Gabriel Roeder Smith & Company
Consultants & Actuaries

# CITY OF ROYAL OAK RETIREE HEALTH CARE PLAN

## THE REPORT OF THE ACTUARIAL VALUATION

## AS OF JUNE 30, 2014

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March 16, 2014

Ms. Julie Rudd
Finance Director
City of Royal Oak
211 S. Williams Street
Royal Oak, Michigan 48067

Dear Ms. Rudd:

Submitted in this report are the results of an Actuarial Valuation of the assets and benefit values associated with the employer financed retiree health benefits provided by the City of Royal Oak. The date of the valuation was June 30, 2014, effective for the fiscal years beginning July 1, 2015 and July 1, 2016. This report was prepared at the request of the City of Royal Oak.

The actuarial calculations were prepared for purposes of complying with the requirements of Statement No. 45 of the Governmental Accounting Standards Board (GASB). In addition, we have included information which may be helpful if there is a trust requiring a GASB Statement No. 43 disclosure. The calculations reported herein have been made on a basis consistent with our understanding of these accounting standards. Determinations of the liability associated with the benefits described in this report for purposes other than satisfying the City's financial reporting requirements may produce significantly different results.

This report was requested by the City of Royal Oak and is intended for use by the City and those designated or approved by the City. This report may be provided to parties other than the City of Royal Oak only in its entirety and only with the permission of the City of Royal Oak.

The valuation was based upon information, furnished by the City, concerning retiree health benefits, individual members, and financial data. Data was checked for internal consistency, but was not otherwise audited.

To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Please see the following page for additional disclosures required by the Actuarial Standards of Practice. Mark Buis and James D. Anderson are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

Mark Buis

Mark Buis, FSA, EA, MAAA

James D. Anderson

James D. Anderson, FSA, EA, MAAA

MB:sc

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## Additional Disclosures Required by Actuarial Standards of Practice

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

This report should not be relied on for any purpose other than the purpose described in the primary communication.

The signing actuaries are independent of the plan sponsor.

# EXECUTIVE SUMMARY

# EXECUTIVE SUMMARY

This report presents the Annual Required Contribution (ARC), one component of the annual Other Postemployment Benefits (OPEB) cost required to be recognized by the plan sponsor for purposes of complying with the accounting requirements of the Governmental Accounting Standards Board (GASB) Statement No. 45. In addition, the plan may need to comply with GASB Statement No. 43. Please consult with legal counsel and your auditors to determine whether you have a plan for GASB Statement No. 43 purposes.

We have calculated the ARC for the fiscal years beginning July 1, 2015 and July 1, 2016. Below is a summary of the results. In the first year GASB Statement No. 45 is adopted, the annual OPEB cost is equal to the ARC. In subsequent years, if there is a net OPEB obligation (NOO, see below), the annual OPEB cost is equal to the ARC for the fiscal year plus one year's interest on the net OPEB Obligation plus an adjustment to the ARC. Actual paid on behalf of retirees may be treated as employer contributions in relation to the ARC and act to reduce the NOO. The ARCs and estimated retiree claims shown below include an adjustment for any implicit rate subsidy present in your pre-65 rates.

| Annual Required Contribution | ARC | Estimated Claims Paid for Retirees |
|---|---|---|
| Fiscal Year Beginning 2015 | $ 11,750,407 | $ 7,696,244 |
| Fiscal Year Beginning 2016 | 11,412,360 | 8,177,335 |

For additional details please see the Section titled "Valuation Results."

## Additional OPEB Reporting Requirements – Net OPEB Obligation

In addition to the annual cost described on the previous page, employers will have to disclose a Net OPEB Obligation (or asset). The NOO is the cumulative difference between annual OPEB cost and annual employer contributions in relation to the ARC accumulated from the implementation of Statement No. 45. The NOO is zero as of the beginning of the fiscal year that Statement No. 45 is implemented, unless the employer chooses to recognize a beginning balance. The requirements for determining the employer's contributions in relation to the ARC are described in paragraph 13g. of Statement No. 45. Additional information required to be disclosed in the employer's financial statements is detailed in paragraphs 24 through 27 of Statement No. 45.

## Liabilities and Assets

| | |
|---|---|
| 1. Present Value of Future Benefit Payments | $136,194,104 |
| 2. Actuarial Accrued Liability | 128,977,703 |
| 3. Plan Assets | 8,668,092 |
| 4. Unfunded Actuarial Accrued Liability (3) – (2) | 120,309,611 |
| 5. Funded Ratio (3)/(2) | 6.7% |

The Present Value of Future Benefit Payments (PVFB) is the present value of all benefits projected to be paid from the plan for past and future service. The Actuarial Accrued Liability is the portion of the PVFB allocated to past service by the Plan's funding method (see the Section titled "Actuarial Cost Method and Actuarial Assumptions").

# SECTION A

## VALUATION RESULTS

# DEVELOPMENT OF THE ANNUAL REQUIRED CONTRIBUTION FOR THE OTHER POSTEMPLOYMENT BENEFITS FISCAL YEARS BEGINNING JULY 1, 2015 AND JULY 1, 2016

| Contributions for | Development of the Annual Required Contribution for July 1, 2015 - June 30, 2016 | | |
|---|---|---|---|
| | General | Police & Fire | Total |
| Normal Cost | | | |
| Normal Retirement | $ 423,471 | $ 469,892 | $ 893,363 |
| Early Retirement | 0 | 0 | 0 |
| Termination Benefits | 26,771 | 11,887 | 38,658 |
| Death in Service | 7,910 | 4,895 | 12,805 |
| Disability | 9,127 | 18,880 | 28,007 |
| Future Refund of Member Contributions | 0 | 0 | 0 |
| Total Normal Cost | $ 467,279 | $ 505,554 | $ 972,833 |
| Annual Active Member Contribution | 0 | 0 | 0 |
| Employer Normal Cost | 467,279 | 505,554 | 972,833 |
| Amortization of Unfunded Actuarial Accrued Liabilities (Amortized over 24 years) | 4,899,734 | 5,877,841 | 10,777,575 |
| Annual Required Contribution (ARC) | 5,367,013 | 6,383,395 | 11,750,408 |

| Contributions for | Annual Required Contribution for July 1, 2016 - June 30, 2017 | | |
|---|---|---|---|
| | General | Police & Fire | Total |
| Annual Required Contribution (ARC) | $ 5,090,055 | $ 6,322,305 | $ 11,412,360 |

The unfunded actuarial accrued liabilities were amortized as a level dollar amount over a period of 24 years for the fiscal year beginning July 1, 2015 and 23 years for the fiscal year beginning July 1, 2016. A 30-year amortization period for unfunded actuarial accrued liabilities is the maximum period that complies with GASB requirements.

# DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY AS OF JUNE 30, 2014

| | General | Police & Fire | Total |
|---|---|---|---|
| A. Present Value of Future Benefits | | | |
| 1. Retirees and Beneficiaries | $41,856,780 | $55,419,001 | $ 97,275,781 |
| 2. Vested Terminated Members | 2,080,229 | 230,159 | 2,310,388 |
| 3. Active Members | 18,070,208 | 18,537,727 | 36,607,935 |
| Total Present Value of Future Benefits | $62,007,217 | $74,186,887 | $136,194,104 |
| B. Present Value of Future Employer Normal Costs | 3,370,047 | 3,846,354 | 7,216,401 |
| C. Present Value of Future Contributions from Current Active Members | 0 | 0 | 0 |
| D. Actuarial Accrued Liability (A.-B.-C.) | 58,637,170 | 70,340,533 | 128,977,703 |
| E. Actuarial Value of Assets | 3,940,777 | 4,727,315 | 8,668,092 |
| F. Unfunded Actuarial Accrued Liability (D.-E.) | 54,696,393 | 65,613,218 | 120,309,611 |

The Unfunded Actuarial Accrued Liability (UAAL) is not booked as an expense all in one year and does not appear in the Employer's Statement of Net Assets. Nevertheless, it is reported in the Notes to the Financial Statements and in the Required Supplementary Information. These are information sections within the employer's financial statements.

The long term rate of investment return used in this valuation is 7.75%.

# COMMENTS

**COMMENT A:** One of the key assumptions used in any valuation of the cost of postemployment benefits is the rate of return on Plan assets. Higher assumed investment returns will result in a lower ARC. Lower returns will tend to increase the computed ARC. Based on information from the Plan Sponsor, we have calculated the liability and the resulting ARC using an assumed long term rate of investment return of 7.75% similar to the Retirement System. If the Plan Sponsor chooses to pre-fund with contributions less than the ARC (or not pre-fund at all), GASB requires the use of a lower rate of return on assets. Use of such an interest rate would considerably increase the ARC and the net OPEB obligation that is disclosed on the employer's financial statement.

The ARC shown in this report has been calculated assuming that approximately the full ARC will be contributed each year. It is expected to remain approximately a level dollar amount until the unfunded liability is paid off. If an amount materially less than the full ARC is contributed, GASB requires use of a lower interest rate that would produce a higher ARC. Shown below are results under 2 scenarios; 1) The City pays benefits on a pay-as-you-go basis, 2) The City contributes the full ARC each year. If the City's policy is to contribute an amount less than the full ARC but more than a pay-as-you-go basis, the results would fall between these amounts. Please consult with your auditor for the appropriate interest rate to use.

| Employment Group | 4.00% Pay-as-You-Go | 7.75% Current |
|---|---|---|
| **General** | | |
| **ARC ($)** | $ 6,693,403 | $ 5,367,013 |
| **Police & Fire** | | |
| **ARC ($)** | $ 8,329,389 | $ 6,383,395 |
| **Total** | | |
| **ARC ($)** | $15,022,792 | $11,750,408 |

**COMMENT B**: Based on the number of plan members as of this valuation, the Plan Sponsor is required by GASB to perform actuarial valuations at least biennially. This permits fluctuations and trends in experience to be reflected in the contribution on a regular basis.

# COMMENTS (CONCLUDED)

**COMMENT C:** The ARC increased from $11,008,781 in the June 30, 2012 valuation to $11,750,408 in the June 30, 2014 valuation. The primary reasons for the increase were updates the actuarial assumptions, including re-setting the healthcare cost trend assumption to match regional trends.

**COMMENT D:** GASB Statement No. 45 stipulates that Plan assets must be placed in a trust or equivalent arrangement that meets the following criteria:

- Employer contributions to the Plan are irrevocable
- Assets are dedicated to providing benefits to retirants and their beneficiaries
- Assets are legally protected from creditors

Our calculations assume that the City established a qualified trust in which to deposit contributions.

**COMMENT E:** The provisions of the Patient Protection and Affordable Care Act (PPACA) have been incorporated to the extent they are reflected in the premium rates. We have not adjusted for future potential excise tax liability for ‘Cadillac Plans’ due to begin in 2018. Based on the City’s current premiums projected using valuation trend rates, we estimate the liability may increase Plan costs by 1% - 3%. It is likely an estimate of the future excise tax liability will be included in the 2016 valuation of the Plan. Other provisions of PPACA will be reflected as they become effective.

# SECTION B

## RETIREE PREMIUM RATE DEVELOPMENT

# RETIREE PREMIUM RATE DEVELOPMENT

The City offers benefits on a fully-insured basis and on a self-insured basis. The fully-insured and self-insured rates are developed separately and then blended together at the end to create a single set of rates for use in the valuation.

Initial self-inured premium rates were developed separately for each class (Medicare (post-65) and Non-Medicare (pre-65) retirees). The rates were calculated by using paid claims and exposure data incurred during the period of April 2011 to March 2014 and paid prior to November 2014 adjusted for catastrophic claims, plus the load for administration, network access fee, and stop loss premiums. The Medical data was analyzed for the pre-65 and post-65 participants separately since Medicare is available for the post-65 participants and has a significant impact on the claim experience. We estimated the split between Medicare and Non-Medicare claims since they were not provided separately. Furthermore, since the prescription drug claims and the medical claims exhibit different trends and claim payment patterns, we analyzed these claims separately as well.

Initial fully-insured premium rates were developed for the two classes of retirees (pre-65 and post-65). The fully-insured rates provided by the City were utilized to determine the appropriate premium rates. The pre-65 fully-insured premiums are blended rates based on the combined experience of active and pre-65 retired members; therefore, there is an implicit employer subsidy for the non-Medicare eligible retirees since the average costs of providing health care benefits to retirees under age 65 is higher than the average cost of providing health care benefits to active employees. The true per capita cost for the pre-65 retirees is developed by adjusting the demographic differences between the active employees and retirees to reflect this implicit rate subsidy for the retirees. For the post-65 retirees, the fully-insured premium rate is used as the basis of the initial per capita cost without adjustments since the rate reflects the demographics of the post-65 retiree group. All Medicare retirees in BCBS plans are enrolled in the Medicare Advantage for medical coverage. For their Rx coverage, they get the prescription drug benefit that corresponds to their BCBS suffix.

For the current active employees it was assumed they would retire into a Blue Cross/Blue Shield Plan. We have developed separate premium rates for future retirees in order to reflect the benefit differences.

Age graded and sex distinct premiums are utilized by this valuation. The premiums developed by the preceding process are appropriate for the unique age and sex distribution currently existing. Over the future years covered by this valuation, the age and sex distribution will most likely change. Therefore, our process “distributes” the average premium over all age/sex combinations and assigns a unique premium for each combination. The age/sex specific premiums more accurately reflect the health care utilization and cost at that age.

The combined monthly one-person medical and drug premiums at select ages are shown below.

| For Those Not Eligible for Medicare (Pre-65) | | | | |
|---|---|---|---|---|
| | Future Retirees | | Current Retirees | |
| **Age** | **Male** | **Female** | **Male** | **Female** |
| 40 | $ 319.72 | $ 500.91 | $ 364.50 | $ 571.07 |
| 50 | 587.69 | 665.89 | 670.01 | 759.16 |
| 60 | 964.96 | 927.54 | 1,100.12 | 1,057.46 |
| 64 | 1,123.17 | 1,041.07 | 1,280.48 | 1,186.89 |

| For Those Eligible for Medicare (Post-65) | | | | |
|---|---|---|---|---|
| | Future Retirees | | Current Retirees | |
| **Age** | **Male** | **Female** | **Male** | **Female** |
| 65 | $ 457.40 | $ 421.20 | $ 580.51 | $ 534.57 |
| 75 | 585.73 | 519.83 | 743.38 | 659.74 |
| 85 | 653.14 | 573.42 | 828.93 | 727.76 |

The dental and vision premiums were not “age graded” for this valuation since these claims do not vary significantly by age. The combined dental and vision rates used in this valuation are $39.00 for pre-65 participants and $38.34 for post-65 participants.

James E. Pranschke is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to certify the per capita retiree health care rates shown above.

James E. Pranschke

James E. Pranschke, FSA, MAAA

# SECTION C

## SUMMARY OF BENEFIT PROVISIONS

# CITY OF ROYAL OAK RETIREE HEALTH CARE PLAN
# SUMMARY OF BENEFITS AS OF JUNE 30, 2014

## Persons Covered

Health insurance coverage is provided by and paid for by the City for the following people:

- to retired members of the Retirement System if they meet the eligibility requirements for post-retirement medical benefits (see next page);
- to eligible spouses and/or dependents of eligible retirees during the retirees' lifetime;
- to eligible surviving spouses and/or dependents after the eligible retiree's death for members who retired after June 1, 1980. Spousal coverage does not continue for those who retired prior to June 1, 1980;
- to employees and eligible spouses and/or dependents who retire from a deferred status if they meet the minimum service requirements under their contract;
- eligible employees may elect to receive health insurance through their spouse's health care plan. The City will pay the employee 30% of the schedule applicable premium annually, up to a maximum of $2,400.

**Note:** Eligible = covered spouse and/or dependents at time of retirement or termination if deferred

**Groups Covered**

| Group | Date of Closure to New Hires |
|---|---|
| SEIU AFL-CIO Local 517M | 7/1/2006 |
| Department Heads and Deputies | 7/1/2008 |
| Executive Department Heads | 7/1/2007 |
| Professional & Technical | 7/1/2007 |
| 44th Disctrict Court | 7/1/2007 |
| AFSCME | 7/1/2006 |
| Foremen and Supervisors | 7/1/2006 |
| Judges | 5/1/2008 |
| Police Service Aides | 3/1/2009 |
| Police | 3/1/2009 |
| Fire | 3/1/2009 |
| Police Command | 3/1/2009 |
| Police Detectives | 3/1/2009 |
| Police/Fire Department Heads | 3/1/2009 |

# City of Royal Oak Retiree Health Care Plan
# Summary of Benefits as of June 30, 2014

## Eligibility Requirements

Current active members are eligible to receive City paid health insurance upon retirement if they meet the following requirements:

| Employee Group | Eligibility Requirements |
|---|---|
| Department Heads, Deputy Dept. Heads & Executive Dept. Heads | 10 years of service |
| SEIU AFL-CIO Local 517M & Supervisors | 15 years of seniority if hired on or before 8/1/94, 20 years of service otherwise |
| Professional & Technical | *If hired before 6/11/83:* Age 70 with 5 years of service;<br>Age 65 with 10 years of service;<br>Age 60 with 15 years of service.<br>*If hired on or after 6/11/83:* 20 years of service |
| AFSCME | *If hired before 6/11/83:* Age 70 with 5 years of service;<br>Age 65 with 10 years of service;<br>Age 60 with 15 years of service.<br>*If hired on or after 6/11/83:* 15 years of service |
| All others | 20 years of service |

## Benefits Provided

Retirees and their spouses are provided medical, prescription drug, dental, and vision coverage as well as reimbursed their Medicare Part B premiums. Benefits are provided as outlined in the labor contract/agreement under which the employee retired. (Some older contracts do not provide prescription drug, dental, and/or vision coverage.)

# SECTION D

## SUMMARY OF PARTICIPANT DATA

# TOTAL ACTIVE MEMBERS AS OF JUNE 30, 2014
## BY AGE AND YEARS OF SERVICE

| | Years of Service to Valuation Date | | | | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|
| **Age** | **0-4** | **5-9** | **10-14** | **15-19** | **20-24** | **25-29** | **30 Plus** | **No.** | **Valuation Payroll** |
| 20-24 | | | | | | | | | |
| 25-29 | | | | | | | | | |
| 30-34 | | 6 | 2 | | | | | 8 | $ 500,048 |
| 35-39 | | 11 | 12 | 1 | | | | 24 | 1,525,087 |
| 40-44 | | 2 | 18 | 18 | 3 | | | 41 | 2,687,645 |
| 45-49 | | 1 | 14 | 16 | 15 | 3 | | 49 | 3,359,753 |
| 50-54 | | | 7 | 14 | 10 | 5 | | 36 | 2,165,560 |
| 55-59 | | | 7 | 11 | 7 | 8 | | 33 | 2,152,607 |
| 60-64 | | 1 | 6 | 4 | 1 | 1 | 1 | 14 | 867,251 |
| 65 & Over | | 1 | 1 | | | | 1 | 3 | 123,635 |
| **Totals** | | **22** | **67** | **64** | **36** | **17** | **2** | **208** | **$13,381,586** |

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

| | | |
|---|---|---|
| **Age:** | 48.0 | years |
| **Service:** | 16.8 | years |
| **Annual Pay:** | $64,335 | |

## GENERAL ACTIVE MEMBERS AS OF JUNE 30, 2014
## BY AGE AND YEARS OF SERVICE

| | Years of Service to Valuation Date | | | | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|
| **Age** | **0-4** | **5-9** | **10-14** | **15-19** | **20-24** | **25-29** | **30 Plus** | **No.** | **Valuation Payroll** |
| 20-24 | | | | | | | | | |
| 25-29 | | | | | | | | | |
| 30-34 | | 2 | 1 | | | | | 3 | $ 171,554 |
| 35-39 | | 3 | 4 | 1 | | | | 8 | 419,416 |
| 40-44 | | 2 | 5 | 6 | 1 | | | 14 | 725,736 |
| 45-49 | | | 10 | 5 | 5 | 2 | | 22 | 1,221,930 |
| 50-54 | | | 6 | 11 | 5 | 4 | | 26 | 1,380,096 |
| 55-59 | | | 7 | 11 | 3 | 6 | | 27 | 1,612,454 |
| 60-64 | | 1 | 6 | 4 | 1 | | 1 | 13 | 772,915 |
| 65 & Over | | 1 | 1 | | | | 1 | 3 | 123,635 |
| **Totals** | | **9** | **40** | **38** | **15** | **12** | **2** | **116** | **$6,427,736** |

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

| | | |
|---|---|---|
| **Age:** | 51.0 | years |
| **Service:** | 17.0 | years |
| **Annual Pay:** | $55,412 | |

# POLICE AND FIRE ACTIVE MEMBERS AS OF JUNE 30, 2014
# BY AGE AND YEARS OF SERVICE

| | Years of Service to Valuation Date | | | | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|
| **Age** | **0-4** | **5-9** | **10-14** | **15-19** | **20-24** | **25-29** | **30 Plus** | **No.** | **Valuation Payroll** |
| 20-24 | | | | | | | | | |
| 25-29 | | | | | | | | | |
| 30-34 | | 4 | 1 | | | | | 5 | $ 328,494 |
| 35-39 | | 8 | 8 | | | | | 16 | 1,105,671 |
| 40-44 | | | 13 | 12 | 2 | | | 27 | 1,961,909 |
| 45-49 | | 1 | 4 | 11 | 10 | 1 | | 27 | 2,137,823 |
| 50-54 | | | 1 | 3 | 5 | 1 | | 10 | 785,464 |
| 55-59 | | | | | 4 | 2 | | 6 | 540,153 |
| 60-64 | | | | | | 1 | | 1 | 94,336 |
| 65 & Over | | | | | | | | | |
| **Totals** | | **13** | **27** | **26** | **21** | **5** | | **92** | **$6,953,850** |

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

| | | |
|---|---|---|
| **Age:** | 44.2 | years |
| **Service:** | 16.6 | years |
| **Annual Pay:** | $75,585 | |

# TOTAL RETIRED AND DEFERRED MEMBERS AS OF JUNE 30, 2014 BY AGE

| Age | Retired Members | |
|---|---|---|
| | **General** | **Police/Fire** |
| Under 55 | 7 | 40 |
| 55-59 | 21 | 20 |
| 60-64 | 35 | 29 |
| 65 & Over | 158 | 125 |
| **Totals** | **221** | **214** |

The number counts above only include those retirees who have elected to receive retiree health care coverage through the City of Royal Oak retiree health care plan.

| Age | Deferred Members | |
|---|---|---|
| | **General** | **Police/Fire** |
| Under 55 | 5 | 1 |
| 55-59 | 3 | 0 |
| 60-64 | 1 | 0 |
| 65 & Over | 0 | 0 |
| **Totals** | **9** | **1** |

The number counts above only include those deferred vested who are eligible based on service at termination to receive retiree health care coverage through the City of Royal Oak retiree health care plan.

# SECTION E

## GASB ACCOUNTING SCHEDULES

# GASB STATEMENTS NO. 43 AND NO. 45
# REQUIRED SUPPLEMENTARY INFORMATION

| | |
|---|---|
| Valuation Date | June 30, 2014 |
| Actuarial Cost Method | Individual Entry Age |
| Amortization Method | Level Dollar Closed |
| Remaining Amortization Periods | 24 Years |
| Asset Valuation Method | Market Value |
| Actuarial Assumptions: | |
| Investment Rate of Return | 7.75% |
| Projected Salary Increases | 3.0% - 5.9% |
| Health Care Cost Trend Rate | 9% Initial<br>3.0% Ultimate |

# SECTION F

## ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

# VALUATION METHODS

***Actuarial Cost Method***. Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

(i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;

(ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains (losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

***Financing of Unfunded Actuarial Accrued Liabilities***. Unfunded Actuarial Accrued Liabilities (UAAL) (full funding credit if assets exceed liabilities) were amortized by level (principal & interest combined) percent-of-payroll contributions. The UAAL was determined using the funding value of assets and actuarial accrued liability calculated as of the valuation date. The UAAL amortization payment (one component of the contribution requirement), is the level dollar amount required to fully amortize the UAAL over a 24-year period beginning on the valuation date. This UAAL payment does not reflect any payments expected to be made between the valuation date and the fiscal year for which the contributions in this report have been calculated.

***Actuarial Value of System Assets.*** Market value of assets were reported to us to be used in conjunction with this valuation. Assets were allocated between the General and Police/Fire Groups based on total liability as of the valuation date.

The following amortization factors were used in developing the Annual Required Contribution for the fiscal year shown.

| | **Fiscal Year Beginning** | |
|---|---|---|
| **7.75% Interest** | **July 01, 2015** | **July 01, 2016** |
| General (Level Dollar) | 11.1635 | 10.9904 |
| Police & Fire (Level Dollar) | 11.1635 | 10.9904 |

***The rate of investment return*** was 7.75% a year, compounded annually net after investment and administrative expenses.

The assumed real return is the rate of return in excess of price inflation. Considering other assumptions used in the valuation, the 7.75% nominal rate translates to a net real return of 4.75% a year.

***The rates of salary increase*** used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which future contributions will be based.

| | % Increase in Salary at Sample Ages | | | | |
|---|---|---|---|---|---|
| Sample | Merit and Seniority | | Base | Increase Next Year | |
| Ages | General | Police/Fire | (Economic) | General | Police/Fire |
| 20 | 2.88% | 2.25% | 3.00% | 5.88% | 5.25% |
| 25 | 2.34% | 2.25% | 3.00% | 5.34% | 5.25% |
| 30 | 2.01% | 2.25% | 3.00% | 5.01% | 5.25% |
| 35 | 1.78% | 1.58% | 3.00% | 4.78% | 4.58% |
| 40 | 1.60% | 0.59% | 3.00% | 4.60% | 3.59% |
| 45 | 1.26% | 0.18% | 3.00% | 4.26% | 3.18% |
| 50 | 0.85% | 0.11% | 3.00% | 3.85% | 3.11% |
| 55 | 0.50% | 0.03% | 3.00% | 3.50% | 3.03% |
| 60 | 0.12% | 0.00% | 3.00% | 3.12% | 3.00% |
| 65 | 0.00% | 0.00% | 3.00% | 3.00% | 3.00% |
| Ref | 417 | 418 | 0.03 | | |

The number of active members is assumed to decrease in the future.

***The mortality table*** used was the RP-2000 Mortality Table, projected 20 years (multiplied by 110%). This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. Rates for disabled members were set forward 10 years.

| Sample Attained Ages | Probability of Dying Next Year | | Future Life Expectancy (years) | |
|---|---|---|---|---|
| | Men | Women | Men | Women |
| 45 | 0.128% | 0.090% | 36.73 | 38.58 |
| 50 | 0.164% | 0.131% | 31.97 | 33.76 |
| 55 | 0.272% | 0.255% | 27.27 | 29.03 |
| 60 | 0.538% | 0.503% | 22.72 | 24.49 |
| 65 | 1.057% | 0.966% | 18.47 | 20.24 |
| 70 | 1.805% | 1.666% | 14.58 | 16.34 |
| 75 | 3.139% | 2.633% | 11.01 | 12.82 |
| 80 | 5.791% | 4.385% | 7.93 | 9.66 |
| Ref | #454x1.1sb0yrs | #455x1.1sb0yrs | | |

***The rates of retirement*** used to measure the probability of eligible members retiring during the next year were as follows:

| | Percent of Eligible Active Members Retiring Within the Next Year | | |
|---|---|---|---|
| Retirement Age | General | Police Service Aides | Fire Hired After 10/1/09 |
| 50 | 20% | | 40% |
| 51 | 15% | | 40% |
| 52 | 15% | | 40% |
| 53 | 15% | | 25% |
| 54 | 15% | | 25% |
| 55 | 15% | 20% | 25% |
| 56 | 15% | 15% | 25% |
| 57 | 15% | 15% | 25% |
| 58 | 15% | 15% | 25% |
| 59 | 15% | 15% | 25% |
| 60 | 15% | 15% | 25% |
| 61 | 15% | 15% | 25% |
| 62 | 35% | 15% | 25% |
| 63 | 20% | 15% | 25% |
| 64 | 20% | 15% | 25% |
| 65 | 55% | 15% | 100% |
| 66 | 45% | 15% | |
| 67 | 45% | 35% | |
| 68 | 45% | 20% | |
| 69 | 45% | 20% | |
| 70 | 100% | 100% | |
| Ref | 2321 | 2322 | 2323 |

| Retirement Service | Percent of Eligible Active Members Retiring<br>Police Officers, Detectives, Command, & Fire Hired Before 10/1/09 |
|---|---|
| 25 | 40% |
| 26 | 40% |
| 27 | 40% |
| 28 | 25% |
| 29 | 25% |
| 30 | 25% |
| 31 | 25% |
| 32 | 25% |
| 33 | 25% |
| 34 | 25% |
| 35 | 25% |
| 36 | 25% |
| 37 | 25% |
| 38 | 25% |
| 39 | 25% |
| 40 | 100% |
| Ref | 2323 |

***Rates of disability*** among active members.

| Sample Ages | Percent Becoming Disabled Within Next Year: General Males | General Females | Police/Fire Males | Police/Fire Females |
|---|---|---|---|---|
| 20 | 0.04% | 0.02% | 0.08% | 0.08% |
| 25 | 0.05% | 0.03% | 0.11% | 0.11% |
| 30 | 0.05% | 0.04% | 0.19% | 0.19% |
| 35 | 0.07% | 0.07% | 0.23% | 0.23% |
| 40 | 0.11% | 0.10% | 0.53% | 0.53% |
| 45 | 0.16% | 0.14% | 0.60% | 0.60% |
| 50 | 0.26% | 0.23% | 0.71% | 0.71% |
| 55 | 0.46% | 0.38% | 0.83% | 0.83% |
| Ref | #33x0.5 | #34x0.5 | #45x0.75 | #45x0.75 |

***Rates of separation from active membership*** were as shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

| | | Percent of Active Members Separating Within Next Year | | | |
|---|---|---|---|---|---|
| | | General | | Police/Fire | |
| **Sample Ages** | **Service Index** | **Males** | **Females** | **Males** | **Females** |
| **ALL** | 1 | 12.00% | 12.00% | 10.00% | 10.00% |
| | 2 | 9.00% | 9.00% | 7.00% | 7.00% |
| | 3 | 7.00% | 7.00% | 5.00% | 5.00% |
| | 4 | 5.00% | 5.00% | 4.00% | 4.00% |
| | 5 | 4.50% | 4.50% | 3.50% | 3.50% |
| 20 | 6 & Over | 4.50% | 4.50% | 3.00% | 3.00% |
| 25 | | 4.50% | 4.50% | 3.00% | 3.00% |
| 30 | | 4.00% | 4.00% | 2.50% | 2.50% |
| 35 | | 3.50% | 3.50% | 1.50% | 1.50% |
| 40 | | 2.50% | 2.50% | 1.00% | 1.00% |
| 45 | | 2.00% | 2.00% | 0.75% | 0.75% |
| 50 | | 1.50% | 1.50% | 0.50% | 0.50% |
| 55 | | 1.00% | 1.00% | 0.25% | 0.25% |
| Ref | | 29<br>#1300x1 | 29<br>#1300x1 | 30<br>#1301x1 | 30<br>#1301x1 |

***Health cost increases*** **–** See table below.

| Year Beginning July 1,* | Medical & Drug | Dental & Vision |
|---|---|---|
| 2015 | 9.00% | 3.00% |
| 2016 | 8.25 | 3.00 |
| 2017 | 7.50 | 3.00 |
| 2018 | 6.75 | 3.00 |
| 2019 | 6.00 | 3.00 |
| 2020 | 5.25 | 3.00 |
| 2021 | 4.50 | 3.00 |
| 2022 | 4.00 | 3.00 |
| 2023 | 3.50 | 3.00 |
| 2024 & Later | 3.00 | 3.00 |

** Except for Medicare Part B Reimbursement which increases on January 1 each year.*

# MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

**Decrement Operation** Disability and mortality decrements do not operate during the first 5 years of service. Disability also does not operate during retirement eligibility.

**Decrement Timing** Decrements of all types are assumed to occur mid-year.

**Eligibility Testing** Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

**Incidence of Contributions** Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.

**Marriage Assumption** 90% of males and females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.

**Pay Increase Timing** Beginning of year.

**Medicare Coverage** Assumed to be available for all covered employees on attainment of age 65.

**Election Percentage** It was assumed that 90% of eligible future retirees would choose to receive retiree health care benefits through the City. Of those assumed to elect coverage, 80% of males and 80% of females in the General groups were assumed to elect two-person coverage and 90% of males and 90% of females in the Police/Fire groups were assumed to elect two person coverage, if eligible. For those that elect two-person coverage, it was assumed that coverage would continue to the spouse upon death of the retiree, if eligible.

# APPENDIX A

## OVERVIEW

# GASB BACKGROUND

The purpose of this valuation is to provide information on the cost associated with providing postemployment benefits other than pensions, or OPEB, to current and former employees. The information is designed to assist you in complying with Governmental Accounting Standards Board (GASB) Statements No. 43 and No. 45. OPEB benefits are most often associated with postemployment health care, but cover almost any benefit not provided through a pension plan, including life insurance, dental and vision benefits. It is important to note that OPEB benefits, by definition, do not include benefits currently being provided to active employees – however, this report includes the liabilities for benefits expected to be paid to current active employees in the future when they retire.

GASB Statements No. 43 and No. 45 were released in the spring of 2004. GASB Statement No. 43 covers the accounting rules for OPEB *plans* while GASB Statement No. 45 describes the rules for *employers* sponsoring OPEB plans. Your auditor can assist you in determining which statements apply to your particular situation.

The specific items required to be disclosed on an OPEB sponsor's financial statements are described in detail in GASB Statements No. 43 and No. 45.

**GASB Statement No. 45**

Among the requirements of Statement No. 45 are recognition each year of an expense called the Annual OPEB Cost, and the accumulation of a liability to be disclosed on the employer's Statement of Net Assets called the Net OPEB Obligation (NOO).

The fundamental items required to determine the Annual OPEB Cost and the NOO are:

- the Annual Required Contribution (ARC)
- the Employer's Contributions in relation to the ARC

Although GASB does not require OPEB contributions, it has chosen to call the base component of the annual OPEB cost the Annual Required Contribution. The ARC is provided in this report.

Paragraph 13g. of Statement No. 45 states:

> "An employer has made a contribution in relation to the ARC if the employer has:
>
> 1. made payments of benefits directly to or on behalf of a retiree or beneficiary,
> 2. made premium payments to an insurer, or
> 3. irrevocably transferred assets to a trust, or equivalent arrangement in which Plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the Plan and are legally protected from creditors of the employer(s) or plan administrator."

For each fiscal year shown in this report, we have provided the ARC and the estimated benefits and/or premiums (based on valuation assumptions).

The NOO is the cumulative difference between the Annual OPEB Cost each year and the Employer's Contribution in relation to the ARC. The Annual OPEB Cost for a year is equal to:

- the ARC, plus
- interest on the prior year's NOO, plus
- amortization of the prior year's NOO.

The Annual OPEB Cost and NOO are generally developed by the Plan Sponsor's auditor based on information contained herein and elsewhere.

**GASB Statement No. 43**

If the Plan has assets for Statement No. 43 purposes, then certain additional information useful in complying with the Statement is contained in this report.

# GASB STANDARDS

Unlike pension plans, OPEB plans often do not have a formal document detailing the specific terms of the plan. Under GASB Statements No. 43 and No. 45 the benefits to be accounted for are those provided by the *substantive plan* – loosely defined as the benefits covered by the plan as understood by the employer and plan members at the time of each actuarial valuation. The substantive plan provisions used in this valuation are summarized in the section titled "Summary of Benefit Provisions".

GASB also requires that the calculations assume the terms of the substantive plan continue indefinitely. It has been argued that there is a likelihood future OPEB plan provisions would be different than the current substantive plan (due to rising health care costs or social changes) and therefore liabilities based on the current substantive plan may overstate what will actually occur. However, the GASB Statement is designed to measure liabilities for the plan as it currently exists. While it may be reasonable to assume future changes in the OPEB plan for other purposes, recognition of anticipated changes is not allowed for purposes of accounting for OPEB.

The specific items required to be disclosed on an OPEB sponsor's financial statements are described in detail in GASB Statements No. 43 and No. 45. In general terms, though, the plan sponsor is required to disclose an annual OPEB cost, the funded status of the plan and the funding progress on the valuation date.

Although GASB does not require OPEB contributions, it has chosen to call the base component of the annual OPEB cost the Annual Required Contribution, or ARC. The ARC consists of the cost of benefits accruing in a year plus an amount calculated to amortize any unfunded actuarial accrued liability over a period of not more than 30 years.

The funded status of the plan is a ratio of the plan's assets (if any) to the actuarial accrued liability on the valuation date. The plan is also required to disclose the cumulative difference between the ARC and the employer's actual contribution to the plan. This amount is known as the Net OPEB Obligation (NOO). Each year, the NOO accumulates with interest, plus the difference between the ARC and actual contributions for the year, plus some technical adjustments. **For most plans the NOO is set to zero as of the effective date of the GASB OPEB standard. It is the NOO, and not the actuarial accrued liability, that will be disclosed on the employers' Statement of Net Assets.**

# OPEB PRE-FUNDING

Many employers fund retiree health care benefits using the pay-as-you-go (or cash disbursement) method. The employer's annual contribution for these benefits is equal to the actual disbursements during the year for health care benefits for retired employees. This method of funding will result in increasing contributions over time. First, per capita cash disbursements will tend to increase from year to year as the cost of health care services, or the utilization of these services increase. Second, the number of retired members is likely to increase for years to come. The more retirees, the greater the disbursements as a percentage of employee payroll.

A retiree health care plan is similar to a defined benefit pension plan, in that promises are made to employees to provide them with a benefit payable at some future date. For defined benefit pension plan sponsors a common funding objective is to contribute annual amounts to a fund which will i) remain level as a percentage of active member payroll, and ii) when combined with present assets and future investment return will be sufficient to meet the financial obligations of the Plan to current and future retirees.

The ultimate determination as to the level of pre-funding will be the result of decisions made in an attempt to reconcile the often conflicting needs of benefit security for members and fiscal responsibility for the City. The GASB accounting standards noted in the previous section of the report can factor into decisions concerning the level of pre-funding.

# APPENDIX B

# GLOSSARY

**Accrued Service.** The service credited under the plan which was rendered before the date of the actuarial valuation.

**Actuarial Accrued Liability.** The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

**Actuarial Assumptions.** Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

**Actuarial Cost Method.** A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

**Actuarial Equivalent.** A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

**Actuarial Present Value.** The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

**Amortization.** Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

**Annual Required Contribution (ARC).** The ARC is the normal cost plus the portion of the unfunded actuarial accrued liability to be amortized in the current period. The ARC is an amount that is actuarially determined in accordance with the requirements so that, if paid on an ongoing basis, it would be expected to provide sufficient resources to fund both the normal cost for each year and the amortized unfunded liability.

**Governmental Accounting Standards Board (GASB).** GASB is the private, nonpartisan, nonprofit organization that works to create and improve the rules U.S. state and local governments follow when accounting for their finances and reporting them to the public.

**Implicit Rate Subsidy.** It is common practice for employers to allow retirees to continue in the employer's group health insurance plan (which also covers active employees), often charging the retiree some portion of the premium charged for active employees. Under the theory that retirees have higher utilization of services, the difference between the true cost of providing retiree coverage and what the retiree is being charged is known as the implicit rate subsidy.

**Medical Trend Rate (Health Care Inflation).** The increase in the cost of providing health care benefits over time. Trend includes such elements as pure price inflation, changes in utilization, advances in medical technology, and cost shifting.

**Normal Cost.** The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

**Other Postemployment Employee Benefits (OPEB).** OPEB are postemployment benefits other than pensions. OPEB generally takes the form of health insurance and dental, vision, prescription drugs or other health care benefits.

**Reserve Account**. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

**Unfunded Actuarial Accrued Liability.** The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

**Valuation Assets.** The value of current plan assets recognized for valuation purposes.