Classic Values, Innovative Advice

# City of Oakland Postretirement Health Insurance Plan

## GASB 43/45 Actuarial Valuation Report as of July 1, 2015

**Produced by Cheiron**
**May 2016**

# TABLE OF CONTENTS

June 22, 2016

Ms. Katano Kasaine, Treasurer
City of Oakland
Finance and Management Agency
Lionel J. Wilson Building
150 Frank H. Ogawa Plaza, Suite 5330
Oakland, CA 94612-2093

***Re: Employees' Postretirement Health Insurance Plan July 1, 2015 GASB 43/45 Actuarial Valuation Results***

Dear Katano:

As requested by the City, we have performed an actuarial valuation of the postretirement benefits provided by the City of Oakland Postretirement Health Insurance Plan (Plan). The following report contains our findings and disclosures required by the Governmental Accounting Standards Board (GASB). This report is for the use of the City of Oakland and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. These actuarial computations are calculated based on our understanding of GASB 43 and 45 and are for purposes of fulfilling the Plan and employer financial accounting requirements. Determinations for purposes other than meeting the Plan and employer financial accounting requirements may be significantly different from the results in this report.

Appendix A describes the participant data, assumptions, and methods used in calculating the figures throughout the report. In preparing our report, we relied on information (some oral and some written) supplied by the Plan's staff. This information includes, but is not limited to, the Plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice #23. The demographic assumptions used in this report are the same as those adopted by the CalPERS Board in February 2014. The economic assumptions are the same as those used in the July 1, 2012 OPEB report prepared by AON, with the exception of the per capita claim costs and healthcare trends. This is the first report in which the implicit subsidy was recognized.

Appendix B contains our understanding of the substantive Plan provisions based on the information provided by your office.

Future results may differ significantly from the current results presented in this valuation report due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

This report does not reflect future changes in benefits, penalties, or administrative costs that may be required as a result of the Patient Protection and Affordable Care Act of 2010, related legislation, or regulations.

To the best of our knowledge, this actuarial valuation report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This actuarial valuation report was prepared exclusively for the City of Oakland for the purpose described herein. Other users of this valuation report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Sincerely,
Cheiron, Inc.

Margaret Tempkin, FSA, EA, MAAA
Principal Consulting Actuary

Alison M. Chafin, ASA, EA, MAAA
Associate Actuary

Michael Schionning, FSA, FCA, MAAA
Principal Consulting Actuary

## TOTAL – SECTION I – SUMMARY

The City of Oakland, California engaged Cheiron to provide an analysis of the Employees' Postretirement Health Insurance Plan's liabilities as of July 1, 2015. The primary purposes of performing this actuarial valuation are to:

- **Determine the Annual Required Contribution** (ARC) and the Net Other Postemployment Benefit (OPEB) Obligation (NOO) of the retiree health benefit under GASB Statements 43 and 45 and the current funding strategy;

- **Provide projections** for the actuarial liabilities, the ARC, and the NOO; and

- **Provide sensitivities** for the actuarial liabilities and the ARC by using a 1% increase and a 1% decrease in both healthcare trend and discount rates; and

- **Provide disclosures** for financial statements.

We have determined costs, liabilities and trends for the substantive Plan using actuarial assumptions and methods that we consider reasonable.

### *GASB's OPEB Requirements*

GASB's Statement 43 refers to the financial reporting for postemployment benefit plans other than pension plans and Statement 45 refers to the employer accounting for these plans. Statement 43 is generally applicable where an entity has a separate trust or fund for OPEB benefits. We understand that the City has a trust used to fund future OPEB obligations. Statement 45, which was adopted in the fiscal year ending (FYE) June 30, 2008, requires the plan sponsor to book the actuarial cost (net of employee, retiree, and their dependents' contributions) of the plan as an expense on its financial statements and then accrue a liability to the extent actual contributions were less than this expense. Additional disclosures include a description of the substantive plan, summary of significant accounting policies (not included in this report), contributions, and a statement of funding progress, along with the methods and assumptions used for those disclosures.

This report does not reflect any changes in postemployment benefit accounting requirements from GASB No. 74 and 75 Statements for OPEB plans, which will replace GASB No. 43 and 45, respectively. GASB No. 74 is effective for the fiscal year ending June 30, 2017, and GASB 75 is effective for employers' fiscal years ending June 30, 2018. All references and calculations with respect to GASB reflect current Statements No. 43 and 45.

**TOTAL – SECTION I – SUMMARY**

## *Funding Policy*

The City's funding policy is to partially pre-fund the actuarially determined Other Postemployment Benefits (OPEB) costs, which include both normal costs and amortization of unfunded actuarial liability, by contributing to the California Employers' Retiree Benefit Trust (CERBT) sponsored by CalPERS. The CERBT Fund is a Section 115 trust fund dedicated to prefunding Other Postemployment Benefits (OPEB) for all eligible California public agencies. The City expects to contribute $1.1 million to the CERBT annually in addition to the benefit payments for retirees currently with medical coverage.

## *Valuation Results*

The table below presents the key results of the July 1, 2015 valuation compared to those of the last actuarial valuation as of July 1, 2013.

**Table I-1**
**TOTAL**
**Summary of Key Valuation Results**

| | **July 1, 2013** | **July 1, 2015** |
|---|---|---|
| Actuarial Liability (AL) | $ 463,850,944 | $ 862,891,642 |
| Assets | 0 | 2,901,346 |
| Unfunded Actuarial Liability (UAL) | $ 463,850,944 | $ 859,990,296 |
| **Fiscal Year Ending** | **June 30, 2014** | **June 30, 2016** |
| Annual Required Contribution | $ 39,418,149 | $ 74,094,179 |
| Actual / *Expected* Contribution | $ 20,632,950 | *$ 25,359,800* |
| Expected Net Explicit Benefit Payments | $ 18,173,363 | $ 19,494,447 |
| Expected Net Implicit Benefit Payments | N/A | 4,765,353 |
| Expected Net Total Benefit Payments | $ 18,173,363 | $ 24,259,800 |
| Actual / *Expected* Net OPEB Obligation at End of Fiscal Year | $ 235,094,820 | *$ 305,024,063* |
| Discount Rate | 5.59% | 4.00% |

This report reflects claims, premiums and expenses determined as of July 1, 2015. There have been no significant changes in experience, population or plan design since the last valuation. However, there were changes in assumptions since the prior valuation which had an effect on the costs of the Plan.

## TOTAL – SECTION I – SUMMARY

Additionally, an implicit subsidy was first valued for this actuarial valuation. An implicit subsidy measures the actual cost per participant against the charged cost, or premium. Until recently, an implicit subsidy was assumed to not exist for community rated plans. However, Actuarial Standard of Practice (ASOP) No. 6 modified this assumption, making it necessary to value an implied subsidy cost for these plans effective for actuarial valuations on or after March 31, 2015. Since the City of Oakland participates in the Public Employees' Medical and Hospital Care Act (PEMHCA) plans, which are considered community rated plans, the City has not needed to value an implied subsidy cost until this actuarial valuation.

The Annual Required Contribution (ARC) for the fiscal year ending June 30, 2016 increased by $34.2 million over the expected ARC due to the following: $0.7 million due to the covered population, $14.8 million due to a change in the discount rate to align with the City's contribution practices, $15.0 million due to recognizing the implicit subsidy, $2.0 million due to changes in future expected decrements, and $1.7 million due to changes in anticipated health care costs and their increases.

The Unfunded Actuarial Liability (UAL) increased by approximately $352 million over the expected UAL. More detail on the causes of this change can be found in the valuation results section of this report.

The figures provided in this report are highly sensitive to the assumptions used.

## TOTAL – SECTION II – ASSETS

The Plan's preceding valuation of liabilities was performed as of July 1, 2013. Table II-1 below shows the reconciliation of assets for the fiscal year ending July 1, 2015 that were used to develop the FYE 2016 ARC. The market value of assets returned -0.2% during the year. Benefit payments are net of the retiree premiums payable for coverage. The City is expected to contribute $1.1 million to the CERBT on an annual basis.

**Table II-1**
**TOTAL**
**Reconciliation of Assets**

| | | |
|---|---|---|
| **Valuation Assets as of July 1, 2013** | **$** | **0** |
| Contributions - to CERBT | | 2,240,687 |
| Contributions - net benefit payments | | 19,706,992 |
| Net Benefit Payments | | (19,706,992) |
| Net Investment Earnings | | 0 |
| **Valuation Assets as of July 1, 2014** | **$** | **2,240,687** |
| Contributions - to CERBT | | 665,616 |
| Contributions - net benefit payments | | 19,092,377 |
| Net Benefit Payments | | (19,092,377) |
| Net Investment Earnings | | (4,957) |
| **Valuation Assets as of July 1, 2015** | **$** | **2,901,346** |

## TOTAL – SECTION III – VALUATION RESULTS

This section of the report calculates the current and expected future contribution requirements under the City's funding policy. Table III-1 below shows the actuarial liabilities for the Plan as of July 1, 2013 and July 1, 2015, as well as expected amounts as of July 1, 2016. The expected results were calculated using standard roll-forward techniques. Asset projections were calculated based on an assumed 7.28% rate of return and assuming expected benefits along with an additional $1.1 million contribution to the CERBT will be paid in the year ending June 30, 2016.

**Table III-1**
**TOTAL**
**Unfunded Actuarial Liability**

| | July 1, 2013 | July 1, 2015 | *Projected to July 1, 2016* |
|---|---|---|---|
| **Present Value of Future Benefits** | | | |
| Active Employees | $ 382,245,466 | $ 857,153,483 | $ 891,439,622 |
| Retirees and Beneficiaries | 234,384,750 | 444,754,469 | 437,804,410 |
| Total | $ 616,630,216 | $ 1,301,907,952 | $ 1,329,244,032 |
| **Actuarial Liability** | | | |
| Active Employees | $ 229,466,194 | $ 418,137,173 | $ 472,442,335 |
| Retirees and Beneficiaries | 234,384,750 | 444,754,469 | 437,804,410 |
| Total | $ 463,850,944 | $ 862,891,642 | $ 910,246,745 |
| Assets | 0 | 2,901,346 | 4,212,564 |
| **Unfunded Actuarial Liability (UAL)** | **$ 463,850,944** | **$ 859,990,296** | **$ 906,034,180** |
| Funded Ratio | 0% | 0% | 0% |
| Covered Payroll | $ 322,169,793 | $ 360,857,850 | $ 369,879,296 |
| UAL as percentage of Covered Payroll | 144% | 238% | 245% |

Please note, however, that GASB only requires disclosure of the above actuarial liability in the notes to financial statements and does not require immediate recognition of the entire liability on the balance sheet. GASB's requirement is to book the Annual OPEB Cost (the ARC adjusted for the difference between the amortization of the NOO and interest on the NOO), and the cumulative difference between the Annual OPEB Cost and actual contributions, beginning in the FYE June 30, 2008, as the NOO on the balance sheet.

The ARC consists of two parts: (1) the *normal cost*, which represents the annual cost attributable to service earned in a given year and (2) the 30-year open amortization of the UAL as a level percentage of payroll. Under the City's current funding policy, the City intends to contribute $1.1 million to the CERBT and pay benefit payments outside of the CERBT. The difference between the actual contributions made (benefits provided plus additional contributions to the CERBT) and the Annual OPEB Cost is the increase in expense on the financial statements of the City.

## TOTAL – SECTION III – VALUATION RESULTS

In Table III-2 below, we show the FYE 2014, FYE 2016, and the expected FYE 2017 Annual Required Contribution under the City's funding policy. The assumed discount rate was 5.59% for the fiscal year end 2014 and 4.0% for the fiscal year end 2016 and 2017. It is assumed the City's funding policy is to pay $1.1 million to the CERBT annually in addition to benefits paid outside of the CERBT. The UAL amortization is based on an open 30-year amortization period.

**Table III-2**
**TOTAL**
**GASB ARC**

| Fiscal Year Ending | June 30, 2014 | June 30, 2016 | *Projected to* *June 30, 2017* |
|---|---|---|---|
| Normal Cost at beginning of year * | $ 15,344,307 | $ 36,134,303 | $ 37,760,347 |
| UAL Amortization at beginning of year * | 23,016,243 | 35,110,100 | 36,989,895 |
| Interest to end of year | 1,057,599 | 2,849,776 | 2,990,010 |
| **Total ARC** | **$ 39,418,149** | **$ 74,094,179** | **$ 77,740,251** |

* *June 30, 2014 Normal Cost and UAL Amortization are as of the middle of the year.*

Table III-3 shows the expected benefit payments through the fiscal year ending June 30, 2025. In calculating the liabilities, we project these figures for the life of each existing participant. This projects the anticipated eligible retirees and the change in both claims and premiums. These benefit payments include the explicit and implicit benefit payments and exclude payments made by retirees towards their premiums.

**Table III-3**
**TOTAL**

| Fiscal Year Ending June 30, | Expected Net Implicit Benefit Payments | Expected Net Explicit Benefit Payments | Expected Net ACA Benefit Payments | Total Expected Net Benefit Payments |
|---|---|---|---|---|
| 2016 | $ 4,765,353 | $ 19,494,447 | $ - | **$ 24,259,800** |
| 2017 | 5,167,430 | 21,180,358 | - | **26,347,788** |
| 2018 | 5,449,511 | 22,843,678 | - | **28,293,189** |
| 2019 | 6,077,553 | 24,769,853 | - | **30,847,406** |
| 2020 | 6,515,318 | 26,633,548 | - | **33,148,866** |
| 2021 | 7,185,599 | 28,624,593 | 190,690 | **36,000,883** |
| 2022 | 7,629,120 | 30,599,983 | 250,506 | **38,479,609** |
| 2023 | 8,434,676 | 32,806,329 | 321,222 | **41,562,227** |
| 2024 | 9,454,606 | 35,169,725 | 405,866 | **45,030,197** |
| 2025 | 10,209,213 | 37,552,108 | 477,859 | **48,239,180** |

## *Reconciliation*

Table III-4 provides an estimate of the major factors contributing to the change in liability since the last actuarial valuation.

**Table III-4**
**TOTAL**
**Reconciliation of Actuarial Liability**

| | | |
|---|---|---|
| Actuarial Liability at July 1, 2013 | $ | 463,850,944 |
| Normal Cost at middle of year | | 15,344,307 |
| Expected Benefit Payments paid throughout the year | | (18,173,363) |
| Interest | | 25,851,271 |
| Expected Actuarial Liability at July 1, 2014 | $ | 486,873,159 |
| Normal Cost at middle of year | | 16,111,522 |
| Expected Benefit Payments paid throughout the year | | (19,276,068) |
| Interest | | 27,128,963 |
| Expected Actuarial Liability at July 1, 2015 | $ | 510,837,576 |
| Actuarial Liability at July 1, 2015 | | 862,891,642 |
| Gain or (Loss) | $ | (352,054,066) |
| | | |
| Gain or (Loss) due to: | | |
| Census changes | $ | (2,916,285) |
| Change in discount rate | | (116,190,426) |
| Change due to implicit subsidy | | (164,303,530) |
| Change in demographic assumptions | | (38,866,759) |
| Change in claims and trend assumptions | | (29,777,066) |
| Total changes | $ | (352,054,066) |

Below is a brief description of each of the above components:

- *Expected Values* refer to the change that would have occurred had experience matched all the assumptions between July 1, 2013 and July 1, 2015.
- *Census Changes* refer to the impact of population changes between July 1, 2013 and July 1, 2015.
- *Change in Discount Rate* refers to the impact that a change in discount rate had on the liability between July 1, 2013 and July 1, 2015. The discount rate was lowered from 5.59% to 4.0%, reflecting the actual amount of payments made to the CERBT in addition to benefits paid.
- *Change due to implicit subsidy* refers to the change in method for valuing "true" cost of providing retiree medical coverage. The true cost of coverage for retirees age 55-64 is greater than the cost of the same coverage for the typical group of active employees. Employers who

## TOTAL – SECTION III – VALUATION RESULTS

treat the cost as being the same often are providing implicit subsidies for retirees. The cost difference, implicit subsidy, is equal to the "true" cost of providing retiree medical coverage minus the average active/retiree cost (i.e. the premium charged). Until recently, an implicit subsidy was assumed to not exist for community rated plans. However, Actuarial Standard of Practice (ASOP) No. 6 modified this assumption, making it necessary to value an implied subsidy cost for these plans effective for actuarial valuations on or after March 31, 2015. Since the City of Oakland participates in the Public Employees' Medical and Hospital Care Act (PEMHCA) plans, which are considered community rated plans, the City has not needed to value an implied subsidy cost until this actuarial valuation.

- *Change in Demographic Assumptions* refers to the change in the rates of retirement, withdrawal, disability retirement, and mortality. These assumptions are used for participants in CalPERS, and are based on the most recent CalPERS Experience Study completed January 2014 and approved by the CalPERS Board in February 2014.
- *Change in Claims and Trend Assumptions* refers to the change in expected current and future healthcare claims and expense costs.

## TOTAL – SECTION IV – SENSITIVITY

The liabilities and ARC produced in this report are sensitive to the assumptions used. The tables below show the impact of a 1% increase or decrease in the healthcare trend rates on the GASB actuarial liability and the ARC to provide some measure of sensitivity.

**Table IV-1**
**TOTAL**
**Sensitivity to Health Care Trend Rates - Unfunded Actuarial Liability**

| Health Care Trend Rate | -1% | Base | +1% |
|---|---|---|---|
| **Actuarial Liability** | | | |
| Active Employees | $ 350,847,251 | $ 418,137,173 | $ 505,580,760 |
| Retirees and Beneficiaries | 399,362,707 | 444,754,469 | 499,385,254 |
| Total | $ 750,209,958 | $ 862,891,642 | $ 1,004,966,014 |
| Assets | 2,901,346 | 2,901,346 | 2,901,346 |
| **Unfunded Actuarial Liability** | **$ 747,308,612** | **$ 859,990,296** | **$ 1,002,064,668** |

**Table IV-2**
**TOTAL**
**Sensitivity to Health Care Trend Rates - GASB ARC for FYE 2016**

| Health Care Trend Rate | -1% | Base | +1% |
|---|---|---|---|
| Total Normal Cost at beginning of year | $ 29,453,591 | $ 36,134,303 | $ 45,110,763 |
| UAL Amortization at beginning of year | 30,509,740 | 35,110,100 | 40,910,451 |
| Interest to End of Year | 2,398,533 | 2,849,776 | 3,440,849 |
| **Total ARC** | **$ 62,361,864** | **$ 74,094,179** | **$ 89,462,063** |

## TOTAL – SECTION IV – SENSITIVITY

The tables below show the impact of a 1% increase or decrease in the discount rates on the GASB actuarial liability and the ARC to provide some measure of sensitivity.

**Table IV-3**
**TOTAL**
**Sensitivity to Discount Rates - Unfunded Actuarial Liability**

| Discount Rate | 3.00% | 4.00% | 5.00% |
|---|---|---|---|
| **Actuarial Liability** | | | |
| Active Employees | $ 502,938,154 | $ 418,137,173 | $ 351,503,298 |
| Retirees and Beneficiaries | 509,040,489 | 444,754,469 | 392,910,235 |
| Total | $ 1,011,978,643 | $ 862,891,642 | $ 744,413,533 |
| Assets | 2,901,346 | 2,901,346 | 2,901,346 |
| **Unfunded Actuarial Liability** | **$ 1,009,077,297** | **$ 859,990,296** | **$ 741,512,187** |

**Table IV-4**
**TOTAL**
**Sensitivity to Discount Rates - GASB ARC for FYE 2016**

| Discount Rate | 3.00% | 4.00% | 5.00% |
|---|---|---|---|
| Total Normal Cost at beginning of year | $ 46,861,867 | $ 36,134,303 | $ 28,188,501 |
| UAL Amortization at beginning of year | 36,062,946 | 35,110,100 | 34,303,699 |
| Interest to End of Year | 3,316,993 | 2,849,776 | 2,499,688 |
| **Total ARC** | **$ 86,241,806** | **$ 74,094,179** | **$ 64,991,888** |

## TOTAL – SECTION V – ACCOUNTING DISCLOSURES

**Statements No. 43 and 45 of the Governmental Accounting Standards Board (GASB)** established standards for accounting and financial reporting of Other Postemployment Benefit (OPEB) information by governmental employers and plans. In accordance with those statements, we have prepared the following disclosures.

### *Net OPEB Obligation*

The table below shows the development of the Net OPEB Obligation (NOO) for the fiscal years ending June 30, 2014 and June 30, 2015 and projects the Net OPEB Obligation for the fiscal year ending June 30, 2016.

**Table V-1**
**TOTAL**
**Development of Net OPEB Obligation**

| Fiscal Year Ending | June 30, 2014 | June 30, 2015 | June 30, 2016 |
|---|---|---|---|
| 1. Discount rate | 5.59% | 5.59% | 4.00% |
| 2. Net OPEB Obligation (NOO) at beginning of fiscal year | $ 215,252,287 | $ 235,094,820 | $ 256,921,507 |
| 3. Annual Required Contribution (ARC) | $ 39,418,149 | $ 39,418,149 | $ 74,094,179 |
| 4. Interest on NOO at discount rate to end of fiscal year | 12,032,603 | 13,141,800 | 10,276,860 |
| 5. Adjustment to the ARC | 10,975,269 | 10,975,269 | 10,908,683 |
| 6. Annual OPEB Cost (3) + (4) - (5) | $ 40,475,483 | $ 41,584,680 | $ 73,462,356 |
| 7. Net employer contribution | | | |
| Contributions to CERBT | $ 2,240,687 | $ 665,616 | *$ 1,100,000* |
| Net Benefit Payments | 18,392,263 | 19,092,377 | *24,259,800* |
| Total | $ 20,632,950 | $ 19,757,993 | *$ 25,359,800* |
| 8. Change in Net OPEB Obligation (6) - (7) | $ 19,842,533 | $ 21,826,687 | *$ 48,102,557* |
| **9. Net OPEB Obligation at end of fiscal year (2) + (8)** | **$ 235,094,820** | **$ 256,921,507** | ***$ 305,024,063*** |

** June 30, 2014 results are from prior actuary, while June 30, 2015 results are from the City's June 30, 2015 CAFR.*

The Net OPEB Obligation (NOO) at June 30, 2015 was provided in the City's June 30, 2015 Comprehensive Annual Financial Report. The Annual Required Contribution for the fiscal year ending June 30, 2016 is based on the July 1, 2015 valuation. The interest on Net OPEB Obligation is calculated using the assumed discount rate as shown in the table. The adjustment to the ARC is an open 30-year level percent of payroll amortization of the NOO. The employer contributions were provided by the City for the fiscal year ending June 30, 2015 and are assumed to equal the explicit benefit payments, the estimated implicit subsidy and the actual contribution to the CERBT in fiscal year ending June 30, 2016.

## TOTAL – SECTION V – ACCOUNTING DISCLOSURES

### *Schedule of Funding Progress*

The schedule of funding progress compares the assets used for funding purposes to the comparable liabilities to determine how well the Plan is funded and how this status has changed over the past several years. The actuarial liability is compared to the actuarial value of assets to determine the funding ratio. The actuarial liability under GASB is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions.

**Table V-2**
**TOTAL**
**Schedule of Funding Progress ***

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Liability (b) | Unfunded Actuarial Liability (UAL) (b-a) | Funded Ratio (a/b) | Annual Covered Payroll (c) | UAL as Percentage of Covered Payroll ((b-a)/c) |
|---|---|---|---|---|---|---|
| 7/1/2015 | $ 2,901,346 | $ 862,891,642 | $ 859,990,296 | 0% | $ 360,857,850 | 238.3% |
| 7/1/2013 | 0 | 463,850,944 | 463,850,944 | 0% | 322,169,793 | 144.0% |
| 7/1/2012 | 0 | 553,530,074 | 553,530,074 | 0% | 304,373,447 | 181.9% |
| 7/1/2010 | 0 | 520,882,498 | 520,882,498 | 0% | 310,154,816 | 167.9% |

** Figures prior to July 1, 2015 calculated by prior actuary*

### *Schedule of Employer Contributions*

The schedule of employer contributions shows whether the employer has made contributions that are consistent with the parameters established by GASB for calculating the ARC and the Annual OPEB Cost.

**Table V-3**
**TOTAL**
**Schedule of Employer Contributions ***

| Fiscal Year Ending | Annual OPEB Cost (AOC) | City Contributions | Percentage of AOC Contributed | Net OPEB Obligation |
|---|---|---|---|---|
| 2016 | $ 73,462,356 | *$ 25,359,800* | *35%* | *$ 305,024,063* |
| 2015 | 41,584,680 | 19,757,993 | 48% | 256,921,507 |
| 2014 | 40,475,483 | 20,632,950 | 51% | 235,094,820 |
| 2013 | 46,291,501 | 17,622,496 | 38% | 215,252,287 |
| 2012 | 46,400,740 | 16,795,999 | 36% | 186,583,282 |

** Figures prior to FYE June 30, 2016 calculated by the prior actuary.*

## TOTAL – SECTION V – ACCOUNTING DISCLOSURES

We have also provided a *Note to Required Supplementary Information* for the financial statements in Table V-4.

**Table V-4**
**TOTAL**
**NOTE TO REQUIRED SUPPLEMENTARY INFORMATION**

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

| | |
|---|---|
| Valuation Date | July 1, 2015 |
| Actuarial Cost Method | Entry Age Normal |
| Amortization Method | Level Percentage of Pay, Open Period |
| Remaining Amortization Period | 30 years |
| Asset Valuation Method | Market Value |
| Actuarial Assumptions: | |
| Blended Discount Rate | 4.00% |
| Investment Rate of Return | 7.28% |
| Expected Return on City Assets | 3.80% |
| Rate of Salary Increases used for amortization of the UAL | 2.50% |
| Ultimate Rate of Medical Inflation | 4.50% |
| Years to Ultimate Rate of Medical Inflation | 20 years |
| Inflation | 2.50% |

**POLICE – SECTION I – SUMMARY**

## *Funding Policy*

The City's funding policy is to partially pre-fund the actuarially determined Other Postemployment Benefits (OPEB) costs, which include both normal costs and amortization of unfunded actuarial liability, by contributing to the California Employers' Retiree Benefit Trust (CERBT) sponsored by CalPERS. The CERBT Fund is a Section 115 trust fund dedicated to prefunding Other Postemployment Benefits (OPEB) for all eligible California public agencies. The City expects to contribute $0.4 million to the CERBT annually in addition to the benefit payments for retirees currently with medical coverage.

## *Valuation Results*

The table below presents the key results of the July 1, 2015 valuation compared to those of the last actuarial valuation as of July 1, 2013.

**Table I-1**
**POLICE**
**Summary of Key Valuation Results**

| | **July 1, 2013** | **July 1, 2015** |
|---|---|---|
| Actuarial Liability (AL) | $ 191,685,144 | $ 366,025,819 |
| Assets | 0 | 1,163,070 |
| Unfunded Actuarial Liability (UAL) | $ 191,685,144 | $ 364,862,749 |
| **Fiscal Year Ending** | **June 30, 2014** | **June 30, 2016** |
| Annual Required Contribution | $ 17,272,137 | $ 33,262,412 |
| Actual / *Expected* Contribution | $ 7,626,776 | *$ 9,524,739* |
| Expected Net Explicit Benefit Payments | $ 6,529,820 | $ 8,038,029 |
| Expected Net Implicit Benefit Payments | N/A | 1,086,710 |
| Expected Net Total Benefit Payments | $ 6,529,820 | $ 9,124,739 |
| Actual / *Expected* Net OPEB Obligation at End of Fiscal Year | $ 99,475,455 | *$ 133,357,092* |
| Discount Rate | 5.59% | 4.00% |

This report reflects claims, premiums and expenses determined as of July 1, 2015. There have been no significant changes in experience, population or plan design since the last valuation. However, there were changes in assumptions since the prior valuation which had an effect on the costs of the Plan.

Additionally, an implicit subsidy was first valued for this actuarial valuation. An implicit subsidy measures the actual cost per participant against the charged cost, or premium. Until recently, an implicit subsidy was assumed to not exist for community rated plans. However, Actuarial Standard of Practice (ASOP) No. 6 modified this assumption, making it necessary to value an implied subsidy cost for these plans effective for actuarial valuations on or after March 31, 2015. Since the City of Oakland participates in the Public Employees' Medical and Hospital Care Act (PEMHCA) plans, which are considered community rated plans, the City has not needed to value an implied subsidy cost until this actuarial valuation.

## POLICE – SECTION I – SUMMARY

The Annual Required Contribution (ARC) for the fiscal year ending June 30, 2016 increased by $15.6 million over the expected ARC due to the following: $1.4 million due to the covered population, $6.8 million due to a change in the discount rate to align with the City's contribution practices, $5.9 million due to recognizing the implicit subsidy, $0.8 million due to changes in future expected decrements, and $0.7 million due to changes in anticipated health care costs and their increases.

The Unfunded Actuarial Liability (UAL) increased by approximately $151 million over the expected UAL. More detail on the causes of this change can be found in the valuation results section of this report.

The figures provided in this report are highly sensitive to the assumptions used.

## POLICE – SECTION II – ASSETS

The Plan's preceding valuation of liabilities was performed as of July 1, 2013. Table II-1 below shows the reconciliation of assets for the fiscal year ending July 1, 2015 that were used to develop the FYE 2016 ARC. Assets were allocated based on the percentage of the Actuarial Liability associated with the Police members. The market value of assets returned -0.2% during the year. Benefit payments are net of the retiree premiums payable for coverage. The City is expected to contribute $0.4 million to the CERBT on an annual basis.

**Table II-1**
**POLICE**
**Reconciliation of Assets**

| | | |
|---|---|---|
| **Valuation Assets as of July 1, 2013** | **$** | **0** |
| Contributions - to CERBT | | 925,958 |
| Contributions - net benefit payments | | 6,700,818 |
| Net Benefit Payments | | (6,700,818) |
| Net Investment Earnings | | 0 |
| **Valuation Assets as of July 1, 2014** | **$** | **925,958** |
| Contributions - to CERBT | | 239,161 |
| Contributions - net benefit payments | | 7,621,587 |
| Net Benefit Payments | | (7,621,587) |
| Net Investment Earnings | | (2,048) |
| **Valuation Assets as of July 1, 2015** | **$** | **1,163,070** |

## POLICE – SECTION III – VALUATION RESULTS

This section of the report calculates the current and expected future contribution requirements under the City's funding policy. Table III-1 below shows the actuarial liabilities for the Plan as of July 1, 2013 and July 1, 2015, as well as expected amounts as of July 1, 2016. The expected results were calculated using standard roll-forward techniques. Asset projections were calculated based on an assumed 7.28% rate of return and assuming the expected benefits along with an additional $0.4 million contribution to the CERBT will be paid in the year ending June 30, 2016.

**Table III-1**
**POLICE**
**Unfunded Actuarial Liability Police**

| | July 1, 2013 | July 1, 2015 | *Projected to July 1, 2016* |
|---|---|---|---|
| **Present Value of Future Benefits** | | | |
| Active Employees | $ 170,795,309 | $ 395,694,114 | $ 411,521,879 |
| Retirees and Beneficiaries | 101,690,365 | 210,994,409 | 210,128,741 |
| Total | $ 272,485,674 | $ 606,688,523 | $ 621,650,620 |
| **Actuarial Liability** | | | |
| Active Employees | $ 89,994,779 | $ 155,031,410 | $ 179,003,296 |
| Retirees and Beneficiaries | 101,690,365 | 210,994,409 | 210,128,741 |
| Total | $ 191,685,144 | $ 366,025,819 | $ 389,132,037 |
| Assets | 0 | 1,163,070 | 1,647,742 |
| **Unfunded Actuarial Liability (UAL)** | **$ 191,685,144** | **$ 364,862,749** | **$ 387,484,296** |
| Funded Ratio | 0% | 0% | 0% |
| Covered Payroll | $ 100,628,250 | $ 114,085,254 | $ 116,937,385 |
| UAL as percentage of Covered Payroll | 190% | 320% | 331% |

Please note, however, that GASB only requires disclosure of the above actuarial liability in the notes to financial statements and does not require immediate recognition of the entire liability on the balance sheet. GASB's requirement is to book the Annual OPEB Cost (the ARC adjusted for the difference between the amortization of the NOO and interest on the NOO), and the cumulative difference between the Annual OPEB Cost and actual contributions, beginning in the FYE June 30, 2008, as the NOO on the balance sheet.

The ARC consists of two parts: (1) the *normal cost*, which represents the annual cost attributable to service earned in a given year and (2) the 30-year open amortization of the UAL as a level percentage of payroll. Under the City's current funding policy, the City intends to contribute $0.4 million to the CERBT and pay benefit payments outside of the CERBT. The difference between the actual contributions made (benefits provided plus additional contributions to the CERBT) and the Annual OPEB Cost is the increase in expense on the financial statements of the City.

## POLICE – SECTION III – VALUATION RESULTS

In Table III-2 below, we show the FYE 2014, FYE 2016, and the expected FYE 2017 Annual Required Contribution under the City's funding policy. The assumed discount rate was 5.59% for the fiscal year end 2014 and 4.0% for the fiscal year end 2016 and 2017. It is assumed the City's funding policy is to pay $0.4 million to the CERBT annually in addition to benefits paid outside of the CERBT. The UAL amortization is based on an open 30-year amortization period.

**Table III-2**
**POLICE**
**GASB ARC**

| **Fiscal Year Ending** | **June 30, 2014** | **June 30, 2016** | ***Projected to June 30, 2017*** |
|---|---|---|---|
| Normal Cost at beginning of year * | $ 7,297,321 | $ 17,087,144 | $ 17,856,065 |
| UAL Amortization at beginning of year * | 9,511,400 | 14,895,944 | 15,819,495 |
| Interest to end of year | 463,416 | 1,279,324 | 1,347,022 |
| **Total ARC** | **$ 17,272,137** | **$ 33,262,412** | **$ 35,022,583** |

** June 30, 2014 Normal Cost and UAL Amortization are as of the middle of the year.*

Table III-3 shows the expected benefit payments and retiree contributions through the fiscal year ending June 30, 2025. In calculating the liabilities, we project these figures for the life of each existing participant. This projects the anticipated eligible retirees and the change in both claims and premiums. These benefit payments include the explicit and implicit benefit payments and exclude payments made by retirees towards their premiums.

**Table III-3**
**POLICE**

| **Fiscal Year Ending June 30,** | **Expected Net Implicit Benefit Payments** | **Expected Net Explicit Benefit Payments** | **Expected Net ACA Benefit Payments** | **Total Expected Net Benefit Payments** |
|---|---|---|---|---|
| 2016 | $ 1,086,710 | $ 8,038,029 | $ - | **$ 9,124,739** |
| 2017 | 1,206,300 | 8,665,767 | - | **9,872,067** |
| 2018 | 1,297,110 | 9,298,876 | - | **10,595,986** |
| 2019 | 1,486,446 | 10,009,252 | - | **11,495,698** |
| 2020 | 1,591,218 | 10,705,781 | - | **12,297,000** |
| 2021 | 1,861,044 | 11,522,940 | 93,951 | **13,477,935** |
| 2022 | 2,219,522 | 12,392,536 | 125,082 | **14,737,140** |
| 2023 | 2,563,070 | 13,273,386 | 154,506 | **15,990,963** |
| 2024 | 3,070,097 | 14,282,770 | 196,828 | **17,549,695** |
| 2025 | 3,557,954 | 15,310,809 | 233,737 | **19,102,500** |

**POLICE – SECTION III – VALUATION RESULTS**

## *Reconciliation*

Table III-4 provides an estimate of the major factors contributing to the change in liability since the last actuarial valuation.

**Table III-4**
**POLICE**
**Reconciliation of Actuarial Liability**

| | |
|---|---|
| Actuarial Liability at July 1, 2013 | $ 191,685,144 |
| Normal Cost at middle of year | 7,297,321 |
| Expected Benefit Payments paid throughout the year | (6,529,820) |
| Interest | 10,736,360 |
| Expected Actuarial Liability at July 1, 2014 | $ 203,189,005 |
| Normal Cost at middle of year | 7,662,187 |
| Expected Benefit Payments paid throughout the year | (6,893,949) |
| Interest | 11,379,446 |
| Expected Actuarial Liability at July 1, 2015 | $ 215,336,688 |
| Actuarial Liability at July 1, 2015 | 366,025,819 |
| Gain or (Loss) | $ (150,689,131) |
| | |
| Gain or (Loss) due to: | |
| Census changes | $ (3,501,830) |
| Change in discount rate | (50,654,836) |
| Change due to implicit subsidy | (62,805,104) |
| Change in demographic assumptions | (20,767,169) |
| Change in claims and trend assumptions | (12,960,192) |
| Total changes | $ (150,689,131) |

Below is a brief description of each of the above components:

- *Expected Values* refer to the change that would have occurred had experience matched all the assumptions between July 1, 2013 and July 1, 2015.
- *Census Changes* refer to the impact of population changes between July 1, 2013 and July 1, 2015.
- *Change in Discount Rate* refers to the impact that a change in discount rate had on the liability between July 1, 2013 and July 1, 2015. The discount rate was lowered from 5.59% to 4.0%, reflecting the actual amount of payments made to the CERBT in addition to benefits paid.
- *Change due to implicit subsidy* refers to the change in method for valuing "true" cost of providing retiree medical coverage. The true cost of coverage for retirees age 55-64 is greater than the cost of the same coverage for the typical group of active employees. Employers who

## POLICE – SECTION III – VALUATION RESULTS

treat the cost as being the same often are providing implicit subsidies for retirees. The cost difference, implicit subsidy, is equal to the "true" cost of providing retiree medical coverage minus the average active/retiree cost (i.e. the premium charged). Until recently, an implicit subsidy was assumed to not exist for community rated plans. However, Actuarial Standard of Practice (ASOP) No. 6 modified this assumption, making it necessary to value an implied subsidy cost for these plans effective for actuarial valuations on or after March 31, 2015. Since the City of Oakland participates in the Public Employees' Medical and Hospital Care Act (PEMHCA) plans, which are considered community rated plans, the City has not needed to value an implied subsidy cost until this actuarial valuation.

- *Change in Demographic Assumptions* refers to the change in the rates of retirement, withdrawal, disability retirement, and mortality. These assumptions are used for participants in CalPERS, and are based on the most recent CalPERS Experience Study completed January 2014 and approved by the CalPERS Board in February 2014.
- *Change in Claims and Trend Assumptions* refers to the change in expected current and future healthcare claims and expense costs.

## POLICE – SECTION IV – SENSITIVITY

The liabilities and ARC produced in this report are sensitive to the assumptions used. The tables below show the impact of a 1% increase or decrease in the healthcare trend rates on the GASB actuarial liability and the ARC to provide some measure of sensitivity.

**Table IV-1**
**POLICE**
**Sensitivity to Health Care Trend Rates - Unfunded Actuarial Liability**

| Health Care Trend Rate | -1% | Base | +1% |
|---|---|---|---|
| **Actuarial Liability** | | | |
| Active Employees | $ 124,522,745 | $ 155,031,410 | $ 195,216,857 |
| Retirees and Beneficiaries | 185,463,740 | 210,994,409 | 242,513,990 |
| Total | $ 309,986,485 | $ 366,025,819 | $ 437,730,847 |
| Assets | 1,163,070 | 1,163,070 | 1,163,070 |
| **Unfunded Actuarial Liability** | **$ 308,823,415** | **$ 364,862,749** | **$ 436,567,777** |

**Table IV-2**
**POLICE**
**Sensitivity to Health Care Trend Rates - GASB ARC for FYE 2016**

| Health Care Trend Rate | -1% | Base | +1% |
|---|---|---|---|
| Total Normal Cost at beginning of year | $ 13,346,373 | $ 17,087,144 | $ 22,183,409 |
| UAL Amortization at beginning of year | 12,608,074 | 14,895,944 | 17,823,385 |
| Interest to End of Year | 1,038,178 | 1,279,324 | 1,600,272 |
| **Total ARC** | **$ 26,992,625** | **$ 33,262,412** | **$ 41,607,066** |

## POLICE – SECTION IV – SENSITIVITY

The tables below show the impact of a 1% increase or decrease in the discount rates on the GASB actuarial liability and the ARC to provide some measure of sensitivity.

**Table IV-3**
**POLICE**
**Sensitivity to Discount Rates - Unfunded Actuarial Liability**

| Discount Rate | 3.00% | 4.00% | 5.00% |
|---|---|---|---|
| **Actuarial Liability** | | | |
| Active Employees | $ 189,237,914 | $ 155,031,410 | $ 128,465,817 |
| Retirees and Beneficiaries | 245,008,745 | 210,994,409 | 184,092,280 |
| Total | $ 434,246,659 | $ 366,025,819 | $ 312,558,097 |
| Assets | 1,163,070 | 1,163,070 | 1,163,070 |
| **Unfunded Actuarial Liability** | **$ 433,083,589** | **$ 364,862,749** | **$ 311,395,027** |

**Table IV-4**
**POLICE**
**Sensitivity to Discount Rates - GASB ARC for FYE 2016**

| Discount Rate | 3.00% | 4.00% | 5.00% |
|---|---|---|---|
| Total Normal Cost at beginning of year | $ 22,343,863 | $ 17,087,144 | $ 13,226,213 |
| UAL Amortization at beginning of year | 15,477,774 | 14,895,944 | 14,405,699 |
| Interest to End of Year | 1,512,865 | 1,279,324 | 1,105,276 |
| **Total ARC** | **$ 39,334,502** | **$ 33,262,412** | **$ 28,737,188** |

## POLICE – SECTION V – ACCOUNTING DISCLOSURES

**Statements No. 43 and 45 of the Governmental Accounting Standards Board (GASB)** established standards for accounting and financial reporting of Other Postemployment Benefit (OPEB) information by governmental employers and plans. In accordance with those statements, we have prepared the following disclosures.

### *Net OPEB Obligation*

The table below shows the development of the Net OPEB Obligation (NOO) for the fiscal years ending June 30, 2014 and June 30, 2015 and projects the Net OPEB Obligation for the fiscal year ending June 30, 2016.

**Table V-1**
**POLICE**
**Development of Net OPEB Obligation**

| Fiscal Year Ending | June 30, 2014 | June 30, 2015 | June 30, 2016 |
|---|---|---|---|
| 1. Discount rate | 5.59% | 5.59% | 4.00% |
| 2. Net OPEB Obligation (NOO) at beginning of fiscal year | $ 89,390,999 | $ 99,475,455 | $ 109,889,660 |
| 3. Annual Required Contribution (ARC) | $ 17,272,137 | $ 17,272,137 | $ 33,262,412 |
| 4. Interest on NOO at discount rate to end of fiscal year | 4,996,957 | 5,560,678 | 4,395,586 |
| 5. Adjustment to the ARC | 4,557,862 | 4,557,862 | 4,665,828 |
| 6. Annual OPEB Cost (3) + (4) - (5) | $ 17,711,232 | $ 18,274,953 | $ 32,992,171 |
| 7. Net employer contribution | | | |
| Contributions to CERBT | $ 925,958 | $ 239,161 | *$ 400,000* |
| Net Benefit Payments | 6,700,818 | 7,621,587 | *9,124,739* |
| Total | $ 7,626,776 | $ 7,860,747 | *$ 9,524,739* |
| 8. Change in Net OPEB Obligation (6) - (7) | $ 10,084,456 | $ 10,414,206 | *$ 23,467,432* |
| **9. Net OPEB Obligation at end of fiscal year (2) + (8)** | **$ 99,475,455** | **$ 109,889,660** | ***$ 133,357,092*** |

** June 30, 2014 results are from prior actuary, while June 30, 2015 results are from the City's June 30, 2015 CAFR.*

The Net OPEB Obligation (NOO) at June 30, 2015 was provided in the City's June 30, 2015 Comprehensive Annual Financial Report. The Annual Required Contribution for the fiscal year ending June 30, 2016 is based on the July 1, 2015 valuation. The interest on Net OPEB Obligation is calculated using the assumed discount rate as shown in the table. The adjustment to the ARC is an open 30-year level percent of payroll amortization of the NOO. The employer contributions were provided by the City for the fiscal year ending June 30, 2015 and are assumed to equal the explicit benefit payments, the estimated implicit subsidy and the actual contribution to the CERBT in fiscal year ending June 30, 2016.

**POLICE – SECTION V – ACCOUNTING DISCLOSURES**

## *Schedule of Funding Progress*

The schedule of funding progress compares the assets used for funding purposes to the comparable liabilities to determine how well the Plan is funded and how this status has changed over the past several years. The actuarial liability is compared to the actuarial value of assets to determine the funding ratio. The actuarial liability under GASB is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions.

**Table V-2**
**POLICE**
**Schedule of Funding Progress ***

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Liability (b) | Unfunded Actuarial Liability (UAL) (b-a) | Funded Ratio (a/b) | Annual Covered Payroll (c) | UAL as Percentage of Covered Payroll ((b-a)/c) |
|---|---|---|---|---|---|---|
| 7/1/2015 | $ 1,163,070 | $ 366,025,819 | $ 364,862,749 | 0% | $ 114,085,254 | 319.8% |
| 7/1/2013 | 0 | 191,685,144 | 191,685,144 | 0% | 100,628,250 | 190.5% |
| 7/1/2012 | 0 | 231,558,435 | 231,558,435 | 0% | 98,703,132 | 234.6% |
| 7/1/2010 | 0 | 210,589,599 | 210,589,599 | 0% | 92,858,584 | 226.8% |

** Figures prior to July 1, 2015 calculated by prior actuary*

## *Schedule of Employer Contributions*

The schedule of employer contributions shows whether the employer has made contributions that are consistent with the parameters established by GASB for calculating the ARC and the Annual OPEB Cost.

**Table V-3**
**POLICE**
**Schedule of Employer Contributions ***

| Fiscal Year Ending | Annual OPEB Cost (AOC) | City Contributions | Percentage of AOC Contributed | Net OPEB Obligation |
|---|---|---|---|---|
| 2016 | $ 32,992,171 | *$ 9,524,739* | *29%* | *$ 133,357,092* |
| 2015 | 18,274,953 | 7,860,747 | 43% | 109,889,660 |
| 2014 | 17,711,232 | 7,626,776 | 43% | 99,475,455 |
| 2013 | 20,618,453 | 6,541,945 | 32% | 89,390,999 |
| 2012 | 20,842,480 | 5,937,459 | 28% | 75,314,491 |

** Figures prior to FYE 6/30/2016 calculated by the prior actuary.*

## POLICE – SECTION V – ACCOUNTING DISCLOSURES

We have also provided a *Note to Required Supplementary Information* for the financial statements in Table V-4.

**Table V-4**
**POLICE**
**NOTE TO REQUIRED SUPPLEMENTARY INFORMATION**

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

| | |
|---|---|
| Valuation Date | July 1, 2015 |
| Actuarial Cost Method | Entry Age Normal |
| Amortization Method | Level Percentage of Pay, Open Period |
| Remaining Amortization Period | 30 years |
| Asset Valuation Method | Market Value |
| Actuarial Assumptions: | |
| Blended Discount Rate | 4.00% |
| Investment Rate of Return | 7.28% |
| Expected Return on City Assets | 3.80% |
| Rate of Salary Increases used for amortization of the UAL | 2.50% |
| Ultimate Rate of Medical Inflation | 4.50% |
| Years to Ultimate Rate of Medical Inflation | 20 years |
| Inflation | 2.50% |

**FIRE – SECTION I – SUMMARY**

## *Funding Policy*

The City's funding policy is to partially pre-fund the actuarially determined Other Postemployment Benefits (OPEB) costs, which include both normal costs and amortization of unfunded actuarial liability, by contributing to the California Employers' Retiree Benefit Trust (CERBT) sponsored by CalPERS. The CERBT Fund is a Section 115 trust fund dedicated to prefunding Other Postemployment Benefits (OPEB) for all eligible California public agencies. The City expects to contribute $0.3 million to the CERBT annually in addition to the benefit payments for retirees currently with medical coverage.

## *Valuation Results*

The table below presents the key results of the July 1, 2015 valuation compared to those of the last actuarial valuation as of July 1, 2013.

**Table I-1**
**FIRE**
**Summary of Key Valuation Results**

| | **July 1, 2013** | **July 1, 2015** |
|---|---|---|
| Actuarial Liability (AL) | $ 124,897,686 | $ 232,600,579 |
| Assets | 0 | 779,594 |
| Unfunded Actuarial Liability (UAL) | $ 124,897,686 | $ 231,820,985 |
| **Fiscal Year Ending** | **June 30, 2014** | **June 30, 2016** |
| Annual Required Contribution | $ 10,795,250 | $ 19,586,655 |
| Actual / *Expected* Contribution | $ 5,116,639 | *$ 7,000,263* |
| Expected Net Explicit Benefit Payments | $ 4,848,908 | $ 5,279,045 |
| Expected Net Implicit Benefit Payments | N/A | 1,421,219 |
| Expected Net Total Benefit Payments | $ 4,848,908 | $ 6,700,263 |
| Actual / *Expected* Net OPEB Obligation at End of Fiscal Year | $ 59,230,449 | *$ 77,760,791* |
| Discount Rate | 5.59% | 4.00% |

This report reflects claims, premiums and expenses determined as of July 1, 2015. There have been no significant changes in experience, population or plan design since the last valuation. However, there were changes in assumptions since the prior valuation which had an effect on the costs of the Plan.

Additionally, an implicit subsidy was first valued for this actuarial valuation. An implicit subsidy measures the actual cost per participant against the charged cost, or premium. Until recently, an implicit subsidy was assumed to not exist for community rated plans. However, Actuarial Standard of Practice (ASOP) No. 6 modified this assumption, making it necessary to value an implied subsidy cost for these plans effective for actuarial valuations on or after March 31, 2015. Since the City of Oakland participates in the Public Employees' Medical and Hospital Care Act (PEMHCA) plans, which are considered community rated plans, the City has not needed to value an implied subsidy cost until this actuarial valuation.

## FIRE – SECTION I – SUMMARY

The Annual Required Contribution (ARC) for the fiscal year ending June 30, 2016 increased by $8.6 million over the expected ARC due to the following: $4.1 million due to a change in the discount rate to align with the City's contribution practices, $3.6 million due to recognizing the implicit subsidy, $0.2 million due to changes in future expected decrements, and $0.7 million due to changes in anticipated healthcare costs and their increases.

The Unfunded Actuarial Liability (UAL) increased by approximately $95 million over the expected UAL. More detail on the causes of this change can be found in the valuation results section of this report.

The figures provided in this report are highly sensitive to the assumptions used.

## FIRE – SECTION II – ASSETS

The Plan's preceding valuation of liabilities was performed as of July 1, 2013. Table II-1 below shows the reconciliation of assets for the fiscal year ending July 1, 2015 that were used to develop the FYE 2016 ARC. Assets were allocated based on the percentage of the Actuarial Liability associated with the Fire members. The market value of assets returned -0.2% during the year. Benefit payments are net of the retiree premiums payable for coverage. The City is expected to contribute $0.3 million to the CERBT on an annual basis.

**Table II-1**
**FIRE**
**Reconciliation of Assets**

| | | |
|---|---|---|
| **Valuation Assets as of July 1, 2013** | **$** | **0** |
| Contributions - to CERBT | | 603,333 |
| Contributions - net benefit payments | | 5,116,639 |
| Net Benefit Payments | | (5,116,639) |
| Net Investment Earnings | | 0 |
| **Valuation Assets as of July 1, 2014** | **$** | **603,333** |
| Contributions - to CERBT | | 177,596 |
| Contributions - net benefit payments | | 5,106,864 |
| Net Benefit Payments | | (5,106,864) |
| Net Investment Earnings | | (1,335) |
| **Valuation Assets as of July 1, 2015** | **$** | **779,594** |

## FIRE – SECTION III – VALUATION RESULTS

This section of the report calculates the current and expected future contribution requirements under the City's funding policy. Table III-1 below shows the actuarial liabilities for the Plan as of July 1, 2013 and July 1, 2015, as well as expected amounts as of July 1, 2016. The expected results were calculated using standard roll-forward techniques. Asset projections were calculated based on an assumed 7.28% rate of return and assuming the expected benefits along with an additional $0.3 million contribution to the CERBT will be paid in the year ending June 30, 2016.

**Table III-1**
**FIRE**
**Unfunded Actuarial Liability Fire**

| | July 1, 2013 | July 1, 2015 | *Projected to July 1, 2016* |
|---|---|---|---|
| **Present Value of Future Benefits** | | | |
| Active Employees | $ 108,587,693 | $ 233,988,105 | $ 243,347,629 |
| Retirees and Beneficiaries | 61,162,692 | 111,209,256 | 108,824,671 |
| Total | $ 169,750,385 | $ 345,197,361 | $ 352,172,301 |
| **Actuarial Liability** | | | |
| Active Employees | $ 63,734,994 | $ 121,391,323 | $ 135,990,696 |
| Retirees and Beneficiaries | 61,162,692 | 111,209,256 | 108,824,671 |
| Total | $ 124,897,686 | $ 232,600,579 | $ 244,815,368 |
| Assets | 0 | 779,594 | 1,136,349 |
| **Unfunded Actuarial Liability (UAL)** | **$ 124,897,686** | **$ 231,820,985** | **$ 243,679,019** |
| Funded Ratio | 0% | 0% | 0% |
| Covered Payroll | $ 61,723,369 | $ 74,501,036 | $ 76,363,562 |
| UAL as percentage of Covered Payroll | 202% | 311% | 319% |

Please note, however, that GASB only requires disclosure of the above actuarial liability in the notes to financial statements and does not require immediate recognition of the entire liability on the balance sheet. GASB's requirement is to book the Annual OPEB Cost (the ARC adjusted for the difference between the amortization of the NOO and interest on the NOO), and the cumulative difference between the Annual OPEB Cost and actual contributions, beginning in the FYE June 30, 2008, as the NOO on the balance sheet.

The ARC consists of two parts: (1) the *normal cost*, which represents the annual cost attributable to service earned in a given year and (2) the 30-year open amortization of the UAL as a level percentage of payroll. Under the City's current funding policy, the City intends to contribute $0.3 million to the CERBT and pay benefit payments outside of the CERBT. The difference between the actual contributions made (benefits provided plus additional contributions to the CERBT) and the Annual OPEB Cost is the increase in expense on the financial statements of the City.

## FIRE – SECTION III – VALUATION RESULTS

In Table III-2 below, we show the FYE 2014, FYE 2016, and the expected FYE 2017 Annual Required Contribution under the City's funding policy. The assumed discount rate was 5.59% for the fiscal year end 2014 and 4.0% for the fiscal year end 2016 and 2017. It is assumed the City's funding policy is to pay $0.3 million to the CERBT annually in addition to benefits paid outside of the CERBT. The UAL amortization is based on an open 30-year amortization period.

**Table III-2**
**FIRE**
**GASB ARC**

| Fiscal Year Ending | June 30, 2014 | June 30, 2016 | *Projected to June 30, 2017* |
|---|---|---|---|
| Normal Cost at beginning of year * | $ 4,308,199 | $ 9,368,962 | $ 9,790,565 |
| UAL Amortization at beginning of year * | 6,197,412 | 9,464,360 | 9,948,478 |
| Interest to end of year | 289,639 | 753,333 | 789,562 |
| **Total ARC** | **$ 10,795,250** | **$ 19,586,655** | **$ 20,528,605** |

** June 30, 2014 Normal Cost and UAL Amortization are as of the middle of the year.*

Table III-3 shows the expected benefit payments and retiree contributions through the fiscal year ending June 30, 2025. In calculating the liabilities, we project these figures for the life of each existing participant. This projects the anticipated eligible retirees and the change in both claims and premiums. These benefit payments include the explicit and implicit benefit payments and exclude payments made by retirees towards their premiums.

**Table III-3**
**FIRE**

| Fiscal Year Ending June 30, | Expected Net Implicit Benefit Payments | Expected Net Explicit Benefit Payments | Expected Net ACA Benefit Payments | Total Expected Net Benefit Payments |
|---|---|---|---|---|
| 2016 | $ 1,421,219 | $ 5,279,045 | $ - | **$ 6,700,263** |
| 2017 | 1,486,264 | 5,672,632 | - | **7,158,895** |
| 2018 | 1,518,171 | 6,039,964 | - | **7,558,135** |
| 2019 | 1,701,893 | 6,515,923 | - | **8,217,815** |
| 2020 | 1,798,149 | 6,962,071 | - | **8,760,220** |
| 2021 | 1,880,564 | 7,382,993 | 36,443 | **9,300,000** |
| 2022 | 1,849,310 | 7,745,538 | 44,205 | **9,639,053** |
| 2023 | 2,036,938 | 8,297,108 | 58,144 | **10,392,190** |
| 2024 | 2,249,087 | 8,890,182 | 75,198 | **11,214,467** |
| 2025 | 2,355,201 | 9,451,148 | 89,695 | **11,896,045** |

**FIRE – SECTION III – VALUATION RESULTS**

## *Reconciliation*

Table III-4 provides an estimate of the major factors contributing to the change in liability since the last actuarial valuation.

**Table III-4**
**FIRE**
**Reconciliation of Actuarial Liability**

| | | |
|---|---|---|
| Actuarial Liability at July 1, 2013 | $ | 124,897,686 |
| Normal Cost at middle of year | | 4,308,199 |
| Expected Benefit Payments paid throughout the year | | (4,848,908) |
| Interest | | 6,966,873 |
| Expected Actuarial Liability at July 1, 2014 | $ | 131,323,850 |
| Normal Cost at middle of year | | 4,523,609 |
| Expected Benefit Payments paid throughout the year | | (5,156,264) |
| Interest | | 7,323,561 |
| Expected Actuarial Liability at July 1, 2015 | $ | 138,014,756 |
| Actuarial Liability at July 1, 2015 | | 232,600,579 |
| Gain or (Loss) | $ | (94,585,823) |
| Gain or (Loss) due to: | | |
| Census changes | $ | (923,651) |
| Change in discount rate | | (30,502,418) |
| Change due to implicit subsidy | | (40,119,436) |
| Change in demographic assumptions | | (11,865,436) |
| Change in claims and trend assumptions | | (11,174,882) |
| Total changes | $ | (94,585,823) |

Below is a brief description of each of the above components:

- *Expected Values* refer to the change that would have occurred had experience matched all the assumptions between July 1, 2013 and July 1, 2015.
- *Census Changes* refer to the impact of population changes between July 1, 2013 and July 1, 2015.
- *Change in Discount Rate* refers to the impact that a change in discount rate had on the liability between July 1, 2013 and July 1, 2015. The discount rate was lowered from 5.59% to 4.0%, reflecting the actual amount of payments made to the CERBT in addition to benefits paid.
- *Change due to implicit subsidy* refers to the change in method for valuing "true" cost of providing retiree medical coverage. The true cost of coverage for retirees age 55-64 is greater than the cost of the same coverage for the typical group of active employees. Employers who

## FIRE – SECTION III – VALUATION RESULTS

treat the cost as being the same often are providing implicit subsidies for retirees. The cost difference, implicit subsidy, is equal to the "true" cost of providing retiree medical coverage minus the average active/retiree cost (i.e. the premium charged). Until recently, an implicit subsidy was assumed to not exist for community rated plans. However, Actuarial Standard of Practice (ASOP) No. 6 modified this assumption, making it necessary to value an implied subsidy cost for these plans effective for actuarial valuations on or after March 31, 2015. Since the City of Oakland participates in the Public Employees' Medical and Hospital Care Act (PEMHCA) plans, which are considered community rated plans, the City has not needed to value an implied subsidy cost until this actuarial valuation.

- *Change in Demographic Assumptions* refers to the change in the rates of retirement, withdrawal, disability retirement, and mortality. These assumptions are used for participants in CalPERS, and are based on the most recent CalPERS Experience Study completed January 2014 and approved by the CalPERS Board in February 2014.
- *Change in Claims and Trend Assumptions* refers to the change in expected current and future healthcare claims and expense costs.

## FIRE – SECTION IV – SENSITIVITY

The liabilities and ARC produced in this report are sensitive to the assumptions used. The tables below show the impact of a 1% increase or decrease in the healthcare trend rates on the GASB actuarial liability and the ARC to provide some measure of sensitivity.

**Table IV-1**
**FIRE**
**Sensitivity to Health Care Trend Rates - Unfunded Actuarial Liability**

| Health Care Trend Rate | -1% | Base | +1% |
|---|---|---|---|
| **Actuarial Liability** | | | |
| Active Employees | $ 99,049,108 | $ 121,391,323 | $ 150,139,930 |
| Retirees and Beneficiaries | 99,031,898 | 111,209,256 | 125,793,504 |
| Total | $ 198,081,006 | $ 232,600,579 | $ 275,933,434 |
| Assets | 779,594 | 779,594 | 779,594 |
| **Unfunded Actuarial Liability** | **$ 197,301,412** | **$ 231,820,985** | **$ 275,153,840** |

**Table IV-2**
**FIRE**
**Sensitivity to Health Care Trend Rates - GASB ARC for FYE 2016**

| Health Care Trend Rate | -1% | Base | +1% |
|---|---|---|---|
| Total Normal Cost at beginning of year | $ 7,511,824 | $ 9,368,962 | $ 11,811,967 |
| UAL Amortization at beginning of year | 8,055,059 | 9,464,360 | 11,233,474 |
| Interest to End of Year | 622,675 | 753,333 | 921,818 |
| **Total ARC** | **$ 16,189,558** | **$ 19,586,655** | **$ 23,967,259** |

## FIRE – SECTION IV – SENSITIVITY

The tables below show the impact of a 1% increase or decrease in the discount rates on the GASB actuarial liability and the ARC to provide some measure of sensitivity.

**Table IV-3**
**FIRE**
**Sensitivity to Discount Rates - Unfunded Actuarial Liability**

| Discount Rate | 3.00% | 4.00% | 5.00% |
|---|---|---|---|
| **Actuarial Liability** | | | |
| Active Employees | $ 146,869,231 | $ 121,391,323 | $ 101,455,399 |
| Retirees and Beneficiaries | 126,380,202 | 111,209,256 | 98,849,910 |
| Total | $ 273,249,433 | $ 232,600,579 | $ 200,305,309 |
| Assets | 779,594 | 779,594 | 779,594 |
| **Unfunded Actuarial Liability** | **$ 272,469,839** | **$ 231,820,985** | **$ 199,525,715** |

**Table IV-4**
**FIRE**
**Sensitivity to Discount Rates - GASB ARC for FYE 2016**

| Discount Rate | 3.00% | 4.00% | 5.00% |
|---|---|---|---|
| Total Normal Cost at beginning of year | $ 12,240,067 | $ 9,368,962 | $ 7,250,622 |
| UAL Amortization at beginning of year | 9,737,673 | 9,464,360 | 9,230,422 |
| Interest to End of Year | 879,110 | 753,333 | 659,242 |
| **Total ARC** | **$ 22,856,850** | **$ 19,586,655** | **$ 17,140,286** |

# FIRE – SECTION V – ACCOUNTING DISCLOSURES

**Statements No. 43 and 45 of the Governmental Accounting Standards Board (GASB)** established standards for accounting and financial reporting of Other Postemployment Benefit (OPEB) information by governmental employers and plans. In accordance with those statements, we have prepared the following disclosures.

## *Net OPEB Obligation*

The table below shows the development of the Net OPEB Obligation (NOO) for the fiscal years ending June 30, 2014 and June 30, 2015 and projects the Net OPEB Obligation for the fiscal year ending June 30, 2016.

**Table V-1**
**FIRE**
**Development of Net OPEB Obligation**

| Fiscal Year Ending | June 30, 2014 | June 30, 2015 | June 30, 2016 |
|---|---|---|---|
| 1. Discount rate | 5.59% | 5.59% | 4.00% |
| 2. Net OPEB Obligation (NOO) at beginning of fiscal year | $ 53,290,074 | $ 59,230,449 | $ 65,335,071 |
| 3. Annual Required Contribution (ARC) | $ 10,795,250 | $ 10,795,250 | $ 19,586,655 |
| 4. Interest on NOO at discount rate to end of fiscal year | 2,978,915 | 3,310,982 | 2,613,403 |
| 5. Adjustment to the ARC | 2,717,151 | 2,717,151 | 2,774,075 |
| 6. Annual OPEB Cost (3) + (4) - (5) | $ 11,057,014 | $ 11,389,081 | $ 19,425,983 |
| 7. Net employer contribution | | | |
| Contributions to CERBT | $ 603,333 | $ 177,596 | *$ 300,000* |
| Net Benefit Payments | 4,513,306 | 5,106,864 | *6,700,263* |
| Total | $ 5,116,639 | $ 5,284,459 | *$ 7,000,263* |
| 8. Change in Net OPEB Obligation (6) - (7) | $ 5,940,375 | $ 6,104,622 | *$ 12,425,720* |
| **9. Net OPEB Obligation at end of fiscal year (2) + (8)** | **$ 59,230,449** | **$ 65,335,071** | ***$ 77,760,791*** |

** June 30, 2014 results are from prior actuary, while June 30, 2015 results are from the City's June 30, 2015 CAFR.*

The Net OPEB Obligation (NOO) at June 30, 2015 was provided in the City's June 30, 2015 Comprehensive Annual Financial Report. The Annual Required Contribution for the fiscal year ending June 30, 2016 is based on the July 1, 2015 valuation. The interest on Net OPEB Obligation is calculated using the assumed discount rate as shown in the table. The adjustment to the ARC is an open 30-year level percent of payroll amortization of the NOO. The employer contributions were provided by the City for the fiscal year ending June 30, 2015 and are assumed to equal the explicit benefit payments, the estimated implicit subsidy and the actual contribution to the CERBT in fiscal year ending June 30, 2016.

## FIRE – SECTION V – ACCOUNTING DISCLOSURES

### *Schedule of Funding Progress*

The schedule of funding progress compares the assets used for funding purposes to the comparable liabilities to determine how well the Plan is funded and how this status has changed over the past several years. The actuarial liability is compared to the actuarial value of assets to determine the funding ratio. The actuarial liability under GASB is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions.

**Table V-2**
**FIRE**
**Schedule of Funding Progress ***

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Liability (b) | Unfunded Actuarial Liability (UAL) (b-a) | Funded Ratio (a/b) | Annual Covered Payroll (c) | UAL as Percentage of Covered Payroll ((b-a)/c) |
|---|---|---|---|---|---|---|
| 7/1/2015 | $ 779,594 | $ 232,600,579 | $ 231,820,985 | 0% | $ 74,501,036 | 311.2% |
| 7/1/2013 | 0 | 124,897,686 | 124,897,686 | 0% | 61,723,369 | 202.4% |
| 7/1/2012 | 0 | 149,352,503 | 149,352,503 | 0% | 60,205,139 | 248.1% |
| 7/1/2010 | 0 | 143,045,373 | 143,045,373 | 0% | 63,739,551 | 224.4% |

** Figures prior to July 1, 2015 calculated by prior actuary*

### *Schedule of Employer Contributions*

The schedule of employer contributions shows whether the employer has made contributions that are consistent with the parameters established by GASB for calculating the ARC and the Annual OPEB Cost.

**Table V-3**
**FIRE**
**Schedule of Employer Contributions ***

| Fiscal Year Ending | Annual OPEB Cost (AOC) | City Contributions | Percentage of AOC Contributed | Net OPEB Obligation |
|---|---|---|---|---|
| 2016 | $ 19,425,983 | *$ 7,000,263* | *36%* | *$ 77,760,791* |
| 2015 | 11,389,081 | 5,284,459 | 46% | 65,335,071 |
| 2014 | 11,057,014 | 5,116,639 | 46% | 59,230,449 |
| 2013 | 12,792,606 | 4,761,138 | 37% | 53,290,074 |
| 2012 | 12,352,016 | 4,470,622 | 36% | 45,258,606 |

** Figures prior to FYE 6/30/2016 calculated by the prior actuary.*

## FIRE – SECTION V – ACCOUNTING DISCLOSURES

We have also provided a *Note to Required Supplementary Information* for the financial statements in Table V-4.

**Table V-4**
**FIRE**
**NOTE TO REQUIRED SUPPLEMENTARY INFORMATION**

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

| | |
|---|---|
| Valuation Date | July 1, 2015 |
| Actuarial Cost Method | Entry Age Normal |
| Amortization Method | Level Percentage of Pay, Open Period |
| Remaining Amortization Period | 30 years |
| Asset Valuation Method | Market Value |
| Actuarial Assumptions: | |
| Blended Discount Rate | 4.00% |
| Investment Rate of Return | 7.28% |
| Expected Return on City Assets | 3.80% |
| Rate of Salary Increases used for amortization of the UAL | 2.50% |
| Ultimate Rate of Medical Inflation | 4.50% |
| Years to Ultimate Rate of Medical Inflation | 20 years |
| Inflation | 2.50% |

**MISCELLANEOUS – SECTION I – SUMMARY**

## *Funding Policy*

The City's funding policy is to partially pre-fund the actuarially determined Other Postemployment Benefits (OPEB) costs, which include both normal costs and amortization of unfunded actuarial liability, by contributing to the California Employers' Retiree Benefit Trust (CERBT) sponsored by CalPERS. The CERBT Fund is a Section 115 trust fund dedicated to prefunding Other Postemployment Benefits (OPEB) for all eligible California public agencies. The City expects to contribute $0.4 million to the CERBT annually in addition to the benefit payments for retirees currently with medical coverage.

## *Valuation Results*

The table below presents the key results of the July 1, 2015 valuation compared to those of the last actuarial valuation as of July 1, 2013.

**Table I-1**
**MISCELLANEOUS**
**Summary of Key Valuation Results**

| | **July 1, 2013** | **July 1, 2015** |
|---|---|---|
| Actuarial Liability (AL) | $ 147,268,114 | $ 264,265,244 |
| Assets | 0 | 958,682 |
| Unfunded Actuarial Liability (UAL) | $ 147,268,114 | $ 263,306,562 |
| **Fiscal Year Ending** | **June 30, 2014** | **June 30, 2016** |
| Annual Required Contribution | $ 11,350,762 | $ 21,245,112 |
| Actual / *Expected* Contribution | $ 7,889,535 | *$ 8,834,797* |
| Expected Net Explicit Benefit Payments | $ 6,794,635 | $ 6,177,373 |
| Expected Net Implicit Benefit Payments | N/A | 2,257,424 |
| Expected Net Total Benefit Payments | $ 6,794,635 | $ 8,434,797 |
| Actual / *Expected* Net OPEB Obligation at End of Fiscal Year | $ 76,388,916 | *$ 93,906,182* |
| Discount Rate | 5.59% | 4.00% |

This report reflects claims, premiums and expenses determined as of July 1, 2015. There have been no significant changes in experience, population or plan design since the last valuation. However, there were changes in assumptions since the prior valuation which had an effect on the costs of the Plan.

Additionally, an implicit subsidy was first valued for this actuarial valuation. An implicit subsidy measures the actual cost per participant against the charged cost, or premium. Until recently, an implicit subsidy was assumed to not exist for community rated plans. However, Actuarial Standard of Practice (ASOP) No. 6 modified this assumption, making it necessary to value an implied subsidy cost for these plans effective for actuarial valuations on or after March 31, 2015. Since the City of Oakland participates in the Public Employees' Medical and Hospital Care Act

## MISCELLANEOUS – SECTION I – SUMMARY

(PEMHCA) plans, which are considered community rated plans, the City has not needed to value an implied subsidy cost until this actuarial valuation.

The Annual Required Contribution (ARC) for the fiscal year ending June 30, 2016 increased by $10.2 million over the expected ARC due to the following: a decrease of $0.7 million due to the covered population, $4.0 million due to a change in the discount rate to align with the City's contribution practices, $5.5 million due to recognizing the implicit subsidy, $1.1 million due to changes in future expected decrements, and $0.3 million due to changes in anticipated health care costs and their increases.

The Unfunded Actuarial Liability (UAL) increased by approximately $107 million over the expected UAL. More detail on the causes of this change can be found in the valuation results section of this report.

The figures provided in this report are highly sensitive to the assumptions used.

## MISCELLANEOUS – SECTION II – ASSETS

The Plan's preceding valuation of liabilities was performed as of July 1, 2013. Table II-1 below shows the reconciliation of assets for the fiscal year ending July 1, 2015 that were used to develop the FYE 2016 ARC. Assets were allocated based on the percentage of the Actuarial Liability associated with the Miscellaneous members. The market value of assets returned -0.2% during the year. Benefit payments are net of the retiree premiums payable for coverage. The City is expected to contribute $0.4 million to the CERBT on an annual basis.

| Table II-1<br>MISCELLANEOUS<br>Reconciliation of Assets | | |
|---|---|---|
| **Valuation Assets as of July 1, 2013** | **$** | **0** |
| Contributions - to CERBT | | 711,396 |
| Contributions - net benefit payments | | 7,889,535 |
| Net Benefit Payments | | (7,889,535) |
| Net Investment Earnings | | 0 |
| **Valuation Assets as of July 1, 2014** | **$** | **711,396** |
| Contributions - to CERBT | | 248,860 |
| Contributions - net benefit payments | | 6,363,926 |
| Net Benefit Payments | | (6,363,926) |
| Net Investment Earnings | | (1,574) |
| **Valuation Assets as of July 1, 2015** | **$** | **958,682** |

## MISCELLANEOUS – SECTION III – VALUATION RESULTS

This section of the report calculates the current and expected future contribution requirements under the City's funding policy. Table III-1 below shows the actuarial liabilities for the Plan as of July 1, 2013 and July 1, 2015, as well as expected amounts as of July 1, 2016. The expected results were calculated using standard roll-forward techniques. Asset projections were calculated based on an assumed 7.28% rate of return and assuming the expected benefits along with an additional $0.4 million contribution to the CERBT will be paid in the year ending June 30, 2016.

**Table III-1**
**MISCELLANEOUS**
**Unfunded Actuarial Liability Miscellaneous**

| | July 1, 2013 | July 1, 2015 | *Projected to July 1, 2016* |
|---|---|---|---|
| **Present Value of Future Benefits** | | | |
| Active Employees | $ 102,862,464 | $ 227,471,264 | $ 236,570,115 |
| Retirees and Beneficiaries | 71,531,693 | 122,550,804 | 118,850,997 |
| Total | $ 174,394,157 | $ 350,022,068 | $ 355,421,112 |
| **Actuarial Liability** | | | |
| Active Employees | $ 75,736,421 | $ 141,714,440 | $ 157,448,342 |
| Retirees and Beneficiaries | 71,531,693 | 122,550,804 | 118,850,997 |
| Total | $ 147,268,114 | $ 264,265,244 | $ 276,299,340 |
| Assets | 0 | 958,682 | 1,428,474 |
| **Unfunded Actuarial Liability (UAL)** | **$ 147,268,114** | **$ 263,306,562** | **$ 274,870,865** |
| Funded Ratio | 0% | 0% | 1% |
| Covered Payroll | $ 159,818,174 | $ 172,271,560 | $ 176,578,349 |
| UAL as percentage of Covered Payroll | 92% | 153% | 156% |

Please note, however, that GASB only requires disclosure of the above actuarial liability in the notes to financial statements and does not require immediate recognition of the entire liability on the balance sheet. GASB's requirement is to book the Annual OPEB Cost (the ARC adjusted for the difference between the amortization of the NOO and interest on the NOO), and the cumulative difference between the Annual OPEB Cost and actual contributions, beginning in the FYE June 30, 2008, as the NOO on the balance sheet.

The ARC consists of two parts: (1) the *normal cost*, which represents the annual cost attributable to service earned in a given year and (2) the 30-year open amortization of the UAL as a level percentage of payroll. Under the City's current funding policy, the City intends to contribute $0.4 million to the CERBT and pay benefit payments outside of the CERBT. The difference between the actual contributions made (benefits provided plus additional contributions to the CERBT) and the Annual OPEB Cost is the increase in expense on the financial statements of the City.

## MISCELLANEOUS – SECTION III – VALUATION RESULTS

In Table III-2 below, we show the FYE 2014, FYE 2016, and the expected FYE 2017 Annual Required Contribution under the City's funding policy. The assumed discount rate was 5.59% for the fiscal year end 2014 and 4.0% for the fiscal year end 2016 and 2017. It is assumed the City's funding policy is to pay $0.4 million to the CERBT annually in addition to benefits paid outside of the CERBT. The UAL amortization is based on an open 30-year amortization period.

**Table III-2**
**MISCELLANEOUS**
**GASB ARC**

| Fiscal Year Ending | June 30, 2014 | June 30, 2016 | *Projected to June 30, 2017* |
|---|---|---|---|
| Normal Cost at beginning of year * | $ 3,738,787 | $ 9,678,197 | $ 10,113,716 |
| UAL Amortization at beginning of year * | 7,307,431 | 10,749,795 | 11,221,921 |
| Interest to end of year | 304,544 | 817,120 | 853,425 |
| **Total ARC** | **$ 11,350,762** | **$ 21,245,112** | **$ 22,189,062** |

** June 30, 2014 Normal Cost and UAL Amortization are as of the middle of the year.*

Table III-3 shows the expected benefit payments and retiree contributions through the fiscal year ending June 30, 2025. In calculating the liabilities, we project these figures for the life of each existing participant. This projects the anticipated eligible retirees and the change in both claims and premiums. These benefit payments include the explicit and implicit benefit payments and exclude payments made by retirees towards their premiums.

**Table III-3**
**MISCELLANEOUS**

| Fiscal Year Ending June 30, | Expected Net Implicit Benefit Payments | Expected Net Explicit Benefit Payments | Expected Net ACA Benefit Payments | Total Expected Net Benefit Payments |
|---|---|---|---|---|
| 2016 | $ 2,257,424 | $ 6,177,373 | $ - | **$ 8,434,797** |
| 2017 | 2,474,866 | 6,841,960 | - | **9,316,826** |
| 2018 | 2,634,230 | 7,504,838 | - | **10,139,068** |
| 2019 | 2,889,215 | 8,244,678 | - | **11,133,893** |
| 2020 | 3,125,951 | 8,965,695 | - | **12,091,646** |
| 2021 | 3,443,991 | 9,718,660 | 60,297 | **13,222,948** |
| 2022 | 3,560,288 | 10,461,909 | 81,219 | **14,103,416** |
| 2023 | 3,834,668 | 11,235,834 | 108,572 | **15,179,074** |
| 2024 | 4,135,423 | 11,996,773 | 133,839 | **16,266,035** |
| 2025 | 4,296,058 | 12,790,151 | 154,427 | **17,240,635** |

## MISCELLANEOUS – SECTION III – VALUATION RESULTS

### *Reconciliation*

Table III-4 provides an estimate of the major factors contributing to the change in liability since the last actuarial valuation.

| Table III-4<br>MISCELLANEOUS<br>Reconciliation of Actuarial Liability | | |
|---|---|---|
| Actuarial Liability at July 1, 2013 | $ | 147,268,114 |
| Normal Cost at middle of year | | 3,738,787 |
| Expected Benefit Payments paid throughout the year | | (6,794,635) |
| Interest | | 8,148,038 |
| Expected Actuarial Liability at July 1, 2014 | $ | 152,360,304 |
| Normal Cost at middle of year | | 3,925,726 |
| Expected Benefit Payments paid throughout the year | | (7,225,855) |
| Interest | | 8,425,957 |
| Expected Actuarial Liability at July 1, 2015 | $ | 157,486,132 |
| Actuarial Liability at July 1, 2015 | | 264,265,244 |
| Gain or (Loss) | $ | (106,779,112) |
| | | |
| Gain or (Loss) due to: | | |
| Census changes | $ | 1,509,196 |
| Change in discount rate | | (35,033,172) |
| Change due to implicit subsidy | | (61,378,990) |
| Change in demographic assumptions | | (6,234,154) |
| Change in claims and trend assumptions | | (5,641,992) |
| Total changes | $ | (106,779,112) |

Below is a brief description of each of the above components:

- *Expected Values* refer to the change that would have occurred had experience matched all the assumptions between July 1, 2013 and July 1, 2015.
- *Census Changes* refer to the impact of population changes between July 1, 2013 and July 1, 2015.
- *Change in Discount Rate* refers to the impact that a change in discount rate had on the liability between July 1, 2013 and July 1, 2015. The discount rate was lowered from 5.59% to 4.0%, reflecting the actual amount of payments made to the CERBT in addition to benefits paid.
- *Change due to implicit subsidy* refers to the change in method for valuing "true" cost of providing retiree medical coverage. The true cost of coverage for retirees age 55-64 is greater than the cost of the same coverage for the typical group of active employees. Employers who

## MISCELLANEOUS – SECTION III – VALUATION RESULTS

treat the cost as being the same often are providing implicit subsidies for retirees. The cost difference, implicit subsidy, is equal to the "true" cost of providing retiree medical coverage minus the average active/retiree cost (i.e. the premium charged). Until recently, an implicit subsidy was assumed to not exist for community rated plans. However, Actuarial Standard of Practice (ASOP) No. 6 modified this assumption, making it necessary to value an implied subsidy cost for these plans effective for actuarial valuations on or after March 31, 2015. Since the City of Oakland participates in the Public Employees' Medical and Hospital Care Act (PEMHCA) plans, which are considered community rated plans, the City has not needed to value an implied subsidy cost until this actuarial valuation.

- *Change in Demographic Assumptions* refers to the change in the rates of retirement, withdrawal, disability retirement, and mortality. These assumptions are used for participants in CalPERS, and are based on the most recent CalPERS Experience Study completed January 2014 and approved by the CalPERS Board in February 2014.
- *Change in Claims and Trend Assumptions* refers to the change in expected current and future healthcare claims and expense costs.

## MISCELLANEOUS – SECTION IV – SENSITIVITY

The liabilities and ARC produced in this report are sensitive to the assumptions used. The tables below show the impact of a 1% increase or decrease in the healthcare trend rates on the GASB actuarial liability and the ARC to provide some measure of sensitivity.

**Table IV-1**
**MISCELLANEOUS**
**Sensitivity to Health Care Trend Rates - Unfunded Actuarial Liability**

| Health Care Trend Rate | -1% | Base | +1% |
|---|---|---|---|
| **Actuarial Liability** | | | |
| Active Employees | $ 127,275,398 | $ 141,714,440 | $ 160,223,973 |
| Retirees and Beneficiaries | 114,867,069 | 122,550,804 | 131,077,760 |
| Total | $ 242,142,467 | $ 264,265,244 | $ 291,301,733 |
| Assets | 958,682 | 958,682 | 958,682 |
| **Unfunded Actuarial Liability** | **$ 241,183,785** | **$ 263,306,562** | **$ 290,343,051** |

**Table IV-2**
**MISCELLANEOUS**
**Sensitivity to Health Care Trend Rates - GASB ARC for FYE 2016**

| Health Care Trend Rate | -1% | Base | +1% |
|---|---|---|---|
| Total Normal Cost at beginning of year | $ 8,595,394 | $ 9,678,197 | $ 11,115,387 |
| UAL Amortization at beginning of year | 9,846,607 | 10,749,795 | 11,853,591 |
| Interest to End of Year | 737,680 | 817,120 | 918,759 |
| **Total ARC** | **$ 19,179,681** | **$ 21,245,112** | **$ 23,887,737** |

## MISCELLANEOUS – SECTION IV – SENSITIVITY

The tables below show the impact of a 1% increase or decrease in the discount rates on the GASB actuarial liability and the ARC to provide some measure of sensitivity.

**Table IV-3**
**MISCELLANEOUS**
**Sensitivity to Discount Rates - Unfunded Actuarial Liability**

| Discount Rate | 3.00% | 4.00% | 5.00% |
|---|---|---|---|
| **Actuarial Liability** | | | |
| Active Employees | $ 166,831,009 | $ 141,714,440 | $ 121,582,082 |
| Retirees and Beneficiaries | 137,651,542 | 122,550,804 | 109,968,045 |
| Total | $ 304,482,551 | $ 264,265,244 | $ 231,550,127 |
| Assets | 958,682 | 958,682 | 958,682 |
| **Unfunded Actuarial Liability** | **$ 303,523,869** | **$ 263,306,562** | **$ 230,591,445** |

**Table IV-4**
**MISCELLANEOUS**
**Sensitivity to Discount Rates - GASB ARC for FYE 2016**

| Discount Rate | 3.00% | 4.00% | 5.00% |
|---|---|---|---|
| Total Normal Cost at beginning of year | $ 12,277,937 | $ 9,678,197 | $ 7,711,666 |
| UAL Amortization at beginning of year | 10,847,499 | 10,749,795 | 10,667,579 |
| Interest to End of Year | 925,017 | 817,120 | 735,170 |
| **Total ARC** | **$ 24,050,453** | **$ 21,245,112** | **$ 19,114,415** |

## MISCELLANEOUS – SECTION V – ACCOUNTING DISCLOSURES

**Statements No. 43 and 45 of the Governmental Accounting Standards Board (GASB)** established standards for accounting and financial reporting of Other Postemployment Benefit (OPEB) information by governmental employers and plans. In accordance with those statements, we have prepared the following disclosures.

### *Net OPEB Obligation*

The table below shows the development of the Net OPEB Obligation (NOO) for the fiscal years ending June 30, 2014 and June 30, 2015 and projects the Net OPEB Obligation for the fiscal year ending June 30, 2016.

**Table V-1**
**MISCELLANEOUS**
**Development of Net OPEB Obligation**

| Fiscal Year Ending | June 30, 2014 | June 30, 2015 | June 30, 2016 |
|---|---|---|---|
| 1. Discount rate | 5.59% | 5.59% | 4.00% |
| 2. Net OPEB Obligation (NOO) at beginning of fiscal year | $ 72,571,214 | $ 76,388,916 | $ 81,696,775 |
| 3. Annual Required Contribution (ARC) | $ 11,350,762 | $ 11,350,762 | $ 21,245,112 |
| 4. Interest on NOO at discount rate to end of fiscal year | 4,056,731 | 4,270,140 | 3,267,871 |
| 5. Adjustment to the ARC | 3,700,256 | 3,700,256 | 3,468,780 |
| 6. Annual OPEB Cost (3) + (4) - (5) | $ 11,707,237 | $ 11,920,646 | $ 21,044,203 |
| 7. Net employer contribution | | | |
| Contributions to CERBT | $ 711,396 | $ 248,860 | *$ 400,000* |
| Net Benefit Payments | 7,178,139 | 6,363,926 | *8,434,797* |
| Total | $ 7,889,535 | $ 6,612,786 | *$ 8,834,797* |
| 8. Change in Net OPEB Obligation (6) - (7) | $ 3,817,702 | $ 5,307,860 | *$ 12,209,406* |
| **9. Net OPEB Obligation at end of fiscal year (2) + (8)** | **$ 76,388,916** | **$ 81,696,775** | ***$ 93,906,182*** |

** June 30, 2014 results are from prior actuary, while June 30, 2015 results are from the City's June 30, 2015 CAFR.*

The Net OPEB Obligation (NOO) at June 30, 2015 was provided in the City's June 30, 2015 Comprehensive Annual Financial Report. The Annual Required Contribution for the fiscal year ending June 30, 2016 is based on the July 1, 2015 valuation. The interest on Net OPEB Obligation is calculated using the assumed discount rate as shown in the table. The adjustment to the ARC is an open 30-year level percent of payroll amortization of the NOO. The employer contributions were provided by the City for the fiscal year ending June 30, 2015 and are assumed to equal the explicit benefit payments, the estimated implicit subsidy and the actual contribution to the CERBT in fiscal year ending June 30, 2016.

## MISCELLANEOUS – SECTION V – ACCOUNTING DISCLOSURES

### *Schedule of Funding Progress*

The schedule of funding progress compares the assets used for funding purposes to the comparable liabilities to determine how well the Plan is funded and how this status has changed over the past several years. The actuarial liability is compared to the actuarial value of assets to determine the funding ratio. The actuarial liability under GASB is determined assuming that the Plan is ongoing and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions.

**Table V-2**
**MISCELLANEOUS**
**Schedule of Funding Progress ***

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Liability (b) | Unfunded Actuarial Liability (UAL) (b-a) | Funded Ratio (a/b) | Annual Covered Payroll (c) | UAL as Percentage of Covered Payroll ((b-a)/c) |
|---|---|---|---|---|---|---|
| 7/1/2015 | $ 958,682 | $ 264,265,244 | $ 263,306,562 | 0% | $ 172,271,560 | 152.8% |
| 7/1/2013 | 0 | 147,268,114 | 147,268,114 | 0% | 159,818,174 | 92.1% |
| 7/1/2012 | 0 | 172,619,136 | 172,619,136 | 0% | 145,465,176 | 118.7% |
| 7/1/2010 | 0 | 167,247,526 | 167,247,526 | 0% | 153,556,681 | 108.9% |

** Figures prior to July 1, 2015 calculated by prior actuary*

### *Schedule of Employer Contributions*

The schedule of employer contributions shows whether the employer has made contributions that are consistent with the parameters established by GASB for calculating the ARC and the Annual OPEB Cost.

**Table V-3**
**MISCELLANEOUS**
**Schedule of Employer Contributions ***

| Fiscal Year Ending | Annual OPEB Cost (AOC) | City Contributions | Percentage of AOC Contributed | Net OPEB Obligation |
|---|---|---|---|---|
| 2016 | $ 21,044,203 | *$ 8,834,797* | *42%* | *$ 93,906,182* |
| 2015 | 11,920,646 | 6,612,786 | 55% | 81,696,775 |
| 2014 | 11,707,237 | 7,889,535 | 67% | 76,388,916 |
| 2013 | 12,880,442 | 6,319,413 | 49% | 72,571,214 |
| 2012 | 13,206,244 | 6,387,918 | 48% | 66,010,185 |

** Figures prior to FYE 6/30/2016 calculated by the prior actuary.*

## MISCELLANEOUS – SECTION V – ACCOUNTING DISCLOSURES

We have also provided a *Note to Required Supplementary Information* for the financial statements in Table V-4.

**Table V-4**
**MISCELLANEOUS**
**NOTE TO REQUIRED SUPPLEMENTARY INFORMATION**

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

| | |
|---|---|
| Valuation Date | July 1, 2015 |
| Actuarial Cost Method | Entry Age Normal |
| Amortization Method | Level Percentage of Pay, Open Period |
| Remaining Amortization Period | 30 years |
| Asset Valuation Method | Market Value |
| Actuarial Assumptions: | |
| Blended Discount Rate | 4.00% |
| Investment Rate of Return | 7.28% |
| Expected Return on City Assets | 3.80% |
| Rate of Salary Increases used for amortization of the UAL | 2.50% |
| Ultimate Rate of Medical Inflation | 4.50% |
| Years to Ultimate Rate of Medical Inflation | 20 years |
| Inflation | 2.50% |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

# Member Data

| TOTAL | | | |
|---|---|---|---|
| **Valuation Date** | **July 1, 2012** | **July 1, 2015** | **% Change** |
| **Active Employees** | | | |
| Eligible for retirement benefits | 1,010 | 1,087 | 7.6% |
| Not eligible for retirement benefits | 2,068 | 2,260 | 9.3% |
| **Total** | **3,078** | **3,347** | **8.7%** |
| Average Age | 46.2 | 45.7 | -1.1% |
| Average Service | 12.9 | 12.2 | -5.6% |
| Covered Payroll | $ 304,373,447 | $ 360,857,850 | 18.6% |
| | | | |
| **Inactive with Medical Coverage** | | | |
| Retired participants & Surviving Spouses | 2,525 | 2,603 | 3.1% |
| Spouses | 1,037 | 1,020 | -1.6% |
| **Total** | **3,562** | **3,623** | **1.7%** |

| POLICE | | | |
|---|---|---|---|
| **Valuation Date** | **July 1, 2012** | **July 1, 2015** | **% Change** |
| **Active Employees *** | | | |
| Eligible for retirement benefits | 42 | 46 | 9.5% |
| Not eligible for retirement benefits | 605 | 676 | 11.7% |
| **Total** | **647** | **722** | **11.6%** |
| Average Age | 40.2 | 38.1 | -5.1% |
| Average Service | 12.7 | 10.5 | -17.6% |
| Covered Payroll | $ 98,703,132 | $ 114,085,254 | 15.6% |
| | | | |
| **Inactive with Medical Coverage **** | | | |
| Retired participants & Surviving Spouses | 669 | 730 | 9.1% |
| Spouses | 351 | 375 | 6.8% |
| **Total** | **1,020** | **1,105** | **8.3%** |

** There were no active employees eligible for the Retention I or II benefits in either 2015 or 2012.*

*** There were 117 retirees and 6 beneficiaries with Retention I benefits and 61 retirees with Retention II benefits in 2015. For comparison, there were 123 retirees and 9 beneficiaries with Retention I benefits and 61 retirees with Retention II benefits in 2012.*

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

| FIRE | | | |
|---|---|---|---|
| **Valuation Date** | **July 1, 2012** | **July 1, 2015** | **% Change** |
| **Active Employees** | | | |
| Eligible for retirement benefits | 92 | 112 | 21.7% |
| Not eligible for retirement benefits | 319 | 311 | -2.5% |
| **Total** | **411** | **423** | **2.9%** |
| Average Age | 43.7 | 43.5 | -0.5% |
| Average Service | 14.1 | 13.8 | -1.9% |
| Covered Payroll | $ 60,205,139 | $ 74,501,036 | 23.7% |
| | | | |
| **Inactive with Medical Coverage** | | | |
| Retired participants & Surviving Spouses | 595 | 584 | -1.8% |
| Spouses | 326 | 315 | -3.4% |
| **Total** | **921** | **899** | **-2.4%** |

| MISCELLANEOUS | | | |
|---|---|---|---|
| **Valuation Date** | **July 1, 2012** | **July 1, 2015** | **% Change** |
| **Active Employees** | | | |
| Eligible for retirement benefits | 876 | 929 | 6.1% |
| Not eligible for retirement benefits | 1,144 | 1,273 | 11.3% |
| **Total** | **2,020** | **2,202** | **9.0%** |
| Average Age | 48.6 | 48.6 | 0.0% |
| Average Service | 12.7 | 12.4 | -2.4% |
| Covered Payroll | $ 145,465,176 | $ 172,271,560 | 18.4% |
| | | | |
| **Inactive with Medical Coverage** | | | |
| Retired participants & Surviving Spouses | 1,261 | 1,289 | 2.2% |
| Spouses | 360 | 330 | -8.3% |
| **Total** | **1,621** | **1,619** | **-0.1%** |

# APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Eligible Active Employees as of July 1, 2015
TOTAL
Years of Service

| Age Group | < 5 | 5 - 9 | 10 - 14 | 15 - 19 | 20 - 24 | 25 - 29 | 30 - 34 | 35 + | Total |
|---|---|---|---|---|---|---|---|---|---|
| Under 25 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 48 |
| 25 to 30 | 207 | 16 | 1 | 0 | 0 | 0 | 0 | 0 | 224 |
| 30 to 35 | 193 | 127 | 31 | 0 | 0 | 0 | 0 | 0 | 351 |
| 35 to 40 | 125 | 159 | 142 | 58 | 0 | 0 | 0 | 0 | 484 |
| 40 to 45 | 86 | 80 | 121 | 177 | 22 | 1 | 0 | 0 | 487 |
| 45 to 50 | 52 | 91 | 123 | 123 | 82 | 67 | 0 | 0 | 538 |
| 50 to 55 | 56 | 62 | 96 | 101 | 78 | 108 | 16 | 1 | 518 |
| 55 to 60 | 39 | 46 | 64 | 64 | 44 | 69 | 29 | 3 | 358 |
| 60 to 65 | 17 | 31 | 33 | 34 | 33 | 37 | 17 | 4 | 206 |
| Over 65 | 8 | 17 | 29 | 19 | 20 | 31 | 6 | 3 | 133 |
| **Total** | **831** | **629** | **640** | **576** | **279** | **313** | **68** | **11** | **3,347** |

Eligible Active Employees as of July 1, 2015
POLICE
Years of Service

| Age Group | < 5 | 5 - 9 | 10 - 14 | 15 - 19 | 20 - 24 | 25 - 29 | 30 - 34 | 35 + | Total |
|---|---|---|---|---|---|---|---|---|---|
| Under 25 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 |
| 25 to 30 | 112 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 118 |
| 30 to 35 | 73 | 53 | 10 | 0 | 0 | 0 | 0 | 0 | 136 |
| 35 to 40 | 19 | 45 | 37 | 27 | 0 | 0 | 0 | 0 | 128 |
| 40 to 45 | 4 | 24 | 18 | 77 | 10 | 0 | 0 | 0 | 133 |
| 45 to 50 | 1 | 10 | 6 | 39 | 39 | 37 | 0 | 0 | 132 |
| 50 to 55 | 0 | 5 | 2 | 10 | 7 | 14 | 0 | 0 | 38 |
| 55 to 60 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 4 |
| 60 to 65 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 3 |
| Over 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| **Total** | **238** | **143** | **73** | **156** | **57** | **54** | **0** | **1** | **722** |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Eligible Active Employees as of July 1, 2015
FIRE
Years of Service

| Age Group | < 5 | 5 - 9 | 10 - 14 | 15 - 19 | 20 - 24 | 25 - 29 | 30 - 34 | 35 + | Total |
|---|---|---|---|---|---|---|---|---|---|
| Under 25 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 25 to 30 | 20 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 23 |
| 30 to 35 | 15 | 17 | 9 | 0 | 0 | 0 | 0 | 0 | 41 |
| 35 to 40 | 7 | 15 | 43 | 21 | 0 | 0 | 0 | 0 | 86 |
| 40 to 45 | 1 | 3 | 33 | 45 | 6 | 1 | 0 | 0 | 89 |
| 45 to 50 | 0 | 4 | 17 | 21 | 11 | 13 | 0 | 0 | 66 |
| 50 to 55 | 0 | 2 | 13 | 22 | 20 | 19 | 2 | 0 | 78 |
| 55 to 60 | 1 | 0 | 1 | 2 | 11 | 5 | 5 | 0 | 25 |
| 60 to 65 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 1 | 7 |
| Over 65 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 4 |
| **Total** | **48** | **44** | **116** | **112** | **51** | **39** | **12** | **1** | **423** |

Eligible Active Employees as of July 1, 2015
MISCELLANEOUS
Years of Service

| Age Group | < 5 | 5 - 9 | 10 - 14 | 15 - 19 | 20 - 24 | 25 - 29 | 30 - 34 | 35 + | Total |
|---|---|---|---|---|---|---|---|---|---|
| Under 25 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| 25 to 30 | 75 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 83 |
| 30 to 35 | 105 | 57 | 12 | 0 | 0 | 0 | 0 | 0 | 174 |
| 35 to 40 | 99 | 99 | 62 | 10 | 0 | 0 | 0 | 0 | 270 |
| 40 to 45 | 81 | 53 | 70 | 55 | 6 | 0 | 0 | 0 | 265 |
| 45 to 50 | 51 | 77 | 100 | 63 | 32 | 17 | 0 | 0 | 340 |
| 50 to 55 | 56 | 55 | 81 | 69 | 51 | 75 | 14 | 1 | 402 |
| 55 to 60 | 38 | 46 | 63 | 60 | 32 | 63 | 24 | 3 | 329 |
| 60 to 65 | 17 | 31 | 33 | 32 | 31 | 35 | 14 | 3 | 196 |
| Over 65 | 8 | 17 | 29 | 19 | 19 | 30 | 4 | 2 | 128 |
| **Total** | **545** | **442** | **451** | **308** | **171** | **220** | **56** | **9** | **2,202** |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

| Status Reconciliation TOTAL | Active | Retired | Disabled | Survivor | Total |
|---|---|---|---|---|---|
| **Members on July 1, 2012** | **3,078** | **1,972** | **298** | **241** | **5,589** |
| New Hires | 906 | 0 | 0 | 0 | 906 |
| Retired | (189) | 189 | 0 | 0 | 0 |
| Terminated | (355) | 0 | 0 | 0 | (355) |
| Became Disabled | (92) | 0 | 92 | 0 | 0 |
| Death | (1) | (37) | 0 | 38 | 0 |
| Dropped Coverage | 0 | (200) | (9) | (43) | (252) |
| Show ups | 0 | 39 | 18 | 5 | 62 |
| **Members on July 1, 2015** | **3,347** | **1,963** | **399** | **241** | **5,950** |

| Status Reconciliation POLICE | Active | Retired | Disabled | Survivor | Total |
|---|---|---|---|---|---|
| **Members on July 1, 2012** | **647** | **451** | **148** | **62** | **1,308** |
| New Hires | 236 | 0 | 0 | 0 | 236 |
| Retired | (28) | 28 | 0 | 0 | 0 |
| Terminated | (67) | 0 | 0 | 0 | (67) |
| Became Disabled | (66) | 0 | 66 | 0 | 0 |
| Death | 0 | (8) | 0 | 8 | 0 |
| Dropped Coverage | 0 | (43) | (7) | (13) | (63) |
| Show ups | 0 | 19 | 17 | 2 | 38 |
| **Members on July 1, 2015** | **722** | **447** | **224** | **59** | **1,452** |

| Status Reconciliation FIRE | Active | Retired | Disabled | Survivor | Total |
|---|---|---|---|---|---|
| **Members on July 1, 2012** | **411** | **391** | **150** | **61** | **1,013** |
| New Hires | 63 | 0 | 0 | 0 | 63 |
| Retired | (17) | 17 | 0 | 0 | 0 |
| Terminated | (8) | 0 | 0 | 0 | (8) |
| Became Disabled | (26) | 0 | 26 | 0 | 0 |
| Death | 0 | (10) | 0 | 10 | 0 |
| Dropped Coverage | 0 | (51) | (2) | (12) | (65) |
| Show ups | 0 | 3 | 1 | 0 | 4 |
| **Members on July 1, 2015** | **423** | **350** | **175** | **59** | **1,007** |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

| Status Reconciliation MISCELLANEOUS | Active | Retired | Disabled | Survivor | Total |
|---|---|---|---|---|---|
| **Members on July 1, 2012** | **2,020** | **1,130** | **0** | **118** | **3,268** |
| New Hires | 607 | 0 | 0 | 0 | 607 |
| Retired | (144) | 144 | 0 | 0 | 0 |
| Terminated | (280) | 0 | 0 | 0 | (280) |
| Became Disabled | 0 | 0 | 0 | 0 | 0 |
| Death | (1) | (19) | 0 | 20 | 0 |
| Dropped Coverage | 0 | (106) | 0 | (18) | (124) |
| Show ups | 0 | 17 | 0 | 3 | 20 |
| **Members on July 1, 2015** | **2,202** | **1,166** | **0** | **123** | **3,491** |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

## Economic Assumptions

1. **Measurement Date:** July 1, 2015

2. **Expected Return on Plan Assets:** 7.28% per year for funds invested with the CERBT Strategy 1

3. **Expected Return on City Assets:** 3.80% per year, based on the last available rate prior to the actuarial valuation date according to the Bond Buyer GO 20-year Bond Municipal Bond Index

4. **Blended Discount Rate used for Valuation Purposes:** 4.00% per year, net of investment and administrative expenses.

   The discount rate used for GASB 43 and 45 disclosures is a weighted average of the expected return on Plan assets (7.28%) and the expected return on City assets (3.80%). If contributions to the Plan were equal to the Annual Required Contribution (ARC), the discount rate would be 7.28%. If contributions to the Plan were just equal to the benefit payments for the next year, the discount rate would be 3.80%. Since contributions are between these two amounts, the discount rate is a weighted average of these two discount rates where the weights reflect how close contributions are expected to be to the ARC as opposed to the benefit payments.

   It is assumed the City's funding policy is to pay $1.1 million to the CERBT annually in addition to benefits paid outside of the CERBT.

5. **Consumer Price Index (CPI):** 2.50%

6. **Annual Rate of Payroll Growth:** For purposes of amortizing the Unfunded Actuarial Liability as a level percent of payroll, a 2.50% annual rate of pay growth is assumed.

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

7. **Salary Increase:** Representative values of the assumed annual salary increases are shown below.

| | Public Agency Police | | | | | | |
|---|---|---|---|---|---|---|---|
| Attained | Sample Salary Increases at each Service | | | | | | |
| Age | 0 | 5 | 10 | 15 | 20 | 25 | 30 |
| 20 | 0.1500 | 0.0610 | | | | | |
| 25 | 0.1500 | 0.0610 | 0.0450 | | | | |
| 30 | 0.1470 | 0.0610 | 0.0450 | 0.0450 | | | |
| 35 | 0.1430 | 0.0580 | 0.0450 | 0.0450 | 0.0450 | | |
| 40 | 0.1310 | 0.0550 | 0.0430 | 0.0450 | 0.0450 | 0.0450 | |
| 45 | 0.1190 | 0.0520 | 0.0410 | 0.0430 | 0.0450 | 0.0450 | 0.0450 |
| 50 | 0.1190 | 0.0490 | 0.0370 | 0.0410 | 0.0430 | 0.0450 | 0.0450 |
| 55 | 0.1190 | 0.0490 | 0.0330 | 0.0370 | 0.0410 | 0.0430 | 0.0450 |
| 60 | 0.1190 | 0.0490 | 0.0330 | 0.0330 | 0.0370 | 0.0410 | 0.0430 |
| 65 | 0.1190 | 0.0490 | 0.0330 | 0.0330 | 0.0330 | 0.0370 | 0.0410 |

| | Public Agency Fire | | | | | | |
|---|---|---|---|---|---|---|---|
| Attained | Sample Salary Increases at each Service | | | | | | |
| Age | 0 | 5 | 10 | 15 | 20 | 25 | 30 |
| 20 | 0.2000 | 0.0690 | | | | | |
| 25 | 0.2000 | 0.0690 | 0.0470 | | | | |
| 30 | 0.1980 | 0.0690 | 0.0470 | 0.0440 | | | |
| 35 | 0.1960 | 0.0640 | 0.0470 | 0.0440 | 0.0420 | | |
| 40 | 0.1680 | 0.0590 | 0.0460 | 0.0440 | 0.0420 | 0.0400 | |
| 45 | 0.1410 | 0.0550 | 0.0440 | 0.0420 | 0.0420 | 0.0400 | 0.0380 |
| 50 | 0.1410 | 0.0510 | 0.0420 | 0.0400 | 0.0390 | 0.0400 | 0.0380 |
| 55 | 0.1410 | 0.0510 | 0.0410 | 0.0390 | 0.0360 | 0.0370 | 0.0380 |
| 60 | 0.1410 | 0.0510 | 0.0410 | 0.0380 | 0.0360 | 0.0340 | 0.0360 |
| 65 | 0.1410 | 0.0510 | 0.0410 | 0.0380 | 0.0360 | 0.0340 | 0.0340 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

| Attained Age | Public Agency Miscellaneous Sample Salary Increases at each Service: 0 | 5 | 10 | 15 | 20 | 25 | 30 |
|---|---|---|---|---|---|---|---|
| 20 | 0.1220 | 0.0640 | | | | | |
| 25 | 0.1220 | 0.0640 | 0.0460 | | | | |
| 30 | 0.1160 | 0.0640 | 0.0460 | 0.0420 | | | |
| 35 | 0.1090 | 0.0600 | 0.0460 | 0.0420 | 0.0390 | | |
| 40 | 0.1020 | 0.0550 | 0.0430 | 0.0420 | 0.0390 | 0.0370 | |
| 45 | 0.0950 | 0.0520 | 0.0410 | 0.0400 | 0.0390 | 0.0370 | 0.0350 |
| 50 | 0.0950 | 0.0480 | 0.0390 | 0.0380 | 0.0380 | 0.0370 | 0.0350 |
| 55 | 0.0950 | 0.0480 | 0.0370 | 0.0360 | 0.0360 | 0.0360 | 0.0350 |
| 60 | 0.0950 | 0.0480 | 0.0370 | 0.0340 | 0.0340 | 0.0340 | 0.0340 |
| 65 | 0.0950 | 0.0480 | 0.0370 | 0.0340 | 0.0330 | 0.0330 | 0.0330 |

8. **Changes Since Prior Valuation:** Since the last actuarial valuation as of July 1, 2013, the discount rate was updated to 4.00% to reflect a blended discount rate between the expected return on contributions to the CERBT Trust and the expected return on City assets. Also, the salary increase assumption was updated to align with the most recent CalPERS experience study, adopted by the CalPERS Board in February 2014.

9. **Rationale for Economic Actuarial Assumptions:** The salary increase rates are the assumptions used for participants in CalPERS, and are based on the most recent CalPERS Experience Study completed January 2014 and approved by the CalPERS Board in February 2014. The other economic assumptions are based on our review of the current economic environment.

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

## Demographic Assumptions

City of Oakland employees participate in the California Public Employers' Retirement System (CalPERS). CalPERS determined the assumed rates of retirement, withdrawal, disabled retirement, and mortality for use in their actuarial valuations. Periodically, CalPERS will review these assumptions through an experience study, the most recent of which was completed in January 2014 and adopted by the CalPERS Board in February 2014. These assumptions will also be used by the City of Oakland in relation to when their employees will receive benefits under their pension plan.

1. **Rates of Retirement:** Rate of eligible active members retiring within the next year, based on CalPERS assumptions adopted in February 2014. There are separate rates for Police, Fire, and Miscellaneous members.

*Police:*

| | Public Agency Police 3.0% @ 50 | | | | | | |
|---|---|---|---|---|---|---|---|
| Attained | Sample Retirement Rates at each Service | | | | | | |
| Age | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| 50 | 0.0500 | 0.0500 | 0.0500 | 0.0990 | 0.2400 | 0.3140 | 0.3790 |
| 51 | 0.0340 | 0.0340 | 0.0340 | 0.0720 | 0.1980 | 0.2600 | 0.3120 |
| 52 | 0.0330 | 0.0330 | 0.0330 | 0.0710 | 0.1980 | 0.2590 | 0.3110 |
| 53 | 0.0390 | 0.0390 | 0.0390 | 0.0800 | 0.2120 | 0.2770 | 0.3330 |
| 54 | 0.0450 | 0.0450 | 0.0450 | 0.0920 | 0.2290 | 0.3000 | 0.3610 |
| 55 | 0.0520 | 0.0520 | 0.0520 | 0.1050 | 0.2480 | 0.3230 | 0.3890 |
| 56 | 0.0420 | 0.0420 | 0.0420 | 0.0870 | 0.2210 | 0.2890 | 0.3470 |
| 57 | 0.0430 | 0.0430 | 0.0430 | 0.0880 | 0.2230 | 0.2920 | 0.3510 |
| 58 | 0.0540 | 0.0540 | 0.0540 | 0.1090 | 0.2550 | 0.3330 | 0.4010 |
| 59 | 0.0540 | 0.0540 | 0.0540 | 0.1080 | 0.2530 | 0.3300 | 0.3980 |
| 60 | 0.0600 | 0.0600 | 0.0600 | 0.1210 | 0.2720 | 0.3550 | 0.4280 |
| 61 | 0.0480 | 0.0480 | 0.0480 | 0.0980 | 0.2380 | 0.3110 | 0.3750 |
| 62 | 0.0610 | 0.0610 | 0.0610 | 0.1220 | 0.2740 | 0.3570 | 0.4310 |
| 63 | 0.0570 | 0.0570 | 0.0570 | 0.1150 | 0.2630 | 0.3430 | 0.4140 |
| 64 | 0.0690 | 0.0690 | 0.0690 | 0.1370 | 0.2960 | 0.3850 | 0.4660 |
| 65 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

| | Public Agency Police 3.0% @ 55 | | | | | | |
|---|---|---|---|---|---|---|---|
| Attained | Sample Retirement Rates at each Service | | | | | | |
| Age | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| 50 | 0.0040 | 0.0040 | 0.0040 | 0.0040 | 0.0150 | 0.0860 | 0.0860 |
| 51 | 0.0140 | 0.0140 | 0.0140 | 0.0140 | 0.0340 | 0.1140 | 0.1140 |
| 52 | 0.0260 | 0.0260 | 0.0260 | 0.0260 | 0.0600 | 0.1540 | 0.1540 |
| 53 | 0.0380 | 0.0380 | 0.0380 | 0.0380 | 0.0830 | 0.1880 | 0.1880 |
| 54 | 0.0710 | 0.0710 | 0.0710 | 0.0710 | 0.1510 | 0.2920 | 0.2920 |
| 55 | 0.0610 | 0.0610 | 0.0610 | 0.0610 | 0.1310 | 0.2610 | 0.2610 |
| 56 | 0.0720 | 0.0720 | 0.0720 | 0.0720 | 0.1530 | 0.2950 | 0.2950 |
| 57 | 0.0650 | 0.0650 | 0.0650 | 0.0650 | 0.1400 | 0.2730 | 0.2730 |
| 58 | 0.0660 | 0.0660 | 0.0660 | 0.0660 | 0.1420 | 0.2770 | 0.2770 |
| 59 | 0.1180 | 0.1180 | 0.1180 | 0.1180 | 0.2470 | 0.4370 | 0.4370 |
| 60 | 0.0650 | 0.0650 | 0.0650 | 0.0650 | 0.1380 | 0.2720 | 0.2720 |
| 61 | 0.0840 | 0.0840 | 0.0840 | 0.0840 | 0.1780 | 0.3320 | 0.3320 |
| 62 | 0.1080 | 0.1080 | 0.1080 | 0.1080 | 0.2260 | 0.4050 | 0.4050 |
| 63 | 0.0840 | 0.0840 | 0.0840 | 0.0840 | 0.1780 | 0.3320 | 0.3320 |
| 64 | 0.0840 | 0.0840 | 0.0840 | 0.0840 | 0.1780 | 0.3320 | 0.3320 |
| 65 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

| | Public Agency Safety Police 2.7% @ 57 | | | | | | |
|---|---|---|---|---|---|---|---|
| Attained | Sample Retirement Rates at each Service | | | | | | |
| Age | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| 50 | 0.0138 | 0.0138 | 0.0138 | 0.0138 | 0.0253 | 0.0451 | 0.0535 |
| 51 | 0.0123 | 0.0123 | 0.0123 | 0.0123 | 0.0226 | 0.0402 | 0.0477 |
| 52 | 0.0249 | 0.0249 | 0.0249 | 0.0249 | 0.0456 | 0.0812 | 0.0963 |
| 53 | 0.0497 | 0.0497 | 0.0497 | 0.0497 | 0.0909 | 0.1621 | 0.1920 |
| 54 | 0.0662 | 0.0662 | 0.0662 | 0.0662 | 0.1211 | 0.2160 | 0.2559 |
| 55 | 0.0854 | 0.0854 | 0.0854 | 0.0854 | 0.1563 | 0.2785 | 0.3300 |
| 56 | 0.0606 | 0.0606 | 0.0606 | 0.0606 | 0.1108 | 0.1975 | 0.2340 |
| 57 | 0.0711 | 0.0711 | 0.0711 | 0.0711 | 0.1300 | 0.2318 | 0.2747 |
| 58 | 0.0628 | 0.0628 | 0.0628 | 0.0628 | 0.1149 | 0.2049 | 0.2427 |
| 59 | 0.1396 | 0.1396 | 0.1396 | 0.1396 | 0.1735 | 0.2544 | 0.3014 |
| 60 | 0.1396 | 0.1396 | 0.1396 | 0.1396 | 0.1719 | 0.2506 | 0.2969 |
| 61 | 0.1396 | 0.1396 | 0.1396 | 0.1396 | 0.1719 | 0.2506 | 0.2969 |
| 62 | 0.1396 | 0.1396 | 0.1396 | 0.1396 | 0.1719 | 0.2506 | 0.2969 |
| 63 | 0.1396 | 0.1396 | 0.1396 | 0.1396 | 0.1719 | 0.2506 | 0.2969 |
| 64 | 0.1396 | 0.1396 | 0.1396 | 0.1396 | 0.1719 | 0.2506 | 0.2969 |
| 65 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

*Fire:*

| Attained Age | Public Agency Fire 3.0% @ 50 Sample Retirement Rates at each Service 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|
| 50 | 0.0200 | 0.0200 | 0.0200 | 0.0400 | 0.1300 | 0.1920 | 0.2020 |
| 51 | 0.0080 | 0.0080 | 0.0080 | 0.0230 | 0.1070 | 0.1640 | 0.1730 |
| 52 | 0.0230 | 0.0230 | 0.0230 | 0.0430 | 0.1360 | 0.1980 | 0.2090 |
| 53 | 0.0230 | 0.0230 | 0.0230 | 0.0430 | 0.1350 | 0.1980 | 0.2080 |
| 54 | 0.0270 | 0.0270 | 0.0270 | 0.0480 | 0.1430 | 0.2070 | 0.2180 |
| 55 | 0.0430 | 0.0430 | 0.0430 | 0.0700 | 0.1740 | 0.2440 | 0.2570 |
| 56 | 0.0530 | 0.0530 | 0.0530 | 0.0850 | 0.1960 | 0.2690 | 0.2850 |
| 57 | 0.0540 | 0.0540 | 0.0540 | 0.0860 | 0.1970 | 0.2710 | 0.2870 |
| 58 | 0.0520 | 0.0520 | 0.0520 | 0.0840 | 0.1930 | 0.2680 | 0.2830 |
| 59 | 0.0750 | 0.0750 | 0.0750 | 0.1160 | 0.2390 | 0.3210 | 0.3410 |
| 60 | 0.0650 | 0.0650 | 0.0650 | 0.1020 | 0.2190 | 0.2980 | 0.3160 |
| 61 | 0.0760 | 0.0760 | 0.0760 | 0.1170 | 0.2410 | 0.3240 | 0.3430 |
| 62 | 0.0680 | 0.0680 | 0.0680 | 0.1060 | 0.2240 | 0.3040 | 0.3220 |
| 63 | 0.0270 | 0.0270 | 0.0270 | 0.0490 | 0.1430 | 0.2080 | 0.2200 |
| 64 | 0.0940 | 0.0940 | 0.0940 | 0.1430 | 0.2770 | 0.3660 | 0.3890 |
| 65 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

| Attained Age | Public Agency Fire 3.0% @ 55<br>Sample Retirement Rates at each Service | | | | | | |
|---|---|---|---|---|---|---|---|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| 50 | 0.0010 | 0.0010 | 0.0010 | 0.0060 | 0.0160 | 0.0690 | 0.0690 |
| 51 | 0.0020 | 0.0020 | 0.0020 | 0.0060 | 0.0180 | 0.0710 | 0.0710 |
| 52 | 0.0120 | 0.0120 | 0.0120 | 0.0210 | 0.0400 | 0.0980 | 0.0980 |
| 53 | 0.0320 | 0.0320 | 0.0320 | 0.0490 | 0.0850 | 0.1490 | 0.1490 |
| 54 | 0.0570 | 0.0570 | 0.0570 | 0.0870 | 0.1440 | 0.2170 | 0.2170 |
| 55 | 0.0730 | 0.0730 | 0.0730 | 0.1090 | 0.1790 | 0.2590 | 0.2590 |
| 56 | 0.0640 | 0.0640 | 0.0640 | 0.0970 | 0.1610 | 0.2380 | 0.2380 |
| 57 | 0.0630 | 0.0630 | 0.0630 | 0.0950 | 0.1570 | 0.2330 | 0.2330 |
| 58 | 0.0650 | 0.0650 | 0.0650 | 0.0990 | 0.1630 | 0.2410 | 0.2410 |
| 59 | 0.0880 | 0.0880 | 0.0880 | 0.1310 | 0.2130 | 0.2990 | 0.2990 |
| 60 | 0.1050 | 0.1050 | 0.1050 | 0.1550 | 0.2510 | 0.3440 | 0.3440 |
| 61 | 0.1180 | 0.1180 | 0.1180 | 0.1750 | 0.2820 | 0.3800 | 0.3800 |
| 62 | 0.0870 | 0.0870 | 0.0870 | 0.1280 | 0.2100 | 0.2950 | 0.2950 |
| 63 | 0.0670 | 0.0670 | 0.0670 | 0.1000 | 0.1650 | 0.2430 | 0.2430 |
| 64 | 0.0670 | 0.0670 | 0.0670 | 0.1000 | 0.1650 | 0.2430 | 0.2430 |
| 65 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

| Attained Age | Public Agency Safety Fire 2.7% @ 57<br>Sample Retirement Rates at each Service | | | | | | |
|---|---|---|---|---|---|---|---|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| 50 | 0.0065 | 0.0065 | 0.0065 | 0.0065 | 0.0101 | 0.0151 | 0.0170 |
| 51 | 0.0081 | 0.0081 | 0.0081 | 0.0081 | 0.0125 | 0.0187 | 0.0211 |
| 52 | 0.0164 | 0.0164 | 0.0164 | 0.0164 | 0.0254 | 0.0380 | 0.0428 |
| 53 | 0.0442 | 0.0442 | 0.0442 | 0.0442 | 0.0680 | 0.1018 | 0.1149 |
| 54 | 0.0606 | 0.0606 | 0.0606 | 0.0606 | 0.0934 | 0.1397 | 0.1576 |
| 55 | 0.0825 | 0.0825 | 0.0825 | 0.0825 | 0.1269 | 0.1900 | 0.2143 |
| 56 | 0.0740 | 0.0740 | 0.0740 | 0.0740 | 0.1140 | 0.1706 | 0.1925 |
| 57 | 0.0901 | 0.0901 | 0.0901 | 0.0901 | 0.1387 | 0.2077 | 0.2343 |
| 58 | 0.0790 | 0.0790 | 0.0790 | 0.0790 | 0.1217 | 0.1821 | 0.2054 |
| 59 | 0.0729 | 0.0729 | 0.0729 | 0.0729 | 0.1123 | 0.1681 | 0.1897 |
| 60 | 0.1135 | 0.1135 | 0.1135 | 0.1135 | 0.1747 | 0.2615 | 0.2950 |
| 61 | 0.1136 | 0.1136 | 0.1136 | 0.1136 | 0.1749 | 0.2618 | 0.2953 |
| 62 | 0.1136 | 0.1136 | 0.1136 | 0.1136 | 0.1749 | 0.2618 | 0.2953 |
| 63 | 0.1136 | 0.1136 | 0.1136 | 0.1136 | 0.1749 | 0.2618 | 0.2953 |
| 64 | 0.1136 | 0.1136 | 0.1136 | 0.1136 | 0.1749 | 0.2618 | 0.2953 |
| 65 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

*Miscellaneous:*

| Attained Age | Public Agency Miscellaneous 2.7% @ 55 Sample Retirement Rates at each Service 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|
| 50 | 0.0040 | 0.0090 | 0.0140 | 0.0350 | 0.0550 | 0.0950 | 0.1000 |
| 51 | 0.0020 | 0.0060 | 0.0110 | 0.0300 | 0.0500 | 0.0900 | 0.0940 |
| 52 | 0.0060 | 0.0120 | 0.0170 | 0.0380 | 0.0590 | 0.0990 | 0.1050 |
| 53 | 0.0100 | 0.0170 | 0.0240 | 0.0460 | 0.0680 | 0.1100 | 0.1170 |
| 54 | 0.0320 | 0.0440 | 0.0570 | 0.0850 | 0.1130 | 0.1600 | 0.1730 |
| 55 | 0.0760 | 0.1010 | 0.1250 | 0.1650 | 0.2050 | 0.2650 | 0.2890 |
| 56 | 0.0550 | 0.0740 | 0.0930 | 0.1270 | 0.1600 | 0.2140 | 0.2330 |
| 57 | 0.0500 | 0.0680 | 0.0860 | 0.1180 | 0.1510 | 0.2040 | 0.2220 |
| 58 | 0.0550 | 0.0740 | 0.0930 | 0.1270 | 0.1610 | 0.2150 | 0.2340 |
| 59 | 0.0610 | 0.0820 | 0.1020 | 0.1380 | 0.1740 | 0.2290 | 0.2500 |
| 60 | 0.0690 | 0.0930 | 0.1160 | 0.1540 | 0.1920 | 0.2500 | 0.2730 |
| 61 | 0.0860 | 0.1130 | 0.1410 | 0.1830 | 0.2250 | 0.2880 | 0.3150 |
| 62 | 0.1050 | 0.1380 | 0.1710 | 0.2180 | 0.2660 | 0.3340 | 0.3670 |
| 63 | 0.1030 | 0.1350 | 0.1670 | 0.2150 | 0.2620 | 0.3290 | 0.3610 |
| 64 | 0.1090 | 0.1430 | 0.1770 | 0.2260 | 0.2750 | 0.3440 | 0.3780 |
| 65 | 0.1340 | 0.1740 | 0.2150 | 0.2700 | 0.3260 | 0.4010 | 0.4420 |
| 66 | 0.1470 | 0.1910 | 0.2350 | 0.2940 | 0.3540 | 0.4330 | 0.4770 |
| 67 | 0.1210 | 0.1580 | 0.1960 | 0.2480 | 0.3000 | 0.3720 | 0.4090 |
| 68 | 0.1130 | 0.1470 | 0.1820 | 0.2320 | 0.2820 | 0.3520 | 0.3870 |
| 69 | 0.1170 | 0.1530 | 0.1890 | 0.2400 | 0.2910 | 0.3620 | 0.3980 |
| 70 | 0.1410 | 0.1830 | 0.2260 | 0.2830 | 0.3410 | 0.4180 | 0.4610 |
| 71 | 0.1110 | 0.1460 | 0.1800 | 0.2290 | 0.2790 | 0.3480 | 0.3830 |
| 72 | 0.0760 | 0.1010 | 0.1260 | 0.1660 | 0.2060 | 0.2660 | 0.2910 |
| 73 | 0.1050 | 0.1370 | 0.1700 | 0.2180 | 0.2650 | 0.3330 | 0.3660 |
| 74 | 0.1450 | 0.1880 | 0.2320 | 0.2900 | 0.3490 | 0.4270 | 0.4710 |
| 75 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

| Attained | Public Agency Miscellaneous 2.5% @ 55 Sample Retirement Rates at each Service | | | | | | |
|---|---|---|---|---|---|---|---|
| Age | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| 50 | 0.0040 | 0.0090 | 0.0190 | 0.0290 | 0.0490 | 0.0940 | 0.1000 |
| 51 | 0.0040 | 0.0090 | 0.0190 | 0.0290 | 0.0490 | 0.0940 | 0.1000 |
| 52 | 0.0040 | 0.0090 | 0.0200 | 0.0300 | 0.0500 | 0.0950 | 0.1010 |
| 53 | 0.0080 | 0.0140 | 0.0250 | 0.0360 | 0.0580 | 0.1040 | 0.1100 |
| 54 | 0.0240 | 0.0340 | 0.0500 | 0.0660 | 0.0910 | 0.1420 | 0.1520 |
| 55 | 0.0660 | 0.0880 | 0.1150 | 0.1420 | 0.1790 | 0.2410 | 0.2630 |
| 56 | 0.0420 | 0.0570 | 0.0780 | 0.0980 | 0.1280 | 0.1840 | 0.1990 |
| 57 | 0.0410 | 0.0570 | 0.0770 | 0.0970 | 0.1280 | 0.1830 | 0.1980 |
| 58 | 0.0450 | 0.0610 | 0.0830 | 0.1040 | 0.1360 | 0.1920 | 0.2080 |
| 59 | 0.0550 | 0.0740 | 0.0980 | 0.1230 | 0.1570 | 0.2160 | 0.2350 |
| 60 | 0.0660 | 0.0880 | 0.1150 | 0.1420 | 0.1790 | 0.2410 | 0.2630 |
| 61 | 0.0720 | 0.0950 | 0.1240 | 0.1530 | 0.1910 | 0.2550 | 0.2780 |
| 62 | 0.0990 | 0.1300 | 0.1660 | 0.2020 | 0.2480 | 0.3190 | 0.3500 |
| 63 | 0.0920 | 0.1210 | 0.1550 | 0.1890 | 0.2330 | 0.3020 | 0.3310 |
| 64 | 0.0910 | 0.1190 | 0.1530 | 0.1870 | 0.2310 | 0.2990 | 0.3280 |
| 65 | 0.1220 | 0.1600 | 0.2020 | 0.2450 | 0.2970 | 0.3740 | 0.4120 |
| 66 | 0.1380 | 0.1790 | 0.2260 | 0.2720 | 0.3290 | 0.4110 | 0.4520 |
| 67 | 0.1140 | 0.1490 | 0.1890 | 0.2290 | 0.2790 | 0.3540 | 0.3890 |
| 68 | 0.1000 | 0.1310 | 0.1680 | 0.2040 | 0.2500 | 0.3220 | 0.3530 |
| 69 | 0.1140 | 0.1490 | 0.1890 | 0.2290 | 0.2790 | 0.3540 | 0.3890 |
| 70 | 0.1270 | 0.1650 | 0.2090 | 0.2530 | 0.3060 | 0.3850 | 0.4240 |
| 71 | 0.1130 | 0.1480 | 0.1880 | 0.2280 | 0.2770 | 0.3520 | 0.3870 |
| 72 | 0.1090 | 0.1430 | 0.1820 | 0.2210 | 0.2700 | 0.3430 | 0.3770 |
| 73 | 0.0740 | 0.0980 | 0.1280 | 0.1570 | 0.1960 | 0.2600 | 0.2850 |
| 74 | 0.0510 | 0.0700 | 0.0930 | 0.1160 | 0.1490 | 0.2070 | 0.2250 |
| 75 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

| Attained Age | Public Agency Miscellaneous 2% @ 62 Sample Retirement Rates at each Service | | | | | | |
|---|---|---|---|---|---|---|---|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| 52 | 0.0103 | 0.0132 | 0.0160 | 0.0188 | 0.0216 | 0.0244 | 0.0272 |
| 53 | 0.0131 | 0.0167 | 0.0202 | 0.0238 | 0.0273 | 0.0309 | 0.0345 |
| 54 | 0.0213 | 0.0272 | 0.0330 | 0.0388 | 0.0446 | 0.0504 | 0.0562 |
| 55 | 0.0440 | 0.0560 | 0.0680 | 0.0800 | 0.0920 | 0.1040 | 0.1160 |
| 56 | 0.0303 | 0.0385 | 0.0468 | 0.0550 | 0.0633 | 0.0715 | 0.0798 |
| 57 | 0.0363 | 0.0462 | 0.0561 | 0.0660 | 0.0759 | 0.0858 | 0.0957 |
| 58 | 0.0465 | 0.0592 | 0.0718 | 0.0845 | 0.0972 | 0.1099 | 0.1225 |
| 59 | 0.0578 | 0.0735 | 0.0893 | 0.1050 | 0.1208 | 0.1365 | 0.1523 |
| 60 | 0.0616 | 0.0784 | 0.0952 | 0.1120 | 0.1288 | 0.1456 | 0.1624 |
| 61 | 0.0619 | 0.0788 | 0.0956 | 0.1125 | 0.1294 | 0.1463 | 0.1631 |
| 62 | 0.0968 | 0.1232 | 0.1496 | 0.1760 | 0.2024 | 0.2288 | 0.2552 |
| 63 | 0.0888 | 0.1131 | 0.1373 | 0.1615 | 0.1857 | 0.2100 | 0.2342 |
| 64 | 0.0941 | 0.1197 | 0.1454 | 0.1710 | 0.1967 | 0.2223 | 0.2480 |
| 65 | 0.1287 | 0.1638 | 0.1989 | 0.2340 | 0.2691 | 0.3042 | 0.3393 |
| 66 | 0.1045 | 0.1330 | 0.1615 | 0.1900 | 0.2185 | 0.2470 | 0.2755 |
| 67 | 0.1045 | 0.1330 | 0.1615 | 0.1900 | 0.2185 | 0.2470 | 0.2755 |
| 68 | 0.1045 | 0.1330 | 0.1615 | 0.1900 | 0.2185 | 0.2470 | 0.2755 |
| 69 | 0.1045 | 0.1330 | 0.1615 | 0.1900 | 0.2185 | 0.2470 | 0.2755 |
| 70 | 0.1254 | 0.1596 | 0.1938 | 0.2280 | 0.2622 | 0.2964 | 0.3306 |
| 71 | 0.1254 | 0.1596 | 0.1938 | 0.2280 | 0.2622 | 0.2964 | 0.3306 |
| 72 | 0.1254 | 0.1596 | 0.1938 | 0.2280 | 0.2622 | 0.2964 | 0.3306 |
| 73 | 0.1254 | 0.1596 | 0.1938 | 0.2280 | 0.2622 | 0.2964 | 0.3306 |
| 74 | 0.1254 | 0.1596 | 0.1938 | 0.2280 | 0.2622 | 0.2964 | 0.3306 |
| 75 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

2. **Rates of Withdrawal:** Rate of eligible active members terminating employment (not due to retirement, death, or disability) within the next year, based on CalPERS assumptions adopted in February 2014. There are separate rates for Police, Fire, and Miscellaneous members.

| | Public Agency Police | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Attained | Sample Termination Rates at each Service | | | | | | | |
| Age | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| 20 | 0.10130 | 0.02490 | | | | | | |
| 21 | 0.10130 | 0.02490 | | | | | | |
| 22 | 0.10130 | 0.02490 | | | | | | |
| 23 | 0.10130 | 0.02490 | | | | | | |
| 24 | 0.10130 | 0.02490 | | | | | | |
| 25 | 0.10130 | 0.02490 | 0.01790 | | | | | |
| 26 | 0.10130 | 0.02490 | 0.01790 | | | | | |
| 27 | 0.10130 | 0.02490 | 0.01790 | | | | | |
| 28 | 0.10130 | 0.02490 | 0.01790 | | | | | |
| 29 | 0.10130 | 0.02490 | 0.01790 | | | | | |
| 30 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | | | | |
| 31 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | | | | |
| 32 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | | | | |
| 33 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | | | | |
| 34 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | | | | |
| 35 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | | | |
| 36 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | | | |
| 37 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | | | |
| 38 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | | | |
| 39 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | | | |
| 40 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | 0.00700 | | |
| 41 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | 0.00700 | | |
| 42 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | 0.00700 | | |
| 43 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | 0.00700 | | |
| 44 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | 0.00700 | | |
| 45 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | 0.00700 | 0.00650 | |
| 46 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | 0.00700 | 0.00650 | |
| 47 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | 0.00700 | 0.00650 | |
| 48 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | 0.00700 | 0.00650 | |
| 49 | 0.10130 | 0.02490 | 0.01790 | 0.01090 | 0.00820 | 0.00700 | 0.00650 | |
| 50 | 0.10130 | 0.00860 | 0.00530 | 0.00270 | 0.00170 | 0.00120 | 0.00090 | 0.00090 |
| 51 | 0.10130 | 0.00860 | 0.00530 | 0.00270 | 0.00170 | 0.00120 | 0.00090 | 0.00090 |
| 52 | 0.10130 | 0.00860 | 0.00530 | 0.00270 | 0.00170 | 0.00120 | 0.00090 | 0.00090 |
| 53 | 0.10130 | 0.00860 | 0.00530 | 0.00270 | 0.00170 | 0.00120 | 0.00090 | 0.00090 |
| 54 | 0.10130 | 0.00860 | 0.00530 | 0.00270 | 0.00170 | 0.00120 | 0.00090 | 0.00090 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

| Attained Age | Public Agency Fire<br>Sample Termination Rates at each Service: 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|---|
| 20 | 0.07100 | 0.01910 | | | | | | |
| 21 | 0.07100 | 0.01910 | | | | | | |
| 22 | 0.07100 | 0.01910 | | | | | | |
| 23 | 0.07100 | 0.01910 | | | | | | |
| 24 | 0.07100 | 0.01910 | | | | | | |
| 25 | 0.07100 | 0.01910 | 0.00700 | | | | | |
| 26 | 0.07100 | 0.01910 | 0.00700 | | | | | |
| 27 | 0.07100 | 0.01910 | 0.00700 | | | | | |
| 28 | 0.07100 | 0.01910 | 0.00700 | | | | | |
| 29 | 0.07100 | 0.01910 | 0.00700 | | | | | |
| 30 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | | | | |
| 31 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | | | | |
| 32 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | | | | |
| 33 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | | | | |
| 34 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | | | | |
| 35 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | | | |
| 36 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | | | |
| 37 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | | | |
| 38 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | | | |
| 39 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | | | |
| 40 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | 0.00500 | | |
| 41 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | 0.00500 | | |
| 42 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | 0.00500 | | |
| 43 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | 0.00500 | | |
| 44 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | 0.00500 | | |
| 45 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | 0.00500 | 0.00480 | |
| 46 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | 0.00500 | 0.00480 | |
| 47 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | 0.00500 | 0.00480 | |
| 48 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | 0.00500 | 0.00480 | |
| 49 | 0.07100 | 0.01910 | 0.00700 | 0.00640 | 0.00580 | 0.00500 | 0.00480 | |
| 50 | 0.07100 | 0.00290 | 0.00090 | 0.00060 | 0.00050 | 0.00030 | 0.00030 | 0.00030 |
| 51 | 0.07100 | 0.00290 | 0.00090 | 0.00060 | 0.00050 | 0.00030 | 0.00030 | 0.00030 |
| 52 | 0.07100 | 0.00290 | 0.00090 | 0.00060 | 0.00050 | 0.00030 | 0.00030 | 0.00030 |
| 53 | 0.07100 | 0.00290 | 0.00090 | 0.00060 | 0.00050 | 0.00030 | 0.00030 | 0.00030 |
| 54 | 0.07100 | 0.00290 | 0.00090 | 0.00060 | 0.00050 | 0.00030 | 0.00030 | 0.00030 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

| Attained Age | Public Agency Miscellaneous Sample Termination Rates at each Service | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| 20 | 0.17420 | 0.09460 | | | | | | |
| 21 | 0.17300 | 0.09310 | | | | | | |
| 22 | 0.17160 | 0.09150 | | | | | | |
| 23 | 0.17020 | 0.09000 | | | | | | |
| 24 | 0.16880 | 0.08840 | | | | | | |
| 25 | 0.16740 | 0.08680 | 0.07490 | | | | | |
| 26 | 0.16600 | 0.08520 | 0.07330 | | | | | |
| 27 | 0.16460 | 0.08360 | 0.07160 | | | | | |
| 28 | 0.16340 | 0.08210 | 0.07000 | | | | | |
| 29 | 0.16200 | 0.08050 | 0.06850 | | | | | |
| 30 | 0.16060 | 0.07900 | 0.06680 | 0.05810 | | | | |
| 31 | 0.15920 | 0.07740 | 0.06520 | 0.05660 | | | | |
| 32 | 0.15780 | 0.07580 | 0.06360 | 0.05490 | | | | |
| 33 | 0.15640 | 0.07420 | 0.06200 | 0.05330 | | | | |
| 34 | 0.15500 | 0.07260 | 0.06040 | 0.05190 | | | | |
| 35 | 0.15370 | 0.07110 | 0.05870 | 0.05030 | 0.04500 | | | |
| 36 | 0.15240 | 0.06950 | 0.05720 | 0.04870 | 0.04330 | | | |
| 37 | 0.15100 | 0.06800 | 0.05560 | 0.04720 | 0.04170 | | | |
| 38 | 0.14960 | 0.06640 | 0.05390 | 0.04560 | 0.04030 | | | |
| 39 | 0.14820 | 0.06480 | 0.05230 | 0.04410 | 0.03860 | | | |
| 40 | 0.14680 | 0.06320 | 0.05070 | 0.04240 | 0.03700 | 0.03120 | | |
| 41 | 0.14540 | 0.06160 | 0.04900 | 0.04090 | 0.03530 | 0.02950 | | |
| 42 | 0.14410 | 0.06010 | 0.04750 | 0.03940 | 0.03370 | 0.02790 | | |
| 43 | 0.14280 | 0.05850 | 0.04590 | 0.03780 | 0.03200 | 0.02630 | | |
| 44 | 0.14140 | 0.05700 | 0.04430 | 0.03620 | 0.03050 | 0.02460 | | |
| 45 | 0.14000 | 0.05540 | 0.04270 | 0.03470 | 0.02900 | 0.02290 | 0.01610 | |
| 46 | 0.13860 | 0.05380 | 0.04100 | 0.03310 | 0.02730 | 0.02120 | 0.01450 | |
| 47 | 0.13720 | 0.05220 | 0.03940 | 0.03150 | 0.02570 | 0.01960 | 0.01270 | |
| 48 | 0.13580 | 0.05060 | 0.03770 | 0.03000 | 0.02400 | 0.01790 | 0.01100 | |
| 49 | 0.13450 | 0.04910 | 0.03610 | 0.02840 | 0.02250 | 0.01630 | 0.00930 | |
| 50 | 0.13320 | 0.01160 | 0.00710 | 0.00320 | 0.00210 | 0.00110 | 0.00050 | 0.00010 |
| 51 | 0.13180 | 0.01130 | 0.00680 | 0.00300 | 0.00190 | 0.00100 | 0.00040 | 0.00010 |
| 52 | 0.13040 | 0.01090 | 0.00650 | 0.00290 | 0.00180 | 0.00090 | 0.00030 | 0.00010 |
| 53 | 0.12900 | 0.01050 | 0.00620 | 0.00270 | 0.00160 | 0.00070 | 0.00020 | 0.00010 |
| 54 | 0.12760 | 0.01010 | 0.00580 | 0.00250 | 0.00140 | 0.00060 | 0.00010 | 0.00010 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

2. **Rates of Disability Retirement:** Rate of eligible active members becoming disabled within the next year, based on CalPERS assumptions adopted in February 2014. There are separate rates for Police, Fire, and Miscellaneous members.

| | Public Agency Police | | | |
|---|---|---|---|---|
| Attained | Non-Duty | | Duty Related | |
| Age | Male | Female | Male | Female |
| 20 | 0.0001 | 0.0001 | 0.0000 | 0.0000 |
| 25 | 0.0001 | 0.0001 | 0.0017 | 0.0017 |
| 30 | 0.0002 | 0.0002 | 0.0048 | 0.0048 |
| 35 | 0.0003 | 0.0003 | 0.0079 | 0.0079 |
| 40 | 0.0004 | 0.0004 | 0.0110 | 0.0110 |
| 45 | 0.0005 | 0.0005 | 0.0141 | 0.0141 |
| 50 | 0.0008 | 0.0008 | 0.0185 | 0.0185 |
| 55 | 0.0013 | 0.0013 | 0.0479 | 0.0479 |
| 60 | 0.0020 | 0.0020 | 0.0602 | 0.0602 |
| 65 | 0.0020 | 0.0020 | 0.0728 | 0.0728 |
| 70 | 0.0020 | 0.0020 | 0.0855 | 0.0855 |
| 75 | 0.0020 | 0.0020 | 0.0984 | 0.0984 |

| | Public Agency Fire | | | |
|---|---|---|---|---|
| Attained | Non-Duty | | Duty Related | |
| Age | Male | Female | Male | Female |
| 20 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
| 25 | 0.0001 | 0.0001 | 0.0003 | 0.0003 |
| 30 | 0.0001 | 0.0001 | 0.0007 | 0.0007 |
| 35 | 0.0001 | 0.0001 | 0.0016 | 0.0016 |
| 40 | 0.0001 | 0.0001 | 0.0030 | 0.0030 |
| 45 | 0.0002 | 0.0002 | 0.0053 | 0.0053 |
| 50 | 0.0005 | 0.0005 | 0.0277 | 0.0277 |
| 55 | 0.0010 | 0.0010 | 0.0409 | 0.0409 |
| 60 | 0.0015 | 0.0015 | 0.0583 | 0.0583 |
| 65 | 0.0015 | 0.0015 | 0.0809 | 0.0809 |
| 70 | 0.0015 | 0.0015 | 0.1096 | 0.1096 |
| 75 | 0.0015 | 0.0015 | 0.1455 | 0.1455 |

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

| | Public Agency Miscellaneous | | | |
|---|---|---|---|---|
| Attained | Non-Duty | | Duty Related | |
| Age | Male | Female | Male | Female |
| 20 | 0.0002 | 0.0001 | 0.0000 | 0.0000 |
| 25 | 0.0002 | 0.0001 | 0.0000 | 0.0000 |
| 30 | 0.0002 | 0.0002 | 0.0000 | 0.0000 |
| 35 | 0.0005 | 0.0008 | 0.0000 | 0.0000 |
| 40 | 0.0012 | 0.0016 | 0.0000 | 0.0000 |
| 45 | 0.0019 | 0.0022 | 0.0000 | 0.0000 |
| 50 | 0.0021 | 0.0023 | 0.0000 | 0.0000 |
| 55 | 0.0022 | 0.0018 | 0.0000 | 0.0000 |
| 60 | 0.0022 | 0.0014 | 0.0000 | 0.0000 |
| 65 | 0.0021 | 0.0012 | 0.0000 | 0.0000 |
| 70 | 0.0018 | 0.0011 | 0.0000 | 0.0000 |
| 75 | 0.0014 | 0.0012 | 0.0000 | 0.0000 |

3. **Rates of Mortality*:*** The following tables are based on CalPERS assumptions adopted in 2014.

| | |
|---|---|
| Pre-Retirement: | CalPERS 2014 Non-Work Related Mortality Table for non-work related deaths before retirement |
| | CalPERS 2014 Work Related Mortality Table for work related deaths before retirement |
| Healthy Annuitants: | CalPERS 2014 Service Retiree and Beneficiary Mortality Table |
| Disabled Annuitants: | CalPERS 2014 Non-Work Related Disability Retiree Mortality Table for the mortality of non-work related disabled annuitants |
| | CalPERS 2014 Work Related Disability Retiree Mortality Table for the mortality of work related disabled annuitants |

*No adjustments for mortality improvement were made between the date of the table and the valuation date.*

*To reflect mortality improvements, the healthy mortality (service retirements and beneficiaries) rates include 20 years of projected mortality improvement using Scale BB published by the Society of Actuaries. For disabled mortality, no future improvements are included in these rates.*

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

4. **Plan Election at Retirement:**

| Plan | Police & Fire | Miscellaneous |
|---|---|---|
| United Healthcare | 20% | 15% |
| Kaiser | 55% | 70% |
| PERSChoice | 15% | 10% |
| PERSCare | 10% | 5% |

Once a retiree waives coverage, we have assumed they do not re-elect a medical plan.

5. **Percent of Retirees Electing Coverage:**

| | Not Reimbursement Eligible | Reimbursement Eligible |
|---|---|---|
| Police | N/A | 95% |
| Fire | N/A | 95% |
| Miscellaneous | 50% | 95% |

6. **Family Composition:**

| | Male | Female |
|---|---|---|
| Police | 70% | 70% |
| Fire | 80% | 80% |
| Miscellaneous* | 70% | 50% |

* Miscellaneous spouses participate only after member's death

7. **Dependent Age:** For current active employees, males are assumed to be two-years older than their spouses. For current retirees, actual spouse date of birth was used, if known.

8. **Data Assumption:** Police members eligible for Retention I and Retention II benefits were provided by Aon during the conversion process. These two groups are a closed set of retirees. Retention I benefits were assumed to be $6,000 for any member missing service.

9. **Changes since Prior Valuation:** Rates of retirement, withdrawal, disabled retirement, and mortality have been updated since the last actuarial valuation to align with the most recent CalPERS experience study, adopted by the CalPERS Board in February 2014. Additionally, the assumption for which medical plan a member will elect at retirement has been updated to align with the most recent experience.

10. **Rationale for Demographic Actuarial Assumptions:** The rates of retirement, withdrawal, disability retirement, and mortality are the assumptions used for participants in CalPERS, and are based on the most recent CalPERS Experience Study completed January 2014 and approved by the CalPERS Board in February 2014. The other demographic assumptions are from the July 1, 2012 report and believed to be reasonable based on our review of the July 1, 2012 and July 1, 2015 data.

**APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS**

## Claim and Expense Assumptions

1. **Average Annual Claims and Expense Assumptions:** The following claim and expense assumptions are applicable from July 1, 2015 to June 30, 2016 for Retirees and Spouses. Active employees assumed to retire will use a blended curve based on the plan elections shown in the demographic section. Subsequent years' costs are based on the first year cost adjusted with trend.

| | United Healthcare | | Kaiser | | PERSCare | | PERSChoice | |
|---|---|---|---|---|---|---|---|---|
| Age | Male | Female | Male | Female | Male | Female | Male | Female |
| 20 | $ 3,370 | $ 5,176 | $ 2,726 | $ 4,187 | $ 2,865 | $ 4,400 | $ 2,581 | $ 3,964 |
| 25 | 3,491 | 6,464 | 2,824 | 5,228 | 2,968 | 5,495 | 2,673 | 4,950 |
| 30 | 3,931 | 8,053 | 3,180 | 6,514 | 3,342 | 6,847 | 3,011 | 6,167 |
| 35 | 4,876 | 8,515 | 3,944 | 6,887 | 4,145 | 7,239 | 3,734 | 6,521 |
| 40 | 6,172 | 9,005 | 4,992 | 7,284 | 5,247 | 7,656 | 4,726 | 6,896 |
| 45 | 8,327 | 10,067 | 6,736 | 8,143 | 7,079 | 8,558 | 6,377 | 7,709 |
| 50 | 11,128 | 11,649 | 9,001 | 9,422 | 9,461 | 9,903 | 8,522 | 8,921 |
| 55 | 14,820 | 13,377 | 11,987 | 10,820 | 12,599 | 11,373 | 11,349 | 10,244 |
| 60 | 18,425 | 14,715 | 14,903 | 11,903 | 15,664 | 12,510 | 14,110 | 11,269 |
| 64 | 20,870 | 15,625 | 16,882 | 12,639 | 17,743 | 13,284 | 15,983 | 11,966 |
| 65 | 3,432 | 2,318 | 3,458 | 2,335 | 4,407 | 2,976 | 4,004 | 2,705 |
| 70 | 3,946 | 2,720 | 3,975 | 2,740 | 5,066 | 3,492 | 4,603 | 3,173 |
| 75 | 4,463 | 3,192 | 4,496 | 3,215 | 5,730 | 4,098 | 5,206 | 3,724 |

2. **Excise Tax:** The Patient Protection and Affordable Care Act created an excise tax on high cost plans effective in 2020. The tax will be equal to 40% of the value of employer provided coverage in excess of certain thresholds. Since the excise tax is not tax deductible, an adjustment factor is applied to the results assuming a 35% tax rate for non-Kaiser plans and 0% for Kaiser plans, since the tax is expected to be paid by the insurer and then passed on to the employer. For the City of Oakland we have projected the tax thresholds increase at an assumed CPI of 2.5%.

| 2018 Excise Tax Thresholds * | | |
|---|---|---|
| Plan | Retiree Only | Retiree + 1 |
| **Pre-65** | $11,850 | $30,950 |
| **Post-65** | $10,200 | $27,500 |

* These thresholds will be updated before the tax takes effect in 2020 and indexed for inflation in future years.

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

3. **Annual Trend:** The following annual trend rates were applied to the Average Annual Claims and Expense Assumptions to project these costs into the future.

   ***Premiums and Claim Curves:***

| Beginning January 1, | Trend | Beginning January 1, | Trend |
|---|---|---|---|
| 2015 | 7.50% | 2025 | 6.00% |
| 2016 | 7.35 | 2026 | 5.85 |
| 2017 | 7.20 | 2027 | 5.70 |
| 2018 | 7.05 | 2028 | 5.55 |
| 2019 | 6.90 | 2029 | 5.40 |
| 2020 | 6.75 | 2030 | 5.25 |
| 2021 | 6.60 | 2031 | 5.10 |
| 2022 | 6.45 | 2032 | 4.95 |
| 2023 | 6.30 | 2033 | 4.80 |
| 2024 | 6.15 | 2034 | 4.65 |
| | | 2035+ | 4.50 |

4. **Annual Claim Loads:** Claim costs for retirees below age 65 have been loaded for the cost of children enrolled as dependents of eligible retirees. The claim costs for Kaiser and United Healthcare were loaded 3.1% and the claim costs for the CalPERS PPO plans were loaded by 2.4%. This figure is based on the expected cost for children using claim cost data provided by CalPERS to assist participating entities in developing age based claim costs. This data can be found on the CalPERS website in the file entitled "pemhca-implicit-subsidy-data.xls". This assumption implicitly assumes that future retirees will have the same child distribution as the current population.

5. **Annual Limits:** Assumed to increase at the same rate as medical trend.

6. **Lifetime Maximums:** Unlimited

7. **Medicare:** All participants are assumed to enroll in Medicare at age 65.

8. **Geography:** Implicitly assumed to remain the same as current retirees.

9. **Retention I Benefit for Police:** 0.00%

10. **Assumed Future Increases of the CalPERS Minimum Employer Contribution for PEMHCA Coverage:** 3.00%

11. **Assumed Future Increases of the Additional Reimbursement for Miscellaneous Employees:** 0.00%

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

12. **Changes since Last Valuation:** The annual claim curves were updated to reflect the most recent claim experience. The health care trends were updated to reflect the current market place. The implicit subsidy was recognized.

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

# Methodology

**Actuarial Cost Method:** The Entry Age Normal Actuarial Cost method is used to determine costs. Under this funding method, a normal cost rate is determined as a level percent of pay for each active plan member and then summed to produce the total normal cost for the City.

The actuarial liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and funds accumulated as of the same date is referred to as the unfunded actuarial liability.

The portion of the actuarial liability in excess of OPEB Trust's assets is amortized to develop an additional costs or savings which is added to each year's employer normal cost. Under this cost method, actuarial gains and losses are directly reflected in the size of the unfunded actuarial liability. A rolling 30-year amortization period was used under the Actuarial funding scenario meaning a 30-year amortization continues to be used for Unfunded Actuarial Liability. The amortization method is a level percent of expected pay amortization method, assuming a 2.5% annual increase in pay due to inflation.

**Asset Valuation Method:** Assets are valued at market value.

**Claims Method:** The claim cost curves were developed based on the experience of the entire CalPERS population, using data provided by CalPERS. This data can be found on the CalPERS website in the file entitled "pemhca-implicit-subsidy-data.xls". The data provided claim experience for all covered members (employees/retirees, covered spouses, and covered children) by age, PEMHCA rating area, and benefit plan. We used this data to develop the expected cost by age for the covered membership for the specific benefit plans and PEMHCA rating areas used by the covered City of Oakland population. The cost of covered children was converted to a load on the non-Medicare eligible retirees.

We have reflected the "true" cost of coverage for retirees. The "true" cost of coverage for retirees age 55-64 is greater than the cost of the same coverage for the typical group of active employees. Employers who treat the cost as being the same often are providing implicit subsidies for retirees. The cost difference, implicit subsidy, is equal to the "true" cost of providing retiree medical coverage minus the average active/retiree cost.

We have reflected the Patient Protection and Affordable Care Act created an excise tax on high cost plans effective in 2020. The tax will be equal to 40% of the value of employer provided coverage in excess of certain thresholds. However, this report does not reflect future changes in benefits, subsidies, penalties, or administrative costs that may be required as a result of the Patient Protection and Affordable Care Act of 2010, related legislation, or regulations.

## APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

**Changes since Last Valuation:** There were no changes to actuarial methods since the prior valuation. However, the implicit subsidy was recognized and claims were updated to reflect the most recent experience.

## APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

A summary of the Post-Retirement Health Plan benefits and contribution provisions are as follows.

## Eligibility

Full-time active employees are automatically eligible to receive postretirement medical coverage with CalPERS after retiring directly from the City.

The following summarizes eligibility for a pension benefit from the City of Oakland:

**Police**

- Tier One (Classic Members): 3% @ age 50
  - Employees are eligible to retire at age 50
- Tier Two (New hires as of February 8, 2012): 3% @ age 55
  - Employees are eligible to retire at age 50
- Tier Three (New hires as of January 1, 2013): 2.7% @ age 57
  - Employees are eligible to retire at age 50

- *Disability:* At least five years of service for non-duty disability, and no requirement for line of duty disability
- *Death:* At least five years of service for non-duty death, and no requirement for duty death

**Fire**

- Tier One (Classic Members): 3% @ age 50
  - Employees are eligible to retire at age 50
- Tier Two (New hires as of February 8, 2012): 3% @ age 55
  - Employees are eligible to retire at age 50
- Tier Three (New hires as of January 1, 2013): 2.7% @ age 57
  - Employees are eligible to retire at age 50

- *Disability:* At least five years of service for non-duty disability, and no requirement for line of duty disability
- *Death:* At least five years of service for non-duty death, and no requirement for duty death

**Miscellaneous**

- Tier One (Classic Members): Classic Formula 2.7%@ age 55
  - Employees are eligible to retire at age 50
- Tier Two (New hires as of June 8, 2012): Classic Formula 2.5% @ age 55
  - Employees are eligible to retire at age 50
- Tier Three (New hires as of January 1, 2013): New Formula 2% @ age 62
  - Employees are eligible to retire at age 52

- *Disability:* At least five years of service for non-duty disability, and no requirement for duty disability
- *Death:* At least five years of service for non-duty death, and no requirement for duty death

**APPENDIX B – SUBSTANTIVE PLAN PROVISIONS**

Active members are vested after five years of service, however must retire directly from the City to be eligible for a post-retirement health benefit.

A police or fire employee who becomes disabled in the line of duty will be provided health insurance coverage immediately upon disablement.

An employee who becomes disabled outside of work and has completed 5 years of CalPERS credited service will be provided health insurance coverage upon disablement.

Employees must retire within 120 days of separation to be eligible for CalPERS health benefits. If retired within 120 days of separation, employees can enroll in CalPERS health benefits after retirement even if not enrolled in active coverage while working. If the retiree declines enrollment when first eligible, they still have the opportunity to enroll themselves and/or eligible dependents in the future. If the retirement date is more than 120 days after separation from employment, the retiree is not eligible for coverage at retirement or at any future date.

**Spouse and Dependent Coverage**

If a retiree is eligible for health insurance coverage, the Plan will also provide health coverage for the retiree's spouse and/or dependent children. This coverage will continue for as long as the spouse is alive.

If an active employee who has met the requirements to retire with health insurance coverage dies before retiring, the Plan will provide health coverage for the spouse and/or dependent children for as long as the spouse is alive.

## Benefits

The City of Oakland plan is a single employer plan that provides retirees and dependents the same medical benefits that are available to active employees for participants under age 65. Once a participant turns age 65, the Plan provides benefits that coordinate with Medicare. Participants that are eligible for premium free Medicare Part A must sign up for Medicare Part B as soon as they become eligible or CalPERS coverage will be cancelled. The City participates in the CalPERS health program, referred to as PEMHCA (Public Employees' Medical and Hospital Care Act).

APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

## Participant Cost Sharing Contributions

**Police**

The City contributes up to a fixed amount per month to CalPERS based on the level of coverage elected by the retiree. The 2015 and 2016 fixed amounts are shown in the table below. The fixed amount increases annually until it is equal to 100% of the employer contribution for active employees (or the Kaiser Bay Area premium). Assembly Bill 2544 states that beginning in 2008, retiree contributions should be equal to the number of years an agency has been in the PEMHCA program, multiplied by 5% of the current employer contribution for actives, but not increased more than $100 per year. As of 2015, the City of Oakland has been in the PEMHCA program for 25 years.

| | Monthly Fixed Employer Contribution | |
|---|---|---|
| | 2015 | 2016 |
| Single | $ 714.45 | $ 746.47 |
| Two-party | $ 1,171.01 | $ 1,271.01 |
| Multi-party | $ 1,283.80 | $ 1,383.80 |

Survivors of uniformed officers killed in the line of duty have their full premium paid by the City.

Retention I: Police officers who had at least 21 years of City service as of June 30, 1996 receive an additional fixed annual benefit during retirement, as outlined below.

| Years of Service as of 6/30/1996 | Annual Retiree Benefit | Annual Survivor Benefit |
|---|---|---|
| 21 | $1,500 | $750 |
| 22 | $2,000 | $1,000 |
| 23 | $2,500 | $1,250 |
| 24 | $3,000 | $1,500 |
| 25+ | $7,000 | $4,665 |

These amounts may only be used to pay for post-retirement benefits such as, health insurance premiums, dental insurance premiums, life insurance premiums, disability insurance premiums, vision insurance premiums, prescription drug insurance premiums, and eligible expenses under a qualified dependent care program. Retirees and survivors are eligible to receive these benefits for life. If an officer is terminated for cause then he/she is no longer eligible.

## APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

Retention II: A Closed group of officers are eligible for the following additional benefit.

a) Eligible employees, upon retirement, and depending upon the number of years of service at retirement, will receive 60% - 100% of the difference in the cost of the Bay Area Kaiser medical premium for the coverage level selected, minus the dollar amount contributed by the City directly to PERS on behalf of the retiree. The benefit schedule is as follows.

| Years of Service as of 6/30/1996 | Annual Reimbursement Percentage |
|---|---|
| 21 | 60% |
| 22 | 70% |
| 23 | 80% |
| 24 | 90% |
| 25+ | 100% |

b) Eligible employees, upon retirement and depending upon the number of years of service at retirement, will receive the same 60% - 100% of the premium cost of dental coverage. The dental premium for 2015 is $178.12 per month.

**Fire**

The City contributes up to a fixed amount per month to CalPERS based on the level of coverage elected by the retiree. The 2015 and 2016 fixed amounts are shown in the table below. The fixed amount increases annually until it is equal to 100% of the employer contribution for active employees (or the Kaiser Bay Area premium). Assembly Bill 2544 states that beginning in 2008, retiree contributions should be equal to the number of years an agency has been in the PEMHCA program, multiplied by 5% of the current employer contribution for actives, but not increased more than $100 per year. As of 2015, the City of Oakland has been in the PEMHCA program for 25 years.

| | Monthly Fixed Employer Contribution | |
|---|---|---|
| | 2015 | 2016 |
| Single | $ 714.45 | $ 746.47 |
| Two-party | $ 1,234.90 | $ 1,334.90 |
| Multi-party | $ 1,364.14 | $ 1,464.14 |

Survivors of uniformed officers killed in the line of duty have their full premium paid by the City.

## APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

**Miscellaneous**

The City contributes a fixed copayment per retiree per month to CalPERS. The fixed copayment is equal to $122 per month in 2015 and $125 per month in 2016. The copayment will be adjusted annually by CalPERS to reflect the increase in the medical care component of the Consumer Price Index.

Employees with at least 10 years of City service at retirement are eligible for an additional reimbursement from the City up to $425.42 per retiree per month. The copayment and reimbursement combined cannot exceed the CalPERS medical premium.

**Medical Premiums:** Initial premiums for this valuation as of July 1, 2015 are based on a blend of the 2015 and the 2016 PEMHCA premium rates shown below:

| 2015 Monthly PEMHCA Premium Rates | | |
|---|---|---|
| **Plan** | **Retiree Only** | **Retiree + 1** |
| **Pre-65** | | |
| United Healthcare | $ 850.67 | $ 1,701.34 |
| Kaiser | 714.45 | 1,428.90 |
| PERSCare | 775.08 | 1,550.16 |
| PERSChoice | 700.84 | 1,401.68 |
| | | |
| **Post-65** | | |
| United Healthcare | 267.41 | 534.82 |
| Kaiser | 295.51 | 591.02 |
| PERSCare | 368.76 | 737.52 |
| PERSChoice | 339.47 | 678.94 |

| 2016 Monthly PEMHCA Premium Rates | | |
|---|---|---|
| **Plan** | **Retiree Only** | **Retiree + 1** |
| **Pre-65** | | |
| United Healthcare | $ 955.44 | $ 1,910.88 |
| Kaiser | 746.47 | 1,492.94 |
| PERSCare | 889.27 | 1,778.54 |
| PERSChoice | 798.36 | 1,596.72 |
| | | |
| **Post-65** | | |
| United Healthcare | 320.98 | 641.96 |
| Kaiser | 297.23 | 594.46 |
| PERSCare | 408.04 | 816.08 |
| PERSChoice | 366.38 | 732.76 |

## APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

| Benefit Categories | Kaiser HMO | UnitedHealthcare HMO |
|---|---|---|
| General Plan Information | | |
| • Annual Deductible | | |
| – Individual | $0 | $0 |
| – Family | $0 | $0 |
| • Coinsurance | 100% | 100% |
| • Office Visit / Exam | $15 copay | $15 copay |
| • Outpatient Specialist Visit | $15 copay | $15 copay |
| • Annual Out-of-Pocket Limit | | |
| – Individual | $1,500 (see EOC for items not included in copay max) | $1,500 (see EOC for items not included in copay max) |
| – Family | $3,000 (see EOC for items not included in copay max) | $3,000 (see EOC for items not included in copay max) |
| • Lifetime Plan Maximum | Unlimited | Unlimited |
| Preventive Services | | |
| • Well Child Care | 100% | 100% |
| • Immunizations | 100% | 100% |
| • Well Woman Exams | 100% | 100% |
| • Mammograms | 100% (some procedures may require a copay) | 100% |
| • Adult Periodic Exams w/Preventive Tests | 100% | 100% |
| • Diagnostic X-Ray and Lab Tests | 100% (some procedures may require a copay) | 100% |
| Maternity Care | | |
| • Pregnancy and Maternity Care *(Pre-Natal Care)* | 100% | 100% |
| Inpatient Hospital Services | | |
| • Inpatient Hospitalization | 100% | 100% |
| • Pre-Authorization of Services Required | Yes | Yes |
| • Semi-Private Room & Board, including Services and Supplies | 100% | 100% |
| Surgical Services | | |
| • Outpatient Facility Charge | $15 copay | 100% |
| Emergency Room | $50 copay; waived if admitted | $50 copay; waived if admitted |

## APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

| Benefit Categories | Kaiser HMO | UnitedHealthcare HMO |
|---|---|---|
| Ambulance | | |
| • Air | 100% | 100% |
| • Ground | 100% | 100% |
| Urgent Care | $15 copay | $15 copay |
| Mental Health Benefits | | |
| • Inpatient Care | 100% (see EOC for more detailed coverage) | 100% (see EOC for more detailed coverage) |
| • Outpatient Care | $15 copay (see EOC for more detailed coverage) | $15 copay (see EOC for more detailed coverage) |
| Substance Abuse | | |
| • Inpatient Hospitalization | 100% | 100% |
| • Inpatient Detoxification Services | 100% (see EOC for more detailed coverage) | 100% (see EOC for more detailed coverage) |
| • Outpatient Services | $15 copay (see EOC for more detailed coverage) | $15 copay (see EOC for more detailed coverage) |
| Prescription Drugs | | |
| • Retail | | |
| – Generic | $5 copay | $5 copay |
| – Brand *(Formulary / Preferred)* | $20 copay | $20 copay |
| – Brand *(Non-Formulary / Non-Preferred)* | | $50 copay |
| – Number of Days Supply | 30 days | 30 days |
| • Mail Order | | |
| – Generic | $10 copay for 30-day supply<br>$10 copay for 31-100 day supply | $10 copay |
| – Brand *(Formulary / Preferred)* | $40 copay for 30-day supply<br>$40 copay for 31-100 day supply | $40 copay |
| – Brand *(Non-Formulary / Non-Preferred)* | | $100 copay |
| – Number of Days Supply | 100 days (30-day supply for certain drugs) | 90 days |

## APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

| Benefit Categories | Kaiser HMO | UnitedHealthcare HMO |
|---|---|---|
| Other Services and Supplies | | |
| • Durable Medical Equipment & Prosthetic Devices | 100% | 100% |
| • Home Health Care | 100% (prior authorization required; custodial care not covered) | 100% (prior authorization required; custodial care not covered) |
| • Skilled Nursing or Extended Care Facility | 100%; up to 100 days/cal year | 100%; up to 100 days/cal year |
| • Hospice Care | 100% | 100% |
| • Chiropractic Services | $15 copay (when medically necessary); up to 20 visits/cal year; combined with Acupuncture | $15 copay up to 20 visits/cal year; combined with Acupuncture |
| • Acupuncture | $15 copay (when medically necessary); up to 20 visits/cal year; combined with Chiropractic | $15 copay up to 20 visits/cal year; combined with Chiropractic |
| Vision | | |
| • Exam Copay | 100% | 100% (members 18+ years one visit/year |
| • Exam Benefit Frequency | 12 months | 12 months |
| Hearing | | |
| • Screening | 100% | 100% |
| • Aid(s) | $1,000 max every 36 months for both ears | $1,000 max every 36 months for both ears |
| Infertility | | |
| • Diagnosis | 50%; see Plan Certificate for more details | 50% of covered charges; see Plan Certificate for more details |
| • Treatment | 50%; see Plan Certificate for more details | 50% of covered charges; see Plan Certificate for more details |
| Outpatient Rehabilitative Therapy Services | | |
| • Physical | $15 copay | $15 copay |
| • Occupational | $15 copay | $15 copay |
| • Speech | $15 copay | $15 copay |

## APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

| Benefit Categories | PERS Choice | |
|---|---|---|
| | In-Network | Out-of-Network |
| General Plan Information | | |
| • Annual Deductible | | |
| – Individual | $500 (not transferable between plans) | $500 (not transferable between plans) |
| – Family | $1,000 (not transferable between plans) | $1,000 (not transferable between plans) |
| • Coinsurance | 80% | 60% |
| • Office Visit / Exam | $20 copay | 60% |
| • Outpatient Specialist Visit | $20 copay | 60% |
| • Annual Out-of-Pocket Limit | | |
| – Individual | $3,000 | $3,000 |
| – Family | $6,000 | $6,000 |
| • Lifetime Plan Maximum | Unlimited | Unlimited |
| Preventive Services | | |
| • Well Child Care | 100% (some restrictions apply; see EOC) | 60% |
| • Immunizations | 100% (some restrictions apply; see EOC) | 60% |
| • Well Woman Exams | 100% (some restrictions apply; see EOC) | 60% |
| • Mammograms | 80% | 60% |
| • Adult Periodic Exams w/Preventive Tests | 100% (some restrictions apply; see EOC) | 60% |
| • Diagnostic X-Ray and Lab Tests | 80% | 60% |
| Maternity Care | | |
| • Pregnancy and Maternity Care *(Pre-Natal Care)* | 80% | 60% |
| Inpatient Hospital Services | | |
| • Inpatient Hospitalization | 80% | 60% |
| • Pre-Authorization of Services Required | Yes | Yes |
| • Semi-Private Room & Board, including Services and Supplies | 80% | 60% |
| Surgical Services | | |
| • Outpatient Facility Charge | 80% | 60% |

## APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

| Benefit Categories | PERS Choice | |
|---|---|---|
| | In-Network | Out-of-Network |
| Emergency Room | $50 copay; waived if admitted | $50 copay; waived if admitted |
| Ambulance | | |
| • Air | 80% | 80% |
| • Ground | 80% | 80% |
| Urgent Care | $20 copay | 60% |
| Mental Health Benefits | | |
| • Inpatient Care | 80% | 60% |
| • Outpatient Care | $20 copay/office visit; 80% facility | 60% |
| Substance Abuse | | |
| • Inpatient Hospitalization | 80% | 60% |
| • Outpatient Services | $20 copay/office visit 80% facility | 60% |
| Prescription Drugs | | |
| • Retail | | |
| – Generic | $5 copay | $5 copay |
| – Brand *(Formulary/Preferred)* | $20 copay | $20 copay |
| – Brand *(Non-Formulary / Non-Preferred)* | $50 copay | $50 copay |
| – Number of Days Supply | 30 days | 30 days |
| • Mail Order | | |
| – Generic | $10 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) | $10 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) |
| – Brand *(Formulary/Preferred)* | $40 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) | $40 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) |
| – Brand *(Non-Formulary / Non-Preferred)* | $100 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) | $100 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) |
| – Number of Days Supply | 90 days | 90 days |

## APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

| Benefit Categories | PERS Choice | |
|---|---|---|
| | In-Network | Out-of-Network |
| Other Services and Supplies | | |
| • Durable Medical Equipment & Prosthetic Devices | 80% (pre-certification required for equipment) | 60% (pre-certification required for equipment) |
| • Home Health Care | 80% (up to 45 visits/cal year; pre-authorization required) | 60% (up to 45 visits/cal year; pre-authorization required) |
| • Skilled Nursing or Extended Care Facility | 80% first 10 days; 70% next 90 days (pre-certification required; up to 100 days/cal year) | 60% (pre-certification required; up to 100 days/cal year) |
| • Hospice Care | 80% | 80% |
| • Chiropractic Services | $15 copay; combined with Acupuncture; up to 20 visits/cal year | 60% combined with Acupuncture; up to 20 visits/cal year |
| • Acupuncture | $15 copay; combined with Chiropractic; up to 20 visits/cal year | 60% combined with Chiropractic; up to 20 visits/cal year |
| Hearing | | |
| • Screening | 80% | 60% |
| • Aid(s) | 80% ($1,000 every 36 months) | 60% ($1,000 every 36 months) |
| Infertility | | |
| • Diagnosis | Not covered | Not covered |
| • Treatment | Not covered | Not covered |
| Outpatient Rehabilitative Therapy Services | | |
| • Physical | 80% up to 24 visits/cal year | 60% up to 24 visits/cal year |
| • Occupational | 80% up to 24 visits/cal year | 80% up to 24 visits/cal year |
| • Speech | 80% up to 24 visits/cal year | 60% up to 24 visits/cal year |

## APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

| Benefit Categories | PERSCare | |
|---|---|---|
| | In-Network | Out-of-Network |
| General Plan Information | | |
| • Annual Deductible | | |
| – Individual | $500 (not transferable between plans) | $500 (not transferable between plans) |
| – Family | $1,000 (not transferable between plans) | $1,000 (not transferable between plans) |
| • Coinsurance | 90% | 60% |
| • Office Visit / Exam | $20 copay | 60% |
| • Outpatient Specialist Visit | $20 copay | 60% |
| • Annual Out-of-Pocket Limit | | |
| – Individual | $2,000 | $2,000 |
| – Family | $4,000 | $4,000 |
| • Lifetime Plan Maximum | Unlimited | Unlimited |
| Preventive Services | | |
| • Well Child Care | 100% (some restrictions apply; see EOC) | 60% |
| • Immunizations | 100% (some restrictions apply; see EOC) | 60% |
| • Well Woman Exams | 100% (some restrictions apply; see EOC) | 60% |
| • Mammograms | 90% | 60% |
| • Adult Periodic Exams w/Preventive Tests | 100% (some restrictions apply; see EOC) | 60% |
| • Diagnostic X-Ray and Lab Tests | 90% | 60% |
| Maternity Care | | |
| • Pregnancy and Maternity Care *(Pre-Natal Care)* | 90% | 60% |
| Inpatient Hospital Services | | |
| • Inpatient Hospitalization | $250/admission | $250/admission |
| • Pre-Authorization of Services Required | Yes | Yes |
| • Semi-Private Room & Board, including Services and Supplies | 90% | 60% |
| Surgical Services | | |
| • Outpatient Facility Charge | 90% | 60% |

# APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

| Benefit Categories | PERSCare | |
|---|---|---|
| | In-Network | Out-of-Network |
| Emergency Room | $50 copay/ER Room; 90% all other services | $50 copay/ER Room; 90% all other services |
| Ambulance | | |
| • Air | 90% | 90% |
| • Ground | 90% | 90% |
| Urgent Care | $20 copay | 60% |
| Mental Health Benefits | | |
| • Inpatient Care | 90% after $250 admit fee | 60% after $250 admit fee |
| • Outpatient Care | $20 copay/office visit; 90% facility | 60% |
| Substance Abuse | | |
| • Inpatient Hospitalization | 90% after $250 admit fee | 60% after $250 admit fee |
| • Outpatient Services | $20 copay/office visit 90% facility | 60% |
| Prescription Drugs | | |
| • Retail | | |
| – Generic | $5 copay | $5 copay |
| – Brand *(Formulary/Preferred)* | $20 copay | $20 copay |
| – Brand *(Non-Formulary / Non-Preferred)* | $50 copay | $50 copay |
| – Number of Days Supply | 34 days | N/A |
| • Mail Order | | |
| – Generic | $10 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) | $10 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) |
| – Brand *(Formulary/Preferred)* | $40 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) | $40 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) |
| – Brand *(Non-Formulary / Non-Preferred)* | $100 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) | $100 copay ($1,000 copay/ person/cal year; excludes non-preferred brands) |
| – Number of Days Supply | 90 days | 90 days |

## APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

| Benefit Categories | PERSCare | |
|---|---|---|
| | In-Network | Out-of-Network |
| Other Services and Supplies | | |
| • Durable Medical Equipment & Prosthetic Devices | 90% (pre-certification required for equipment $1,000+) | 60% (pre-certification required for equipment $1,000+) |
| • Home Health Care | | |
| • Skilled Nursing or Extended Care Facility | 90% first 10 days; 80% next 170 days (pre-certification required; up to 180 days/cal year) | 60% (pre-certification required; up to 180 days/cal year) |
| • Hospice Care | | |
| • Chiropractic Services | $15 copay combined with Acupuncture; up to 20 visits/cal year | 60% combined with Acupuncture; up to 20 visits/cal year |
| • Acupuncture | $15 copay; combined with Chiropractic; up to 20 visits/cal year | 60% combined with Chiropractic; up to 20 visits/cal year |
| Hearing | | |
| • Screening | 90% | 60% |
| • Aid(s) | 90% ($1,000 every 36 months) | 60% ($1,000 every 36 months) |
| Infertility | | |
| • Diagnosis | Not covered | Not covered |
| • Treatment | Not covered | Not covered |
| Outpatient Rehabilitative Therapy Services | | |
| • Physical | 90% | 60% |
| • Occupational | 90% | 60% |
| • Speech | 90% up to 24 visits/cal year | 60% up to 24 visits/cal year |

## Changes since Last Valuation

None.

## APPENDIX C – GLOSSARY OF TERMS

1. **Actuarial Assumptions**
   Assumptions as to the occurrence of future events affecting costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.

2. **Actuarial Cost Method**
   A procedure for determining the Actuarial Present Value of Plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Liability.

3. **Actuarial Gain (Loss) (Called Actuarial Experience Gain and Loss)**
   A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

4. **Actuarial Liability**
   That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of projected benefits which will not be paid by future Normal Costs.

5. **Actuarial Present Value (Present Value)**
   The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

   a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.),
   b. multiplied by the probability of the occurrence of the event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
   c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.

   As a simple example: assume you owe $100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you won't be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is:

| Amount | | Probability of Payment | | $\frac{1}{(1+\text{Discount Rate})}$ | | |
|---|---|---|---|---|---|---|
| $100 | x | (1 - .01) | x | 1/(1+.1) | = | $90 |

## APPENDIX C – GLOSSARY OF TERMS

6. **Actuarial Valuation**
   The determination, as of a valuation date, of the Normal Cost, Actuarial Liability, Actuarial Value of Assets, and related Actuarial Present Values for the Plan.

7. **Actuarial Value of Assets**
   The value of cash, investments and other property belonging to a Plan, as used by the actuary for the purpose of an Actuarial Valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values. This way, long-term costs are not distorted by short-term fluctuations in the market.

8. **Amortization**
   The portion of the Plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Liability.

9. **Discount Rate**
   The estimated long-term interest yield on the investments that are expected to be used to finance the payment of benefits, with consideration given to the nature and mix of current and expected investments and the basis used to determine the Actuarial Value of Assets.

10. **Funded Ratio**
    The Actuarial Value of Assets expressed as a percentage of the Actuarial Liability.

11. **Normal Cost**
    That portion of the Actuarial Present Value of the Plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

12. **Per Person Cost Trend, i.e., Healthcare Cost Trend Rate**
    The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

13. **Projected Unit Credit Actuarial Cost Method**
    A method under which the benefits (projected or un-projected) of each individual included in an actuarial valuation are allocated by a consistent formula to valuation years.

14. **Unfunded Actuarial Liability**
    The excess of the Actuarial Liability over the Actuarial Value of Assets.

## APPENDIX D – ABBREVIATION LIST

Actuarial Liability (AL)
Actuarial Valuation Report (AVR)
Annual Required Contribution (ARC)
Coordination of Benefits (COB)
Deductible and Coinsurance (DC)
Durable Medical Equipment (DME)
Employee Assistance Program (EAP)
Employee Benefits Division (EBD)
Fiscal Year Ending (FYE)
Governmental Accounting Standards Board (GASB)
Hospital Emergency Room (ER)
In-Network (INN)
Inpatient (IP)
Line of Duty Act (LODA)
Medicare Eligible (ME)
Net Other Postemployment Benefit (NOO)
Non-Medicare Eligible (NME)
Not Applicable (NA)
Office Visit (OV)
Other Postemployment Benefit (OPEB)
Out-of-Network (OON)
Out-of-Pocket (OOP)
Outpatient (OP)
Pay-as-you-go (PAYGo)
Per Person Per Month (PPPM)
Pharmacy (Rx)
Preferred Provider Organization (PPO)
Primary Care Physician (PCP)
Specialist Care Provider (SCP)
Summary Plan Description (SPD)
Unfunded Actuarial Liability (UAL)
Urgent Care (UC)