



THE CITY OF
NOVATO
CALIFORNIA

CITY OF NOVATO
RETIREE HEALTHCARE PLAN

BARTEL
ASSOCIATES, LLC

January 1, 2016 GASB 45 Actuarial Valuation
Final Results

Presented by **John E. Bartel, President**
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Bartel Associates, LLC

October 20, 2016

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BENEFIT SUMMARY

| <ul style="list-style-type: none"> ■ Eligibility | <ul style="list-style-type: none"> • Service or disability retirement directly from the City under CalPERS • Part time employees not eligible | | | | | | |
|--|--|-------------|-----------------------|------|--------|---|----|
| <ul style="list-style-type: none"> ■ Retiree Medical Benefit | <ul style="list-style-type: none"> • City contributes the PEMHCA minimum monthly amount: <table style="margin-left: 40px; border: none;"> <tr> <td style="padding-right: 20px;">2016</td> <td>\$ 125.00</td> </tr> <tr> <td>2017</td> <td>128.00</td> </tr> </table> | 2016 | \$ 125.00 | 2017 | 128.00 | | |
| 2016 | \$ 125.00 | | | | | | |
| 2017 | 128.00 | | | | | | |
| <ul style="list-style-type: none"> ■ Post-Retirement Health Benefits Contribution | <ul style="list-style-type: none"> • City contributes the following to individual accounts for post retirement health benefits: <table style="margin-left: 40px; border: none; width: 100%;"> <thead> <tr> <th style="text-align: center; padding-right: 20px;"><u>Unit</u></th> <th style="text-align: center;"><u>Monthly Amount</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">\$100</td> </tr> <tr> <td style="text-align: center;">B</td> <td style="text-align: center;">75</td> </tr> </tbody> </table> • Unit H employees contribute \$75 per month • Contributions are made to individual accounts and therefore not included in valuation | <u>Unit</u> | <u>Monthly Amount</u> | A | \$100 | B | 75 |
| <u>Unit</u> | <u>Monthly Amount</u> | | | | | | |
| A | \$100 | | | | | | |
| B | 75 | | | | | | |
| <ul style="list-style-type: none"> ■ Survivor Medical Benefit | <ul style="list-style-type: none"> • 100% of retiree medical benefit continues to surviving spouse of retirees who electing CalPERS joint & survivor payment option | | | | | | |



BENEFIT SUMMARY

| <ul style="list-style-type: none"> ■ Other OPEB | <ul style="list-style-type: none"> • No contribution for dental, vision, life, or Medicare Part B | | | | | | | | | | | | | | | | | | |
|---|--|-------------|----------------|---------|------------------------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|
| <ul style="list-style-type: none"> ■ Pay-As-You-Go Costs¹ | <table style="margin-left: 40px; border: none; width: 100%;"> <thead> <tr> <th style="text-align: center; padding-right: 20px;"><u>Year</u></th> <th style="text-align: center;"><u>Payment</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2015/16</td> <td style="text-align: center;">\$ 86,000²</td> </tr> <tr> <td style="text-align: center;">2014/15</td> <td style="text-align: center;">84,850</td> </tr> <tr> <td style="text-align: center;">2013/14</td> <td style="text-align: center;">77,907</td> </tr> <tr> <td style="text-align: center;">2012/13</td> <td style="text-align: center;">74,322</td> </tr> <tr> <td style="text-align: center;">2011/12</td> <td style="text-align: center;">72,080</td> </tr> <tr> <td style="text-align: center;">2010/11</td> <td style="text-align: center;">62,634</td> </tr> <tr> <td style="text-align: center;">2009/10</td> <td style="text-align: center;">55,318</td> </tr> <tr> <td style="text-align: center;">2008/09</td> <td style="text-align: center;">47,443</td> </tr> </tbody> </table> | <u>Year</u> | <u>Payment</u> | 2015/16 | \$ 86,000 ² | 2014/15 | 84,850 | 2013/14 | 77,907 | 2012/13 | 74,322 | 2011/12 | 72,080 | 2010/11 | 62,634 | 2009/10 | 55,318 | 2008/09 | 47,443 |
| <u>Year</u> | <u>Payment</u> | | | | | | | | | | | | | | | | | | |
| 2015/16 | \$ 86,000 ² | | | | | | | | | | | | | | | | | | |
| 2014/15 | 84,850 | | | | | | | | | | | | | | | | | | |
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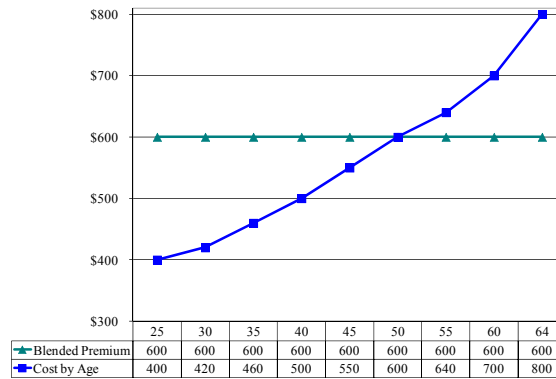
¹ CAFR amounts

² Estimated amount from the City

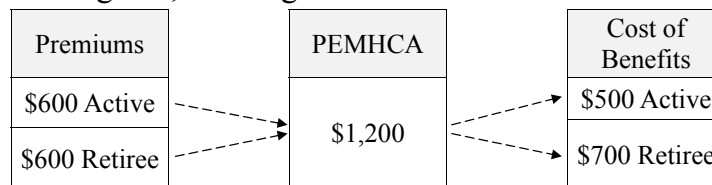


IMPLIED SUBSIDY

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



- Sample active age 40, retire age 60:



IMPLIED SUBSIDY

- GASB 45 defers to actuarial standards of practice.
- Previous Actuarial Standards of Practice No. 6³ (ASOP 6) allows 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.
- June 30, 2015 valuations includes the implied subsidy.
- For PEMHCA, employer cost for allowing retirees to participate at active rates.
 - General trend:

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

DATA SUMMARY

Participant Statistics

| | 1/1/10 Valuation | 1/1/12 Valuation | 1/1/14 Valuation | 1/1/16 Valuation |
|---------------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| ■ Actives | | | | |
| • Count | 209 | 179 | 192 | 196 |
| • Average age | 45.7 | 46.0 | 46.0 | 44.7 |
| • Average City service | 10.3 | 11.5 | 11.4 | 9.8 |
| • Average CalPERS service | 11.5 | 12.6 | 12.3 | 10.8 |
| • Average pay | \$ 76,426 | \$ 69,256 | \$ 70,622 | \$75,987 |
| • Total payroll (000's) | 15,973 | 12,397 ⁴ | 13,559 | 14,893 |
| ■ Retirees | | | | |
| • Count | 124 | 143 | 149 | 159 |
| • Average age | 65.1 | 66.1 | 66.7 | 67.3 |
| • Average retirement age ⁵ | 55.5 | 55.9 | 55.3 | 55.3 |

⁴ 2011 calendar year reported payroll

⁵ Excludes surviving spouses

DATA SUMMARY

Participant Reconciliation

| Participants | Actives | Retirees | Disabled | Survivors | Total |
|--------------------------|----------------|-----------------|-----------------|------------------|--------------|
| ■ January 1, 2014 | 192 | 106 | 34 | 9 | 341 |
| • Death/withdrawal | (37) | (6) | - | - | (43) |
| • New Retirees | (13) | 10 | 3 | - | - |
| • New Survivor | (3) | (1) | - | 4 | - |
| • New Hires | 57 | - | - | - | 57 |
| • Data Corrections | - | - | - | - | - |
| ■ January 1, 2016 | 196 | 109 | 37 | 13 | 355 |

ACTUARIAL ASSUMPTIONS HIGHLIGHTS

| Assumption | January 1, 2014 Valuation | January 1, 2016 Valuation |
|--------------------------------------|--|---|
| ■ Valuation Date | <ul style="list-style-type: none"> January 1, 2014 2014/15 and 2015/16 ARCs | <ul style="list-style-type: none"> January 1, 2016 2016/17 ARC and 2017/18 ADC |
| ■ Discount Rate | <ul style="list-style-type: none"> 6.25% Full ARC pre-funded with PARS Balanced OPEB trust, 60% confidence level | <ul style="list-style-type: none"> Same |
| ■ Funding Policy | <ul style="list-style-type: none"> Full ARC pre-funded with PARS Balanced OPEB trust | <ul style="list-style-type: none"> Same |
| ■ Mortality, Termination, Disability | <ul style="list-style-type: none"> CalPERS 1997-2011 Experience Study Generational Mortality Projection - Scale AA | <ul style="list-style-type: none"> CalPERS 1997-2011 Experience Study Mortality improvement projection Scale MP-2014 with 15 year convergence in 2022 |



ACTUARIAL ASSUMPTIONS HIGHLIGHTS

| Assumption | January 1, 2014 Valuation | January 1, 2016 Valuation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|--|----------------------------------|---------------|---------------|------|-------|----------|--------|-------|--------|--|-------|----------|--|--------------------------|-------------|---------------|---------|--------|----------|---------|--------|--------|--|----------|--|--|---------------|------------|------|-------|--------|--------|-------|--------|--|--|----------|--|--------------------------|------------|------|---------|--------|--------|---------|--------|--|--|----------|
| ■ Service Retirement | <ul style="list-style-type: none"> CalPERS 1997-2011 Experience Study <table border="0" style="margin-left: 40px;"> <tr> <td></td> <td align="center"><u>Tier 1</u></td> <td align="center"><u>ERA</u></td> </tr> <tr> <td>Misc</td> <td align="center">2%@55</td> <td align="center">≈ 59.8</td> </tr> <tr> <td>Safety</td> <td align="center">3%@55</td> <td align="center">≈ 56.4</td> </tr> <tr> <td></td> <td></td> <td align="center">(Police)</td> </tr> <tr> <td></td> <td align="center"><u>Tier 2/ PEPRA</u></td> <td align="center"><u>ERA</u></td> </tr> <tr> <td>Misc</td> <td align="center">2.0%@62</td> <td align="center">≈ 62.0</td> </tr> <tr> <td>Safety</td> <td align="center">2.7%@57</td> <td align="center">≈ 56.8</td> </tr> <tr> <td></td> <td></td> <td align="center">(Police)</td> </tr> </table> | | <u>Tier 1</u> | <u>ERA</u> | Misc | 2%@55 | ≈ 59.8 | Safety | 3%@55 | ≈ 56.4 | | | (Police) | | <u>Tier 2/ PEPRA</u> | <u>ERA</u> | Misc | 2.0%@62 | ≈ 62.0 | Safety | 2.7%@57 | ≈ 56.8 | | | (Police) | <ul style="list-style-type: none"> CalPERS 1997-2011 Experience Study <table border="0" style="margin-left: 40px;"> <tr> <td></td> <td align="center"><u>Tier 1</u></td> <td align="center"><u>ERA</u></td> </tr> <tr> <td>Misc</td> <td align="center">2%@55</td> <td align="center">≈ 60.2</td> </tr> <tr> <td>Safety</td> <td align="center">3%@55</td> <td align="center">≈ 56.4</td> </tr> <tr> <td></td> <td></td> <td align="center">(Police)</td> </tr> <tr> <td></td> <td align="center"><u>Tier 2/ PEPRA</u></td> <td align="center"><u>ERA</u></td> </tr> <tr> <td>Misc</td> <td align="center">2.0%@62</td> <td align="center">≈ 61.3</td> </tr> <tr> <td>Safety</td> <td align="center">2.7%@57</td> <td align="center">≈ 56.8</td> </tr> <tr> <td></td> <td></td> <td align="center">(Police)</td> </tr> </table> | | <u>Tier 1</u> | <u>ERA</u> | Misc | 2%@55 | ≈ 60.2 | Safety | 3%@55 | ≈ 56.4 | | | (Police) | | <u>Tier 2/ PEPRA</u> | <u>ERA</u> | Misc | 2.0%@62 | ≈ 61.3 | Safety | 2.7%@57 | ≈ 56.8 | | | (Police) |
| | <u>Tier 1</u> | <u>ERA</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Misc | 2%@55 | ≈ 59.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | <u>Tier 2/ PEPRA</u> | <u>ERA</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | <u>Tier 2/ PEPRA</u> | <u>ERA</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Misc | 2.0%@62 | ≈ 61.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Safety | 2.7%@57 | ≈ 56.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | (Police) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ■ PEMHCA Minimum Increase | <table border="0" style="margin-left: 40px;"> <tr> <td></td> <td align="center"><u>Year</u></td> <td align="center"><u>Amount</u></td> </tr> <tr> <td></td> <td align="center">2014</td> <td align="center">\$119.00</td> </tr> <tr> <td></td> <td align="center">2015</td> <td align="center">122.00</td> </tr> <tr> <td></td> <td align="center">2016+</td> <td align="center">4.5%/yr</td> </tr> </table> | | <u>Year</u> | <u>Amount</u> | | 2014 | \$119.00 | | 2015 | 122.00 | | 2016+ | 4.5%/yr | <table border="0" style="margin-left: 40px;"> <tr> <td></td> <td align="center"><u>Year</u></td> <td align="center"><u>Amount</u></td> </tr> <tr> <td></td> <td align="center">2016</td> <td align="center">\$125.00</td> </tr> <tr> <td></td> <td align="center">2017</td> <td align="center">128.00</td> </tr> <tr> <td></td> <td align="center">2018+</td> <td align="center">4.5%/yr</td> </tr> </table> | | <u>Year</u> | <u>Amount</u> | | 2016 | \$125.00 | | 2017 | 128.00 | | 2018+ | 4.5%/yr | | | | | | | | | | | | | | | | | | | | | | | | |
| | <u>Year</u> | <u>Amount</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | 2015 | 122.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | 2018+ | 4.5%/yr | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



ACTUARIAL ASSUMPTIONS HIGHLIGHTS

| Assumption | January 1, 2014 Valuation | January 1, 2016 Valuation |
|---|---|---|
| <ul style="list-style-type: none"> ■ PEMHCA Administrative Fee | <ul style="list-style-type: none"> • 0.33% of premium for 2013/14+ | <ul style="list-style-type: none"> • 0.32% of premium for 2015/16+ |
| <ul style="list-style-type: none"> ■ Participation | <ul style="list-style-type: none"> • Actives⁶: <ul style="list-style-type: none"> ➢ Currently covered: 75% ➢ Currently waived: 5% • Retirees: <ul style="list-style-type: none"> ➢ Currently covered: 100% ➢ Currently waived: 5% waived retirees elect coverage at 65 | <ul style="list-style-type: none"> • Same |
| <ul style="list-style-type: none"> ■ PPACA Excise Tax | <ul style="list-style-type: none"> • N/A | <ul style="list-style-type: none"> • 2% load on medical cash subsidy |

⁶ Based on current experience of retirees who retired since 2010

ACTUARIAL METHODS

| Method | January 1, 2014 Valuation | January 1, 2016 Valuation |
|---|---|---|
| <ul style="list-style-type: none"> ■ Cost Method | <ul style="list-style-type: none"> • Entry Age Normal | <ul style="list-style-type: none"> • Same |
| <ul style="list-style-type: none"> ■ Funding Policy | <ul style="list-style-type: none"> • Full ARC pre-funding | <ul style="list-style-type: none"> • Same |
| <ul style="list-style-type: none"> ■ Actuarial Value of Assets | <ul style="list-style-type: none"> • Investment gains and losses spread over a 5-year rolling period • Not less than 80% nor more than 120% of market value | <ul style="list-style-type: none"> • Same |
| <ul style="list-style-type: none"> ■ Amortization Method | <ul style="list-style-type: none"> • Level Percent of Payroll | <ul style="list-style-type: none"> • Same |
| <ul style="list-style-type: none"> ■ Amortization Periods | <ul style="list-style-type: none"> • 24-year fixed (closed) period fresh start for 2014/15 ARC | <ul style="list-style-type: none"> • 22-year fixed (closed) period fresh start for 2016/17 ARC |

PARS FUNDING OPTIONS

PARS Fund Options⁷

| | Capital Appreciation | Balanced⁸ | 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% |

⁷ City selected to pre-fund with Balanced portfolio, 60% Confidence Level

⁸ Previously Moderately Aggressive. Same allocation.

PARS FUNDING OPTIONS

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ASSETS

Market Value of Plan Assets (PARS)

(Amounts in 000's)

| | 2012/13 | 2013/14 | 2014/15 | 2015/16 |
|----------------------------------|------------|-----------|----------|-----------|
| ■ MVA (Beginning of Year) | \$ - | \$ 140 | \$ 300 | \$ 512 |
| • Contributions | 140 | 144 | 289 | 180 |
| • Benefit Payments ⁹ | - | - | (85) | - |
| • Expenses | (0) | (0) | (1) | (2) |
| • Earnings | <u>(0)</u> | <u>17</u> | <u>9</u> | <u>19</u> |
| ■ MVA (End of Year) | 140 | 300 | 512 | 709 |
| ■ Approximate Return | (0.9)% | 11.0% | 1.8% | 2.8% |

⁹ Paid outside of Trust directly to retirees except 2014/15.

ASSETS

Actuarial Value of Plan Assets

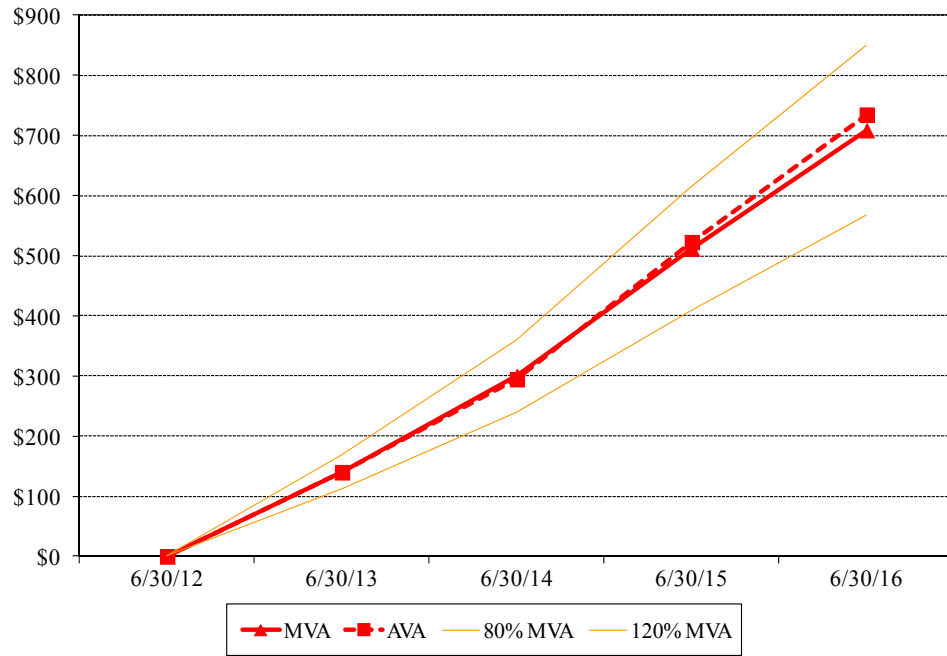
(Amounts in 000's)

| | 2012/13 | 2013/14 | 2014/15 | 2015/16 |
|--------------------------------------|----------|----------|-----------|------------|
| ■ AVA (Beginning of Year) | \$ - | \$ 140 | \$ 295 | \$ 523 |
| • Contributions | 140 | 144 | 289 | 180 |
| • Benefit Payments | - | - | (85) | - |
| • Expected Earnings ¹⁰ | <u>-</u> | <u>9</u> | <u>27</u> | <u>39</u> |
| ■ Expected AVA (End of Year) | 140 | 293 | 525 | 741 |
| ■ MVA (End of Year) | 140 | 300 | 512 | 709 |
| ■ 1/5 of (MVA - Expected AVA) | - | 1 | (3) | (6) |
| ■ Preliminary AVA | 140 | 295 | 523 | 735 |
| • Minimum AVA (80% of MVA) | 112 | 240 | 410 | 567 |
| • Maximum AVA (120% of MVA) | 168 | 360 | 614 | 850 |
| ■ AVA (End of Year) | 140 | 295 | 523 | 735 |
| ■ Approximate Return | 4.8% | 7.2% | 5.6% | 5.2% |

¹⁰ Net of expenses.

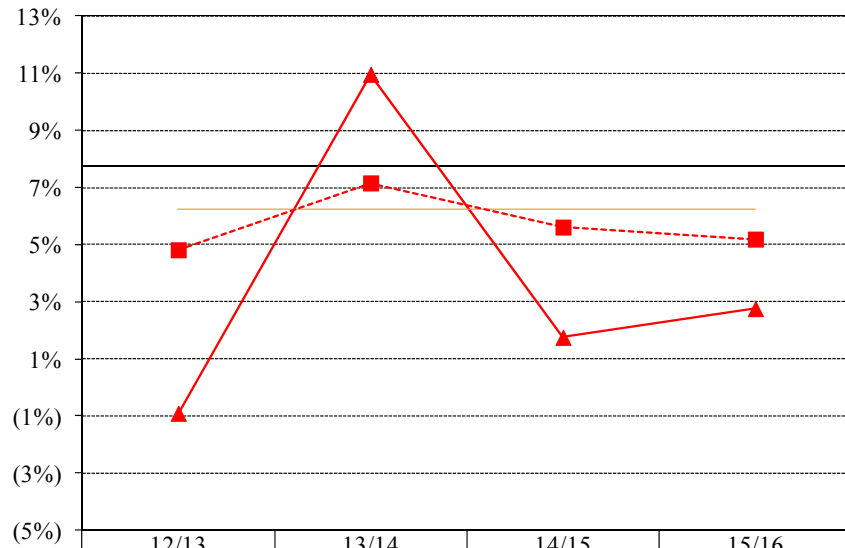
ASSETS

Historical Assets (Amounts in 000s)



ASSETS

Historical Asset Returns



| | 12/13 | 13/14 | 14/15 | 15/16 |
|-------------------|-------|-------|-------|-------|
| ▲ MVA | -0.9% | 11.0% | 1.8% | 2.8% |
| — Expected Return | 6.3% | 6.3% | 6.3% | 6.3% |
| ■ AVA | 4.8% | 7.2% | 5.6% | 5.2% |

RESULTS

Actuarial Obligations

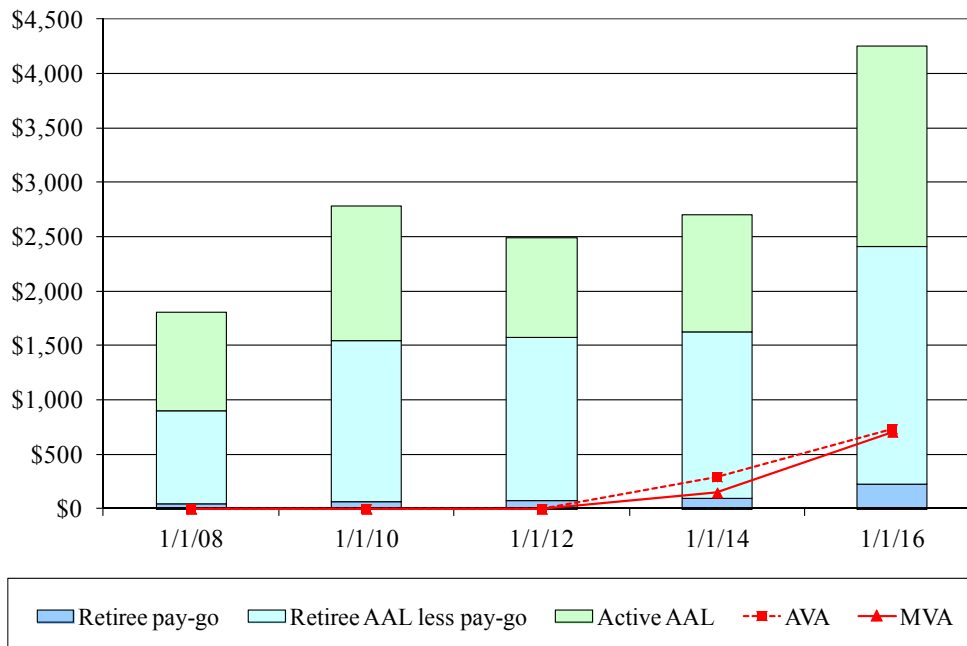
(Amounts in 000's)

| | 1/1/08 | 1/1/10 | 1/1/12 | 1/1/14 | 1/1/16 | Proj 6/30/16 |
|---------------------------|--------------|--------------|--------------|--------------|--------------|-----------------|
| ■ Discount Rate | 5.00% | 4.50% | 6.25% | 6.25% | 6.25% | 6.25% |
| ■ PVPB | | | | | | |
| • Actives | \$ n/a | \$ 2,695 | \$ 1,746 | \$ 1,994 | \$ 3,827 | |
| • Retirees | <u>898</u> | <u>1,547</u> | <u>1,571</u> | <u>1,623</u> | <u>2,408</u> | |
| • Total | n/a | 4,242 | 3,317 | 3,617 | 6,235 | |
| ■ AAL | | | | | | |
| • Actives | 905 | 1,239 | 925 | 1,075 | 1,849 | |
| • Retirees | <u>898</u> | <u>1,547</u> | <u>1,571</u> | <u>1,623</u> | <u>2,408</u> | |
| • Total | 1,803 | 2,786 | 2,496 | 2,698 | 4,257 | \$ 4,382 |
| ■ Actuarial Assets | <u>-</u> | <u>-</u> | <u>-</u> | <u>146</u> | <u>626</u> | <u>735</u> |
| ■ Unfunded AAL | 1,803 | 2,786 | 2,496 | 2,552 | 3,631 | 3,647 |
| ■ Funded Ratio | 0.0% | 0.0% | 0.0% | 5.4% | 14.7% | 16.8% |
| ■ Normal Cost | 117 | 152 | 96 | 103 | 218 | 218 |
| ■ PayGo Cost | 47 | 63 | 74 | 92 | 226 | 226 |

RESULTS

Historical Actuarial Accrued Liability

(Amounts in 000's)



RESULTS

Actuarial Gain/Loss Analysis

(Amounts in 000's)

| | AAL | (Assets) | UAAL |
|---|--------------|-----------------|--------------|
| ■ Actual @ 1/1/2014 | \$ 2,698 | \$ (146) | \$ 2,552 |
| ■ Expected @ 6/30/2016 | 3,180 | (689) | 2,491 |
| ■ Assumption changes | | | |
| • Mortality improvement scale MP-2014 | 140 | - | 140 |
| • 2% Load for ACA Excise Tax | 58 | - | 58 |
| ■ Experience (gains)/losses | | | |
| • PEMHCA min increased less than expected | (113) | - | (113) |
| • Asset gain | - | (46) | (46) |
| • Demographic & other ¹¹ | (304) | - | (304) |
| ■ Implied Subsidy | <u>1,422</u> | <u>-</u> | <u>1,422</u> |
| ■ Total changes | 1,202 | (46) | 1,156 |
| ■ Projected @ 6/30/2016 | 4,382 | (735) | 3,647 |

¹¹ Includes \$172,000 for termination gain

RESULTS

Schedule of Funding Progress

(Amounts in 000's)

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Entry Age Actuarial Accrued Liability (b) | Unfunded Actuarial Accrued Liability (b-a) | Funded Ratio (a/b) | Covered Payroll (c) | UAAL as Percentage of Covered Payroll ((b-a)/c) |
|---------------------------------|--------------------------------------|--|---|---------------------------|----------------------------|--|
| 1/1/2008 | \$ - | \$ 1,803 | \$ 1,803 | - | \$ 17,616 | 10.2% |
| 1/1/2010 | - | 2,786 | 2,786 | - | 15,730 | 17.7% |
| 1/1/2012 | - | 2,496 | 2,496 | - | 12,397 | 20.1% |
| 1/1/2014 | 146 | 2,698 | 2,553 | 5.4% | 13,778 | 18.5% |
| 1/1/2016 | 626 | 4,257 | 3,631 | 14.7% | 15,133 | 24.0% |

RESULTS

Annual Required Contribution (ARC)

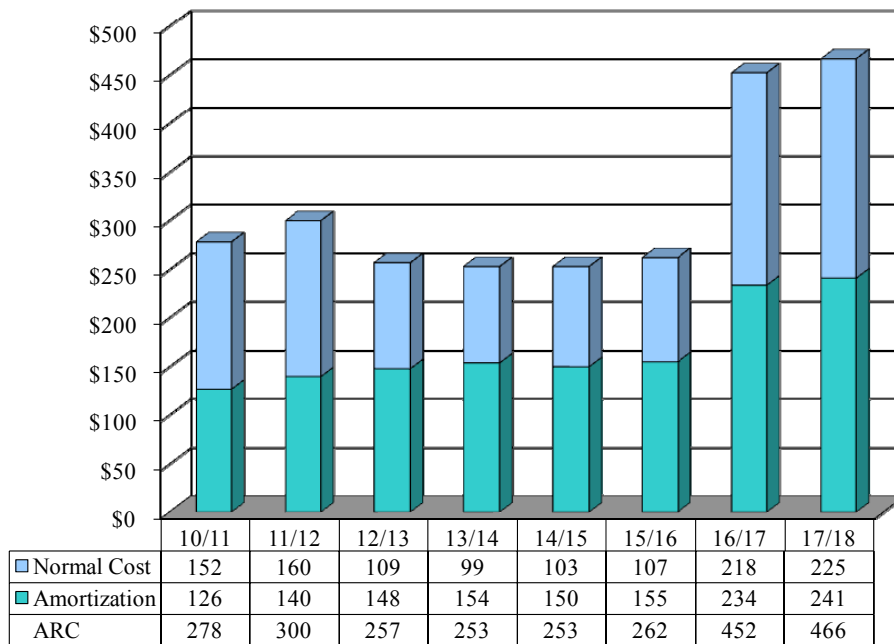
(Amounts in 000's)

| Annual Required Contribution | 1/1/2014 Valuation | | 1/1/2016 Valuation | |
|--|--------------------|-------------|--------------------|-------------|
| | 2014/15 | 2015/16 | 2016/17 | 2017/18 |
| ■ ARC - \$ <ul style="list-style-type: none"> • Normal Cost • UAAL Amortization • ARC | \$ 103 | \$ 107 | \$ 218 | \$ 225 |
| | <u>150</u> | <u>155</u> | <u>234</u> | <u>241</u> |
| | 253 | 261 | 452 | 466 |
| ■ Projected Payroll | 13,778 | 14,225 | 15,133 | 15,625 |
| ■ ARC - % <ul style="list-style-type: none"> • Normal Cost • UAAL Amortization • ARC | 0.7% | 0.7% | 1.4% | 1.4% |
| | <u>1.1%</u> | <u>1.1%</u> | <u>1.5%</u> | <u>1.5%</u> |
| | 1.8% | 1.8% | 3.0% | 3.0% |
| ■ Pay-As-You-Go Cost <ul style="list-style-type: none"> • Cash • Implied Subsidy • Total | \$ 85 | \$ 86 | \$ 100 | \$ 109 |
| | <u>n/a</u> | <u>n/a</u> | <u>126</u> | <u>139</u> |
| | 85 | 86 | 226 | 248 |

RESULTS

Annual Required Contributions

(Amounts in 000's)



RESULTS

Amortization Bases

(Amounts in 000's)

| | 1/1/2014 Val | | 1/1/2016 Val | |
|------------------------------|--------------|-----------|--------------|-----------|
| | 6/30/2014 | 6/30/2015 | 6/30/2016 | 6/30/2017 |
| ■ Outstanding Balance | | | | |
| • 2014 Fresh Start UAAL | \$ 2,485 | | | |
| • 2015 Fresh Start UAAL | | \$2,490 | | |
| • 2016 Fresh Start UAAL | | | \$3,647 | |
| • 2017 Fresh Start UAAL | - | - | - | \$3,643 |
| • Total | 2,485 | 2,490 | 3,647 | 3,643 |

RESULTS

Amortization Payments

(Amounts in 000's)

| | 1/1/2014 Val | | 1/1/2016 Val | |
|-------------------------------------|--------------|---------|--------------|---------|
| | 2014/15 | 2015/16 | 2016/17 | 2017/18 |
| ■ Amortization Payments | | | | |
| • 2014 Fresh Start UAAL | \$ 150 | | | |
| • 2015 Fresh Start UAAL | | \$ 155 | | |
| • 2016 Fresh Start UAAL | | | \$ 234 | |
| • 2017 Fresh Start UAAL | - | - | - | \$ 241 |
| • Total | 150 | 155 | 234 | 241 |
| ■ Average Amortization Years | 24.0 | 23.0 | 22.0 | 21.0 |

RESULTS

Estimated Net OPEB Obligation (NOO)

(Amounts in 000's)

| Estimated Net OPEB Obligation | CAFR 2014/15 | Estimated 2015/16 | Estimated 2016/17 |
|-----------------------------------|-----------------|----------------------|----------------------|
| ■ NOO at Beginning of Year | \$ 783 | \$ 777 | \$ 771 |
| ■ Annual OPEB Cost (AOC) | | | |
| • Annual Required Contribution | 253 | 262 | 452 |
| • Interest on NOO | 48 | 46 | 41 |
| • Amortization of NOO | (46) | (48) | (49) |
| • Annual OPEB Cost | 255 | 260 | 444 |
| ■ Contributions | | | |
| • Benefit Payments | 85 | 86 | 226 |
| • Trust Pre-Funding | 176 | 180 | 226 |
| • Total Contribution | 261 | 266 | 452 |
| ■ NOO at End of Year | 777 | 771 | 763 |



RESULTS

Pre-Funding (Full ARC Contribution) Illustration

6.25% Discount Rate

(Amounts in 000's)

| FYE June 30, | Beginning of Year Net OPEB Obligation | ARC/ ADC | Annual OPEB Cost (AOC) | Contribution | | | Payroll | ARC as % of Payroll | Contr. as % of Payroll |
|--------------------|--|-------------|---------------------------------|-----------------|-----------------|-----------------|-----------|------------------------------|---------------------------------|
| | | | | Benefit Pmts | Pre- Funding | Total Contr. | | | |
| 2017 | \$ 771 | \$ 452 | \$ 444 | \$ 226 | \$ 226 | \$ 452 | \$ 15,133 | 3.0% | 3.0% |
| 2018 | 763 | 466 | n/a | 248 | 218 | 466 | 15,625 | 3.0% | 3.0% |
| 2019 | n/a | 481 | n/a | 264 | 217 | 481 | 16,133 | 3.0% | 3.0% |
| 2020 | n/a | 496 | n/a | 266 | 230 | 496 | 16,657 | 3.0% | 3.0% |
| 2021 | n/a | 512 | n/a | 273 | 239 | 512 | 17,198 | 3.0% | 3.0% |
| 2022 | n/a | 528 | n/a | 286 | 242 | 528 | 17,757 | 3.0% | 3.0% |
| 2023 | n/a | 544 | n/a | 305 | 239 | 544 | 18,334 | 3.0% | 3.0% |
| 2024 | n/a | 561 | n/a | 322 | 239 | 561 | 18,930 | 3.0% | 3.0% |
| 2025 | n/a | 578 | n/a | 339 | 239 | 578 | 19,546 | 3.0% | 3.0% |
| 2026 | n/a | 596 | n/a | 348 | 248 | 596 | 20,181 | 3.0% | 3.0% |



RESULTS

Actuarial Obligations by Group

January 1, 2016

6.25% Discount Rate

(Amounts in 000's)

| | Miscellaneous | Safety | Total |
|--|---------------|--------------|--------------|
| ■ PVPB | | | |
| • Actives | \$ 2,251 | \$ 1,576 | \$ 3,827 |
| • Retirees | <u>1,327</u> | <u>1,081</u> | <u>2,408</u> |
| • Total | 3,578 | 2,657 | 6,235 |
| ■ Actuarial Accrued Liability | | | |
| • Actives | 1,233 | 617 | 1,849 |
| • Retirees | <u>1,327</u> | <u>1,081</u> | <u>2,408</u> |
| • Total | 2,560 | 1,698 | 4,257 |
| ■ Actuarial Assets¹² | <u>376</u> | <u>250</u> | <u>626</u> |
| ■ Unfunded AAL | 2,184 | 1,448 | 3,631 |
| ■ Normal Cost (2016/17) | 134 | 84 | 218 |
| ■ Pay-As-You-Go Cost (2016/17) | 127 | 99 | 226 |

¹² Assets allocation is based on Actuarial Accrued Liability

RESULTS

Annual Required Contribution (ARC) by Group

2016/17 Fiscal Year

6.25% Discount Rate

(Amounts in 000's)

| | Miscellaneous | Safety | Total |
|-----------------------------------|---------------|-------------|-------------|
| ■ ARC - \$ | | | |
| • Normal Cost | \$ 134 | \$ 84 | \$ 218 |
| • UAAL Amortization ¹³ | <u>141</u> | <u>93</u> | <u>234</u> |
| • ARC | 275 | 177 | 452 |
| ■ Projected Payroll | 9,850 | 5,283 | 15,133 |
| ■ ARC - % | | | |
| • Normal Cost | 1.4% | 1.6% | 1.4% |
| • UAAL Amortization | <u>1.4%</u> | <u>1.8%</u> | <u>1.5%</u> |
| • ARC | 2.8% | 3.4% | 3.0% |

¹³ Allocated in proportion to the AAL

RESULTS

Implied Subsidy - Actuarial Obligations

January 1, 2016
6.25% Discount Rate
 (Amounts in 000's)

| | Cash | Implied Subsidy | Total |
|--|--------------|------------------------|--------------|
| ■ PVPB | | | |
| • Actives | \$ 2,271 | \$ 1,555 | \$ 3,827 |
| • Retirees | <u>1,776</u> | <u>631</u> | <u>2,408</u> |
| • Total | 4,047 | 2,186 | 6,235 |
| ■ Actuarial Accrued Liability | | | |
| • Actives | 1,082 | 767 | 1,849 |
| • Retirees | <u>1,776</u> | <u>631</u> | <u>2,408</u> |
| • Total | 2,858 | 1,398 | 4,257 |
| ■ Actuarial Assets¹⁴ | <u>626</u> | - | <u>626</u> |
| ■ Unfunded AAL | 2,232 | 1,398 | 3,631 |
| ■ Normal Cost (2016/17) | 131 | 86 | 218 |
| ■ Pay-As-You-Go Cost (2016/17) | 100 | 126 | 226 |

¹⁴ Assumes no assets allocated for Implied Subsidy.

RESULTS

Implied Subsidy - Annual Required Contribution (ARC)

2016/17 Fiscal Year
6.25% Discount Rate
 (Amounts in 000's)

| | Cash | Implied Subsidy | Total |
|-----------------------------------|-------------|------------------------|--------------|
| ■ ARC - \$ | | | |
| • Normal Cost | \$ 131 | \$ 86 | \$ 218 |
| • UAAL Amortization ¹⁵ | <u>143</u> | <u>91</u> | <u>234</u> |
| • ARC | 273 | 178 | 452 |
| ■ Projected Payroll | 15,133 | 15,133 | 15,133 |
| ■ ARC - % | | | |
| • Normal Cost | 0.9% | 0.6% | 1.4% |
| • UAAL Amortization | <u>0.9%</u> | <u>0.6%</u> | <u>1.5%</u> |
| • ARC | 1.8% | 1.2% | 3.0% |

¹⁵ Assumes no assets allocated for Implied Subsidy.

RESULTS

Benefit Payment Projection

(Amounts in 000's)

| Fiscal Year | Cash Subsidy | Implied Subsidy | Total Payments |
|-------------|--------------|-----------------|----------------|
| 2016/17 | \$ 100 | \$ 126 | \$ 226 |
| 2017/18 | 109 | 139 | 248 |
| 2018/19 | 120 | 145 | 265 |
| 2019/20 | 130 | 136 | 266 |
| 2020/21 | 142 | 131 | 273 |
| 2021/22 | 154 | 132 | 286 |
| 2022/23 | 167 | 139 | 306 |
| 2023/24 | 180 | 142 | 322 |
| 2024/25 | 193 | 146 | 339 |
| 2025/26 | 207 | 141 | 348 |

RESULTS

Estimated 2016/17 Implied Subsidy Transfer

For Illustrative Purposes Only

(Amounts in 000's)

Before Implied Subsidy Transfer

| | Actives | Retirees | Total |
|-------------------------------------|----------|----------|---------|
| ■ Total Premium | \$ 1,850 | \$ 499 | \$2,349 |
| ■ Member Contribution ¹⁶ | - | (399) | (399) |
| ■ Employer Contribution | 1,850 | 100 | 1,950 |

After Implied Subsidy Transfer

| | Actives | Retirees | Total |
|----------------------------|----------|----------|----------|
| ■ Total Premium | \$ 1,850 | \$ 499 | \$ 2,349 |
| ■ Member Contribution | - | (399) | (399) |
| ■ Implied Subsidy Transfer | (126) | 126 | - |
| ■ Employer Contribution | 1,724 | 226 | 1,950 |

¹⁶ Assumes no member contribution for actives.

ACTUARIAL CERTIFICATION

This report presents the City of Novato Retiree Healthcare Plan ("Plan") January 1, 2016 actuarial valuation. The purpose of this valuation is to:

- Determine the Governmental Accounting Standards Board Statement Nos. 43 and 45 January 1, 2016 Benefit Obligations,
- Determine the Plan's January 1, 2016 Funded Status, and
- Calculate the 2016/17 Annual Required Contributions and 2017/18 Actuarially Determined 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 City 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 City 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. Additionally, in our opinion, actuarial methods and assumptions comply with GASB 43 and 45. As members of the American Academy of Actuaries meeting the Academy Qualification Standards, we certify the actuarial results and opinions herein.

Respectfully submitted,



John E. Bartel, ASA, MAAA, FCA
President
Bartel Associates, LLC
October 20, 2016



Bianca Lin, FSA, MAAA, FCA, EA
Assistant Vice President
Bartel Associates, LLC
October 20, 2016

EXHIBITS

| <u>Topic</u> | <u>Page</u> |
|-----------------------|-------------|
| Premiums | E- 1 |
| Data Summary | E- 3 |
| Actuarial Assumptions | E-25 |
| Definitions | E-33 |

PREMIUMS

2016 PEMHCA Monthly Premiums

Bay Area

| Medical Plan | Non Medicare Eligible | | | Medicare Eligible | | |
|------------------------|-----------------------|------------|------------|-------------------|----------|----------|
| | Single | 2-Party | Family | Single | 2-Party | Family |
| Anthem HMO Select | \$721.79 | \$1,443.58 | \$1,876.65 | n/a | n/a | n/a |
| Anthem HMO 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 |



October 20, 2016

E-1



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 |



October 20, 2016

E-2



DATA SUMMARY

Participant Statistics
January 1, 2016

| | Misc. | Safety | Total |
|--|--------------|---------------|--------------|
| ■ Actives | | | |
| • Count | 140 | 56 | 196 |
| • Average age | 48.0 | 36.5 | 44.7 |
| • Average City service | 10.4 | 8.0 | 9.8 |
| • Average CalPERS service | 11.5 | 9.1 | 10.8 |
| • Average pay | \$ 69,243 | \$ 92,847 | \$ 75,987 |
| • Total payroll (000's) | 9,694 | 5,199 | 14,893 |
| ■ Retirees | | | |
| • Count | 106 | 53 | 159 |
| • Average age | 69.4 | 63.0 | 67.3 |
| • Average retirement age ¹⁷ | 59.4 | 47.9 | 55.3 |

¹⁷ Excludes 13 surviving spouses



October 20, 2016

E-3



DATA SUMMARY

Participant Statistics
January 1, 2014

| | Misc. | Safety | Total |
|--|--------------|---------------|--------------|
| ■ Actives | | | |
| • Count | 133 | 59 | 192 |
| • Average age | 49.9 | 37.1 | 46.0 |
| • Average City service | 12.3 | 9.3 | 11.4 |
| • Average CalPERS service | 13.5 | 9.8 | 12.3 |
| • Average pay | \$ 63,661 | \$ 86,314 | \$ 70,622 |
| • Total payroll (000's) | 8,467 | 5,093 | 13,559 |
| ■ Retirees | | | |
| • Count | 100 | 49 | 149 |
| • Average age | 69.1 | 61.9 | 66.7 |
| • Average retirement age ¹⁸ | 59.4 | 47.6 | 55.3 |

¹⁸ Excludes 9 surviving spouses



October 20, 2016

E-4



DATA SUMMARY

Medical Plan Participation
Non-Waived Participants

| Plan | Actives | Retirees | | |
|-----------------------------|---------|----------|------|-------|
| | | <65 | >65 | Total |
| Anthem Select | 1% | 0% | 0% | 0% |
| Anthem Traditional | 2% | 4% | 0% | 2% |
| Blue Shield | 16% | 0% | 0% | 0% |
| Blue Shield NetValue | 2% | 0% | 0% | 0% |
| Kaiser | 62% | 71% | 58% | 63% |
| United Healthcare | 0% | 0% | 6% | 3% |
| PERS Choice | 11% | 8% | 19% | 15% |
| PERS Select | 2% | 4% | 0% | 2% |
| PERSCare | 1% | 0% | 17% | 10% |
| PORAC | 4% | 13% | 0% | 5% |
| Total | 100% | 100% | 100% | 100% |

DATA SUMMARY

Active Medical Plan Coverage

| Medical Plan | Single | 2-Party | Family | Waived | Total |
|----------------------|-----------|-----------|-----------|-----------|------------|
| Anthem Select | - | 1 | - | - | 1 |
| Anthem Traditional | 2 | - | 1 | - | 3 |
| Blue Shield | 16 | 3 | 1 | - | 20 |
| Blue Shield NetValue | 2 | - | - | - | 2 |
| Kaiser | 44 | 19 | 16 | - | 79 |
| PERS Choice | 7 | 3 | 4 | - | 14 |
| PERS Select | 2 | - | - | - | 2 |
| PERSCare | 1 | - | - | - | 1 |
| PORAC | - | 2 | 3 | - | 5 |
| Waived | - | - | - | 69 | 69 |
| Total | 74 | 28 | 25 | 69 | 196 |

DATA SUMMARY

Retiree Medical Plan Coverage
Under Age 65

| Medical Plan | Region | Single | 2-Party | Family | Waived | Total |
|---------------------|---------------|---------------|----------------|---------------|---------------|--------------|
| Anthem Traditional | Bay Area | 1 | - | - | - | 1 |
| Kaiser | Bay Area | 11 | 5 | - | - | 16 |
| | Sacramento | 1 | - | - | - | 1 |
| PERS Choice | Bay Area | 1 | - | - | - | 1 |
| | Out of State | 1 | - | - | - | 1 |
| PERS Select | Bay Area | 1 | - | - | - | 1 |
| PORAC | | - | 3 | - | - | 3 |
| Waived | | - | - | - | 36 | 36 |
| Total | | 16 | 8 | - | 36 | 60 |

DATA SUMMARY

Retiree Medical Plan Coverage
Over Age 65

| Medical Plan | Region | Single | 2-Party | Family | Waived | Total |
|---------------------|---------------|---------------|----------------|---------------|---------------|--------------|
| Kaiser | Bay Area | 11 | 9 | 1 | - | 21 |
| United Healthcare | Bay Area | 2 | - | - | - | 2 |
| PERS Choice | Bay Area | 1 | 3 | - | - | 4 |
| | North | - | 1 | - | - | 1 |
| | Out of State | 1 | 1 | - | - | 2 |
| PERSCare | Bay Area | 1 | 2 | - | - | 3 |
| | Out of State | 3 | - | - | - | 3 |
| Waived | | - | - | - | 63 | 63 |
| Total | | 19 | 16 | 1 | 63 | 99 |

DATA SUMMARY

Actives by Age and Service
Miscellaneous

| Age | City Service | | | | | | | Total |
|--------------|--------------|-----------|-----------|-----------|-----------|----------|-----------|------------|
| | < 1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | ≥ 25 | |
| < 25 | 3 | 1 | - | - | - | - | - | 4 |
| 25-29 | 6 | 7 | - | - | - | - | - | 13 |
| 30-34 | 4 | 5 | 1 | - | - | - | - | 10 |
| 35-39 | 1 | 7 | 3 | 2 | - | - | - | 13 |
| 40-44 | - | 1 | 2 | 2 | 5 | - | - | 10 |
| 45-49 | 1 | 5 | 5 | 2 | - | 1 | - | 14 |
| 50-54 | 3 | 5 | 4 | 8 | 3 | 2 | 1 | 26 |
| 55-59 | 1 | 4 | 4 | 2 | 10 | 2 | 6 | 29 |
| 60-64 | - | 2 | 1 | 1 | 5 | 3 | 4 | 16 |
| ≥ 65 | - | 2 | 1 | - | 1 | - | 1 | 5 |
| Total | 19 | 39 | 21 | 17 | 24 | 8 | 12 | 140 |

DATA SUMMARY

Actives by Age and Service
Safety

| Age | City Service | | | | | | | Total |
|--------------|--------------|-----------|----------|-----------|----------|----------|----------|-----------|
| | < 1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | ≥ 25 | |
| < 25 | - | 5 | - | - | - | - | - | 5 |
| 25-29 | 2 | 11 | 1 | - | - | - | - | 14 |
| 30-34 | 2 | 2 | 3 | - | - | - | - | 7 |
| 35-39 | 1 | - | 2 | 6 | 2 | - | - | 11 |
| 40-44 | 1 | 1 | 1 | 3 | 2 | - | - | 8 |
| 45-49 | - | 1 | - | 3 | - | - | 1 | 5 |
| 50-54 | 1 | - | - | 1 | 1 | 1 | 1 | 5 |
| 55-59 | - | - | - | - | 1 | - | - | 1 |
| 60-64 | - | - | - | - | - | - | - | - |
| ≥ 65 | - | - | - | - | - | - | - | - |
| Total | 7 | 20 | 7 | 13 | 6 | 1 | 2 | 56 |

DATA SUMMARY

Actives by Age and Service
Total

| Age | City Service | | | | | | | Total |
|--------------|--------------|-----------|-----------|-----------|-----------|----------|-----------|------------|
| | < 1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | ≥ 25 | |
| < 25 | 3 | 6 | - | - | - | - | - | 9 |
| 25-29 | 8 | 18 | 1 | - | - | - | - | 27 |
| 30-34 | 6 | 7 | 4 | - | - | - | - | 17 |
| 35-39 | 2 | 7 | 5 | 8 | 2 | - | - | 24 |
| 40-44 | 1 | 2 | 3 | 5 | 7 | - | - | 18 |
| 45-49 | 1 | 6 | 5 | 5 | - | 1 | 1 | 19 |
| 50-54 | 4 | 5 | 4 | 9 | 4 | 3 | 2 | 31 |
| 55-59 | 1 | 4 | 4 | 2 | 11 | 2 | 6 | 30 |
| 60-64 | - | 2 | 1 | 1 | 5 | 3 | 4 | 16 |
| ≥ 65 | - | 2 | 1 | - | 1 | - | 1 | 5 |
| Total | 26 | 59 | 28 | 30 | 30 | 9 | 14 | 196 |

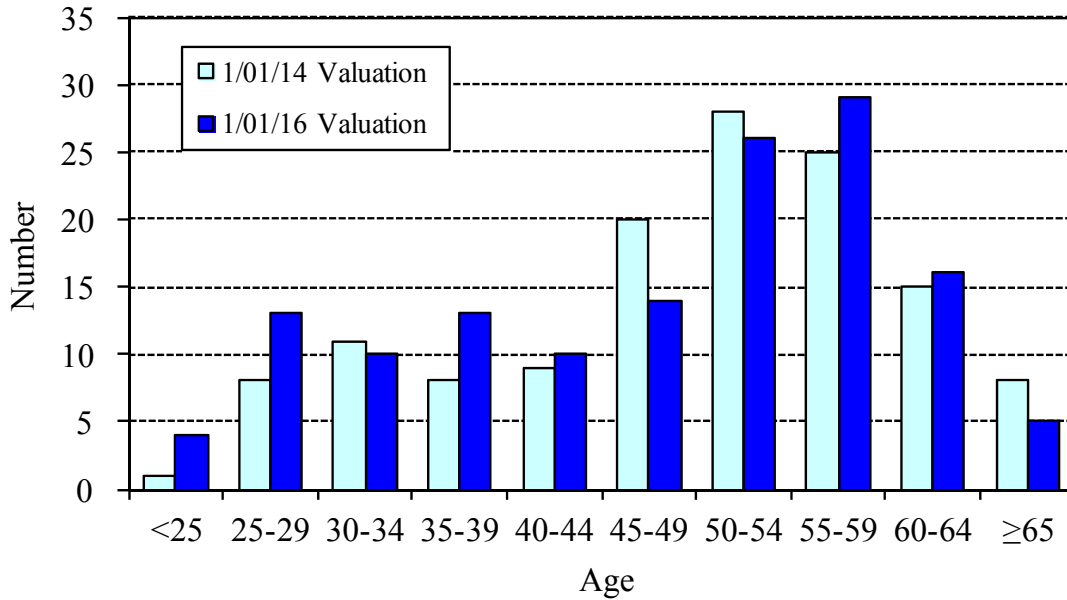
DATA SUMMARY

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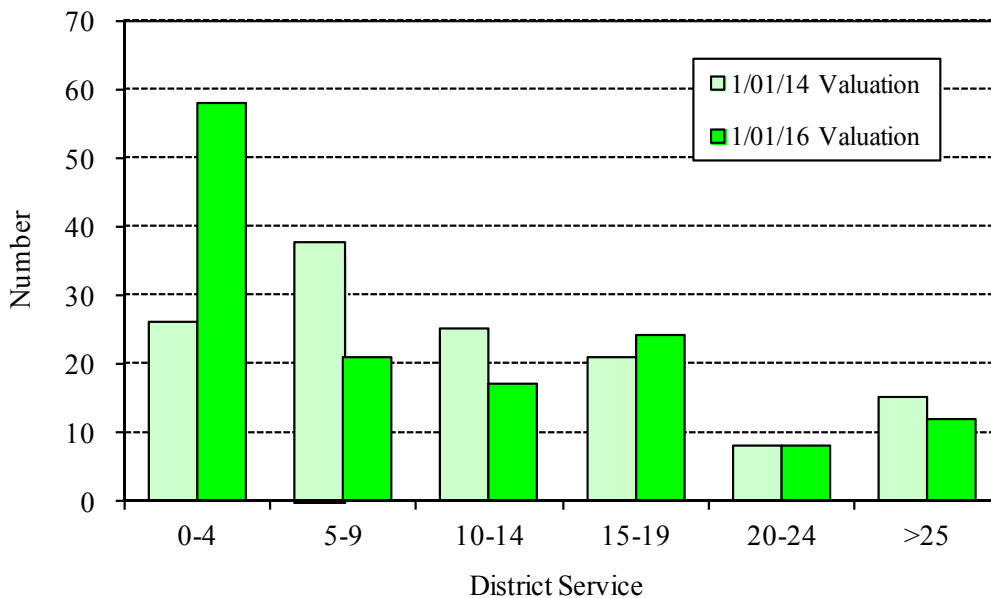
DATA SUMMARY

Active Age Distribution
Miscellaneous



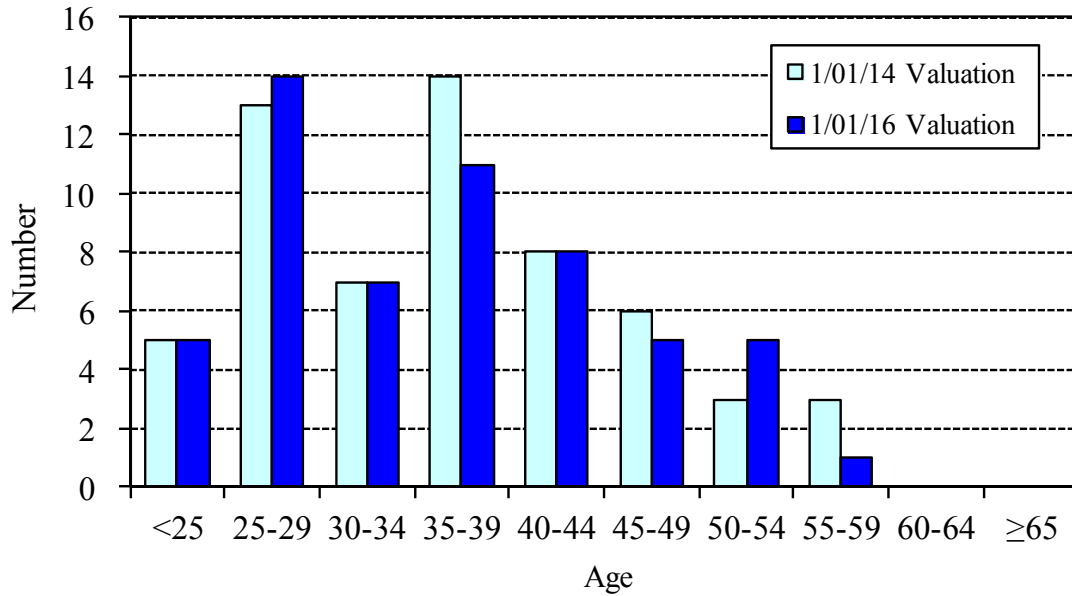
DATA SUMMARY

Active Service Distribution
Miscellaneous



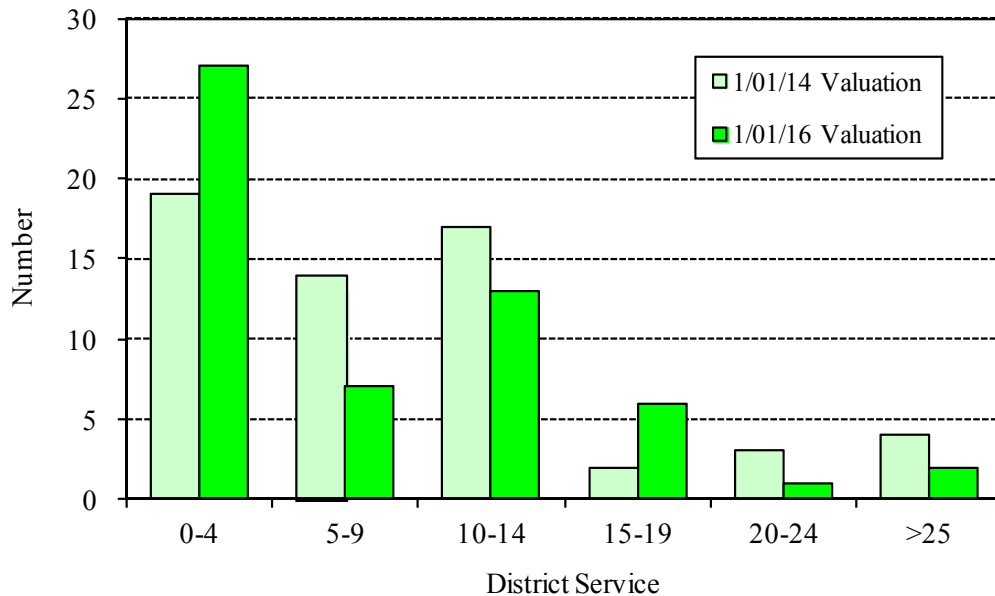
DATA SUMMARY

**Active Age Distribution
Safety**



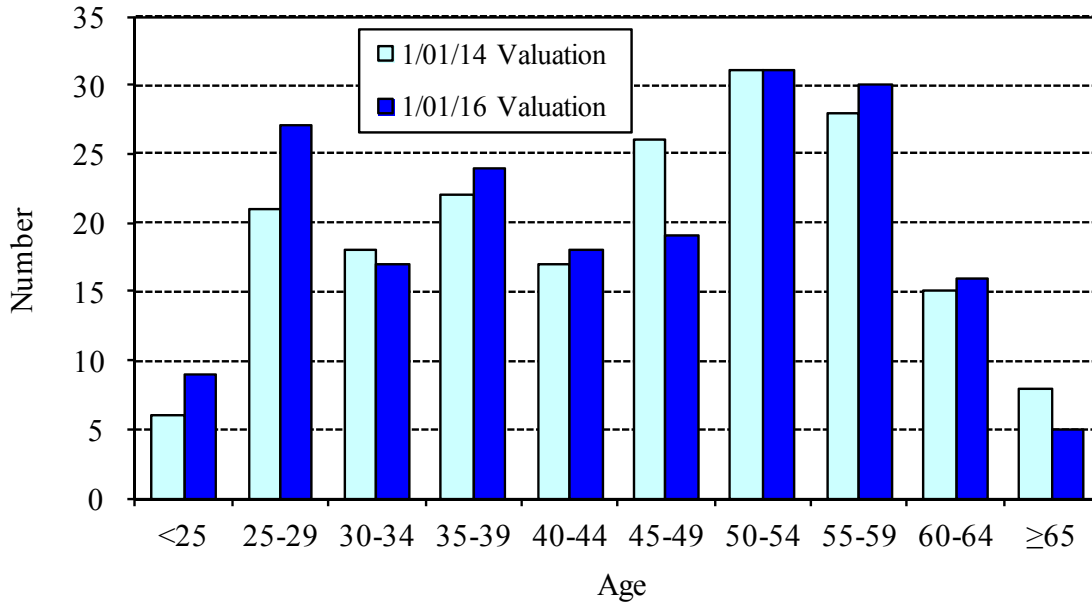
DATA SUMMARY

**Active Service Distribution
Safety**



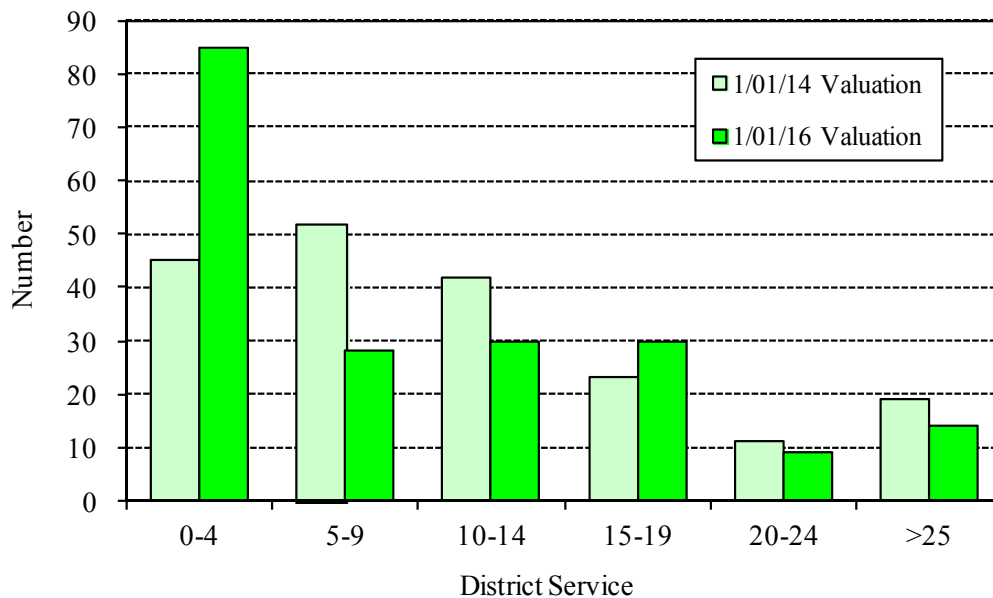
DATA SUMMARY

Active Age Distribution
Total



DATA SUMMARY

Active Service Distribution
Total



DATA SUMMARY

Retiree Healthcare Coverage by Age Group

Miscellaneous

| Age | Single | 2-Party | Family | Waived | Total |
|----------|--------|---------|--------|--------|-------|
| Under 50 | - | - | - | 1 | 1 |
| 50-54 | 1 | - | - | 2 | 3 |
| 55-59 | 3 | - | - | 10 | 13 |
| 60-64 | 5 | 2 | - | 7 | 14 |
| 65-69 | 5 | 7 | 1 | 19 | 32 |
| 70-74 | 8 | 3 | - | 13 | 24 |
| 75-79 | 2 | - | - | 3 | 5 |
| 80-84 | 1 | 1 | - | 2 | 4 |
| Over 85 | 1 | - | - | 9 | 10 |
| Total | 26 | 13 | 1 | 66 | 106 |

| | | | | | |
|-------------|------|------|------|------|------|
| Average Age | 68.7 | 69.2 | 68.5 | 69.8 | 69.4 |
|-------------|------|------|------|------|------|



October 20, 2016

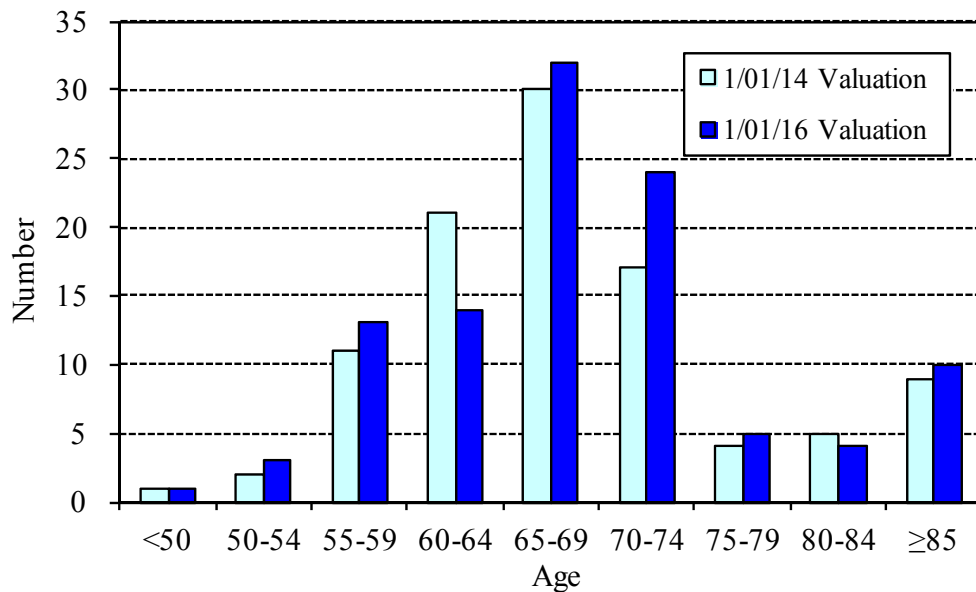
E-19



DATA SUMMARY

Retiree Age Distribution

Miscellaneous



October 20, 2016

E-20



DATA SUMMARY

Retiree Healthcare Coverage by Age Group
Safety

| Age | Single | 2-Party | Family | Waived | Total |
|----------|--------|---------|--------|--------|-------|
| Under 50 | - | - | - | 3 | 3 |
| 50-54 | 1 | - | - | 4 | 5 |
| 55-59 | 3 | 1 | - | 6 | 10 |
| 60-64 | 3 | 5 | - | 3 | 11 |
| 65-69 | 2 | 2 | - | 9 | 13 |
| 70-74 | - | 1 | - | 5 | 6 |
| 75-79 | - | 2 | - | 1 | 3 |
| 80-84 | - | - | - | 2 | 2 |
| Over 85 | - | - | - | - | - |
| Total | 9 | 11 | - | 33 | 53 |

| | | | | | |
|-------------|------|------|-----|------|------|
| Average Age | 59.9 | 65.9 | n/a | 62.8 | 63.0 |
|-------------|------|------|-----|------|------|



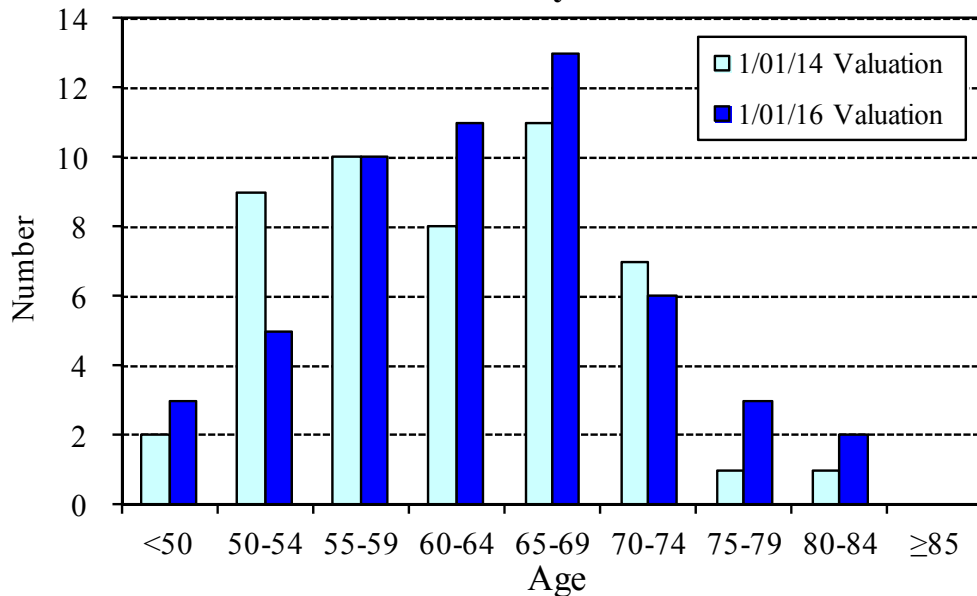
October 20, 2016

E-21



DATA SUMMARY

Retiree Age Distribution
Safety



October 20, 2016

E-22



DATA SUMMARY

Retiree Healthcare Coverage by Age Group

Total

| Age | Single | 2-Party | Family | Waived | Total |
|----------|--------|---------|--------|--------|-------|
| Under 50 | - | - | - | 4 | 4 |
| 50-54 | 2 | - | - | 6 | 8 |
| 55-59 | 6 | 1 | - | 16 | 23 |
| 60-64 | 8 | 7 | - | 10 | 25 |
| 65-69 | 7 | 9 | 1 | 28 | 45 |
| 70-74 | 8 | 4 | - | 18 | 30 |
| 75-79 | 2 | 2 | - | 4 | 8 |
| 80-84 | 1 | 1 | - | 4 | 6 |
| Over 85 | 1 | - | - | 9 | 10 |
| Total | 35 | 24 | 1 | 99 | 159 |

| | | | | | |
|-------------|------|------|------|------|------|
| Average Age | 66.5 | 67.7 | 68.5 | 67.4 | 67.3 |
|-------------|------|------|------|------|------|



October 20, 2016

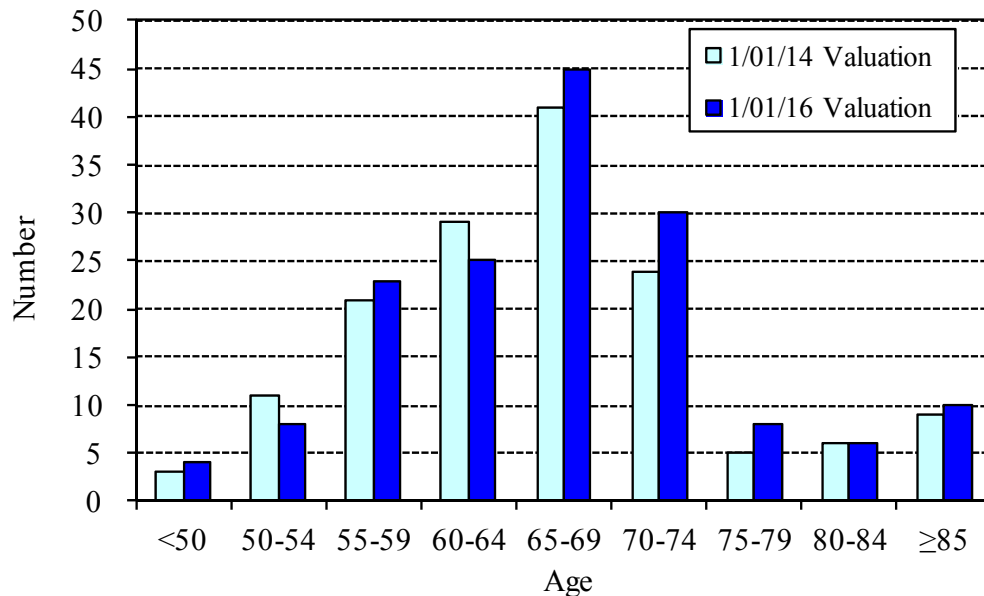
E-23



DATA SUMMARY

Retiree Age Distribution

Total



October 20, 2016

E-24



ACTUARIAL ASSUMPTIONS

| Assumption | January 1, 2014 Valuation | January 1, 2016 Valuation |
|-------------------------------|---|--|
| ■ Valuation Date | <ul style="list-style-type: none"> • January 1, 2014 • 2014/15 and 2015/16 ARCs | <ul style="list-style-type: none"> • January 1, 2016 • 2016/17 ARC and 2017/18 ADC |
| ■ Discount Rate | <ul style="list-style-type: none"> • 6.25% Full ARC pre-funded with PARS Balanced OPEB trust, 60% confidence level | <ul style="list-style-type: none"> • Same |
| ■ Funding Policy | <ul style="list-style-type: none"> • Full ARC pre-funded with PARS Balanced OPEB trust | <ul style="list-style-type: none"> • Same |
| ■ General Inflation | <ul style="list-style-type: none"> • 3.0% | <ul style="list-style-type: none"> • Same |
| ■ Aggregate Payroll Increases | <ul style="list-style-type: none"> • 3.25% | <ul style="list-style-type: none"> • Same |
| ■ Merit Pay Increases | <ul style="list-style-type: none"> • CalPERS 1997-2011 Experience Study | <ul style="list-style-type: none"> • Same |

ACTUARIAL ASSUMPTIONS

| Assumption | January 1, 2014 Valuation | January 1, 2016 Valuation | | | | | | | | | | | | | | | | | | |
|--------------------------------------|--|---|---------------|------|----------|------|--------|------|--------|-------|---------|---|-------------|---------------|------|--------|------|--------|-------|---------|
| ■ Future New Entrants | <ul style="list-style-type: none"> • None – Closed Group | <ul style="list-style-type: none"> • Same | | | | | | | | | | | | | | | | | | |
| ■ PEMHCA Minimum Increase | <table border="0"> <thead> <tr> <th><u>Year</u></th> <th><u>Amount</u></th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>\$115.00</td> </tr> <tr> <td>2014</td> <td>119.00</td> </tr> <tr> <td>2015</td> <td>122.00</td> </tr> <tr> <td>2016+</td> <td>4.5%/yr</td> </tr> </tbody> </table> | <u>Year</u> | <u>Amount</u> | 2013 | \$115.00 | 2014 | 119.00 | 2015 | 122.00 | 2016+ | 4.5%/yr | <table border="0"> <thead> <tr> <th><u>Year</u></th> <th><u>Amount</u></th> </tr> </thead> <tbody> <tr> <td>2016</td> <td>125.00</td> </tr> <tr> <td>2017</td> <td>128.00</td> </tr> <tr> <td>2018+</td> <td>4.5%/yr</td> </tr> </tbody> </table> | <u>Year</u> | <u>Amount</u> | 2016 | 125.00 | 2017 | 128.00 | 2018+ | 4.5%/yr |
| <u>Year</u> | <u>Amount</u> | | | | | | | | | | | | | | | | | | | |
| 2013 | \$115.00 | | | | | | | | | | | | | | | | | | | |
| 2014 | 119.00 | | | | | | | | | | | | | | | | | | | |
| 2015 | 122.00 | | | | | | | | | | | | | | | | | | | |
| 2016+ | 4.5%/yr | | | | | | | | | | | | | | | | | | | |
| <u>Year</u> | <u>Amount</u> | | | | | | | | | | | | | | | | | | | |
| 2016 | 125.00 | | | | | | | | | | | | | | | | | | | |
| 2017 | 128.00 | | | | | | | | | | | | | | | | | | | |
| 2018+ | 4.5%/yr | | | | | | | | | | | | | | | | | | | |
| ■ Mortality, Termination, Disability | <ul style="list-style-type: none"> • CalPERS 1997-2011 Experience Study • Mortality Scale AA | <ul style="list-style-type: none"> • CalPERS 1997-2011 Experience Study • Mortality improvement projection Scale MP-2014 with 15 year convergence in 2022 | | | | | | | | | | | | | | | | | | |

ACTUARIAL ASSUMPTIONS

| Assumption | January 1, 2014 Valuation | January 1, 2016 Valuation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---------------|------------|------|-------|--------|--------|-------|--------------------|--|--------------------------|------------|------|---------|--------|--------|---------|--------------------|---|--|---------------|------------|------|-------|--------|--------|-------|--------------------|--|--------------------------|------------|------|---------|--------|--------|---------|--------------------|
| <ul style="list-style-type: none"> ■ Service Retirement | <ul style="list-style-type: none"> • CalPERS 1997-2011 Experience Study <table border="0"> <tr> <td></td> <td align="center"><u>Tier 1</u></td> <td align="center"><u>ERA</u></td> </tr> <tr> <td>Misc</td> <td align="center">2%@55</td> <td align="center">≈ 59.8</td> </tr> <tr> <td>Safety</td> <td align="center">3%@55</td> <td align="center">≈ 56.4 (Police)</td> </tr> <tr> <td></td> <td align="center"><u>Tier 2/ PEPRA</u></td> <td align="center"><u>ERA</u></td> </tr> <tr> <td>Misc</td> <td align="center">2.0%@62</td> <td align="center">≈ 62.0</td> </tr> <tr> <td>Safety</td> <td align="center">2.7%@57</td> <td align="center">≈ 56.8 (Police)</td> </tr> </table> | | <u>Tier 1</u> | <u>ERA</u> | Misc | 2%@55 | ≈ 59.8 | Safety | 3%@55 | ≈ 56.4 (Police) | | <u>Tier 2/ PEPRA</u> | <u>ERA</u> | Misc | 2.0%@62 | ≈ 62.0 | Safety | 2.7%@57 | ≈ 56.8 (Police) | <ul style="list-style-type: none"> • CalPERS 1997-2011 Experience Study <table border="0"> <tr> <td></td> <td align="center"><u>Tier 1</u></td> <td align="center"><u>ERA</u></td> </tr> <tr> <td>Misc</td> <td align="center">2%@55</td> <td align="center">≈ 60.2</td> </tr> <tr> <td>Safety</td> <td align="center">3%@55</td> <td align="center">≈ 56.4 (Police)</td> </tr> <tr> <td></td> <td align="center"><u>Tier 2/ PEPRA</u></td> <td align="center"><u>ERA</u></td> </tr> <tr> <td>Misc</td> <td align="center">2.0%@62</td> <td align="center">≈ 61.3</td> </tr> <tr> <td>Safety</td> <td align="center">2.7%@57</td> <td align="center">≈ 56.8 (Police)</td> </tr> </table> | | <u>Tier 1</u> | <u>ERA</u> | Misc | 2%@55 | ≈ 60.2 | Safety | 3%@55 | ≈ 56.4 (Police) | | <u>Tier 2/ PEPRA</u> | <u>ERA</u> | Misc | 2.0%@62 | ≈ 61.3 | Safety | 2.7%@57 | ≈ 56.8 (Police) |
| | <u>Tier 1</u> | <u>ERA</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Misc | 2%@55 | ≈ 59.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Safety | 3%@55 | ≈ 56.4 (Police) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <u>Tier 2/ PEPRA</u> | <u>ERA</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Misc | 2.0%@62 | ≈ 62.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Safety | 2.7%@57 | ≈ 56.8 (Police) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <u>Tier 1</u> | <u>ERA</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Misc | 2%@55 | ≈ 60.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Safety | 3%@55 | ≈ 56.4 (Police) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <u>Tier 2/ PEPRA</u> | <u>ERA</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Misc | 2.0%@62 | ≈ 61.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Safety | 2.7%@57 | ≈ 56.8 (Police) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> ■ CalPERS Service | <ul style="list-style-type: none"> • Actual CalPERS Service | <ul style="list-style-type: none"> • Same | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> ■ PEMHCA Administrative Fee | <ul style="list-style-type: none"> • 0.33% of premium for 2013/14+ | <ul style="list-style-type: none"> • 0.32% of premium for 2015/16+ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

ACTUARIAL ASSUMPTIONS

| Assumption | January 1, 2014 Valuation | January 1, 2016 Valuation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---------------------|-----------------|-------------|------------------|--|------|----------------------|--|------|----------------------|--|------|----------------------|--|------|----------------------|--|------|------|------|---|---|---|-------|------|------|---|--|---------------------|-----------------|-------------|------------------|--|------|----------------------|--|------|----------------------|--|------|----------------------|--|------|------|------|---|---|---|-------|------|------|
| <ul style="list-style-type: none"> ■ Medical Trend | <table border="0"> <tr> <td></td> <td align="center"><u>Non-Medicare</u></td> <td align="center"><u>Medicare</u></td> </tr> <tr> <td><u>Year</u></td> <td align="center" colspan="2"><u>All Plans</u></td> </tr> <tr> <td>2012</td> <td align="center" colspan="2">actual 2012 premiums</td> </tr> <tr> <td>2013</td> <td align="center" colspan="2">actual 2013 premiums</td> </tr> <tr> <td>2014</td> <td align="center" colspan="2">actual 2014 premiums</td> </tr> <tr> <td>2015</td> <td align="center" colspan="2">actual 2015 premiums</td> </tr> <tr> <td>2016</td> <td align="center">7.5%</td> <td align="center">7.8%</td> </tr> <tr> <td>↓</td> <td align="center">↓</td> <td align="center">↓</td> </tr> <tr> <td>2021+</td> <td align="center">5.0%</td> <td align="center">5.0%</td> </tr> </table> <p align="center">For calculating PEMHCA administrative fee only</p> | | <u>Non-Medicare</u> | <u>Medicare</u> | <u>Year</u> | <u>All Plans</u> | | 2012 | actual 2012 premiums | | 2013 | actual 2013 premiums | | 2014 | actual 2014 premiums | | 2015 | actual 2015 premiums | | 2016 | 7.5% | 7.8% | ↓ | ↓ | ↓ | 2021+ | 5.0% | 5.0% | <table border="0"> <tr> <td></td> <td align="center"><u>Non-Medicare</u></td> <td align="center"><u>Medicare</u></td> </tr> <tr> <td><u>Year</u></td> <td align="center" colspan="2"><u>All Plans</u></td> </tr> <tr> <td>2015</td> <td align="center" colspan="2">actual 2015 premiums</td> </tr> <tr> <td>2016</td> <td align="center" colspan="2">actual 2016 premiums</td> </tr> <tr> <td>2017</td> <td align="center" colspan="2">actual 2017 premiums</td> </tr> <tr> <td>2018</td> <td align="center">6.5%</td> <td align="center">6.7%</td> </tr> <tr> <td>↓</td> <td align="center">↓</td> <td align="center">↓</td> </tr> <tr> <td>2021+</td> <td align="center">5.0%</td> <td align="center">5.0%</td> </tr> </table> <ul style="list-style-type: none"> • For calculating PEMHCA administrative fee only | | <u>Non-Medicare</u> | <u>Medicare</u> | <u>Year</u> | <u>All Plans</u> | | 2015 | actual 2015 premiums | | 2016 | actual 2016 premiums | | 2017 | actual 2017 premiums | | 2018 | 6.5% | 6.7% | ↓ | ↓ | ↓ | 2021+ | 5.0% | 5.0% |
| | <u>Non-Medicare</u> | <u>Medicare</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Year</u> | <u>All Plans</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2012 | actual 2012 premiums | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2013 | actual 2013 premiums | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2014 | actual 2014 premiums | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | actual 2015 premiums | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | 7.5% | 7.8% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ | ↓ | ↓ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2021+ | 5.0% | 5.0% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <u>Non-Medicare</u> | <u>Medicare</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Year</u> | <u>All Plans</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2015 | actual 2015 premiums | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 | actual 2016 premiums | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017 | actual 2017 premiums | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018 | 6.5% | 6.7% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ | ↓ | ↓ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2021+ | 5.0% | 5.0% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> ■ PPACA Excise Tax | <ul style="list-style-type: none"> • N/A | <ul style="list-style-type: none"> • 2% load on medical cash subsidy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

ACTUARIAL ASSUMPTIONS

| Assumption | January 1, 2014 Valuation | January 1, 2016 Valuation |
|--|--|---|
| <ul style="list-style-type: none"> ■ Medical Plan at Retirement | <ul style="list-style-type: none"> • Currently covered: same as current election • Currently waived: Kaiser Bay Area • For calculating PEMHCA administrative fee only | <ul style="list-style-type: none"> • Currently covered: same as current election • Currently waived: Kaiser Bay Area • For calculating PEMHCA administrative fee and Implied Subsidy |

ACTUARIAL ASSUMPTIONS

| Assumption | January 1, 2014 Valuation | January 1, 2016 Valuation |
|--|--|--|
| <ul style="list-style-type: none"> ■ Participation | <ul style="list-style-type: none"> • Actives¹⁹: <ul style="list-style-type: none"> ➢ Currently covered: 75% ➢ Currently waived: 5% • Retirees: <ul style="list-style-type: none"> ➢ Currently covered: 100% ➢ Currently waived: 5% waived retirees elect coverage at 65 | <ul style="list-style-type: none"> • Same |
| <ul style="list-style-type: none"> ■ Marital Status at Retirement | <ul style="list-style-type: none"> • Currently Covered – Same as current election • Currently Waived – 80% married | <ul style="list-style-type: none"> • Same |

¹⁹ Based on current experience of retirees who retired since 2010

ACTUARIAL ASSUMPTIONS

| Assumption | January 1, 2014 Valuation | January 1, 2016 Valuation |
|--|--|--|
| <ul style="list-style-type: none"> ■ Spouse Age | <ul style="list-style-type: none"> • Current actives - Males 3 years older than females • Current retirees - Males 3 years older than females if spouse birth date not available | <ul style="list-style-type: none"> • Same |
| <ul style="list-style-type: none"> ■ Surviving Spouse Participation | <ul style="list-style-type: none"> • 100% | <ul style="list-style-type: none"> • Same |

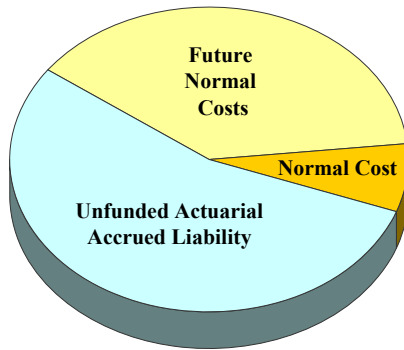
DEFINITIONS

| | |
|--|--|
| <ul style="list-style-type: none"> ■ GASB 45 Accrual Accounting | <ul style="list-style-type: none"> • Project future employer-provided benefit cash flows for current active employees and current retirees • Discount projected cash flow to valuation date using discount rate (assumed return on assets used to pay benefits) and other actuarial assumptions to determine present value of projected future benefits (PVB) • Allocate PVB to past, current, and future periods using the actuarial cost method • Actuarial cost method used for this valuation is the Entry Age Normal Cost method which determines Normal Cost as a level percentage of payroll (same method used by CalPERS) • Normal Cost is amount allocated to current fiscal year • Actuarial Accrued Liability (AAL) is amount allocated to prior service with employer • Unfunded AAL (UAAL) is AAL less plan assets pre-funded in a segregated and restricted trust |
| <ul style="list-style-type: none"> ■ PayGo Cost | <ul style="list-style-type: none"> • Cash subsidy is the pay-as-you-go employer benefit payments for retirees • Implied subsidy is the difference between the actual cost of retiree benefits and retiree premiums subsidized by active employee premiums |

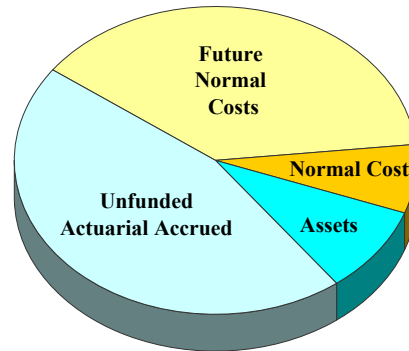
DEFINITIONS

Present Value of Benefits

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



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



DEFINITIONS

| | |
|---|--|
| <p>■ Annual Required Contribution (ARC)</p> | <ul style="list-style-type: none"> ● “Required contribution” for the current period including: <ul style="list-style-type: none"> ➢ Normal Cost ➢ Amortization of: <ul style="list-style-type: none"> - Initial UAAL - AAL for plan, assumption, and method changes - Experience gains/losses (difference between expected and actual) - Contribution gains/losses (difference between ARC and contributions) ● ARC in excess of pay-as-you-go costs not required to be funded |
| <p>■ Net OPEB Obligation (NOO)</p> | <ul style="list-style-type: none"> ● Net OPEB Obligation is the accumulated amounts expensed but not funded ● Net OPEB Asset if amounts funded exceed those expensed |
| <p>■ Annual OPEB Cost (AOC)</p> | <ul style="list-style-type: none"> ● Expense for the current period including: <ul style="list-style-type: none"> ➢ ARC ➢ Interest on NOO ➢ Adjustment of NOO ● NOO adjustment prevents double counting of expense since ARCs include an amortization of prior contribution gains/losses previously expensed |