

**CITY OF JOLIET
RETIREE HEALTHCARE AND LIFE INSURANCE
BENEFIT PROGRAMS – ACTUARIAL VALUATION
FOR THE YEAR BEGINNING
JANUARY 1, 2016**

May 11, 2017

Mr. Jim Ghedotte
Director of Finance
City of Joliet
150 W. Jefferson Street
Joliet, IL 60432-4158

Mr. Ken Mihelich
Director of Administrative Services
City of Joliet
150 W. Jefferson Street
Joliet, IL 60432-4158

Dear Jim and Ken:

We have performed an actuarial valuation as of January 1, 2016, of the Retiree Healthcare and Life Insurance Benefit Programs sponsored by the City of Joliet. The actuarial valuation was performed at the request of the City and is intended for use by the City and those designated by the City. This report may be provided to parties other than the City only in its entirety and only with the permission of the City. The actuarial valuation was performed in order to:

- Measure the actuarial liability as of January 1, 2016; and
- Develop retiree healthcare accounting expense and disclosure information for fiscal years 2016 and 2017 as defined under the GASB Statement Nos. 43 and 45.

The valuation was based on the following:

- Census data as of January 1, 2016, as provided by the City of Joliet, and claims, enrollment and premium data for calendar years 2014, 2015 and 2016, as provided by BlueCross BlueShield and Gallagher Benefit Services, Inc.;
- Plan provisions and funding policy in effect as of January 1, 2016, as provided by the City of Joliet, BlueCross BlueShield and Gallagher Benefit Services, Inc. as summarized in Section C;
- Our understanding of the substantive plan in effect as currently being administered. That is, retiree and dependent premiums have not increased since 1988, and will continue to remain level in the future; and
- Actuarial assumptions and methods shown in Section D as used for Police and Fire in the actuarial valuations performed for the City of Joliet and as used for the non-public-safety non-state employees in the actuarial valuation for the Illinois Municipal Retirement Fund.

The calculations reported herein have been made on a basis consistent with our understanding of GASB Statements Nos. 43 (*Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*) and 45 (*Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pension*).

GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, which is effective for fiscal years beginning after June 15, 2017, replaces GASB Statement No. 45. GASB Statement No. 75 requires governments to report a liability on the face of their financial statements for the OPEB provided. In addition, it requires governments in all types of

OPEB plans to provide more extensive note disclosures and Required Supplementary Information (RSI) about OPEB liabilities.

Under GASB Statement No. 75, the actuarial accrued liability is developed using a discount based on a 20-year high-quality general obligation bond index as of the measurement date. As of December of 2016, the municipal bond index is approximately 3.8%. The change in the discount rate is expected to increase the actuarial liability.

The actuarial valuation was based upon information furnished by the City of Joliet concerning benefits provided by the City of Joliet Retiree Healthcare and Life Insurance Benefit Programs, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the City of Joliet.

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.

To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Retiree Healthcare Program sponsored by the City of Joliet as of the actuarial valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and with our understanding of GASB Statement 45 (*Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pension*).

This report should not be relied on for any purpose other than the purpose stated.

The signing actuaries are independent of the plan sponsor.

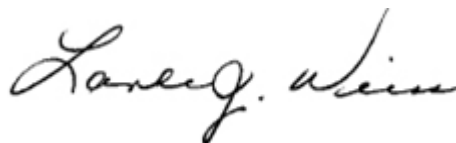
Alex Rivera and Lance J. Weiss are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

If you have any questions or comments, please call us at 312.456.9800.

Sincerely,



Alex Rivera, F.S.A., E.A. M.A.A.A., F.C.A.
Senior Consultant



Lance J. Weiss, E.A., M.A.A.A., F.C.A.
Senior Consultant

AR/LW:rg

TABLE OF CONTENTS

Section	Items	Pages
	Transmittal Letter	
A	Executive Summary	1-2
B	Valuation Results at 4.0% Discount and 4.5% Ultimate Trend	3-5
C	Plan Provisions	6-8
D	Actuarial Methods and Assumptions	9-16
E	Participant Data	17-18
F	GASB Accounting Information	19-20

SECTION A
EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This report presents the results of our actuarial valuation as of January 1, 2016, for the Retiree Healthcare and Life Insurance Benefit Programs sponsored by the City of Joliet. The valuation was based on GASB Statement Nos. 43 and 45. Our valuation was based on a discount rate assumption of 4.0 percent and an ultimate healthcare trend assumption of 4.5 percent, as approved by the City of Joliet. The discount rate reflects the employer's pay-as-you-go funding policy.

The key valuation results are summarized below:

Retiree Healthcare and Life Insurance Benefit Programs					Total 2014
4.0% Discount Rate and 4.5% Ultimate Trend					
	General Fund	Water/Sewer	Parking	Total	
Actuarial Liability as of January 1, 2016	\$270,842,909	\$38,924,711	\$460,844	\$310,228,464	\$235,051,164
Normal Cost for FY 2016	\$ 12,524,557	\$ 891,328	\$ 23,245	\$ 13,439,130	\$ 10,022,942
GASB FY 2016 Expense (Annual OPEB Cost) (% of Payroll)	\$ 22,291,727 33.2%	\$ 2,237,522 32.6%	\$ 42,123 24.0%	\$ 24,571,372 33.1%	\$ 19,290,732 27.2%
FY 2016 Benefit Payments (% of Payroll)	\$ 6,162,403 9.2%	\$ 1,183,563 17.2%	\$ 9,420 5.4%	\$ 7,355,386 9.9%	\$ 6,768,167 9.5%
Actives	730	75	2	807	781
Retirees	423	76	1	500	495

The details of the valuation results by Fund are included in Section B of the report.

There was a change in the demographic assumptions for members covered under the Illinois Municipal Retirement Fund (IMRF) since the actuarial valuation as of January 1, 2014. We made this change in order to remain consistent with the actuarial assumptions in the pension valuations in which updated actuarial assumptions were implemented.

EXECUTIVE SUMMARY (CONTINUED)

Changes in the Plan Costs and Liabilities Since the Actuarial Valuation as of January 1, 2014

The actuarial accrued liability at January 1, 2014, was \$235.1 million, and the projected annual actuarial accrued liability at January 1, 2016, based on the valuation as of January 1, 2014, was \$263.8 million. The actual accrued liability at January 1, 2016, is \$310.2 million.

The Annual Required Contribution (ARC) for fiscal year 2014 was \$18.4 million, and the projected annual required contribution for fiscal year 2016 based on the valuation as of January 1, 2014, was \$20.3 million. The actual annual required contribution for fiscal year 2016 is \$23.8 million.

The key factors contributing to the increase in actuarial liabilities from the expected amount of \$263.8 million to the actual amount of \$310.2 million include:

- During the two years, the plan experienced favorable healthcare trend experience which decreased the actuarial liability by \$3.1 million. Claims costs were expected to grow by approximately 16 percent over the past two years, whereas actual claims cost during this period increased less than expected.
- Changes in OPEB related assumptions and methods increased actuarial liabilities by \$29.9 million. The key assumption changes were reducing the discount rate used to measure the actuarial liabilities, from 4.5 percent to 4.0 percent, and updating the healthcare trend rates and morbidity assumptions used to project the member's average healthcare claim costs after retirement. The medical trend assumption used for the valuation as of January 1, 2014, was 8.0 percent in 2014, decreasing by 0.5 percent each year to an ultimate trend rate of 4.5 percent in 2022. This assumption was changed for the valuation at January 1, 2016, to 8.0 percent in 2017, decreasing by 0.5 percent each year to an ultimate trend rate of 4.5 percent in 2024. GRS also included an excess trend rate of 0.46 percent over the base healthcare trend rate beginning in 2020 applied only to pre-Medicare per capita claim cost to account for the Excise Tax under the Health Care Reform Act.
- Changes in the demographic assumptions caused actuarial liabilities to increase by \$20.7 million.
- Demographic experience resulted in a gain of \$1.1 million.

(\$ In Thousands)

1. Accrued liability as of 1/1/2014	\$ 235,051	
2. Projected accrued liability as of 1/1/2016	\$ 263,815	
3. Changes in accrued liability due to:		<u>Percent Increase</u>
a. Claims Experience	(3,110)	-1.18%
b. Updated Discount, Trend and Healthcare Related Assumptions	29,912	11.34%
c. Updated Demographic Assumptions	20,671	7.84%
d. Demographic and Other	(1,060)	-0.40%
e. Total (a.+ b.+ c.+ d.)	\$ 46,413	17.60%
4. Accrued liability as of 1/1/2016 (2.+3.e.)	\$ 310,228	

SECTION B

VALUATION RESULTS AT 4.0% DISCOUNT AND
4.5% ULTIMATE TREND

VALUATION RESULTS AT 4.0% DISCOUNT AND 4.5% ULTIMATE TREND

The following tables show the results of our actuarial valuation assuming a discount rate of 4.0 percent, salary increases comprised of a wage inflation component of 4.0 percent and a seniority and merit component that varies by age and/or service and an ultimate healthcare trend rate of 4.5 percent^a. We believe these assumptions are consistent with the requirements of GASB Statement Nos. 43 and 45. According to paragraph 34(c) of GASB Statement No. 43 and paragraph 13(c) of GASB Statement No. 45, plans should use a discount rate consistent with the return on assets backing retiree healthcare benefits, which for pay-as-you-go plans will usually be the return earned by the employer's general assets.

The following tables are included in this section:

- GASB Valuation as of January 1, 2016, by Fund; and
- Projected GASB expense for fiscal year 2017 by Fund.

The tables in Section F disclose the required supplementary information in accordance with GASB Statement No. 45.

GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other than Pensions, which is effective for fiscal years beginning after June 15, 2017, replaces GASB Statement No. 45. GASB Statement No. 75 requires governments to report a liability on the face of their financial statements for the OPEB provided. In addition, it requires governments in all types of OPEB plans to provide more extensive note disclosures and RSI about OPEB liabilities.

^a Excess trend rate of 0.46% over the base healthcare trend rate beginning in 2020 applied only to pre-Medicare per capita claim cost to account for the Excise Tax under the Health Care Reform Act.

City of Joliet, Illinois
Retiree Healthcare and Life Insurance Benefit Programs
GASB 45 Actuarial Valuation as of January 1, 2016
Pay-as-you-go Funding Policy

Discount Rate 4.00%
Salary Scale^a 3.50%
Ultimate Trend^d 4.50%
Wage Inflation 4.00%

Amortization: 30-year open, level percentage of payroll

Retiree Healthcare Program

	General Fund	Water/Sewer Fund	Parking System	Total
I) Actuarial Liability				
A) Health Insurance				
i) Active Employees ^b	\$ 143,355,940	\$ 14,628,145	\$ 405,180	\$ 158,389,265
ii) Retired and Disabled Participants	<u>122,865,505</u>	<u>23,626,803</u>	<u>50,677</u>	<u>146,542,985</u>
iii) Total	\$ 266,221,445	\$ 38,254,948	\$ 455,857	\$ 304,932,250
B) Life Insurance				
i) Active Employees ^b	\$ 1,023,483	\$ 100,955	\$ 4,987	\$ 1,129,425
ii) Retired and Disabled Participants	<u>3,597,981</u>	<u>568,808</u>	<u>-</u>	<u>4,166,789</u>
iii) Total	\$ 4,621,464	\$ 669,763	\$ 4,987	\$ 5,296,214
C) Total Liabilities	\$ 270,842,909	\$ 38,924,711	\$ 460,844	\$ 310,228,464
II) Assets	-	-	-	-
III) Unfunded Actuarial Liability (UAL)	\$ 270,842,909	\$ 38,924,711	\$ 460,844	\$ 310,228,464
IV) Net OPEB Obligation (boy)	\$ 110,861,026	\$ 7,305,654	\$ 527,442	\$ 118,694,122
V) Normal Cost				
A) Health Insurance	\$ 12,463,812	\$ 886,906	\$ 23,114	\$ 13,373,832
B) Life Insurance	<u>60,745</u>	<u>4,422</u>	<u>131</u>	<u>65,298</u>
C) Total	\$ 12,524,557	\$ 891,328	\$ 23,245	\$ 13,439,130
VI) Annual Required Contribution (ARC)				
A) Normal Cost	\$ 12,524,557	\$ 891,328	\$ 23,245	\$ 13,439,130
B) Amortization of UAL	<u>9,028,097</u>	<u>1,297,490</u>	<u>15,361</u>	<u>10,340,948</u>
C) Total	\$ 21,552,654	\$ 2,188,818	\$ 38,606	\$ 23,780,078
VII) Annual OPEB Cost				
i) ARC	\$ 21,552,654	\$ 2,188,818	\$ 38,606	\$ 23,780,078
ii) Interest on Net OPEB Obligation	4,434,441	292,226	21,098	4,747,765
iii) Adjustment to ARC	<u>(3,695,368)</u>	<u>(243,522)</u>	<u>(17,581)</u>	<u>(3,956,471)</u>
iv) Total	\$ 22,291,727	\$ 2,237,522	\$ 42,123	\$ 24,571,372
v) Percentage of Payroll	33.2%	32.6%	24.0%	33.1%
VIII) Expected Employer Contributions ^c				
i) Implicit Subsidy	\$ 1,519,298	\$ 316,288	\$ 3,652	\$ 1,839,238
ii) Explicit Subsidy	<u>4,643,105</u>	<u>867,275</u>	<u>5,768</u>	<u>5,516,148</u>
iii) Total	\$ 6,162,403	\$ 1,183,563	\$ 9,420	\$ 7,355,386
iv) Percentage of Payroll	9.2%	17.2%	5.4%	9.9%
IX) Payroll	\$ 67,084,970	\$ 6,864,888	\$ 175,416	\$ 74,125,274

^a Base increase plus age or service based component.

^b Active employees eligible for future retiree healthcare benefits.

^c Expected employer contributions to finance current retiree healthcare claims assuming pay-as-you-go funding.

^d Excess trend rate of 0.46% over the base healthcare trend rate beginning in 2020 applied to pre-Medicare per capita claims costs to account for the Excise Tax under the Health Care Reform Act.

City of Joliet, Illinois
Retiree Healthcare and Life Insurance Benefit Programs
GASB 45 Actuarial Valuation as of January 1, 2016
Pay-as-you-go Funding Policy

Discount Rate 4.00%
Salary Scale^a 3.50%
Ultimate Trend^c 4.50%
Wage Inflation 4.00%

Amortization: 30-year open, level percentage of payroll

Projected Results by Fund

	General Fund	Water/Sewer Fund	Parking System	Total
January 1, 2016				
A) Actuarial Liability	\$ 270,842,909	\$ 38,924,711	\$ 460,844	\$ 310,228,464
B) Assets	-	-	-	-
C) Unfunded Actuarial Liability (UAL)	\$ 270,842,909	\$ 38,924,711	\$ 460,844	\$ 310,228,464
D) Normal Cost	\$ 12,524,557	\$ 891,328	\$ 23,245	\$ 13,439,130
E) Annual Required Contribution (ARC)	\$ 21,552,654	\$ 2,188,818	\$ 38,606	\$ 23,780,078
F) Annual OPEB Cost	\$ 22,291,727	\$ 2,237,522	\$ 42,123	\$ 24,571,372
G) Annual OPEB Cost as % of Pay	33.2%	32.6%	24.0%	33.1%
H) Expected Employer Contributions ^b				
i.) Implicit	\$ 1,519,298	\$ 316,288	\$ 3,652	\$ 1,839,238
ii.) Explicit	4,643,105	867,275	5,768	5,516,148
iii.) Total	\$ 6,162,403	\$ 1,183,563	\$ 9,420	\$ 7,355,386
I) Expected Employer Contributions as % of Pay	9.2%	17.2%	5.4%	9.9%
J) Net OPEB Obligation (boy)	\$ 110,861,026	\$ 7,305,654	\$ 527,442	\$ 118,694,122
K) Payroll	\$ 67,084,970	\$ 6,864,888	\$ 175,416	\$ 74,125,274
January 1, 2017				
A) Actuarial Liability	\$ 288,417,722	\$ 40,201,678	\$ 493,846	\$ 329,113,246
B) Assets	-	-	-	-
C) Unfunded Actuarial Liability (UAL)	\$ 288,417,722	\$ 40,201,678	\$ 493,846	\$ 329,113,246
D) Normal Cost	\$ 13,025,539	\$ 926,981	\$ 24,175	\$ 13,976,695
E) Annual Required Contribution (ARC)	\$ 22,639,463	\$ 2,267,037	\$ 40,636	\$ 24,947,137
F) Annual OPEB Cost	\$ 23,486,066	\$ 2,322,768	\$ 44,371	\$ 25,853,204
G) Annual OPEB Cost as % of Pay	33.7%	32.5%	24.3%	33.5%
H) Expected Employer Contributions ^b				
i.) Implicit	\$ 1,698,098	\$ 343,902	\$ 4,548	\$ 2,046,547
ii.) Explicit	5,154,399	922,955	8,066	6,085,419
iii.) Total	\$ 6,852,496	\$ 1,266,856	\$ 12,614	\$ 8,131,966
I) Expected Employer Contributions as % of Pay	9.8%	17.7%	6.9%	10.5%
J) Net OPEB Obligation (boy)	\$ 126,990,350	\$ 8,359,613	\$ 560,145	\$ 135,910,108
K) Payroll	\$ 69,768,369	\$ 7,139,484	\$ 182,433	\$ 77,090,285

^a Base increase plus age or service based component.

^b Expected employer contributions to finance current retiree healthcare claims assuming pay-as-you-go funding.

^c Excess trend rate of 0.46% over the base healthcare trend rate beginning in 2020 applied to pre-Medicare per capita claims costs to account for the Excise Tax under the Health Care Reform Act.

SECTION C
PLAN PROVISIONS

PLAN PROVISIONS

Following are the plan provisions reflected in our valuation of the City of Joliet retiree healthcare and life insurance benefits as of January 1, 2016.

Medical Insurance Benefits:

Benefits Provided for Plan Year beginning January 1, 2016

City of Joliet provides pre- and post-Medicare health care benefits to retired employees and their dependents provided they satisfy one of the following requirements:

- 1) General, Water/Sewer and Parking Employees: Age 55 with eight or more years of service and retired under the IMRF Pension Plan.
- 2) Police Officers: 20 years (or more) of Creditable Service and is no longer in service as a Police Officer.
- 3) Firefighters: Age 50 (or more) with 20 years (or more) of Creditable Service, is no longer in service as a Firefighter and retired under the City of Joliet Fire Pension Plan.
- 4) Medically disabled and totally and permanently unable to work.

The City of Joliet also provides healthcare benefits to the survivors of deceased employees and retired members. Coverage for spouses of deceased plan members will terminate if they remarry.^a

Coordination with Medicare

Benefits for members eligible for Medicare modified as follows:

The amount payable under the City's health plan will be reduced by the amount payable under Medicare for those expenses that are covered by both. Prescription drug benefits for post-Medicare retirees and dependents do not reflect a plan change or federal subsidy as available under the Medicare Prescription Drug, Improvement and Modernization Act, beginning in 2006. We understand the City of Joliet has applied for a Medicare Part D Subsidy.

Funding Policy. Retiree health care benefits are funded on a pay as you go basis. Benefits are self-insured up to certain stop loss limits.

Eligible Benefit Programs:

We have assumed retirees opting out of the retiree health program cannot reenter into the program. A brief description of the medical healthcare plan offered by the City of Joliet and the required retiree contributions are shown on the following pages:

^a Currently the City is only charging survivors and dependents of deceased employees and retired members the 1988 blended premium.

PLAN PROVISIONS (CONTINUED)

BlueCross BlueShield

Plan Feature	BCBS Providers	Non-BCBS Providers												
Annual Deductible	\$ 250 per person \$ 500 per family	\$ 500 per person \$ 1,000 per family												
Out of Pocket Maximum	\$ 1,000 per person \$ 3,000 per family	\$ 3,000 per person \$ 9,000 per family												
<u>Covered Services</u>	<u>Coinsurance</u>	<u>Coinsurance</u>												
-Physicians Visits	80% (After deductible)	70% (After deductible)												
-Emergency Care	80% (After deductible)	80% (After deductible)												
-Inpatient Services	100%	70% (After deductible)												
-Outpatient Services	100%	70%												
Prescription Drug Copays	<table border="0"> <tr> <td></td> <td><u>Retail</u></td> <td><u>Mail Order</u></td> </tr> <tr> <td>Generic</td> <td>\$8</td> <td>\$14</td> </tr> <tr> <td>Brand if no generic available</td> <td>\$15</td> <td>\$28</td> </tr> <tr> <td>Brand if generic available</td> <td>\$35</td> <td>\$68</td> </tr> </table>		<u>Retail</u>	<u>Mail Order</u>	Generic	\$8	\$14	Brand if no generic available	\$15	\$28	Brand if generic available	\$35	\$68	75% of eligible charge less the applicable co-pay
	<u>Retail</u>	<u>Mail Order</u>												
Generic	\$8	\$14												
Brand if no generic available	\$15	\$28												
Brand if generic available	\$35	\$68												
Maximum Lifetime Benefit	N/A	N/A												

Medical benefits are coordinated with Medicare.

PLAN PROVISIONS (CONTINUED)

Retiree Cost Sharing Provisions

Police and Fire retirees as well as IMRF retirees with 20 or more years of service receive single healthcare coverage at no charge to the member. IMRF retirees with less than 20 years of service pay a portion of the 1988 single premium rate according to the following schedule. Members electing dependent coverage must pay the 1988 rate for the additional coverage. Surviving spouses pay the 1988 single premium rate.

<u>Years of Service</u>	<u>Retiree Share of 1988 Rate for Single Coverage</u>
20 or more	0%
15-19	25%
12-14	35%
8-11	50%

1988 Blended Premium Rates

Pre-Medicare Single	\$118.20
Pre-Medicare Additional Premium for Dependents	\$217.68
Medicare Single	\$ 59.10
Child Only	\$ 99.60

100% Healthcare and Vision Blended Premium rates as of January 1, 2016

	Coverage Type		
	Single	2 Person	Family
Medicare Eligible	\$ 426.08	\$ 852.19	
No Members Medicare Eligible	\$ 817.07	\$ 1,582.12	\$ 2,080.56

Life Insurance Benefits:

1. Police Officers: Group term life insurance of \$12,500 at City's expense
2. Firefighters, Water/Sewer, Parking and General Employees: Group term life insurance of \$10,000 at City's expense
3. Mayor, Council, and Liquor Commissioners: Group term life insurance of \$25,000 at City's expense

On January 1, 2012, the City adjusted the life insurance plan for current employees raising their amounts for all the exempt groups to a flat \$50,000. At the same time they will no longer be offering retired individuals from these groups a lifetime benefit. Retirees prior to this date were grandfathered in. Grandfathered life insurance benefits for exempt members are as follows:

1. Exempt I: Group term life insurance of \$25,000 at City's expense
2. Exempt II: Group term life insurance of \$20,000 at City's expense
3. Exempt III: Group term life insurance of \$15,000 at City's expense
4. Exempt IV: Group term life insurance of \$10,000 at City's expense

SECTION D

ACTUARIAL METHODS AND ASSUMPTIONS

ACTUARIAL METHODS AND ASSUMPTIONS

Development of Per Capita Claim Costs

Per capita claims costs were developed using paid claim experience adjusted to incurred claims, estimated administrative expense and enrollment information for calendar years 2014 through 2016 for all members enrolled in the BlueCross BlueShield program. Retiree costs were developed using standard morbidity assumptions. Finally, average retiree costs were adjusted by trend to plan year 2016. Separate costs were developed for pre-Medicare and post-Medicare medical coverage and prescription drug coverage.

Prescription drug per capita claims costs and liabilities for post-Medicare retirees and dependents do not reflect future federal subsidies or plan changes due to the introduction of Medicare Part D.

Cost Method and Expense Calculations for Retiree Healthcare Benefits

The retiree healthcare actuarial valuation was based on the entry age normal cost method. Under this method, each participant's projected benefits are assumed to be funded by annual installments, equal to a level percentage of compensation, payable from date of participation to assumed date of retirement. The total normal cost is the sum of the current year's annual installment determined for all active participants. The actuarial accrued liability is the excess value of the present value of future benefits for all participants (both active and retired) over the present value of future normal costs.

Under GASB Statement Nos. 43 and 45, the entry age normal method is an acceptable cost method. The Annual Required Contribution (ARC) equals the normal cost plus the amortization of the unfunded actuarial accrued liability. The amortization cannot exceed 30 years. Our calculations assume a level-percentage-of-pay 30-year open amortization period. The Annual Expense or Annual OPEB Cost equals the ARC plus interest on the Net OPEB Obligation less an adjustment to ARC.

The Net OPEB Obligation or balance sheet liability is equal to the cumulative difference between the Annual OPEB Costs and employer contributions. The OPEB liability at transition date, January 1, 2006, was set to zero.

Actuarial Assumptions

The actuarial assumptions used in our valuation are outlined on the following pages.

ACTUARIAL METHODS AND ASSUMPTIONS (CONTINUED)

Measurement Date	January 1, 2016
Discount Rate	4.00%
Price Inflation	3.00%
Wage Inflation	4.00%
OPEB Assumptions	

<u>Applied January 1,</u>	<u>Healthcare Trend^a</u>
2017	8.00%
2018	7.50%
2019	7.00%
2020	6.50%
2021	6.00%
2022	5.50%
2023	5.00%
2024+	4.50%

^a Excess trend rate of 0.46% over the base healthcare trend rate beginning in 2020 applied only to pre-Medicare per capita claim cost to account for the Excise Tax under the Health Care Reform Act.

Per Capita Claim Costs for Plan Year 2016

<u>Age</u>	<u>Medical/RX Costs</u>	
	<u>Male</u>	<u>Female</u>
40	\$ 4,744	\$ 7,709
45	5,906	8,151
50	7,691	9,474
55	10,120	11,049
60	13,070	12,870
64	15,894	15,000
65	6,319	5,960
70	6,883	6,661
75	7,393	7,214
80	7,761	7,625

ACTUARIAL METHODS AND ASSUMPTIONS (CONTINUED)

Participation and Election Assumptions

Percent of future retirees electing post-retirement healthcare coverage	100%
Percent married	80%
Of those married, percent married electing spouse healthcare coverage	80%
Percent of surviving spouses continuing coverage after death of retiree	60%

Females are assumed to be three years younger than their spouse.

Pension-Related Assumptions

The pension-related actuarial assumptions disclosed in the Illinois Municipal Retirement Fund actuarial valuation report as of December 31, 2015, are assumed for general employees. GRS actuarial assumptions used for valuations as of January 1, 2016, of the Police and Fire Pension Funds were assumed for Police and Fire employees.

ACTUARIAL METHODS AND ASSUMPTIONS (CONTINUED)

Salary Increase			
5 or More Years of Service		Less Than 5 Years of Service	
Age	Regular IMRF	Service	Regular IMRF
25	5.5%	0	10.5%
30	5.2%	1	9.0%
35	4.7%	2	6.8%
40	4.4%	3	6.0%
45	4.2%	4	5.5%
50	4.0%		
55	3.9%		
60	3.8%		

For a person with five or more years of service, the assumed pay increase during the coming year is found in the five or more years of service total column. For a person with less than five years of service, the assumed pay increase during the coming year is found in the less than five years of total service column.

Years of Service	Salary Increase	
	Police	Fire
1	30.00%	30.00%
2	27.50%	27.50%
3	18.00%	20.00%
4	8.00%	15.00%
>=5	5.25%	5.25%

For members with no salary provided in the data, we assumed their salary was equal to the average salary of the other members.

ACTUARIAL METHODS AND ASSUMPTIONS (CONTINUED)

Demographic Assumptions

Mortality Regular IMRF *

Sample Age in 2015	Healthy - Retiree		Disabled - Retiree		Healthy Active	
	Male	Female	Male	Female	Male	Female
20	0.0675%	0.0173%	0.0558%	0.0184%	0.0327%	0.0122%
25	0.0855%	0.0247%	0.2151%	0.0835%	0.0400%	0.0134%
30	0.1029%	0.0422%	0.4886%	0.2251%	0.0382%	0.0178%
35	0.1402%	0.0710%	0.8873%	0.4147%	0.0446%	0.0232%
40	0.2142%	0.1117%	1.4321%	0.6158%	0.0521%	0.0307%
45	0.3181%	0.1745%	1.9301%	0.8531%	0.0793%	0.0505%
50	0.4437%	0.2695%	2.2265%	1.1370%	0.1380%	0.0872%
55	0.6132%	0.3927%	2.3887%	1.4124%	0.2357%	0.1352%
60	0.8750%	0.5471%	2.7528%	1.6216%	0.4040%	0.1929%
65	1.3964%	0.8121%	3.5074%	1.9415%	0.7036%	0.2849%
70	2.2486%	1.2904%	4.6082%	2.6060%	1.1510%	0.4828%
75	3.6321%	2.1301%	6.2581%	3.8062%	1.9057%	0.8271%
80	5.9440%	3.5448%	8.7815%	5.6693%	3.1818%	1.4140%

For non-disabled lives, the mortality rates are IMRF-specific mortality rates with 2-dimensional, fully generational improvements using the MP-2014 Mortality Improvement Scale (projected from 2014). These rates were developed from the RP-2014 Blue Collar Mortality Table with adjustments to match current IMRF experience. For disabled lives, the mortality rates are IMRF-specific mortality rates with 2-dimensional, fully generational improvements using the MP-2014 Mortality Improvement Scale. These rates were developed using the RP-2014 Disabled Mortality Table applying the same adjustments that were applied for non-disabled lives.

Mortality Police and Fire

Age	Healthy		Disabled	
	Male	Female	Male	Female
20	0.0507%	0.0284%	0.0558%	0.0312%
25	0.0661%	0.0291%	0.0727%	0.0320%
30	0.0801%	0.0351%	0.0881%	0.0386%
35	0.0851%	0.0478%	0.0936%	0.0526%
40	0.1072%	0.0709%	0.1179%	0.0780%
45	0.1578%	0.0973%	0.1736%	0.1070%
50	0.2579%	0.1428%	0.2837%	0.1571%
55	0.4425%	0.2294%	0.4868%	0.2523%
60	0.7976%	0.4439%	0.8774%	0.4883%
65	1.4535%	0.8636%	1.5989%	0.9500%
70	2.3730%	1.3730%	2.6103%	1.5103%
75	3.7211%	2.2686%	4.0932%	2.4955%
80	6.2027%	3.9396%	6.8230%	4.3336%

The 1994 Group Annuity Mortality Table, sex-distinct, is used for healthy mortality. Disabled mortality is 110% of healthy mortality. 10% and 75% of deaths are assumed to occur in the line of duty for Fire and Police respectively.

**Assumptions are based on experience of all IMRF employees and are not specific to the City of Joliet.*

ACTUARIAL METHODS AND ASSUMPTIONS (CONTINUED)

Sample Disability Rates
% Separating Within Next Year

Age	Regular IMRF		Police	Fire
	Male	Female	Male & Female	Male & Female
20	0.004%	0.002%	0.04%	0.09%
25	0.004%	0.002%	0.04%	0.10%
30	0.006%	0.004%	0.05%	0.10%
35	0.014%	0.006%	0.07%	0.12%
40	0.021%	0.010%	0.10%	0.15%
45	0.034%	0.016%	0.16%	0.21%
50	0.052%	0.025%	0.26%	0.78%
55	0.080%	0.039%	0.50%	1.36%
60	0.103%	0.068%	0.87%	2.30%
65	0.110%	0.080%	1.43%	3.35%

75% of disabilities for Police and Fire are assumed to occur in the line of duty.

Sample Turnover Rates
% Separating Within Next Year

Age	Service	Regular IMRF*	
		Male	Female
	0	24.5%	29.0%
	1	19.0%	22.0%
	2	14.5%	17.0%
	3	12.0%	13.0%
	4	9.5%	11.0%
	5	8.0%	9.0%
	6	7.0%	7.5%
	7	6.5%	7.0%
25	8 & Over	4.9%	6.2%
30		4.1%	6.1%
35		3.2%	5.1%
40		2.6%	3.9%
45		2.2%	3.3%
50		1.9%	2.8%

* Assumptions are based on experience of all IMRF employees and are not specific to the City of Joliet.

ACTUARIAL METHODS AND ASSUMPTIONS (CONTINUED)

**Sample Turnover Rates
% Separating Within Next Year**

<u>Service</u>	<u>Police</u>	<u>Fire</u>
0	4.0%	1.4%
5	2.4%	0.9%
10	0.9%	0.6%
15	0.9%	0.3%
20	0.9%	0.2%
25	0.6%	0.1%
30 and over	0.0%	0.0%

Rates of Retirement for Members Hired before January 1, 2011

<u>Police</u>				<u>Fire</u>			
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
50	7.5 %	60	25.0 %	50	5.0 %	60	30.0 %
51	7.5	61	50.0	51	5.0	61	50.0
52	15.0	62	50.0	52	5.0	62	50.0
53	15.0	63	50.0	53	10.0	63	50.0
54	15.0	64	50.0	54	20.0	64	50.0
55	25.0	65	100.0	55	25.0	65	100.0
56	25.0	66	100.0	56	30.0	66	100.0
57	25.0	67	100.0	57	30.0	67	100.0
58	25.0	68	100.0	58	30.0	68	100.0
59	25.0	69	100.0	59	30.0	69	100.0

Rates of Retirement for Members Hired On or After January 1, 2011

<u>Police</u>				<u>Fire</u>			
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
50	5.0 %	60	25.0 %	50	5.0 %	60	30.0 %
51	5.0	61	50.0	51	5.0	61	50.0
52	5.0	62	50.0	52	5.0	62	50.0
53	5.0	63	50.0	53	5.0	63	50.0
54	5.0	64	50.0	54	5.0	64	50.0
55	25.0	65	100.0	55	25.0	65	100.0
56	25.0	66	100.0	56	30.0	66	100.0
57	25.0	67	100.0	57	30.0	67	100.0
58	25.0	68	100.0	58	30.0	68	100.0
59	25.0	69	100.0	59	30.0	69	100.0

ACTUARIAL METHODS AND ASSUMPTIONS (CONTINUED)

Normal Retirement Rates					
% Separating Within Next Year (Age-Based)					
Regular IMRF*					
Hired Before January 1, 2011 ^a					
Age	Male	Female	Age	Male	Female
55	33.0%	27.0%	68	20.0%	20.0%
56	25.0%	20.0%	69	20.0%	20.0%
57	25.0%	20.0%	70	20.0%	20.0%
58	25.0%	20.0%	71	20.0%	20.0%
59	25.0%	20.0%	72	20.0%	20.0%
60	12.0%	10.0%	73	20.0%	20.0%
61	12.0%	10.0%	74	20.0%	20.0%
62	22.0%	18.0%	75	20.0%	20.0%
63	20.0%	18.0%	76	20.0%	20.0%
64	20.0%	18.0%	77	20.0%	20.0%
65	25.0%	25.0%	78	20.0%	20.0%
66	30.0%	25.0%	79	20.0%	20.0%
67	25.0%	25.0%	80 & Over	100.0%	100.0%

Regular IMRF*							
Hired On/After January 1, 2011 ^b							
Age	Service less than 30 years		Service between 30 and 35 years		Age	Service 35 years or more	
	Male	Female	Male	Female		Male	Female
67	30.0%	25.0%	50.0%	50.0%	62	75.0%	75.0%
68	30.0%	25.0%	50.0%	50.0%	63	75.0%	75.0%
69	25.0%	20.0%	50.0%	50.0%	64	75.0%	75.0%
70	20.0%	18.0%	50.0%	50.0%	65	75.0%	75.0%
71	20.0%	18.0%	50.0%	50.0%	66	75.0%	75.0%
72	20.0%	18.0%	50.0%	50.0%	67	75.0%	75.0%
73	18.0%	18.0%	50.0%	50.0%	68	75.0%	75.0%
74	18.0%	18.0%	50.0%	50.0%	69	75.0%	75.0%
75	18.0%	18.0%	50.0%	50.0%	70	75.0%	75.0%
76	18.0%	18.0%	50.0%	50.0%	71	75.0%	75.0%
77	18.0%	18.0%	50.0%	50.0%	72	75.0%	75.0%
78	18.0%	18.0%	50.0%	50.0%	73	75.0%	75.0%
79	18.0%	18.0%	50.0%	50.0%	74 - 79	75.0%	75.0%
80	100.0%	100.0%	100.0%	100.0%	80	100.0%	100.0%

^a Early retirement rates of 7.25% per year for males and 5.75% per year for females beginning at age 55.

^b Early retirement rates of 15% per year for males and 13% per year for females beginning at age 62.

* Assumptions are based on experience of all IMRF employees and are not specific to the City of Joliet.

SECTION E
PARTICIPANT DATA

PARTICIPANT DATA

City of Joliet, Illinois
Retiree Healthcare and Life Insurance Benefit Programs
Actuarial Valuation as of January 1, 2016
Population Breakout by Fund

Counts by Fund

	Actives	Retirees and Beneficiaries	Total
General Fund	730	423	1,153
Water/Sewer	75	76	151
Parking	<u>2</u>	<u>1</u>	<u>3</u>
	807	500	1,307

Retiree and Beneficiary Healthcare Coverage Type by Fund

	1 Person	2 Person	Family	Total
General Fund	174	204	45	423
Water/Sewer	28	44	4	76
Parking	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>
	203	248	49	500

Note: Coverage Type by Fund for actives not provided because assumption is made on coverage type at the time of retirement.

City of Joliet, Illinois
Retiree Healthcare and Life Insurance Benefit Programs
Actuarial Valuation as of January 1, 2016
Age Service Distribution for Total Active Population

Attained Age	Years of Service to Valuation Date								Total	Total Valuation Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 35		
Under 20									-	\$ -
20-24	7								7	354,715
25-29	20	6							26	1,678,095
30-34	54	49	17						120	9,799,053
35-39	12	53	48	19	1				133	12,170,024
40-44	11	33	48	61	13				166	15,963,880
45-49	6	5	24	46	53	13			147	14,725,926
50-54	5	9	12	19	37	29	6	2	119	11,413,422
55-59	1	6	5	8	15	14	5	4	58	5,463,329
60-64	2	1	5	3	1	6	1	3	22	1,948,527
65-69	3		2	2					7	475,856
Over 70			1			1			2	132,448
Total	121	162	162	158	120	63	12	9	807	\$ 74,125,274

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

Age: 43.8 years
Service: 14.3 years
Annual Pay: \$91,853

SECTION F

GASB ACCOUNTING INFORMATION

This information is presented in draft form for review by the Fund's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the Fund's financial statements.

GASB ACCOUNTING INFORMATION

OPEB Cost Summary:

Year Ended	Annual OPEB Cost (AOC)	Employer Contributions	% of AOC Contributed	Net OPEB Obligation (eoy)	Annual Required Contribution (ARC)	% of ARC Contributed
December 31, 2017	TBD	TBD	TBD	TBD	\$24,947,137	TBD
December 31, 2016	\$24,571,372	TBD	TBD	TBD	23,780,078	TBD
December 31, 2015	20,307,649	\$7,741,570	38.1%	\$118,694,122	19,321,000	40.1%
December 31, 2014	19,290,732	7,357,190	38.1%	106,128,043	18,415,026	40.0%
December 31, 2013	18,168,101	6,502,194	35.8%	94,194,501	19,067,000	34.1%
December 31, 2012	18,791,182	6,171,923	32.8%	82,528,594	18,138,526	34.0%
December 31, 2011	19,668,000	6,571,409	33.4%	69,909,335	19,132,000	34.3%
December 31, 2010	18,592,855	6,710,568	36.1%	56,812,744	18,175,146	36.9%

Schedule of Funding Progress:

Actuarial Valuation Date	GASB Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Payroll [(b - a)/c]
January 1, 2016	\$0	\$310,228,464	\$310,228,464	0.0 %	\$74,125,274	418.5 %
January 1, 2014	0	235,051,164	235,051,164	0.0	70,978,328	331.2
January 1, 2012	0	214,713,030	214,713,030	0.0	70,369,756	305.1
January 1, 2010	0	205,086,432	205,086,432	0.0	71,889,093	285.3
January 1, 2009	0	180,752,000	180,752,000	0.0	71,298,274	253.5
January 1, 2008	0	167,485,137	167,485,137	0.0	68,556,033	244.3

GASB No. 45 SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

The GASB 45 financial disclosure information for the fiscal years ending 2016 and 2017 were based on the following assumptions and methods.

<i>Valuation Date</i>	January 1, 2016
<i>Actuarial Cost Method</i>	Entry Age Normal
<i>Actuarial Value of Assets</i>	No Assets (Pay-as-you-go)
<i>Amortization Method</i>	Level Percent Open
<i>Remaining Amortization Period</i>	30 Years
<i>Actuarial Assumptions:</i>	
<i>Investment Rate of Return</i>	4.0% per year
<i>Wage Inflation</i>	4.0% per year
<i>Healthcare Trend</i>	8.0% per year graded down to 4.5% ^a per year ultimate trend in 0.5% increments

^a Excess trend rate of 0.46% over the base healthcare trend rate beginning in 2020 applied only to pre-Medicare per capita claim cost to account for the Excise Tax under the Health Care Reform Act.