



**BARTEL**  
ASSOCIATES, LLC

## **EAST CONTRA COSTA FIRE PROTECTION DISTRICT RETIREE HEALTHCARE BENEFITS**

June 30, 2017 Actuarial Valuation

Funding for 2018/19 and 2019/20

**Doug Pryor, Vice President & Actuary**  
Michelle Shen, Actuarial Analyst  
Katherine Moore, Associate Actuary  
**Bartel Associates, LLC**

May 14, 2018

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## BENEFIT SUMMARY

<p>■ Eligibility</p>	<p>■ Retire directly from District under CCCERA:</p> <ul style="list-style-type: none"> <li>● Service retirement: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Tier</th> <th>Age/Service</th> <th>Age + Service</th> <th>Service</th> </tr> </thead> <tbody> <tr> <td>Classic</td> <td>50/10</td> <td>70</td> <td>20<sup>1</sup></td> </tr> <tr> <td>PEPRA</td> <td>50/5<sup>2</sup></td> <td>70</td> <td>n/a</td> </tr> </tbody> </table> </li> <li>● Disability retirement: <ul style="list-style-type: none"> <li>- Ordinary – 5 years of service</li> <li>- Line-of-duty – 0 years of service</li> </ul> </li> </ul>	Tier	Age/Service	Age + Service	Service	Classic	50/10	70	20 <sup>1</sup>	PEPRA	50/5 <sup>2</sup>	70	n/a															
Tier	Age/Service	Age + Service	Service																									
Classic	50/10	70	20 <sup>1</sup>																									
PEPRA	50/5 <sup>2</sup>	70	n/a																									
<p>■ Medical Benefit</p>	<p>■ District pays premium capped by 87% of Kaiser Bay Area premium for coverage elected:</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="3">Non-Medicare Eligible</th> <th colspan="3">Medicare Eligible</th> </tr> <tr> <th>Single</th> <th>2-party</th> <th>Family</th> <th>Single</th> <th>2-party</th> <th>Family</th> </tr> </thead> <tbody> <tr> <td>2017</td> <td>\$638.05</td> <td>\$1,276.10</td> <td>\$1,658.92</td> <td>\$261.42</td> <td>\$522.84</td> <td>\$784.25</td> </tr> <tr> <td>2018</td> <td>678.48</td> <td>1,356.96</td> <td>1,764.05</td> <td>275.22</td> <td>550.43</td> <td>825.65</td> </tr> </tbody> </table> <p>■ Effective January 2019, District’s contribution increases by ½ of dollar increase in Kaiser Bay Area premium for coverage elected</p>	Year	Non-Medicare Eligible			Medicare Eligible			Single	2-party	Family	Single	2-party	Family	2017	\$638.05	\$1,276.10	\$1,658.92	\$261.42	\$522.84	\$784.25	2018	678.48	1,356.96	1,764.05	275.22	550.43	825.65
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<sup>1</sup> 30 years for Miscellaneous employees.

<sup>2</sup> 52/5 for Miscellaneous employees.



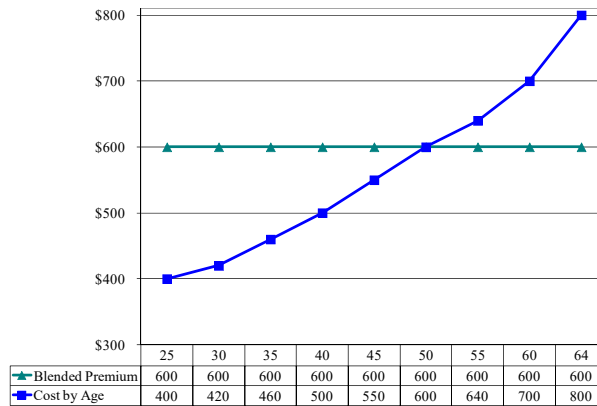
## BENEFIT SUMMARY

<p>■ Surviving Spouse Benefit</p>	<p>■ Based on retirement plan survivor benefit election.</p>
<p>■ Dental</p>	<p>■ 90% of premium</p> <p>■ No District contribution for employees hired after 1/1/2018</p>
<p>■ Other</p>	<p>■ No District contribution for vision, life insurance, or Medicare Part B premium</p>
<p>■ Pay-As-You-Go Costs</p>	<p>■ 2016/17: \$233,000 (cash benefit)</p>

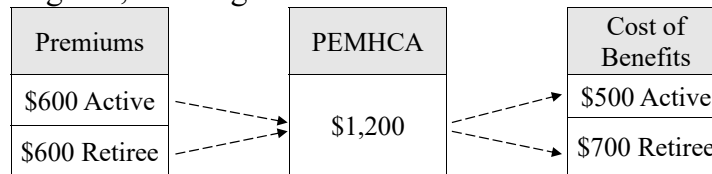


## IMPLIED SUBSIDY

- Employer cost for allowing retirees to participate at active rates.
  - General trend:



- Sample active age 40, retire age 60:



## IMPLIED SUBSIDY

- GASBS 75 defers to actuarial standards of practice.
- Previous Actuarial Standards of Practice No. 6<sup>3</sup> (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.
  - Effective with all valuations on or after March 31, 2015 with earlier implementation encouraged
  - Valuation includes implied subsidy

<sup>3</sup> Measuring Retiree Group Benefits Obligations and Determining Retiree Group Benefits Plan Costs or Contributions.



## DATA SUMMARY

### Participants

	6/30/17
■ Actives:	
• Count	39
• Average Age	42.9
• Average District Service	12.0
• Total Annual Pay (000s) <sup>4</sup>	\$ 3,182
• Average Annual Pay	81,600
■ Retirees:	
• Count	21
• Average Age	60.2
• Average Retirement Age	
➢ Service Retirement	55.0
➢ Disability Retirement	46.0

<sup>4</sup> Pay based on total Safety 18/19 pay from 12/31/16 CCCERA valuation report and 1 General employee in OPEB data.



## ACTUARIAL ASSUMPTIONS

■ Valuation Date	<ul style="list-style-type: none"> <li>■ June 30, 2017</li> <li>■ 2018/19 and 2019/20 Actuarially Determined Contributions</li> <li>■ ADC calculated as of beginning of the year with interest to end of year</li> </ul>
■ Funding Policy	<ul style="list-style-type: none"> <li>■ No current District prefunding</li> <li>■ Benefit payments made from District assets</li> </ul>
■ Discount Rate	■ 6.75% - Based on pre-funding with CERBT#1
■ General Inflation	■ 2.75%
■ Aggregate Payroll Increases	■ 3.25%, same as CCCERA



## ACTUARIAL ASSUMPTIONS

■ Merit Payroll  
Increases

■ 2012-2014 CCCERA Experience Study assumptions

■ Sample merit increases:

	<u>Service</u>	<u>Safety</u>	<u>General</u>
<1		10.50%	10.00%
1		7.25%	7.25%
2		5.75%	5.25%
3		4.50%	3.75%
4		3.00%	2.75%
5		1.75%	2.25%
10		1.05%	1.15%
≥15		0.75%	0.75%



## ACTUARIAL ASSUMPTIONS

■ Medical Trend

<u>Year</u>	<u>Increase from Prior Year</u>	
	<u>Non-Medicare</u>	<u>Medicare</u>
2017-18	Actual Premiums	
2019	7.50%	6.50%
2020	7.50%	6.50%
2021	7.25%	6.30%
2022	7.00%	6.10%
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%
2031-35	5.05%	4.60%
2036-45	4.90%	4.50%
2046-55	4.75%	4.45%
2056-65	4.60%	4.40%
2066-75	4.30%	4.20%
2076+	4.00%	4.00%

■ Dental  
Premium  
Increase

■ 3.5%



## ACTUARIAL ASSUMPTIONS

<ul style="list-style-type: none"> <li>■ PEMHCA Administrative Fee</li> </ul>	<ul style="list-style-type: none"> <li>■ 0.33% of retiree premiums included in Service Cost</li> </ul>																																								
<ul style="list-style-type: none"> <li>■ Service Retirement</li> </ul>	<ul style="list-style-type: none"> <li>■ Safety Tier A Enhanced: 1997-2015 CalPERS Experience Study rates for Fire 3%@50</li> <li>■ All other tiers: 2012-2014 CCCERA Experience Study assumptions</li> <li>■ Sample retirement rates:</li> </ul> <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Age</u></th> <th style="text-align: center;"><u>Safety Tier A Enhanced<sup>5</sup></u></th> <th style="text-align: center;"><u>General Tier 1 Enhanced</u></th> <th style="text-align: center;"><u>PEPRA Safety Tier D</u></th> <th style="text-align: center;"><u>PEPRA General Tier 4</u></th> </tr> </thead> <tbody> <tr><td>50</td><td style="text-align: center;">4%</td><td style="text-align: center;">5%</td><td style="text-align: center;">5%</td><td style="text-align: center;">0%</td></tr> <tr><td>55</td><td style="text-align: center;">17%</td><td style="text-align: center;">20%</td><td style="text-align: center;">10%</td><td style="text-align: center;">5%</td></tr> <tr><td>60</td><td style="text-align: center;">30%</td><td style="text-align: center;">28%</td><td style="text-align: center;">18%</td><td style="text-align: center;">10%</td></tr> <tr><td>65</td><td style="text-align: center;">100%</td><td style="text-align: center;">35%</td><td style="text-align: center;">30%</td><td style="text-align: center;">25%</td></tr> <tr><td>70</td><td style="text-align: center;">100%</td><td style="text-align: center;">50%</td><td style="text-align: center;">100%</td><td style="text-align: center;">50%</td></tr> <tr><td>75</td><td style="text-align: center;">100%</td><td style="text-align: center;">100%</td><td style="text-align: center;">100%</td><td style="text-align: center;">100%</td></tr> <tr><td>Exp. Ret Age</td><td style="text-align: center;">56.7</td><td style="text-align: center;">57.1</td><td style="text-align: center;">58.5</td><td style="text-align: center;">61.9</td></tr> </tbody> </table>	<u>Age</u>	<u>Safety Tier A Enhanced<sup>5</sup></u>	<u>General Tier 1 Enhanced</u>	<u>PEPRA Safety Tier D</u>	<u>PEPRA General Tier 4</u>	50	4%	5%	5%	0%	55	17%	20%	10%	5%	60	30%	28%	18%	10%	65	100%	35%	30%	25%	70	100%	50%	100%	50%	75	100%	100%	100%	100%	Exp. Ret Age	56.7	57.1	58.5	61.9
<u>Age</u>	<u>Safety Tier A Enhanced<sup>5</sup></u>	<u>General Tier 1 Enhanced</u>	<u>PEPRA Safety Tier D</u>	<u>PEPRA General Tier 4</u>																																					
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<sup>5</sup> Sample rates with hire age of 30.



## ACTUARIAL ASSUMPTIONS

<ul style="list-style-type: none"> <li>■ Disability Retirement</li> </ul>	<ul style="list-style-type: none"> <li>■ 2012-2014 CCCERA Experience Study assumptions</li> <li>■ Sample disability rates:</li> </ul> <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Age</u></th> <th style="text-align: center;"><u>Safety</u></th> <th style="text-align: center;"><u>General</u></th> </tr> </thead> <tbody> <tr><td>20</td><td style="text-align: center;">0.02%</td><td style="text-align: center;">0.01%</td></tr> <tr><td>25</td><td style="text-align: center;">0.22%</td><td style="text-align: center;">0.02%</td></tr> <tr><td>30</td><td style="text-align: center;">0.42%</td><td style="text-align: center;">0.04%</td></tr> <tr><td>35</td><td style="text-align: center;">0.56%</td><td style="text-align: center;">0.08%</td></tr> <tr><td>40</td><td style="text-align: center;">0.66%</td><td style="text-align: center;">0.22%</td></tr> <tr><td>45</td><td style="text-align: center;">1.00%</td><td style="text-align: center;">0.36%</td></tr> <tr><td>50</td><td style="text-align: center;">2.88%</td><td style="text-align: center;">0.52%</td></tr> <tr><td>55</td><td style="text-align: center;">4.60%</td><td style="text-align: center;">0.60%</td></tr> <tr><td>60</td><td style="text-align: center;">5.00%</td><td style="text-align: center;">0.60%</td></tr> <tr><td>65+</td><td style="text-align: center;">5.00%</td><td style="text-align: center;">0.60%</td></tr> </tbody> </table>	<u>Age</u>	<u>Safety</u>	<u>General</u>	20	0.02%	0.01%	25	0.22%	0.02%	30	0.42%	0.04%	35	0.56%	0.08%	40	0.66%	0.22%	45	1.00%	0.36%	50	2.88%	0.52%	55	4.60%	0.60%	60	5.00%	0.60%	65+	5.00%	0.60%
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## ACTUARIAL ASSUMPTIONS

<ul style="list-style-type: none"> <li>■ Termination</li> </ul>	<ul style="list-style-type: none"> <li>■ 2012-2014 CCCERA Experience Study assumptions</li> <li>■ Sample termination rates: <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><u>Service</u></th> <th style="text-align: center;"><u>Safety</u></th> <th style="text-align: center;"><u>General</u></th> </tr> </thead> <tbody> <tr><td style="text-align: center;">0</td><td style="text-align: center;">13.00%</td><td style="text-align: center;">13.50%</td></tr> <tr><td style="text-align: center;">1</td><td style="text-align: center;">8.00%</td><td style="text-align: center;">9.25%</td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">7.00%</td><td style="text-align: center;">9.00%</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">5.50%</td><td style="text-align: center;">6.00%</td></tr> <tr><td style="text-align: center;">4</td><td style="text-align: center;">3.75%</td><td style="text-align: center;">4.50%</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">3.25%</td><td style="text-align: center;">4.25%</td></tr> <tr><td style="text-align: center;">6</td><td style="text-align: center;">3.00%</td><td style="text-align: center;">3.75%</td></tr> <tr><td style="text-align: center;">7</td><td style="text-align: center;">2.75%</td><td style="text-align: center;">3.50%</td></tr> <tr><td style="text-align: center;">8</td><td style="text-align: center;">2.50%</td><td style="text-align: center;">3.25%</td></tr> <tr><td style="text-align: center;">9</td><td style="text-align: center;">2.25%</td><td style="text-align: center;">3.00%</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: center;">2.00%</td><td style="text-align: center;">2.75%</td></tr> <tr><td style="text-align: center;">15</td><td style="text-align: center;">1.50%</td><td style="text-align: center;">2.10%</td></tr> <tr><td style="text-align: center;">≥ 20</td><td style="text-align: center;">1.00%</td><td style="text-align: center;">1.50%</td></tr> </tbody> </table> </li> </ul>	<u>Service</u>	<u>Safety</u>	<u>General</u>	0	13.00%	13.50%	1	8.00%	9.25%	2	7.00%	9.00%	3	5.50%	6.00%	4	3.75%	4.50%	5	3.25%	4.25%	6	3.00%	3.75%	7	2.75%	3.50%	8	2.50%	3.25%	9	2.25%	3.00%	10	2.00%	2.75%	15	1.50%	2.10%	≥ 20	1.00%	1.50%
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<ul style="list-style-type: none"> <li>■ Mortality</li> </ul>	<ul style="list-style-type: none"> <li>■ CalPERS 1997-2011 Experience Study assumptions</li> <li>■ Mortality Improvement Scale MP-2017</li> </ul>																																										



## ACTUARIAL ASSUMPTIONS

<ul style="list-style-type: none"> <li>■ Participation at Retirement</li> </ul>	<ul style="list-style-type: none"> <li>■ 100%</li> </ul>
<ul style="list-style-type: none"> <li>■ Waived Retiree Re-election</li> </ul>	<ul style="list-style-type: none"> <li>■ 5% elect coverage at age 65</li> </ul>
<ul style="list-style-type: none"> <li>■ Medical Plan at Retirement</li> </ul>	<ul style="list-style-type: none"> <li>■ Covered - current plan</li> <li>■ Waived - Kaiser Bay Area</li> </ul>
<ul style="list-style-type: none"> <li>■ Marital Status</li> </ul>	<ul style="list-style-type: none"> <li>■ Married if currently elect 2-party or family coverage</li> <li>■ Waived - 80% married</li> </ul>
<ul style="list-style-type: none"> <li>■ Family Coverage</li> </ul>	<ul style="list-style-type: none"> <li>■ Current actives - 45% covered until age 65</li> <li>■ Current retirees - current coverage until age 65</li> </ul>
<ul style="list-style-type: none"> <li>■ PPACA Excise Tax</li> </ul>	<ul style="list-style-type: none"> <li>■ 2% load on cash subsidy</li> </ul>
<ul style="list-style-type: none"> <li>■ Medicare Eligibility</li> </ul>	<ul style="list-style-type: none"> <li>■ 100% eligible for Medicare at age 65</li> <li>■ Medicare eligible retirees will elect Part B coverage</li> </ul>
<ul style="list-style-type: none"> <li>■ Spouse Age</li> </ul>	<ul style="list-style-type: none"> <li>■ Males 3 years older than females</li> </ul>



**ACTUARIAL ASSUMPTIONS**

■ 2018 Medical Claims Costs  
PEMHCA Implied Subsidy Estimate

■ Monthly claims costs estimated from Bartel Associates PEMHCA client database and PEMHCA premiums

Bay Area Region

Age	<u>Anthem Select</u>		<u>Anthem Traditional</u>		<u>Blue Shield Access+</u>		<u>Kaiser</u>		<u>Health Net SmartCare</u>	
	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>
	25	\$252	\$494	\$272	\$534	\$261	\$513	\$257	\$505	\$254
35	330	605	356	654	342	628	336	617	332	610
45	525	635	567	686	545	659	536	648	529	640
55	876	886	947	958	910	920	895	905	884	894
60	1,119	1,047	1,209	1,131	1,162	1,087	1,142	1,068	1,128	1,055
64	1,359	1,228	1,469	1,327	1,411	1,274	1,387	1,253	1,370	1,238
65	n/a	n/a	365	338	n/a	n/a	304	282	n/a	n/a
70	n/a	n/a	343	328	n/a	n/a	286	273	n/a	n/a
75	n/a	n/a	429	384	n/a	n/a	357	320	n/a	n/a
80	n/a	n/a	460	408	n/a	n/a	383	340	n/a	n/a



**ACTUARIAL ASSUMPTIONS**

■ 2018 Medical Claims Costs  
PEMHCA Implied Subsidy Estimate  
(continued)

■ Monthly claims costs estimated from Bartel Associates PEMHCA client database and PEMHCA premiums

Bay Area Region

Age	<u>UHC</u>		<u>PERS Choice</u>		<u>PERSCare</u>	
	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>
	25	\$403	\$792	\$245	\$402	\$281
35	528	969	363	559	417	642
45	841	1,017	577	632	663	726
55	1,404	1,420	853	825	980	948
60	1,792	1,677	1,025	948	1,178	1,089
64	2,177	1,966	1,225	1,118	1,407	1,284
65	326	302	326	342	361	378
70	306	293	311	331	344	366
75	383	343	351	365	388	403
80	411	365	363	376	401	416





ACTUARIAL METHODS

Method	June 30, 2017 Valuation
■ Cost Method	■ Entry Age Normal
■ Assets	■ None
■ Amortization Method	■ Level percent of payroll
■ Amortization Period	■ Projected 6/30/18 UAAL amortized over 18 years



ACTUARIAL METHODS

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**RESULTS**

**Actuarial Obligations**

(Amounts in 000's)

	<b>6/30/17</b>
■ <b>Present Value of Benefits</b>	
• Actives	\$ 7,580
• Retirees	<u>4,017</u>
• Total	11,597
■ <b>Actuarial Accrued Liability</b>	
• Actives	4,737
• Retirees	<u>4,017</u>
• Total	8,754
■ <b>Actuarial Value of Assets</b>	<u>-</u>
■ <b>Unfunded Actuarial Accrued Liability</b>	8,754
■ <b>2018/19 Service Cost</b>	399
■ <b>2018/19 Pay-As-You-Go Cost<sup>6</sup></b>	411

<sup>6</sup> Includes \$344,000 cash subsidy and \$67,000 implied subsidy.



May 14, 2018



**RESULTS**

**Actuarially Determined Contribution (ADC)**

(Amounts in 000's)

	<b>2018/19</b>	<b>2019/20</b>
■ <b>ADC - \$</b>		
• Service Cost <sup>7</sup>	\$ 399	\$ 410
• UAAL Amortization	<u>727</u>	<u>751</u>
• Total	1,126	1,160
■ <b>Projected Payroll</b>	3,182	3,286
■ <b>ADC - %Pay</b>		
• Service Cost	12.5%	12.4%
• UAAL Amortization	<u>22.9%</u>	<u>22.9%</u>
• Total	35.4%	35.3%

<sup>7</sup> Includes Normal Cost and estimated PEMHCA administrative fee of \$1,000 for 18/19 and 19/20.



May 14, 2018



**RESULTS**

**10-Year Contribution Schedule**

(Amounts in 000's)

Fiscal Year	Benefit Payments		No Initial Assets		\$2.3 Million Assets <sup>8</sup>	
	Cash	Implied Subsidy	Trust Contrib.	Total Contrib.	Trust Contrib.	Total Contrib.
2018/19	\$344	\$67	\$715	\$1,126	\$537	\$948
2019/20	368	59	733	1,160	549	976
2020/21	418	81	697	1,196	506	1,005
2021/22	460	95	677	1,232	480	1,035
2022/23	484	90	695	1,269	492	1,066
2023/24	521	93	694	1,308	484	1,098
2024/25	550	92	706	1,348	490	1,132
2025/26	594	108	687	1,389	464	1,166
2026/27	632	113	686	1,431	456	1,201
2027/28	669	111	695	1,475	457	1,237

<sup>8</sup> Assumed contributed to trust by 6/30/18.



May 14, 2018



**RESULTS**

**Discount Rate Sensitivity**

(Amounts in 000's)

	Discount Rate		
	3.60%	6.75%	
		No Initial Assets	\$2.3 Million Assets
<b>■ Actuarial Accrued Liability</b> <ul style="list-style-type: none"> <li>• Actives</li> <li>• Retirees</li> <li>• Total</li> </ul>	\$ 7,496 <u>5,837</u> 13,333	\$ 4,737 <u>4,017</u> 8,754	\$ 4,737 <u>4,017</u> 8,754
<b>■ Actuarial Value of Assets</b>	-	-	- <sup>10</sup>
<b>■ Unfunded Actuarial Accrued Liability</b>	<u>13,333</u>	<u>8,754</u>	<u>8,754</u>
<b>■ 2018/19 ADC - \$</b> <ul style="list-style-type: none"> <li>• Service Cost</li> <li>• UAAL Amortization</li> <li>• Total</li> </ul>	766 <u>841</u> 1,607	399 <u>727</u> 1,126	399 <u>549</u> 948

<sup>10</sup> \$2.3 million contribution assumed made by 6/30/18.  
Actuarial Accrued Liability at 6/30/18 would be reduced by \$2.3 million



May 14, 2018



**RESULTS**

**Actuarial Obligations by Benefit**

**June 30, 2017**

(Amounts in 000's)

	<b>Cash</b>	<b>Implied Subsidy</b>	<b>Total</b>
■ <b>Present Value of Benefits</b>			
• Actives	\$ 6,166	\$ 1,413	\$ 7,580
• Retirees	<u>3,449</u>	<u>568</u>	<u>4,017</u>
• Total	9,615	1,981	11,597
■ <b>Actuarial Accrued Liability</b>			
• Actives	3,753	985	4,737
• Retirees	<u>3,449</u>	<u>568</u>	<u>4,017</u>
• Total	7,202	1,553	8,754
■ <b>Actuarial Value of Assets</b>	-	-	-
■ <b>UAAL</b>	7,202	1,553	8,754
■ <b>2018/19 Service Cost</b>	338	62	399
■ <b>2018/19 Pay-As-You-Go Cost</b>	344	67	411



**RESULTS**

**Actuarially Determined Contribution (ADC)**

**2018/19 Fiscal Year**

(Amounts in 000's)

	<b>Cash</b>	<b>Implied Subsidy</b>	<b>Total</b>
■ <b>ADC - \$</b>			
• Service Cost	\$338	\$62	\$399
• UAAL Amortization	<u>598</u>	<u>129</u>	<u>727</u>
• Total	936	191	1,126
■ <b>Projected Payroll</b>	3,182	3,182	3,182
■ <b>ADC - %Pay</b>			
• Service Cost	10.6%	1.9%	12.5%
• UAAL Amortization	<u>18.8%</u>	<u>4.1%</u>	<u>22.9%</u>
• Total	29.4%	6.0%	35.4%



**RESULTS**

**2018/19 Implied Subsidy Transfer Illustration**

(Amounts in 000's)

<b>Before Implied Subsidy</b>	<b>Actives</b>	<b>Retirees</b>	<b>Total</b>
■ Total Premium <sup>11</sup>	\$760	\$375	\$1,135
■ Participant Contributions <sup>12</sup>	<u>(99)</u>	<u>(31)</u>	<u>(130)</u>
■ District Contributions	661	344	1,005

<b>After Implied Subsidy</b>	<b>Actives</b>	<b>Retirees</b>	<b>Total</b>
■ Total Premium	760	375	1,135
■ Participant Contributions	(99)	(31)	(130)
■ Implied Subsidy Transfer	<u>(67)</u>	<u>67</u>	<u>-</u>
■ District Contributions	594	411	1,005

<sup>11</sup> For illustration purpose only. Estimated premiums based on the June 2017 CalPERS premium invoice.

<sup>12</sup> Assumes District pays 87% active participant premium.



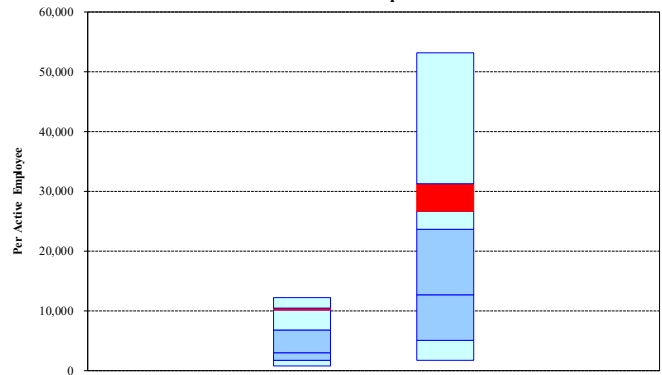
**RESULTS**

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# BARTEL ASSOCIATES OPEB DATABASE

**Bartel Associates OPEB Database  
Normal Cost & Annual Required Contribution**



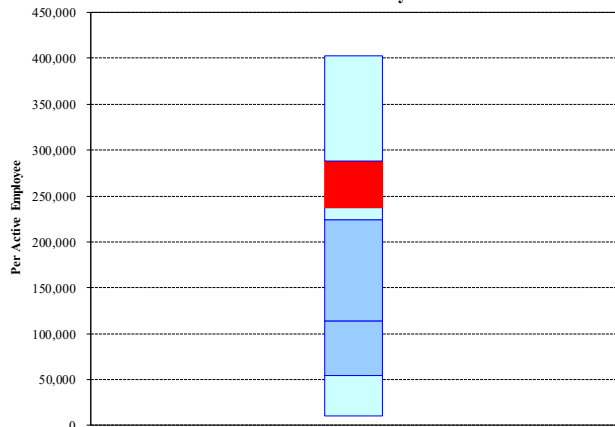
	<u>NC</u>	<u>ARC</u>
95th Percentile	\$12,143	\$53,060
75th Percentile	6,725	23,595
50th Percentile	3,014	12,604
25th Percentile	1,663	4,989
5th Percentile	637	1,706
<b>Per Active Percentile</b>	<b>\$10,231 86%</b>	<b>\$28,871 85%</b>

Discount Rate = 6.75%, Average Amortization Period = 18.0 Years



# BARTEL ASSOCIATES OPEB DATABASE

**Bartel Associates OPEB Database  
Actuarial Accrued Liability**



	<u>Safety</u>
95th Percentile	\$402,943
75th Percentile	224,462
50th Percentile	113,513
25th Percentile	54,459
5th Percentile	10,240
<b>Per Active Percentile</b>	<b>\$224,462 75%</b>

Discount Rate = 6.75%



## ACTUARIAL CERTIFICATION

This report presents the East Contra Costa Fire Protection District's Retiree Healthcare Benefit June 30, 2017 actuarial valuation. The purpose of this valuation is to:

- Determine the June 30, 2017 Benefit Obligations,
- Determine the June 30, 2017 Funded Status, and
- Calculate the 2018/19 and 2019/20 Actuarially Determined Contributions.

The report provides information intended for funding, but may not be appropriate for other purposes. Information provided in this report may be useful to the District for financial management. Future valuations may differ significantly if experience differs from our assumptions or if there are changes in benefits, actuarial methods or actuarial assumptions. The project scope did not include an analysis of this potential variation.

The valuation is based on benefits, 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 our knowledge, this report is complete and accurate and has been conducted using generally accepted actuarial principles and practices. As members of the American Academy of Actuaries meeting the Academy Qualification Standards, we certify the actuarial results and opinions herein.

Respectfully submitted,



Doug Pryor, ASA, MAAA, EA  
Vice President  
Bartel Associates, LLC  
May 14, 2018



Katherin Moore, ASA, MAAA  
Associate Actuary  
Bartel Associates, LLC  
May 14, 2018



## PREMIUMS

### 2017 PEMHCA Monthly Premiums Bay Area

Medical Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Anthem HMO Select	\$783.46	\$1,566.92	\$2,037.00	n/a	n/a	n/a
Anthem HMO 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



**PREMIUMS**

**2018 PEMHCA Monthly Premiums**  
**Bay Area**

Medical Plan	Non-Medicare Eligible			Medicare Eligible		
	Single	2-Party	Family	Single	2-Party	Family
Anthem HMO Select	\$856.41	\$1,712.82	\$2,226.67	n/a	n/a	n/a
Anthem HMO Traditional	925.47	1,850.94	2,406.22	\$370.34	\$740.68	\$1,111.02
Blue Shield Access+	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
UnitedHealthcare	1,371.84	2,743.68	3,566.78	330.76	661.52	992.28
Western Health Advantage	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



**PREMIUMS**

**2017 Monthly Dental Premiums**

Plan	Single	2-Party	Family	EE + Children
Delta Dental	\$78.60	\$143.82	\$233.44	\$160.13





**PREMIUMS**

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**PARTICIPANT STATISTICS**

**Medical Plan Participation**

Medical Plan	Actives	Retirees		
		Pre-65	Post-65	Total
Anthem Select	-	-	17%	5%
Anthem Traditional	3%	-	-	-
Blue Shield	3%	-	33%	11%
Health Net SmartCare	8%	-	-	-
Kaiser	72%	77%	50%	68%
UnitedHealthcare	3%	8%	-	5%
PERS Choice	8%	15%	-	11%
PERS Select	3%	-	-	-
Total	100%	100%	100%	100%



**PARTICIPANT STATISTICS**

**Active Medical Coverage**

<b>Plan</b>	<b>Single</b>	<b>2-Party</b>	<b>Family</b>	<b>Waived</b>	<b>Total</b>
Anthem Traditional	-	-	1	-	1
Blue Shield	-	-	1	-	1
Health Net SmartCare	-	-	3	-	3
Kaiser	7	5	15	-	27
UnitedHealthcare	-	-	1	-	1
PERS Choice	-	-	3	-	3
PERS Select	-	-	1	-	1
Waived	-	-	-	2	2
<b>Total</b>	<b>7</b>	<b>5</b>	<b>25</b>	<b>2</b>	<b>39</b>



**PARTICIPANT STATISTICS**

**Retiree Medical Coverage Under Age 65**

<b>Plan</b>	<b>Single</b>	<b>2-Party</b>	<b>Family</b>	<b>Waived</b>	<b>Total</b>
Anthem Select	-	-	-	-	-
Blue Shield	-	-	-	-	-
Kaiser	2	4	4	-	10
UnitedHealthcare	-	-	1	-	1
PERS Choice	-	1	1	-	2
Waived	-	-	-	2	2
<b>Total</b>	<b>2</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>15</b>



**PARTICIPANT STATISTICS**

**Retiree Medical Coverage Over Age 65**

Plan	Single	2-Party	Family	Waived	Total
Anthem Select	-	1	-	-	1
Blue Shield	1	1	-	-	2
Kaiser	3	-	-	-	3
UnitedHealthcare	-	-	-	-	-
PERS Choice	-	-	-	-	-
Waived	-	-	-	-	-
<b>Total</b>	<b>4</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>6</b>



**PARTICIPANT STATISTICS**

**Retiree Medical Coverage by Age Group**

Age	Single	2-Party	Family	Waived	Total
Under 50	1	-	2	-	3
50-54	-	1	1	1	3
55-59	-	1	2	1	4
60-64	1	3	1	-	5
65-69	3	1	-	-	4
70-74	-	1	-	-	1
75-79	1	-	-	-	1
80-84	-	-	-	-	-
85 & Over	-	-	-	-	-
<b>Total</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>2</b>	<b>21</b>
<b>Average Age</b>	<b>65.6</b>	<b>63.3</b>	<b>53.0</b>	<b>55.2</b>	<b>60.2</b>



## PARTICIPANT STATISTICS

### Actives by Age and Service

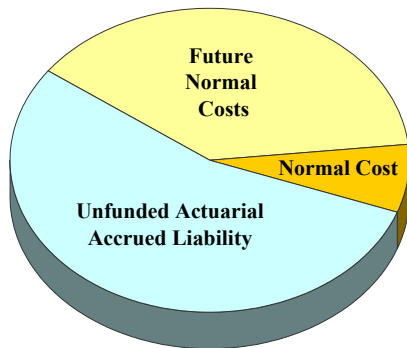
Age	District Service							Total
	< 1	1-4	5-9	10-14	15-19	20-24	≥ 25	
< 25	2	1	-	-	-	-	-	3
25-29	1	3	-	-	-	-	-	4
30-34	1	1	1	-	-	-	-	3
35-39	-	-	-	1	-	-	-	1
40-44	-	-	-	6	3	-	-	9
45-49	-	-	-	4	3	3	-	10
50-54	-	-	-	-	3	-	-	3
55-59	-	-	-	2	2	1	-	5
60-64	-	-	-	1	-	-	-	1
≥ 65	-	-	-	-	-	-	-	-
<b>Total</b>	<b>4</b>	<b>5</b>	<b>1</b>	<b>14</b>	<b>11</b>	<b>4</b>	<b>-</b>	<b>39</b>



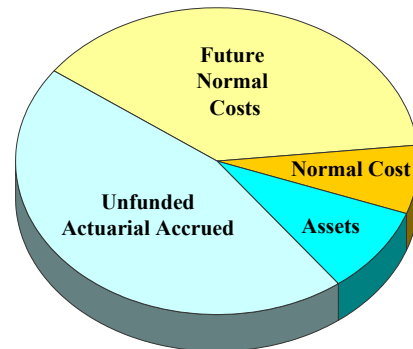
## DEFINITIONS

### Present Value of Benefits

**Present Value of Benefits  
(Without Plan Assets)**



**Present Value of Benefits  
(With Plan Assets)**



■ **PVB - Present Value of all Benefits**

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



## DEFINITIONS

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

- Discounted value at measurement date (valuation date) of benefits “earned” through measurement date based on actuarial cost method
- Portion of PVB “earned” at measurement

### ■ **NC - Normal Cost**

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

### ■ **Actuarial Cost Method**

- Determines how benefits are “earned” or allocated to each year of service
- Has no effect on PVB
- 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
- PayGo is the expected retiree benefit payments for the year while Normal Cost is the cost of benefits accrued by active employees during the year

