



**City of Lansing
Police and Fire Retirement System**

**Actuarial Valuation of Retiree Healthcare Benefits
as of January 1, 2016**

June, 2017

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Executive Summary

This report presents the results of an actuarial review and analysis of the City of Lansing Police and Fire Retirement System Retiree Healthcare Benefits Plan (the Plan) as of January 1, 2016.

A comparative summary of the status of the Plan is as follows:

| | January 1, 2016 |
|---|-----------------|
| Plan Membership | |
| Active | 346 |
| <u>Inactive/Receiving Benefits</u> | <u>689</u> |
| Total Plan Participants | 1,035 |
| Valuation Results (\$ millions)* | |
| Actuarial Accrued Liability (AAL) | \$326.1 |
| <u>Plan Assets</u> | <u>28.9</u> |
| Unfunded Accrued Liability | \$ 297.2 |
| Funding Ratio | 8.6% |
| | |
| Total ADC (% of Payroll), partial pre-funding | \$ 19.8 (77%) |
| Total ADC (% of Payroll), fully prefunded | \$ 15.5 (61%) |

* Partial prefunding basis

Purpose of the Report

This Report presents the results of an actuarial review and analysis of the Retiree Healthcare Plan as of January 1, 2016. The purposes of this Report are:

- To establish the basis for GASB74, to be implemented as of June 30, 2017, and
- To present and discuss other issues associated with funding progress/strategies and Plan costs.

Actuarial Certification

In this study, we conducted an examination of all participant data for reasonableness and consistency, but did not audit such data. Actuarial liabilities and costs are based on the Entry Age Normal Cost Method. Under this method, the Actuarially Determined Contribution (ADC, or employer cost) provides for current cost (normal cost) plus an amount to amortize the unfunded actuarial accrued liability (UAAL).

We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. The first undersigned is a member of the American Academy of Actuaries, and meets the Qualification Standards to provide the actuarial opinions herein.

Respectfully Submitted,



Gregory M. Stump, FSA, EA, FCA, MAAA
Chief Actuary



Marshal Banks
Senior Consultant

Section 1: Actuarial Computations

1.1: Summary of Actuarial Liabilities

| | 1/1/2016 | |
|--|------------------------------|---------------------------|
| | Partial Pre-Funded Basis* | Fully Pre-Funded Basis |
| Discount Rate | 4.50% | 7.25% |
| Actuarial Accrued Liability (AAL) | | |
| Active Members | \$ 105,217,823 | \$ 63,705,536 |
| <u>Inactive Members</u> | <u>220,896,317</u> | <u>160,531,022</u> |
| Total AAL | \$ 326,114,140 | \$ 224,236,558 |
| Normal Cost (beginning of year) | \$ 4,902,927 | \$ 2,242,629 |
| Expected Benefit Payments | \$ 11,267,987 | |

* Statutory pre-funding requires a 2.48% of payroll contribution to the OPEB trust from the City. The rate above is an estimate.

1.2: Actuarially Determined Contribution, Fully Pre-Funded Basis

The results shown below are based on full pre-funding of OPEB. This means that in addition to the benefits (i.e., claims and premium costs for retirees) for the year, supplemental amounts would be contributed and invested to increase the funds in the OPEB Trust, which would eventually be used to finance all benefits.

The additional amount is \$4.2 million per year; however, this will be updated at the time of each biennial valuation and will fluctuate. Because the assets are generally invested the same as the pension fund, the discount rate used for this basis is the same as the expected return used for pension funding. This results in lower actuarial liabilities and costs.

| | 1/1/2016 |
|-------------------------------------|-------------------|
| <i>Discount Rate</i> | 7.25% |
| Actuarial Accrued Liability (AAL) | \$ 224,236,558 |
| <u>Plan Assets</u> | <u>28,895,679</u> |
| Unfunded AAL | \$ 195,340,879 |
| Funding Ratio | 12.9% |
| Amortization of Unfunded AAL | \$ 12,198,307 |
| Employer Normal Cost | 2,242,629 |
| <u>Interest to End of Year</u> | <u>1,046,968</u> |
| Actuarially Determined Contribution | \$15,487,904 |
| Percentage of Payroll | 60.7% |
| Expected Benefits to be Paid | \$ 11,267,987 |
| Additional Contributions to trust | \$4,219,917 |

1.3: Actuarially Determined Contribution, Partial Pre-Funded Basis

The results shown below are based on partial pre-funding. This means that, in addition to the pay-as-you-go cost, some level of prefunding would be set aside. In this case, the additional annual amount is currently about \$0.6 million, based on our understanding of the statutory pre-funding provisions (footnoted below). The actual discount rate for GASB 74 purposes will be determined as of June 30, 2017.

| | 1/1/2016 |
|-------------------------------------|-------------------|
| <i>Discount Rate</i> | 4.50% |
| Actuarial Accrued Liability (AAL) | \$ 326,114,140 |
| <u>Plan Assets</u> | <u>28,895,679</u> |
| Unfunded AAL | \$ 297,218,461 |
| Funding Ratio | 8.9% |
| Amortization of Unfunded AAL | \$ 14,005,706 |
| Employer Normal Cost | 4,902,927 |
| <u>Interest to End of Year</u> | <u>850,888</u> |
| Actuarially Determined Contribution | \$ 19,759,521 |
| Percentage of Payroll | 77.4% |
| Expected Benefits to be Paid | \$ 11,267,987 |
| Additional Contributions to trust* | \$ 633,226 |

* Statutory pre-funding requires a 2.48% of payroll contribution to the OPEB trust from the City

Section 2: Summary of Participant Data

Participant Summary

| | January 1, 2016 | | |
|------------------------------|-----------------|--------|-------|
| | Fire | Police | Total |
| Active Participants | | | |
| Number | 160 | 186 | 346 |
| Average Age | 41.2 | 38.9 | 40.0 |
| Average Service | 13.3 | 13.6 | 13.5 |
| Inactive Participants | | | |
| Number Receiving Benefits | 340 | 323 | 663 |
| Average Age | 66.4 | 66.4 | 66.4 |
| Number Terminated Vested | | | 23 |
| Average Age | | | 47.5 |

Retiree Coverage Summary

| Level of Coverage | Fire | Police | Total |
|-------------------------------|------------|------------|------------|
| Single | 132 | 100 | 232 |
| Dual/Family | 192 | 223 | 415 |
| Opt Out | 8 | 0 | 8 |
| Total Retirees Covered | 332 | 323 | 655 |

For this study, we relied on the data provided by the City. We did not verify or audit the information, but did review it for reasonableness. There were a number of changes and assumptions made during our review that are reflected in the final valuation database, including the following:

- Multiple retiree records under the same retiree Social Security number were combined into one record. Coverage level was assigned on this basis, rather than the reported coverage level.
- If there was a date of birth discrepancy with the pension data, the pension data date of birth was used.
- Status code for disabled and beneficiary retirees were taken from the pension data.

Section 3: Outline of Actuarial Assumptions and Methods

3.1: Actuarial Methods

Actuarial Cost Method

The Entry Age Normal Actuarial Cost Method, with level percentage of pay normal cost, is used for this valuation. The cost equals the sum of the normal cost and the amount necessary to amortize the unfunded actuarial liability as a level percent of payroll over a closed period of 30 years, decreasing by 1 year to an ultimate period of 15 years (26 years remaining as of January 1, 2016).

Plan Assets

Plan assets are available in a separate reserve of the Police and Fire Retirement System trust. For this study, assets are used at market value, without any smoothing of investment gains and losses.

Changes in Actuarial Methods since Prior Valuation

There has been one change in methods since the prior valuation. The Entry Age cost method is now applied as a level percentage of pay, in preparation for GASB 74 implementation. The impact of this change was a slight decrease in cost.

3.2: Actuarial Assumptions

Valuation Date All assets and liabilities are computed as of January 1, 2016.

Investment Return The annual rate of return on trust fund assets is assumed to be 7.25%. The annual return of non-trust fund assets is assumed to be 4.00%. Each of these is net of expenses and including inflation.

Inflation The underlying annual rate of inflation is assumed to be 2.75%.

The basis for the non-healthcare related assumptions for this study is the analysis conducted for the Retirement System for purposes of the annual actuarial valuation to fund pension benefits. All of the assumptions were updated based on an Experience study conducted in 2016.

Mortality RP2000 Tables, with blue collar adjustments. For Disabled members, the disabled versions of these tables are assumed. Each of these tables is projected to 2026 using Scale BB. For pre-retirement deaths, a 50% factor is applied to these tables.

Retirement Rates of retirement vary based on the service of the member as shown below. Rate is applied only if the member is eligible to retire.

| Years of Service | Assumed Rate - Fire | Assumed Rate - Police |
|------------------|---------------------|-----------------------|
| 10-24 | 5% | 5% |
| 25 | 90% | 90% |
| 26-29 | 60% | 25% |
| 30+ | 100% | 100% |

Disability Rates of disability vary based on the age of the member as shown below. All disabilities are assumed to be duty related. Representative rates of disability:

| Age | Assumed Rate |
|-----|--------------|
| 20 | 0.120% |
| 30 | 0.600% |
| 40 | 0.940% |
| 50 | 1.125% |
| 60 | 0.000% |

Termination of Employment

Rates of termination are based of years of service, with sample rates as follows:

| Years of Service | Assumed Rate - Fire |
|------------------|---------------------|
| 0 | 4.0% |
| 1 | 3.2% |
| 5 | 1.3% |
| 10 | 0.4% |
| 15 | 0.1% |
| 20+ | 0.0% |

| Age | Assumed Rate - Police |
|-----|-----------------------|
| 20 | 15.0% |
| 25 | 7.5% |
| 30 | 3.7% |
| 35 | 1.9% |
| 40 | 0.9% |
| 45 | 0.5% |
| 51+ | 0.0% |

Family Composition and Participation

100% of eligible members are assumed to elect coverage upon retirement. All active Plan members are assumed to be married, and to elect dual coverage upon retirement. Male spouses are assumed to be three years older than their wives. 20% of retirees are assumed to have two children covered, up to age 26. Retirees are assumed to be 30 years older than their children.

Healthcare costs

The following represents expected healthcare claims and expenses for 2016, based on the age and gender of the retiree and dependents.

| Age | Male | Female |
|-----|----------|----------|
| 45 | \$ 6,439 | \$ 8,010 |
| 50 | 8,218 | 10,223 |
| 55 | 11,046 | 12,326 |
| 60 | 15,285 | 14,271 |
| 65 | 4,482 | 4,482 |
| 70 | 5,196 | 5,196 |
| 75 | 5,879 | 5,879 |
| 80 | 6,271 | 6,271 |
| 85+ | 6,429 | 6,429 |

Healthcare Costs

Dental costs are expected to be \$367 per year (2016 basis) for each covered member and spouse. Vision claims are expected to be \$67.32 per year (2016 basis). The costs above were updated based on recent claims/expense information and standard aging rates.

Medicare Part B Reimbursements are assumed to be \$1,462.80 per year.

Healthcare trend

The following increases are assumed for future healthcare claims and premiums:

| Year | Pre-65 Rate | Post-65 Rate |
|-------|-------------|--------------|
| 2016 | 6.5% | 4.5% |
| 2017 | 6.0% | 4.5% |
| 2018 | 5.5% | 4.5% |
| 2019 | 5.0% | 4.5% |
| 2020+ | 4.5% | 4.5% |

The basis for these rates is a consolidated version of the Getzen Model. Dental and Vision costs are assumed to increase at 4.5% per year.

Section 4: Summary of Plan Provisions

4.1: Fire (IAFF Local 421)

The following is an outline of the information used as the basis for this actuarial valuation. It does not imply a promise or obligation on behalf of the City, and does not take the place of applicable ordinances and collective bargaining agreements.

| Date of Hire | Normal Retirement Eligibility | Deferred Retirement Eligibility | Benefits Payable for Healthcare, Dental, and Vision |
|----------------------------|---|--|---|
| On or before 7/1/2006 | Age 55 with 10 years of service, or Any age with 25 years of service | Age 55 with 10 years of service Non Duty Disability/Death: Any age with 10 years of service | <u>Retirement prior to 7/1/2011:</u> the City pays 100% of retiree City-paid health plan coverage for spouse and eligible dependents if Joint & Survivor pension option is elected, but only through the retiree's lifetime if straight life pension option is elected. |
| From 7/2/2006 to 6/30/2010 | Age 55 with 15 years of service or Any age with 25 years of service with up to 2 years of military service credit | Age 55 with 15 years of service Non Duty Disability/Death: Any age with 15 years of service | <u>Retirement between 7/1/2011 and 6/30/2013:</u> Retiree pays 15% of the cost of the coverage at the date of retirement, for pre-65 coverage, and 10% for post-65. |
| From 7/1/2010 to 5/18/2014 | Any age with 25 years of service with up to 2 years of military service credit | Age 55 with 25 Years of service Non Duty Disability/Death: Any age with 25 years of service | <u>Retirement on or after 7/1/2013:</u> the City pays the cost of healthcare coverage, up to the State of Michigan annually-determined hard cap amount. |
| On or after 5/19/2014 | Age 50 with 25 years of service with up to 2 years of military service | Age 55 with 25 Years of service | City pays dental, vision, and 100% of retiree City-paid plan coverage for the retiree only, up to the State of Michigan annually-determined hard cap amount. Spouses and dependents are not covered for healthcare, but they are still eligible for dental and vision coverage. |

Disability and Death Retirement (Duty Related): No age or service requirement – disability benefits payable when member begins to receive disability retirement benefits.

Disability and Death Retirement (Non-Duty Related): Disability benefits payable when member begins to receive disability retirement benefits, subject to eligibility shown above.

Medicare Coverage Eligibility: City provides Medicare Part B premium reimbursement and retiree health care, dental, and vision benefits supplemental to Medicare coverage when participant becomes Medicare-eligible.

Retiree Group Life: Employees who retire on or after 7/1/1983 are covered by a life insurance policy in the amount of \$3,000, paid by the City.

Opt Out Benefit: Retirees who opt out of health care coverage are eligible to receive \$1,800 in any year in which they did not receive coverage from another source.

4.2.1: Police (Capital City Lodge Program, formerly FOP Lodge No. 141) Non-Supervisory

The following is an outline of the information used as the basis for this actuarial valuation. It does not imply a promise or obligation on behalf of the City, and does not take the place of applicable ordinances and collective bargaining agreements.

| Date of Hire | Normal Retirement Eligibility | Deferred Retirement Eligibility | Benefits Payable for Healthcare, Dental, and Vision |
|----------------------------|--|--|---|
| On or before 7/1/2010 | Age 55 with 15 years of service, or Any age with 25 years of service | Age 55 with 15 years of service Non Duty Disability/Death: Any age with 25 years of service | <u>Retirement prior to 10/13/2015:</u> City pays 100% of retiree City-paid health plan coverage for spouse and eligible dependents if Joint & Survivor pension option is elected, but only through the retiree's lifetime if straight life pension option is elected. |
| From 7/2/2010 to 7/31/2014 | Any age with 25 years of service with up to 2 years of military service credit | Age 55 with 25 years of service Non Duty Disability/Death: Any age with 25 years of service | <u>Retirement on or after 10/13/2015:</u> City pays the cost of healthcare coverage, up to the State of Michigan annually-determined hard cap amount. Retiree contributions toward City-paid plan coverage is capped at 1% of monthly pension benefit. |
| On or after 8/1/2014 | Age 50 with 25 years of service with up to 2 years of military service credit | Age 55 with 25 years of service Non Duty Disability/Death: Any age with 25 years of service | Spouses and dependents are not covered. City pays the cost of healthcare coverage, up to the State of Michigan annually-determined hard cap amount. Retiree contributions toward City-paid plan coverage is capped at 1% of monthly pension benefit. Retiree dental and vision coverage remains for spouse and eligible dependents. |

Disability and Death Retirement (Duty Related): No age or service requirement – disability benefits payable when member begins to receive disability retirement benefits.

Disability and Death Retirement (Non-Duty Related): Disability benefits payable when member begins to receive disability retirement benefits, subject to eligibility shown above.

Medicare Coverage Eligibility: The City provides Medicare Part B premium reimbursement and retiree healthcare, dental, and vision benefits supplemental to Medicare coverage when participants become Medicare-eligible.

Retiree Group Life: Employees who retire on or after 7/1/1982 are covered by a life insurance policy in the amount of \$3,000, paid by the city.

Opt Out Benefit: Retirees who opt out of health care coverage are eligible to receive \$1,500 in any year in which they did not receive coverage from another source.

4.2.2: Police (Capital City Lodge Program, formerly FOP Lodge No. 141) Supervisory

The following is an outline of the information used as the basis for this actuarial valuation. It does not imply a promise or obligation on behalf of the City, and does not take the place of applicable ordinances and collective bargaining agreements.

| Date of Hire | Normal Retirement Eligibility | Deferred Retirement Eligibility | Benefits Payable for Healthcare, Dental, and Vision |
|-----------------------------|--|--|--|
| Before 7/15/2010 | Age 55 with 15 years of service, or Any age with 25 years of service | Age 55 with 15 years of service Non Duty Disability/Death: Any age with 25 years of service | <u>Retirement prior to 7/15/2010:</u> City pays 100% of retiree City-paid health plan coverage for spouse and eligible dependents if Joint & Survivor pension option is elected, but only through the retiree's lifetime if straight life pension option is elected. |
| From 7/15/2010 to 7/31/2014 | Any age with 25 years of service with up to 2 years of military service credit | Age 55 with 25 years of service Non Duty Disability/Death: Any age with 25 years of service | <u>Retirement on or after 7/15/2010 and before 10/13/2015:</u> City pays coverage for spouse and eligible dependents if Joint & Survivor pension option is elected, but only through the retiree's lifetime if straight life pension option is elected, subject to \$650 family/\$550 2-person/\$250 single annual premium sharing for pre-Medicare coverage, with the premium sharing limited to five years immediately following retirement. <u>Retirement on or after 10/13/2015:</u> City pays coverage for spouse and eligible dependents if Joint & Survivor pension option is elected, but only through the retiree's lifetime if straight life pension option is elected, up to the State of Michigan annually-determined hard cap amount. Retiree contributions toward City-paid plan coverage is capped at 1% of monthly pension benefit. |
| On or after 8/1/2014 | Age 50 with 25 years of service with up to 2 years of military service credit | Age 55 with 25 years of service Non Duty Disability/Death: Any age with 25 years of service | Spouses and dependents are not covered. City pays the cost of healthcare coverage, up to the State of Michigan annually-determined hard cap amount. Retiree contributions toward City-paid plan coverage is capped at 1% of monthly pension benefit. Retiree dental and vision coverage remains for spouse and eligible dependents. |

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Disability and Death Retirement (Duty Related): No age or service requirement – disability benefits payable when member begins to receive disability retirement benefits.

Disability and Death Retirement (Non-Duty Related): Disability benefits payable when member begins to receive disability retirement benefits, subject to eligibility shown above.

Medicare Coverage Eligibility: The City provides Medicare Part B premium reimbursement and retiree healthcare, dental, and vision benefits supplemental to Medicare coverage when participants become Medicare-eligible.

Retiree Group Life: Employees who retire on or after 7/1/1982 are covered by a life insurance policy in the amount of \$3,000, paid by the city.

Opt Out Benefit: Retirees who opt out of health care coverage are eligible to receive \$1,500 in any year in which they did not receive coverage from another source.

The Plan provision summaries shown in this Report were provided by the City and were not independently verified by BCG.

Glossary of Actuarial Terms

Actuarial Accrued Liability

A plan's actuarial accrued liability is the level of assets estimated by the system actuary to be needed as of the valuation date to

- Finance all previously earned benefits for actively employed members of the plan (and their beneficiaries, if applicable) for when they eventually retire, die or terminate with deferred vested benefits
- Finance all currently payable benefits of current pensioners and their beneficiaries (if applicable).

The Actuarial Accrued Liability is not a debt; instead, it is an asset target set by the actuarial cost method to produce an orderly accumulation of assets to pay for the plan's obligations.

Actuarially Determined Contribution (ADC)

The annual cost of the plan, on a funding basis. The ADC is the sum of the Normal Cost and the amortization of unfunded actuarial accrued liability.

Normal Cost

The Normal Cost is calculated as the annual amount necessary to fund each member's benefits from that member's Plan entry date to the end of his or her projected working life.

Other Postemployment Benefits (OPEB)

Postemployment benefits other than pensions. OPEB generally takes the form of health insurance and dental, vision, prescription drugs or other healthcare benefits.

Unfunded Actuarial Accrued Liability

When the actuarial value of assets is below the Actuarial Accrued Liability, there is an Unfunded Actuarial Accrued Liability which must be paid off or amortized on a schedule. When the actuarial value of assets is in excess of the Actuarial Accrued Liability, this can lead to a reduction in future contributions on an amortization schedule.

Appendix: Benefit Costs by Group

| Employee Group(s) | # Employees | Total Normal Cost | Normal Cost per Employee [^] |
|-------------------------------|-------------|-------------------|---------------------------------------|
| Police NS I | 133 | \$833,798 | \$6,269 |
| Police NS II | 12 | \$48,116 | \$4,010 |
| Police Sup | 41 | \$262,030 | \$6,391 |
| Fire I | 137 | \$985,651 | \$7,195 |
| <u>Fire II</u> | <u>23</u> | <u>\$113,034</u> | <u>\$4,915</u> |
| All Police and Fire Employees | 346 | \$2,242,629 | \$6,482 |

[^] Beginning of Year, fully prefunded (7.25%) basis

Police NS I: Police, Non-Supervisory hired before 8/1/2014

Police NS II: Police, Non-Supervisory hired on or after 8/1/2014

Police Sup: Police, Supervisory

Fire I: hired before 5/19/2014

Fire II: hired on or after 5/19/2014