tr><th></th><th><u>Safety</u></th><th><u>Safety – Sheriffs</u></th><th><u>Misc</u></th></tr></thead><tbody><tr><td>Tier 1</td><td>3%@55</td><td>3%@50</td><td>2.5%@55</td></tr><tr><td>ERA</td><td>≈ 56.7</td><td>≈ 54.2</td><td>≈ 58.4</td></tr><tr><td>PEPRA</td><td>2.7%@57</td><td>2.7%@57</td><td>2%@62</td></tr><tr><td>ERA</td><td>≈ 56.8</td><td>≈ 56.8</td><td>≈ 60.6</td></tr></tbody></table>		<u>Safety</u>	<u>Safety – Sheriffs</u>	<u>Misc</u>	Tier 1	3%@55	3%@50	2.5%@55	ERA	≈ 56.7	≈ 54.2	≈ 58.4	PEPRA	2.7%@57	2.7%@57	2%@62	ERA	≈ 56.8	≈ 56.8	≈ 60.6	● CalPERS 1997-2011 Experience Study <table><thead><tr><th></th><th><u>Safety</u></th><th><u>Safety – Sheriffs</u></th><th><u>Misc</u></th></tr></thead><tbody><tr><td>Tier 1</td><td>3%@55</td><td>3%@50</td><td>2.5%@55</td></tr><tr><td>ERA</td><td>≈ 57.6</td><td>≈ 54.5</td><td>≈ 60.4</td></tr><tr><td>PEPRA</td><td>2.7%@57</td><td>2.7%@57</td><td>2%@62</td></tr><tr><td>ERA</td><td>≈ 58.0</td><td>≈ 57.6</td><td>≈ 61.5</td></tr></tbody></table>		<u>Safety</u>	<u>Safety – Sheriffs</u>	<u>Misc</u>	Tier 1	3%@55	3%@50	2.5%@55	ERA	≈ 57.6	≈ 54.5	≈ 60.4	PEPRA	2.7%@57	2.7%@57	2%@62	ERA	≈ 58.0	≈ 57.6	≈ 61.5
	<u>Safety</u>	<u>Safety – Sheriffs</u>	<u>Misc</u>																																							
Tier 1	3%@55	3%@50	2.5%@55																																							
ERA	≈ 56.7	≈ 54.2	≈ 58.4																																							
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Tier 1	3%@55	3%@50	2.5%@55																																							
ERA	≈ 57.6	≈ 54.5	≈ 60.4																																							
PEPRA	2.7%@57	2.7%@57	2%@62																																							
ERA	≈ 58.0	≈ 57.6	≈ 61.5																																							
■ Dental Participation at Retirement	● 100%	● Same																																								
■ Dental Claim Increases	● 3.00%	● Same																																								



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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2014 Valuation	June 30, 2016 Valuation
■ Medical Plan at Retirement	- Currently covered: same as current election - Currently waived: weighted average based on current retiree distribution	• Same
■ Payroll Increases	- Aggregate Increases: 3.25% - Merit Increases: CalPERS 1997-2011 Experience Study	• Same
■ CalPERS Service	• County service plus ½ service between age 30 and County hire date	• Same
■ CalPERS Premium Cap Calculations	- Assume correct caps apply. - No adjustment for retroactive refund.	• Same



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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2014 Valuation	June 30, 2016 Valuation
■ Spouse Age	• Males 3 years older than females if spouse birth date is unavailable	• Same
■ Surviving Spouse Participation	• 100% participation	• Same
■ Dependents	• Actives: ➢ Miscellaneous: 10% ➢ Safety: 20% ➢ Temporary until age 65 • Retirees: current coverage	• Same
■ Medicare Eligible Rate	• 100% • Everyone eligible for Medicare will elect Part B coverage	• Same



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ACTUARIAL ASSUMPTIONS

Assumption	June 30, 2014 Valuation	June 30, 2016 Valuation
■ Future New Entrants	• None – closed group	• Same



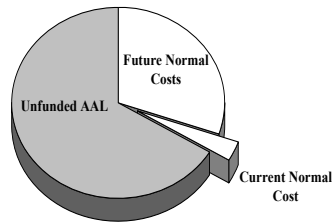
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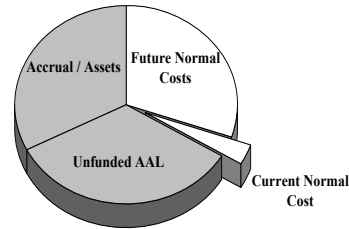


Present Value of Projected Benefits (PVPB)

Without Assets



With Assets



■ **PVPB – Present Value of all Projected Benefits**

- Discounted value, at measurement date of all future expected benefit payments
- Expected benefit payments based on various actuarial assumptions



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■ **AAL – Actuarial Accrued Liability / Actuarial Obligation**

- Discounted value at measurement date of benefits “earned” through measurement date based on actuarial cost method
- Portion of PVPB “earned” at measurement

■ **NC – Normal Cost**

- Value of benefits “earned” during current year
- Portion of PVPB allocated to current year

■ **Actuarial Cost Method**

- Determines how benefits are “earned” or allocated to each year of service
- Has no effect on PVPB
- Has significant effect on Actuarial Obligations and Normal Cost

■ **Pay-As-You-Go Cost (PayGo)**

- Cash Subsidy – Actual cash benefit payments to retirees
- Implied Subsidy – Difference between cost of retiree benefits and retiree premiums (not valued for PEMHCA)
- PayGo is the expected retiree benefit payments for the year while Normal Cost is the expense for benefits accrued by active employees during the year



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