



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

**Actuarial Valuation of Retiree Healthcare Benefits  
as of January 1, 2020**

December, 2020

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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, 2020. A comparative summary of the status of the Plan is as follows:

<b>Full Pre-Funding Results</b>	<b>January 1, 2020</b>	<b>January 1, 2018</b>
<b>Plan Membership</b>		
Active	358	365
<u>Inactive/Receiving Benefits</u>	<u>768</u>	<u>672</u>
Total Plan Participants	1,126	1,037
<b>Valuation Results (\$ millions)</b>		
Actuarial Accrued Liability (AAL)	\$252.7	\$222.1
<u>Plan Assets</u>	<u>42.2</u>	<u>36.3</u>
Unfunded Accrued Liability	\$210.5	\$185.7
Funding Ratio	16.7%	16.3%
<b>Actuarially Determined Employer Contribution (\$ millions)</b>		
Total ADEC	\$17.0	\$ 15.2
% of Payroll	57%	58%
<b>Blended Discount Rate</b>		
	<b>January 1, 2020</b>	<b>January 1, 2018</b>
<b>Valuation Results (\$ millions)</b>		
Actuarial Accrued Liability (AAL)	\$362.3	\$322.0
<u>Plan Assets</u>	<u>42.2</u>	<u>\$36.3</u>
Unfunded Accrued Liability	\$320.2	\$285.7
Funding Ratio	11.6%	11.3%
<b>Actuarially Determined Employer Contribution (\$ millions)</b>		
Total ADEC	\$22.1	\$ 19.7
% of Payroll	74%	75%

The first set of results above shows the amount the City should contribute to the OPEB trust to establish pre-funding of benefits on an actuarial basis. The assumptions used for this valuation are consistent with the State's Uniform assumptions for fiscal year 2020. The one difference between the first table above and the second is the discount rate. The blended discount rate is lower because the City has not established a contribution history or policy such that OPEB benefits are full pre-funded other than what is statutorily required.

## Purpose of the Report

This Report presents the results of an actuarial review and analysis of the Retiree Healthcare Plan as of January 1, 2020. The purposes of this Report are:

- To determine the actuarial contributions to pre-fund the City's OPEB
- To establish the basis for GASB74/75 reporting for fiscal years 2020 and 2021
- To determine the City's OPEB liability and actuarial cost under the State's Uniform Assumptions.

This valuation is based on the information provided by the City as of January 1, 2020, including member data, premium equivalents, and plan assets. The basis for the Plan provisions is also as of this date, with specific eligibility and cost sharing requirements outlined in Section 4.

Plan assets are a portion of the Police and Fire Retirement System assets held in a reserve account. The Plan assets as of the valuation date were determined based on the prior year reserve value, contributions towards retiree healthcare, and interest credits, as shown in the valuation report for the Retirement System.

## 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 Employer Contribution (ADEC, 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

	1/1/2020		1/1/2018	
	Fully Pre-Funded Basis	Blended Rate*	Fully Pre-Funded Basis	Blended Rate*
<b>Discount Rate</b>	7.00%	4.42%	7.25%	4.50%
<b>Actuarial Accrued Liability (AAL)</b>				
Active Members	\$ 44,483,890	\$ 77,288,478	\$ 56,846,023	\$ 94,160,871
Inactive Members	<u>208,163,870</u>	<u>285,046,864</u>	<u>165,274,324</u>	<u>227,808,227</u>
<b>Total AAL</b>	\$ 252,647,760	\$ 362,335,342	\$222,122,347	\$321,969,098
<b>Normal Cost (beginning of year)</b>	\$ 1,738,363	\$ 3,976,958	\$ 2,052,189	\$ 4,560,338
Expected Benefit Payments		\$ 12,541,004		\$ 11,703,832

\* 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 \$4.5 million per year; however, this will be updated at the time of each valuation and will fluctuate.

	1/1/2020	1/1/2018
<i>Discount Rate</i>	7.00%	7.25%
Actuarial Accrued Liability (AAL)	\$252,647,760	\$ 222,122,347
<u>Plan Assets</u>	<u>42,174,029</u>	<u>36,255,964</u>
Unfunded AAL	\$210,473,731	\$ 185,866,383
Funding Ratio	16.7%	16.3%
Amortization of Unfunded AAL	\$14,168,781	\$ 12,137,146
Employer Normal Cost	1,738,363	2,052,189
<u>Interest to End of Year</u>	<u>1,113,500</u>	<u>1,028,727</u>
<b>Actuarially Determined Employer Contribution (ADEC)</b>	<b>\$17,020,644</b>	<b>\$15,218,062</b>
Percentage of Payroll	57.2%	58.0%
Expected Benefits to be Paid	\$12,541,004	\$ 11,703,832
<b>Additional Contributions to Trust (ADEC, less Benefits Paid)</b>	<b>\$4,479,640</b>	<b>\$3,514,230</b>

### 1.3: Actuarially Determined Contribution, Blended Rate Basis

The results shown below are based on partial pre-funding and a blended discount rate. 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 \$700,000 per year, based on our understanding of the statutory pre-funding provisions (footnoted below).

	1/1/2020	1/1/2018
<i>Discount Rate</i>	4.42%	4.50%
Actuarial Accrued Liability (AAL)	\$362,335,342	\$ 321,969,098
<u>Plan Assets</u>	<u>42,174,029</u>	<u>36,255,964</u>
Unfunded AAL	\$320,161,313	\$ 285,713,134
Funding Ratio	11.6%	11.3%
Amortization of Unfunded AAL	\$17,147,319	\$ 14,284,888
Employer Normal Cost	3,976,958	4,560,338
<u>Interest to End of Year</u>	<u>933,693</u>	<u>838,613</u>
Actuarially Determined Employer Contribution (ADEC)	\$22,057,970	\$ 19,683,839
Percentage of Payroll	74.1%	75.0%
Expected Benefits to be Paid	\$12,541,004	\$ 11,703,832
Estimated Contribution to Trust*	\$700,000	\$ 700,000

\* 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, 2020			January 1, 2018		
	Fire	Police	Total	Fire	Police	Total
<b>Active Participants</b>						
Number	164	194	358	168	197	365
Average Age	40.3	36.3	38.2	39.8	37.8	38.8
Average Service	11.9	11.3	11.6	11.7	12.6	12.2
<b>Inactive Participants</b>						
Number Receiving Benefits	333	422	755	328	324	652
Average Age	66.9	66.8	66.8	66.7	67.3	67.0
Number Terminated Vested			13			20
Average Age			48.4			47.3

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:

- 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.
- Level of coverage was not included in the data, therefore we assumed dependent coverage consistent with the prior valuation.

### **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 (22 years remaining as of January 1, 2020).

#### **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 have been no changes in methods since the prior valuation.

### 3.2: Actuarial Assumptions

**Valuation Date** All assets and liabilities are computed as of January 1, 2020.

**Investment Return\*** The annual rate of return on trust fund assets is assumed to be 7.00%, net of expenses and including inflation. This is also the discount rate under the Full Pre-Funding scenario.

**Discount Rate for Uniform Assumptions\*** The blended discount rate was determined in accordance with State’s Uniform Assumptions. A depletion analysis was conducted assumed the statutory contributions would continue until the Plan is 90% funded then benefits would be paid from the Trust until depleted. The rate is a blend of 7.00% and 3.50%.

**Inflation and Payroll Growth** 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 and an update of the mortality analysis in 2020.

**Mortality\*** Pub2010S tables (below median) headcount weighted, projected on a generational basis with Scale MP-2018.

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

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

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

Healthcare costs\* The following represents expected healthcare claims and expenses for 2020, based on the age of the retiree and dependents.

Age	Retiree	Spouse	Children
45	\$7,085	\$9,315	27% additional cost, up to age 26
50	8,173	10,746	
55	9,755	12,825	
60	11,811	15,529	
65	5,527	5,527	
70	6,223	6,223	
75	6,837	6,837	
80	7,329	7,329	
85+	7,703	7,703	

The per-capita-costs shown above are based on the retiree data and premium equivalents provided for this valuation. Age based costs are based on standard aging rates.

Dental costs are expected to be \$401 per year (2020 basis) for each covered member and spouse. Vision claims are expected to be \$51.60 per year (2020 basis). The costs above were updated based on recent claims/expense information and standard aging rates. Medicare Part B Reimbursements are assumed to be \$1,735 per year (2020 basis), and increase at the post-65 trend rates.

Healthcare trend\*

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

Year	Pre-65 Rate	Post-65 Rate
2020	8.25%	6.50%
2021	8.00%	6.25%
2022	7.75%	6.00%
2023	7.50%	5.75%
2024	7.25%	5.50%
2025	7.00%	5.25%
2026	6.75%	5.00%
2027	6.50%	4.75%
2028	6.25%	4.50%
2029	6.00%	4.50%
2030	5.75%	4.50%
2031	5.50%	4.50%
2032	5.25%	4.50%
2033	5.00%	4.50%
2034	4.75%	4.50%
2035+	4.50%	4.50%

Dental and Vision costs are assumed to increase at 4.50% per year. The State employer Hard Cap is assumed to increase by 3% per year.

Participation

100% of eligible members with coverage are assumed to elect to continue coverage upon retirement.

Family Composition and Dependent Coverage\*

All Plan members who are currently married are assumed to be married upon retirement. 75% of retirees are assumed to have dependent coverage, if eligible.

Male spouses are assumed to be three years older than their wives. 21% of retirees are assumed to have children covered, up to age 26. Retirees are assumed to be 32 years older than their children.

\* Assumption updated since last valuation

**Change in Assumptions**

The following assumptions were updated since the last valuation:

- Mortality tables
- Expected return on investments and discount rates
- Medical trend, expected per-capita costs, and family coverage

## 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.

<b>Date of Hire</b>	<b>Normal Retirement Eligibility</b>	<b>Deferred Retirement Eligibility</b>	<b>Benefits Payable for Healthcare, Dental, and Vision</b>
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.

<b>Date of Hire</b>	<b>Normal Retirement Eligibility</b>	<b>Deferred Retirement Eligibility</b>	<b>Benefits Payable for Healthcare, Dental, and Vision</b>
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.

<b>Date of Hire</b>	<b>Normal Retirement Eligibility</b>	<b>Deferred Retirement Eligibility</b>	<b>Benefits Payable for Healthcare, Dental, and Vision</b>
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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**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.