



MARIN MUNICIPAL
WATER DISTRICT

BARTEL
ASSOCIATES, LLC

RETIREE HEALTHCARE PLAN

**June 30, 2017 Actuarial Valuation
Plan Funding for 2019/20 and 2020/21**

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James Yuan, Associate Actuary
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Bartel Associates, LLC

June 22, 2018

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BENEFIT SUMMARY

<ul style="list-style-type: none"> ■ Eligibility 	<ul style="list-style-type: none"> ■ Retire directly from District under CalPERS (10+ years of continuous District service for dental) 																
<ul style="list-style-type: none"> ■ Medical Benefit 	<ul style="list-style-type: none"> ■ District pays premium up to cap (middle cost pre-Medicare Bay Area plan): <table border="1" style="margin-left: 20px;"> <thead> <tr> <th></th> <th style="text-align: center;">2016</th> <th style="text-align: center;">2017</th> <th style="text-align: center;">2018</th> </tr> </thead> <tbody> <tr> <td>Plan</td> <td style="text-align: center;">Health Net SmartCare</td> <td style="text-align: center;">PERS Choice</td> <td style="text-align: center;">Anthem Select</td> </tr> <tr> <td>Employee</td> <td style="text-align: right;">\$ 808.44</td> <td style="text-align: right;">\$ 830.30</td> <td style="text-align: right;">\$ 856.41</td> </tr> <tr> <td>2-Party</td> <td style="text-align: right;">1,616.88</td> <td style="text-align: right;">1,660.60</td> <td style="text-align: right;">1,712.82</td> </tr> </tbody> </table>		2016	2017	2018	Plan	Health Net SmartCare	PERS Choice	Anthem Select	Employee	\$ 808.44	\$ 830.30	\$ 856.41	2-Party	1,616.88	1,660.60	1,712.82
	2016	2017	2018														
Plan	Health Net SmartCare	PERS Choice	Anthem Select														
Employee	\$ 808.44	\$ 830.30	\$ 856.41														
2-Party	1,616.88	1,660.60	1,712.82														
<ul style="list-style-type: none"> ■ Dental Benefit 	<ul style="list-style-type: none"> ■ 2-Party dental coverage up to cap until age 65 ■ Cap: \$2,000 per individual covered up to total of \$4,000 																
<ul style="list-style-type: none"> ■ Surviving Spouse 	<ul style="list-style-type: none"> ■ 100% of retiree benefit continues to surviving spouse if retiree elects CalPERS survivor allowance 																
<ul style="list-style-type: none"> ■ Other OPEB 	<ul style="list-style-type: none"> ■ The District does not provide Medicare Part B Reimbursement, Non-PEMHCA Premium, Vision, and Life 																



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BENEFIT SUMMARY

<ul style="list-style-type: none"> ■ Pay-As-You-Go 	<table border="1" style="margin-left: 20px;"> <thead> <tr> <th style="text-align: center;">Fiscal Year</th> <th style="text-align: center;">Cash Benefits</th> <th style="text-align: center;">Implied Subsidy</th> <th style="text-align: center;">Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2016/17</td> <td style="text-align: right;">\$ 2,313,700</td> <td style="text-align: right;">\$ 421,000</td> <td style="text-align: right;">\$ 2,734,700</td> </tr> <tr> <td style="text-align: center;">2015/16</td> <td style="text-align: right;">2,089,600</td> <td style="text-align: right;">392,000</td> <td style="text-align: right;">2,481,600</td> </tr> <tr> <td style="text-align: center;">2014/15</td> <td style="text-align: right;">1,961,500</td> <td style="text-align: center;">-</td> <td style="text-align: right;">1,961,500</td> </tr> <tr> <td style="text-align: center;">2013/14</td> <td style="text-align: right;">1,972,800</td> <td style="text-align: center;">-</td> <td style="text-align: right;">1,972,800</td> </tr> <tr> <td style="text-align: center;">2012/13</td> <td style="text-align: right;">1,901,800</td> <td style="text-align: center;">-</td> <td style="text-align: right;">1,901,800</td> </tr> <tr> <td style="text-align: center;">2011/12</td> <td style="text-align: right;">1,728,500¹</td> <td style="text-align: center;">-</td> <td style="text-align: right;">1,728,500</td> </tr> <tr> <td style="text-align: center;">2010/11</td> <td style="text-align: right;">1,564,200^{Error} ! Bookmark not defined.</td> <td style="text-align: center;">-</td> <td style="text-align: right;">1,564,200</td> </tr> <tr> <td style="text-align: center;">2009/10</td> <td style="text-align: right;">1,379,700²</td> <td style="text-align: center;">-</td> <td style="text-align: right;">1,379,700</td> </tr> <tr> <td style="text-align: center;">2008/09</td> <td style="text-align: right;">1,419,400</td> <td style="text-align: center;">-</td> <td style="text-align: right;">1,419,400</td> </tr> <tr> <td style="text-align: center;">2007/08</td> <td style="text-align: right;">1,355,900</td> <td style="text-align: center;">-</td> <td style="text-align: right;">1,355,900</td> </tr> </tbody> </table>	Fiscal Year	Cash Benefits	Implied Subsidy	Total	2016/17	\$ 2,313,700	\$ 421,000	\$ 2,734,700	2015/16	2,089,600	392,000	2,481,600	2014/15	1,961,500	-	1,961,500	2013/14	1,972,800	-	1,972,800	2012/13	1,901,800	-	1,901,800	2011/12	1,728,500 ¹	-	1,728,500	2010/11	1,564,200 ^{Error} ! Bookmark not defined.	-	1,564,200	2009/10	1,379,700 ²	-	1,379,700	2008/09	1,419,400	-	1,419,400	2007/08	1,355,900	-	1,355,900
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¹ 2010/11 & 2011/12 pay-as-you-go cost calculated based on contribution to trust assuming full ADC funding

² Reflects CalPERS 2 month PPO premium holiday

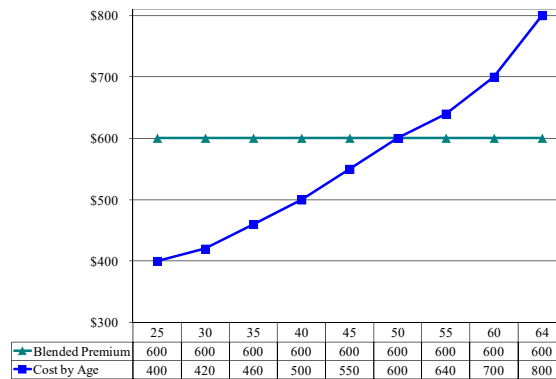


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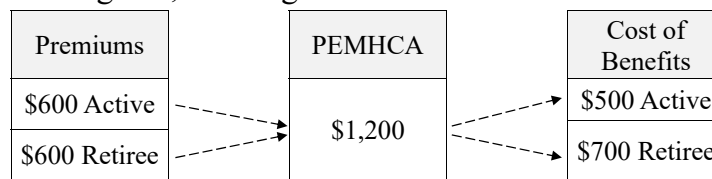


IMPLIED SUBSIDY

- 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

Implied Subsidy

- GASB defers to actuarial standards of practice
- Previous Actuarial Standards of Practice No. 6³ (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 with earlier implementation encouraged
 - Valuations on and after 6/30/13 include the implied subsidy

³ Measuring Retiree Group Benefits Obligations and Determining Retiree Group Benefits Plan Costs or Contributions.



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PARTICIPANT STATISTICS

Actives

	1/1/07	1/1/09	6/30/10	6/30/12	6/30/13 ⁴	6/30/15	6/30/17
■ Count	255	253	254	225	225	236	228
■ Average:							
• Age	46.7	46.9	47.7	47.6	48.6	46.7	46.2
• Service	11.1	11.5	12.4	12.8	13.8	12.2	12.1
• CalPERS Service	11.8	12.3	13.2	13.5	14.5	13.1	13.3
• Pay	\$ 70,500	\$ 81,300	\$ 85,800	\$ 87,100	\$ 89,900	\$ 91,100	\$ 99,600 ⁵
■ Total Payroll (000s)	17,967	20,581	21,789	19,600	20,234	21,494	22,719

⁴ 6/30/2012 data used for 6/30/13 valuation. Pay increased with 3.25% aggregate pay increase assumption.

⁵ Estimated based on CalPERS 6/30/2016 valuation.



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PARTICIPANT STATISTICS

Retirees

	1/1/07	1/1/09	6/30/10	6/30/12	6/30/13 ⁶	6/30/15	6/30/17
■ Count							
• Benefitting							
> < 65	69	64	65	79	59	70	79
> ≥ 65	<u>93</u>	<u>105</u>	<u>110</u>	<u>124</u>	<u>144</u>	<u>151</u>	<u>162</u>
> Subtotal	162	169	175	203	203	221	241
• Not benefitting	<u>17</u>	<u>27</u>	<u>11</u>	<u>15</u>	<u>15</u>	<u>18</u>	<u>15</u>
• Total	179	196	186	218	218	239	256
■ Average							
• Age	67.6	69.1	70.0	69.9	70.9	70.8	70.8
• Retirement Age							
> Service retired	58.3	58.0	58.1	58.3	58.3	58.4	58.4
> Disabled retired	46.3	47.0	45.8	45.7	45.7	45.2	44.1

⁶ 6/30/2012 data used for 6/30/13 valuation.



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Discount Rate

- Bartel Associates model:
 - Stochastic simulations of geometric average returns over 20 years
 - 5,000 trials
 - 2.75% inflation assumption
 - Projections based on 5 independent Investment Advisors 2016 or 2017 (latest available) 10-year Capital Market Assumptions and where available, investment advisors anticipated long-term trends:



Discount Rate

- Investment Options (allocations rounded to nearest % and may not add)

	Strategy 1	Strategy 2	Strategy 3
Global Equity	57%	40%	24%
Fixed Income	27%	39%	39%
TIPS	5%	10%	26%
Commodities	3%	3%	3%
REITs	<u>8%</u>	<u>8%</u>	<u>8%</u>
Total	100%	100%	100%

- Bartel Associates expected returns⁷:

	Strategy 1	Strategy 2	Strategy 3
50% Confidence Level	6.75%	6.25%	5.50%
55% Confidence Level	6.50%	6.00%	5.50%
60% Confidence Level	6.00%	5.75%	5.25%

⁷ Confidence levels represent likelihood return is achieved -e.g. 55% Confidence Level for Strategy 1 fund means 6.50% return expected to be achieved 55% of the time.



ACTUARIAL ASSUMPTIONS HIGHLIGHTS

	June 30, 2015 Valuation	June 30, 2017 Valuation
■ Valuation Date	<ul style="list-style-type: none"> ■ June 30, 2015 ■ 2017/18 and 2018/19 ■ Funding only 	<ul style="list-style-type: none"> ■ June 30, 2017 ■ 2019/20 and 2020/21 ■ Same
■ Funding Policy	<ul style="list-style-type: none"> ■ Contribute full ARC (net of pay-go) to CERBT 	<ul style="list-style-type: none"> ■ Same
■ Discount Rate	<ul style="list-style-type: none"> ■ 7.25% pre-funded with CalPERS CERBT Strategy #1 	<ul style="list-style-type: none"> ■ 6.75% pre-funded with CalPERS CERBT Strategy #1
■ General Inflation	<ul style="list-style-type: none"> ■ 3.00% 	<ul style="list-style-type: none"> ■ 2.75%
■ Dental Trend	<ul style="list-style-type: none"> ■ 4.00% per year 	<ul style="list-style-type: none"> ■ 3.75% per year
■ Medical Cap Increase	<ul style="list-style-type: none"> ■ Non-Medicare Healthcare trend 	<ul style="list-style-type: none"> ■ Same



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ACTUARIAL ASSUMPTIONS HIGHLIGHTS

	June 30, 2015 Valuation	June 30, 2017 Valuation
■ Mortality, Withdrawal, Disability	<ul style="list-style-type: none"> ■ CalPERS 1997-2011 Experience Study ■ Fully generational with Scale MP-2014 modified to converge to ultimate improvement rates in 2022 for pre and post-retirement mortality 	<ul style="list-style-type: none"> ■ CalPERS 1997-2015 Experience Study ■ Fully generational with MP-2017 for post-retirement mortality



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ACTUARIAL ASSUMPTIONS HIGHLIGHTS

■ Healthcare Trend	June 30, 2015 Valuation		June 30, 2017 Valuation	
	Year	Increase from Prior Year Non-Medicare Medicare	Year	Increase from Prior Year Non-Medicare Medicare
	2015	Actual Premiums	2017	Actual 2017 Premiums
	2016	Actual Premiums	2018	Actual 2018 Premiums
	2017	7.0% 7.0%	2019	7.50% 6.50%
	2018	6.5% 6.7%	2020	7.50% 6.50%
	2019	6.0% 6.1%	2021	7.25% 6.30%
	2020	5.5% 5.6%	2022	7.00% 6.10%
	2021+	5.0% 5.0%	2023	6.75% 5.90%
			2024	6.50% 5.70%
			2025	6.25% 5.50%
			2026	6.00% 5.30%
			2027	5.80% 5.15%
			2028	5.60% 5.00%
			2029	5.40% 4.85%
			2030	5.20% 4.70%
			2031-2035	5.05% 4.60%
			2036-2045	4.90% 4.50%
			2046-2055	4.75% 4.45%
			2056-2065	4.60% 4.40%
			2066-2075	4.30% 4.20%
			2076+	4.00% 4.00%



ACTUARIAL ASSUMPTIONS HIGHLIGHTS

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ASSETS

Market Value of Plan Assets
(Amounts in 000's)

	13/14	14/15	15/16	16/17
■ MVA (Beginning of Year)	\$12,478	\$17,075	\$18,914	\$20,638
• Employer Contribution	2,184	1,856	1,476	1,400
• Benefit Payments	-	-	-	-
• Administrative Expenses	(20)	(18)	(16)	(19)
• Investment Return ⁸	2,433	2	264	2,250
■ MVA (End of Year)	17,075	18,914	20,638	24,269
■ Approximate Annual Return	18.2%	(0.1)%	1.3%	10.5%

⁸ For 2015/16 includes \$17,000 to adjust end of year assets to amount reported in audited CERBT asset statement.



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ASSETS

Actuarial Value of Plan Assets
(Amounts in 000's)

	13/14	14/15	15/16	16/17
■ AVA (Beginning of Year)	\$11,983	\$15,486	\$18,586	\$21,289
• Employer Contribution	2,184	1,856	1,476	1,400
• Benefit Payments	-	-	-	-
• Credited Return	1,320	1,244	1,227	1,583
■ AVA (End of Year)	15,486	18,586	21,289	24,272
■ Approximate Annual Return	10.4%	7.8%	6.4%	7.3%



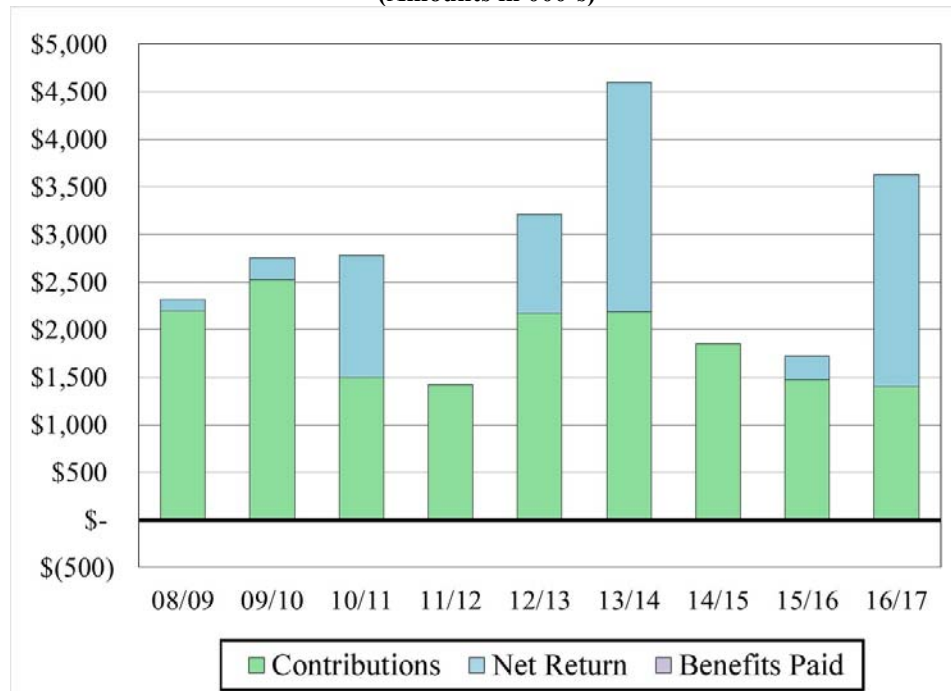
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ASSETS

Historical Plan Asset Changes

(Amounts in 000's)

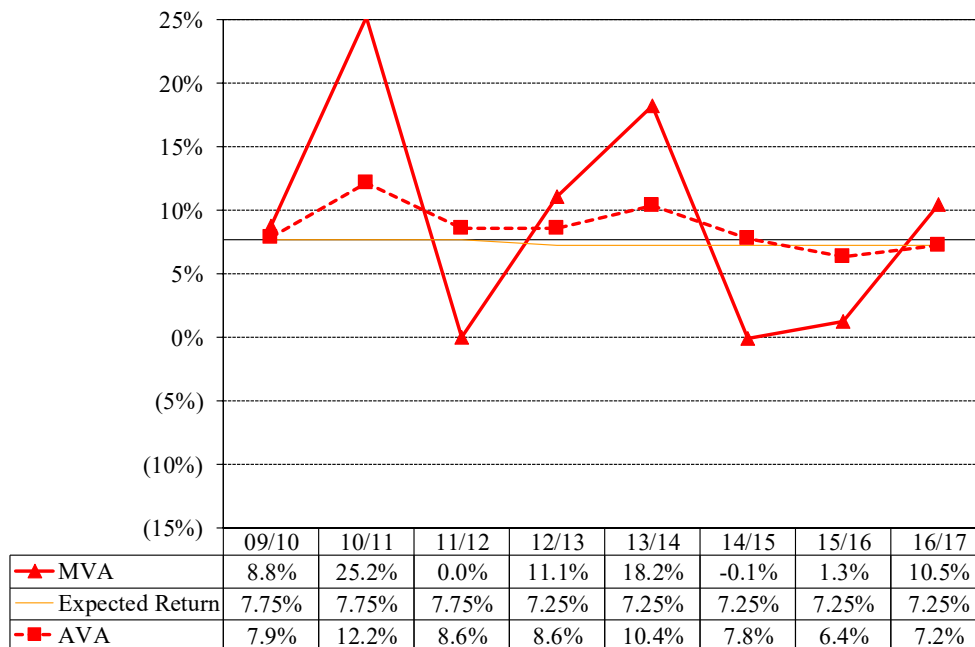


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ASSETS

Historical Annual Asset Returns



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RESULTS

Actuarial Obligations

(Amounts in 000's)

	6/30/15 Valuation	6/30/17 Valuation
■ Present Value of Benefits <ul style="list-style-type: none"> ● Actives ● Retirees ● Total 	\$ 34,223 <u>29,342</u> 63,565	\$ 38,589 <u>33,329</u> 71,918
■ Actuarial Accrued Liability <ul style="list-style-type: none"> ● Actives ● Retirees ● Total 	23,233 <u>29,342</u> 52,575	24,917 <u>33,329</u> 58,246
■ Actuarial Value of Assets	<u>18,586</u>	<u>24,272</u>
■ Unfunded Liability	33,989	33,974
■ Service Cost	1,647	1,816
■ Pay-As-You-Go Cost	3,177	3,541



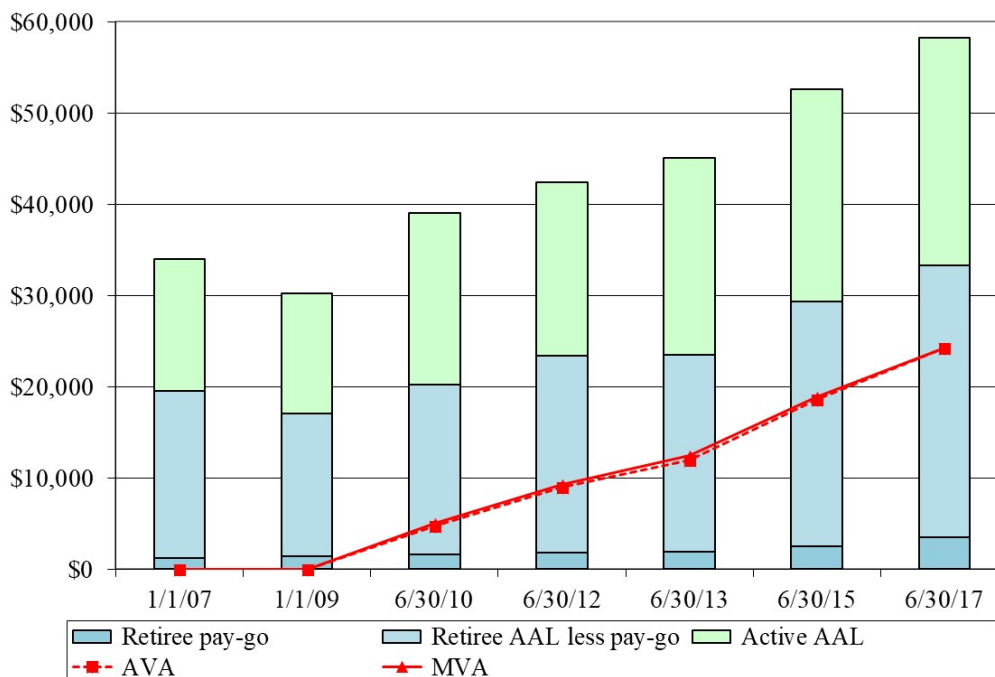
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RESULTS

Historical Funded Status

(Amounts in 000's)



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RESULTS

Actuarial (Gain)/Loss Analysis

(Amounts in 000's)

	AAL
■ 6/30/15 Actual	\$ 52,575
■ 6/30/17 Expected	57,939
■ Change	
• Premiums/Cap increases < than expected	(4,635)
• CalPERS demographic assumptions	394
• Mortality improvement assumption	(1,756)
• Discount Rate	1,509
• New Medical Trend	4,168
• Demographic/Other	627
■ Total Change	307
■ 6/30/17 Actual	58,246



RESULTS

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RESULTS

Actuarially Determined Contribution (ADC)

(Amounts in 000's)

	6/30/15 Valuation		6/30/17 Valuation	
	2017/18	2018/19	2019/20	2020/21
■ ADC - \$				
• Service Cost	\$ 1,647	\$ 1,701	\$ 1,816	\$ 1,872
• UAAL Amortization	<u>2,599</u>	<u>2,683</u>	<u>2,741</u>	<u>2,825</u>
• Total ADC	4,246	4,384	4,557	4,697
■ Projected Payroll	23,659	24,427	24,826	25,570
■ ADC - % of Payroll				
• Service Cost	7.0%	7.0%	7.3%	7.3%
• UAAL Amortization	<u>11.0%</u>	<u>11.0%</u>	<u>11.0%</u>	<u>11.0%</u>
• Total ADC	17.9%	17.9%	18.4%	18.4%



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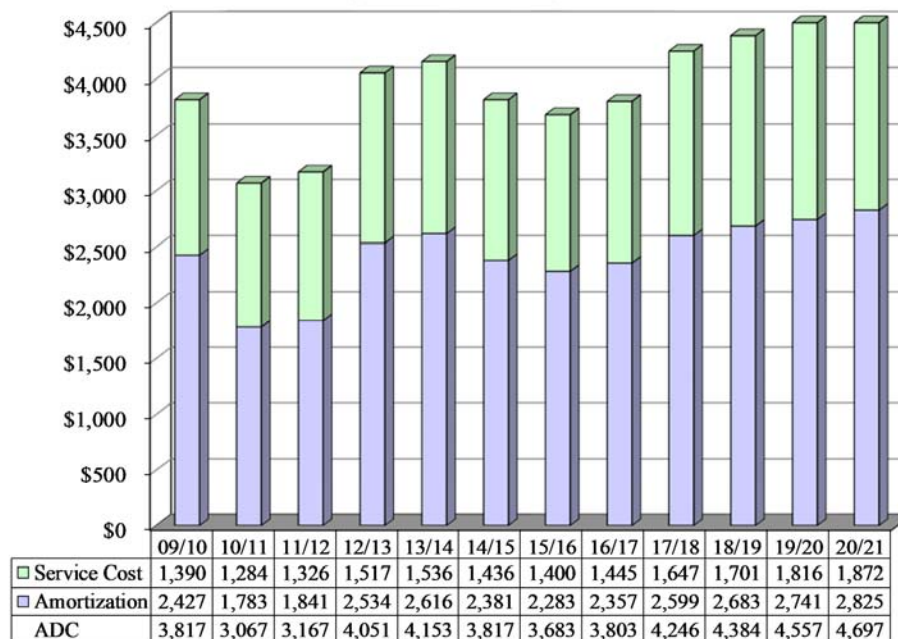
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Actuarially Determined Contributions

(Amounts in 000's)



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RESULTS

Amortization Bases

(Amounts in 000's)

	6/30/2015 Valuation		6/30/2017 Valuation	
	6/30/17	6/30/18	6/30/19	6/30/20
■ Outstanding Balance				
• Initial UAAL	\$ 29,928	\$ 29,682	\$ 29,339	\$ 28,795
• (Gain)/Loss				
> 6/30/10	6,335	6,283	6,210	6,095
> 6/30/12	(3,798)	(3,767)	(3,724)	(3,655)
> 6/30/13	(1,241)	(1,231)	(1,217)	(1,194)
> 6/30/15	2,955	2,930	2,897	2,843
> 6/30/17	-	-	274	269
• Contributions > ADC	<u>(842)</u>	<u>(837)</u>	<u>(830)</u>	<u>(814)</u>
• Total	33,336	33,060	32,950	32,339



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RESULTS

Amortization Payments

(Amounts in 000's)

	6/30/2015 Valuation		6/30/2017 Valuation	
	2017/18	2018/19	2019/20	2020/21
■ Amortization Payment - \$				
• Initial UAAL	\$ 2,333	\$ 2,409	\$ 2,444	\$ 2,517
• (Gain)/Loss				
> 6/30/10	494	510	517	533
> 6/30/12	(296)	(306)	(310)	(319)
> 6/30/13	(97)	(100)	(101)	(104)
> 6/30/15	230	238	241	249
> 6/30/17	-	-	23	23
• Contributions > ADC	<u>(66)</u>	<u>(68)</u>	<u>(73)</u>	<u>(73)</u>
• Total	2,599	2,683	2,741	2,825
■ Amortization Years	18	17	16	15



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RESULTS

10-Year Projection Illustration

(Amounts in 000's)

Fiscal Year	ADC	Contribution				Total Agency Payroll	Contr % of Total Pay
		Cash BP	Implied Subsidy BP	Pre-Fund	Total Contrib		
2019/20	\$ 4,557	\$ 2,934	\$ 607	\$ 1,016	\$ 4,557	\$ 24,826	18.4%
2020/21	4,697	3,140	653	904	4,697	25,570	18.4%
2021/22	4,841	3,309	643	889	4,841	26,338	18.4%
2022/23	4,990	3,456	621	913	4,990	27,128	18.4%
2023/24	5,143	3,668	647	828	5,143	27,942	18.4%
2024/25	5,301	3,870	665	766	5,301	28,780	18.4%
2025/26	5,464	4,090	712	662	5,464	29,643	18.4%
2026/27	5,631	4,312	768	551	5,631	30,532	18.4%
2027/28	5,804	4,460	783	561	5,804	31,448	18.5%
2028/29	5,982	4,584	768	630	5,982	32,392	18.5%



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RESULTS

Cash & Implied Subsidy

(Amounts in 000's)

	Cash Subsidy	Implied Subsidy	Total
■ Actuarial Accrued Liability			
• Actives	\$ 20,959	\$ 3,958	\$ 24,917
• Retirees	<u>29,740</u>	<u>3,589</u>	<u>33,329</u>
• Total	50,699	7,547	58,246
■ Actuarial Value of Assets⁹	<u>21,127</u>	<u>3,145</u>	<u>24,272</u>
■ Unfunded Actuarial Accrued Liability	29,572	4,402	33,974
■ 2019/20 ADC - \$			
• Service Cost	\$ 1,540	\$ 276	\$ 1,816
• UAAL Amortization	<u>2,392</u>	<u>349</u>	<u>2,741</u>
• Total	3,933	625	4,557
■ Pay-Go	<u>2,934</u>	<u>607</u>	<u>3,541</u>
■ ADC less Pay-Go	999	18	1,016

⁹ For illustrative purposes, assets allocated on Actuarial Accrued Liability.



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RESULTS

2019/20 Medical Benefit Implied Subsidy Transfer Illustration

(Amounts in 000's)

Before Implied Subsidy	Actives	Retirees	Total
■ Total Premium	\$ 4,226	\$ 2,980	\$ 7,206
■ Participant Contributions	<u> -</u>	<u> (46)</u>	<u> (46)</u>
■ District Contributions ¹⁰	4,226	2,934	7,160

After Implied Subsidy	Actives	Retirees	Total
■ Total Premium	\$ 4,226	\$ 2,980	\$ 7,206
■ Participant Contributions	-	(46)	(46)
■ Implied Subsidy Transfer	<u> (607)</u>	<u> 607</u>	<u> -</u>
■ District Contributions	3,619	3,541	7,160

¹⁰ For illustrative purposes, assumes District pays full active premium of \$4,226.



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ACTUARIAL CERTIFICATION

This report presents the Marin Municipal Water District Retiree Healthcare Plan ("Plan") June 30, 2017 actuarial valuation. The purpose of this valuation is to:

- Determine the Plan's June 30, 2017 Funded Status, and
- Calculate the 2019/20 and 2020/21 Actuarially Determined Contributions.

Information provided in this report may be useful to the District 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 District 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. As a member of the American Academy of Actuaries meeting the Academy Qualification Standards, we certify the actuarial results and opinions herein.

Respectfully submitted,

Doug Pryor, ASA, EA, MAAA
 Vice President
 Bartel Associates, LLC
 June 22, 2018



June 22, 2018



PREMIUMS

2017 PEMHCA Monthly Premiums
Bay Area

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
HealthNet 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
United Healthcare	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



June 22, 2018

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PREMIUMS

2018 PEMHCA Monthly Premiums
Bay Area

Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Anthem Select	\$856.41	\$1,712.82	\$2,226.67	n/a	n/a	n/a
Anthem Traditional	925.47	1,850.94	2,406.22	\$370.34	\$740.68	\$1,111.02
Blue Shield	889.02	1,778.04	2,311.45	n/a	n/a	n/a
Health Net SmartCare	863.48	1,726.96	2,245.05	n/a	n/a	n/a
Kaiser	779.86	1,559.72	2,027.64	316.34	632.68	949.02
United Healthcare	1,371.84	2,743.68	3,566.78	330.76	661.52	992.28
Western Health Adv.	792.56	1,585.12	2,060.66	n/a	n/a	n/a
PERS Choice	800.27	1,600.54	2,080.70	345.97	691.94	1,037.91
PERS Select	717.50	1,435.00	1,865.50	345.97	691.94	1,037.91
PERSCare	882.45	1,764.90	2,294.37	382.30	764.60	1,146.90
PORAC	734.00	1,540.00	1,970.00	487.00	970.00	1,551.00



June 22, 2018

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PREMIUMS

2017 Delta Dental Premium

- \$118.71/employee/month composite rate

2018 Delta Dental Premium¹¹

- Before July 1, 2018: \$118.71/employee/month composite rate
After July 1, 2018: \$145.91/employee/month composite rate

¹¹ Assumed annual average dental claim is \$1,011 per participant



June 22, 2018

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DATA SUMMARY

Medical Plan Participation

June 30, 2017

Plan	Active	Retiree		
		Pre-65	Post-65	Total
Anthem Traditional	2%	-	-	-
Blue Shield	6%	11%	-	4%
HealthNet SmartCare	3%	3%	-	1%
Kaiser	80%	59%	46%	50%
United Healthcare	-	3%	17%	13%
PERS Choice	7%	14%	21%	19%
PERS Select	1%	-	-	-
PERSCare	1%	10%	15%	13%
PORAC	-	-	1%	-
Total	100%	100%	100%	100%



June 22, 2018

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DATA SUMMARY

Active Medical Plan Coverage

Plan	Region	Single	2-Party	Family	Waived	Total
Anthem Traditional	Bay Area	1	1	1	0	3
Blue Shield	Bay Area	2	5	5	0	12
HealthNet SmartCare	Bay Area	3	2	1	0	6
Kaiser	Bay Area	52	45	67	0	164
	Sacramento	0	0	1	0	1
PERS Choice	Bay Area	2	7	6	0	15
PERS Select	Bay Area	0	0	2	0	2
PERSCare	Bay Area	1	1	0	0	2
Waived		0	0	0	23	23
Total		61	61	83	23	228



June 22, 2018

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DATA SUMMARY

Retiree Medical Plan Coverage
Under Age 65

Plan	Region	Single	2-Party	Family	Waived	Total
Blue Shield	Bay Area	3	3	2	-	8
	Southern CA	-	1	-	-	1
HealthNet Smartcare	Bay Area	-	1	1	-	2
Kaiser	Bay Area	13	26	3	-	42
	Out of State	-	2	-	-	2
	Sacramento	-	2	-	-	2
	Southern CA	1	-	-	-	1
United Healthcare	Bay Area	-	2	-	-	2
PERS Choice	Bay Area	2	2	2	-	6
	Northern CA	2	-	-	-	2
	Out of State	1	1	1	-	3
PERSCare	Bay Area	1	1	-	-	2
	Out of State	1	4	-	-	5
	Southern CA	1	-	-	-	1
Waived		-	-	-	3	3
Total		25	45	9	3	82



June 22, 2018

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DATA SUMMARY

Retiree Medical Plan Coverage
Over Age 65

Plan	Region	Single	2-Party	Family	Waived	Total
Kaiser	Bay Area	33	31	3	-	67
	Out of State	1	-	-	-	1
	Sacramento	1	2	1	-	4
	Southern CA	1	1	-	-	2
United Healthcare	Bay Area	17	9	-	-	26
	Northern CA	1	1	-	-	2
PERS Choice	Bay Area	5	12	-	-	17
	Northern CA	2	3	-	-	5
	Out of State	4	8	-	-	12
	Sacramento	-	1	-	-	1
PERSCare	Bay Area	6	5	1	-	12
	Northern CA	-	2	1	-	3
	Out of State	3	4	1	-	8
	Sacramento	-	1	-	-	1
PORAC		1	-	-	-	1
Waived		-	-	-	12	12
Total		75	80	7	12	174



June 22, 2018

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DATA SUMMARY

Actives by Age and Service

Age	District Service							Total
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	
< 25	1	1	-	-	-	-	-	2
25-29	4	15	1	-	-	-	-	20
30-34	5	9	7	2	-	-	-	23
35-39	1	10	7	4	-	1	-	23
40-44	2	6	6	6	6	1	-	27
45-49	3	7	7	6	8	4	4	39
50-54	-	1	3	13	11	7	10	45
55-59	-	6	1	7	10	4	8	36
60-64	-	-	-	2	3	2	2	9
≥ 65	-	-	2	1	-	-	1	4
Total	16	55	34	41	38	19	25	228



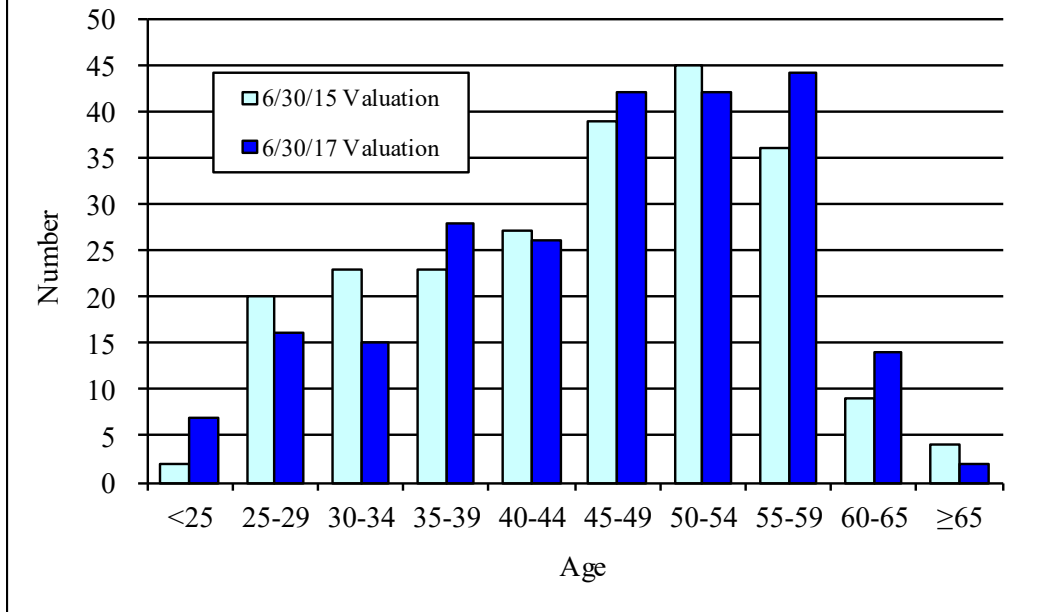
June 22, 2018

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DATA SUMMARY

Active Age Distribution



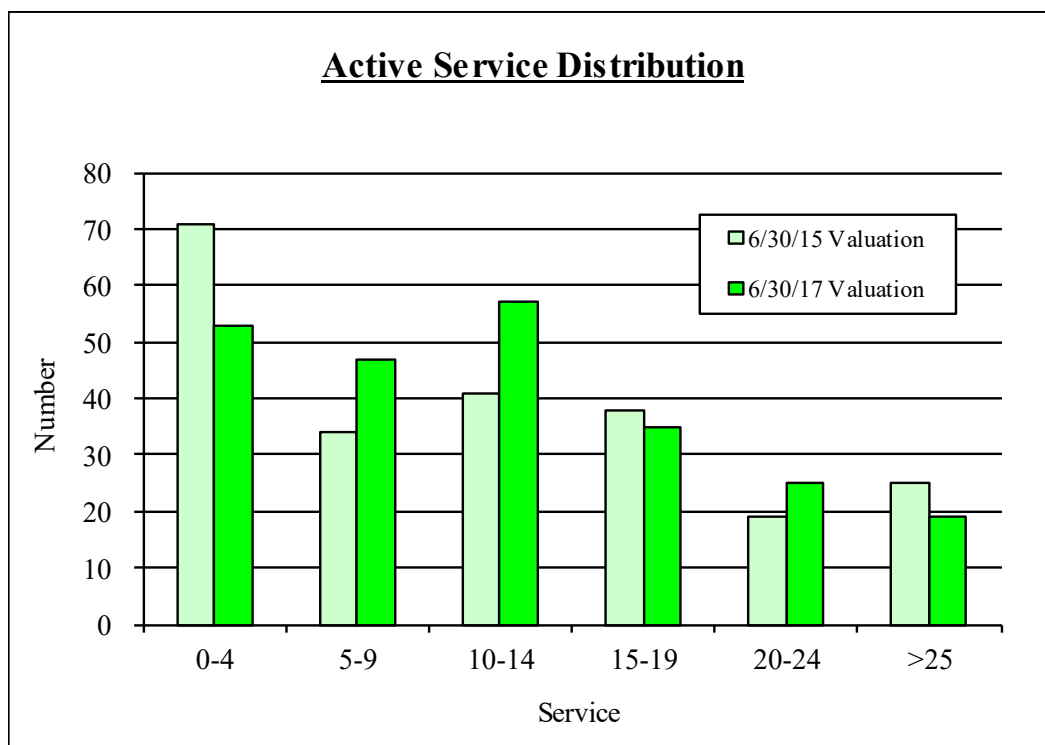
June 22, 2018

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DATA SUMMARY

Active Service Distribution



June 22, 2018

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DATA SUMMARY

Retiree Medical Coverage by Age Group

Age	Single	2-Party	Family	Waived	Total
Under 50	-	1	-	-	1
50-54	1	-	2	-	3
55-59	6	17	1	1	25
60-64	18	27	6	2	53
65-69	20	28	4	3	55
70-74	22	14	1	3	40
75-79	9	14	2	1	26
80-84	11	18	-	1	30
85 & Over	13	6	-	4	23
Total < 65	25	45	9	3	82
Total ≥ 65	75	80	7	12	174
Total	100	125	16	15	256
Average Age	72.6	69.7	64.2	74.4	70.8



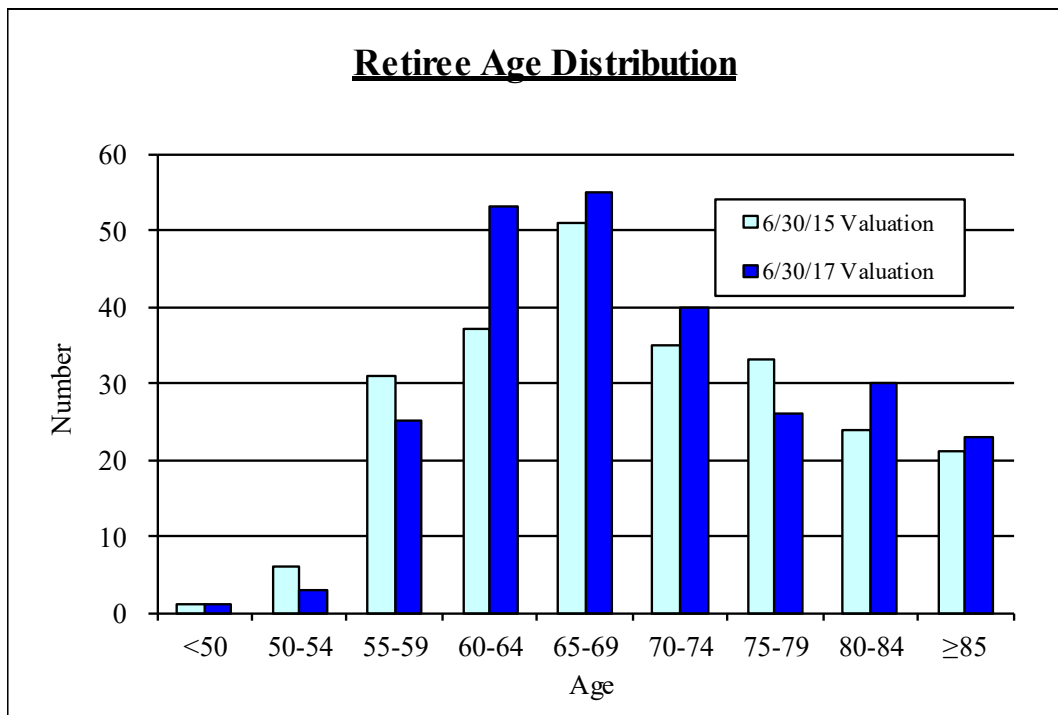
June 22, 2018

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DATA SUMMARY

Retiree Age Distribution



June 22, 2018

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ACTUARIAL ASSUMPTIONS

	June 30, 2015 Valuation	June 30, 2017 Valuation
■ Funding Policy	■ Full pre-funding in CalPERS OPEB Trust (CERBT)	■ Same
■ Payroll Increases	■ Aggregate increase: 3.25% ■ Merit increase: CalPERS 1997-2011 Experience Study	■ Aggregate increase: 3.0% ■ Merit increase: CalPERS 1997-2015 Experience Study
■ Medical Plan at Retirement	■ Medical plan at 65 consistent with current elections for retirees over 65	■ Same
■ Dental Cap Increase	■ None	■ Same



ACTUARIAL ASSUMPTIONS

	June 30, 2015 Valuation	June 30, 2017 Valuation
■ Retirement	■ CalPERS 1997-2011 Experience Study <u>Classic Members</u> Benefit Misc. 2.7%@55 HA 34.0 ERA 57.8 <u>New Members</u> Benefit Misc. 2%@62 HA 30.9 ERA 60.6	■ CalPERS 1997-2015 Experience Study <u>Classic Members</u> Benefit Misc. 2.7%@55 HA 34.1 ERA 59.7 <u>New Members</u> Benefit Misc. 2%@62 HA 32.9 ERA 61.7
■ Medical Participation at Retirement	■ Currently covered: 100% ■ Currently waived: 50%	■ Same
■ Waived Retiree Re-election	■ 10% are assumed to elect at age 65	■ Same



ACTUARIAL ASSUMPTIONS

	June 30, 2015 Valuation	June 30, 2017 Valuation
■ Marital Status	<ul style="list-style-type: none"> ■ Currently covered: current marital status ■ Not currently covered: 80% married 	■ Same
■ Medicare Eligible Rate	<ul style="list-style-type: none"> ■ 100% ■ Everyone eligible for Medicare will elect Part B coverage 	■ Same
■ Spouse Age	<ul style="list-style-type: none"> ■ Actives: Males 3 years older than females ■ Retirees: Males 3 years older than females if spouse birth date not provided 	■ Same
■ Dependents	<ul style="list-style-type: none"> ■ Actives: 20% have family coverage < 65 ■ Dental coverage: 2 children 	■ Same



ACTUARIAL ASSUMPTIONS

	June 30, 2015 Valuation	June 30, 2017 Valuation
■ CERBT Administrative Expenses	<ul style="list-style-type: none"> ■ Not explicitly included ■ Discount rate net of admin expenses 	<ul style="list-style-type: none"> ■ Included in the ADC ■ 0.05% of assets
■ ACA Excise Tax Load	■ 2% load on cash subsidy	■ Same
■ PEMHCA Administrative Expenses	■ Included in the liability	<ul style="list-style-type: none"> ■ Included in the ADC ■ 0.33% of premiums



ACTUARIAL ASSUMPTIONS

June 30, 2017 Valuation																																																								
■ Sample HMO Medical Claims Costs: 2018	■ Sample monthly claims costs Bay Area Region - Non-Medicare Eligible <hr/> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="text-align: left;"><u>Age</u></th> <th colspan="2" style="text-align: center;"><u>BS Access+</u></th> <th colspan="2" style="text-align: center;"><u>HealthNet SmartCare</u></th> <th colspan="2" style="text-align: center;"><u>Kaiser</u></th> </tr> <tr> <th style="text-align: center;"><u>M</u></th> <th style="text-align: center;"><u>F</u></th> <th style="text-align: center;"><u>M</u></th> <th style="text-align: center;"><u>F</u></th> <th style="text-align: center;"><u>M</u></th> <th style="text-align: center;"><u>F</u></th> </tr> </thead> <tbody> <tr><td>25</td><td style="text-align: right;">\$261</td><td style="text-align: right;">\$513</td><td style="text-align: right;">\$254</td><td style="text-align: right;">\$499</td><td style="text-align: right;">\$257</td><td style="text-align: right;">\$505</td></tr> <tr><td>35</td><td style="text-align: right;">342</td><td style="text-align: right;">628</td><td style="text-align: right;">332</td><td style="text-align: right;">610</td><td style="text-align: right;">336</td><td style="text-align: right;">617</td></tr> <tr><td>45</td><td style="text-align: right;">545</td><td style="text-align: right;">659</td><td style="text-align: right;">529</td><td style="text-align: right;">640</td><td style="text-align: right;">536</td><td style="text-align: right;">648</td></tr> <tr><td>55</td><td style="text-align: right;">910</td><td style="text-align: right;">920</td><td style="text-align: right;">884</td><td style="text-align: right;">894</td><td style="text-align: right;">895</td><td style="text-align: right;">905</td></tr> <tr><td>60</td><td style="text-align: right;">1,162</td><td style="text-align: right;">1,087</td><td style="text-align: right;">1,128</td><td style="text-align: right;">1,055</td><td style="text-align: right;">1,142</td><td style="text-align: right;">1,068</td></tr> <tr><td>65</td><td style="text-align: right;">1,468</td><td style="text-align: right;">1,321</td><td style="text-align: right;">1,425</td><td style="text-align: right;">1,283</td><td style="text-align: right;">1,443</td><td style="text-align: right;">1,299</td></tr> </tbody> </table>	<u>Age</u>	<u>BS Access+</u>		<u>HealthNet SmartCare</u>		<u>Kaiser</u>		<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	25	\$261	\$513	\$254	\$499	\$257	\$505	35	342	628	332	610	336	617	45	545	659	529	640	536	648	55	910	920	884	894	895	905	60	1,162	1,087	1,128	1,055	1,142	1,068	65	1,468	1,321	1,425	1,283	1,443	1,299
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June 22, 2018

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ACTUARIAL METHODS

	June 30, 2015 Valuation	June 30, 2017 Valuation
■ Cost Method	■ Entry Age Normal	■ Same
■ Amortization Method	■ Level percentage of payroll	■ Same
■ Actuarial Value of Assets	■ Investment gains/losses spread over a 5-year rolling period ■ Not less than 80% nor more than 120% of market value	■ Same
■ Unfunded Liability Amortization	■ Unfunded liability amortized over 18-year period commencing 2017/18	■ Unfunded liability amortized over 16-year period commencing 2019/20



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