City of Grand Rapids Fire
Other Postemployment Benefits

Actuarial Valuation Report

June 30, 2018

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GRS Retirement Consulting
800.521.0498 | P: 248.799.9000 | F: 248.799.9020 | www.grsconsulting.com

December 19, 2018

Mr. Jeff Dood
Chief Financial Officer
City of Grand Rapids
300 Monroe Avenue, N. W.
Grand Rapids, MI 49503

Dear Mr. Dood:

Submitted in this report are the results of an Actuarial Valuation of the benefit values associated with the employer financed Other Postemployment Benefits provided by the City of Grand Rapids for Fire Employees. The date of the valuation was June 30, 2018.

This report was prepared at the request of the City of Grand Rapids. This report may be provided to parties other than the City of Grand Rapids only in its entirety and only with the permission of the City of Grand Rapids. GRS is not responsible for unauthorized use of this report. This report should not be relied on for any purpose other than the purpose described herein.

The actuarial calculations were prepared for purposes of measuring the Plan's funding progress and to determine the Actuarially Computed Employer Contribution rates for the fiscal year ending June 30, 2020. Determinations of the liability associated with the benefits described in this report for purposes other than satisfying the System's financial reporting requirements may produce significantly different results. This report does not satisfy GASB Statements No. 74 and No. 75. Please see the report dated September 28, 2018 for information related to GASB Statement No. 74 and No. 75 reporting.

The findings in this report are based on data and other information through June 30, 2018. 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. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

The valuation was based upon information, furnished by the City and Meritain, concerning retiree health care benefits, individual members, and financial data. Data was checked for internal consistency, but was not audited. We are not responsible for the accuracy or completeness of the information provided by the City and Meritain.

To the best of our knowledge, this report is complete and accurate and was made in accordance with generally recognized actuarial methods.

James D. Anderson, Abra D. Hill and Michael D. Kosciuk are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

James D. Anderson

James D. Anderson, FSA, EA, FCA, MAAA

Abra D. Hill

Abra D. Hill, ASA, MAAA

Michael D. Kosciuk, ASA, MAAA

JDA/ADH/MDK:sc

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EXECUTIVE SUMMARY

Executive Summary

Actuarially Computed Employer Contribution

Please note that beginning with the fiscal year ending June 30, 2017, GASB Statement No. 43 was replaced by GASB Statement No. 74. Also, beginning with the fiscal year ending June 30, 2018, GASB Statement No. 45 will be replaced by GASB Statement No. 75. The report dated September 28, 2018 complies with the actuarial requirements of GASB Statements No. 74 and No. 75 beginning with the fiscal year ending June 30, 2018. There is no longer an "Annual Required Contribution" (ARC) calculated in the valuation reports. Therefore, we have determined the "Actuarially Computed Employer Contribution" for subsequent years.

We have calculated the Actuarially Computed Employer Contribution for the fiscal year ending June 30, 2020 using an interest rate assumption of 5.0%. Below is a summary of the results.

The total Actuarially Computed Employer Contribution (ACEC) for the fiscal year ending June 30, 2020 was determined to be $2,033,496 ($1,912,539 for DB, $120,957 for RHSA). The expected employer portion of the claims and premium amounts paid during the fiscal year ending June 30, 2020 are estimated to be $2,695,828 for DB and $0 for RHSA. These amounts reflect the employer portion of the retiree only premium rates and the implicit subsidy for retirees and covered spouses.

For additional details, please see Section A of the report.

Liabilities and Assets

The total present value of all benefits expected to be paid to current plan members as of June 30, 2018 is $42,619,673 ($40,728,926 for DB, $1,890,747 for RHSA). The actuarial accrued liability, which is the portion of the $42,619,673 attributable to service accrued by plan members as of June 30, 2018, is $34,173,533 ($33,899,139 for DB, $274,394 for RHSA). The actuarial value of assets currently set aside for OPEB purposes as of June 30, 2018 are $19,156,719. Assets are currently only allocated to the Defined Benefit portion of the plan. Thus, the Fire DB plan is 56.5% funded.

SECTION A

VALUATION RESULTS

Development of the Actuarially Computed Employer Contributions for the Other Postemployment Benefits

Contributions for	Fire - Actuarially Computed Employer Contribution: Defined Benefit[1]	RHSA[2]	Total
Normal Cost			
Normal Retirement	$ 532,485		
Termination Benefits	84,653		
Disability/Death-in-Service	271,651		
Total Normal Cost	$ 888,789	$ 99,600	$ 988,389
Amortization of Unfunded Actuarial Accrued Liabilities (Amortized over 22 years)	$ 1,023,750	$ 21,357	$ 1,045,107
Actuarially Computed Employer Contribution for the Fiscal Year Ending June 30, 2020	**$ 1,912,539**	**$ 120,957**	**$ 2,033,496**

[1] *For City budgeting purposes related to the defined benefit plan.*

[2] *RHSA information as required for GASB disclosure which reflects the ability of Defined Contribution RHSA participants to access the Health Care plan at reduced costs due to blended rates plus employer paid duty disability benefits.*

The unfunded actuarial accrued liabilities were amortized as a level dollar amount over a closed period of 22 years beginning with the fiscal year ending June 30, 2020 and decreasing by 1 each year thereafter.

The assumptions used to calculate the results shown above include a 5.0% investment return rate.

Determination of Unfunded Actuarial Accrued Liability as of June 30, 2018

	Fire		
	Defined Benefit[1]	RHSA[2]	Total
A. Present Value of Future Benefits			
1. Retirees and Beneficiaries	$15,768,147	$ 0	$15,768,147
2. Vested Terminated Members	1,659,014	0	1,659,014
3. Active Members	23,301,765	1,890,747	25,192,512
Total Present Value of Future Benefits	$40,728,926	$1,890,747	$42,619,673
B. Present Value of Future Employer Normal Costs	6,829,787	1,616,353	8,446,140
C. Actuarial Accrued Liability (A.-B.)	33,899,139	274,394	34,173,533
D. Market Value of Assets	19,156,719	0	19,156,719
E. Unfunded Actuarial Accrued Liability (C.-D.)	$14,742,420	$ 274,394	$15,016,814
F. Funded Ratio (D./C.)	56.5%	0.0%	56.1%

[1] *For City budgeting purposes related to the defined benefit plan.*
[2] *RHSA information as required for GASB disclosure which reflects the ability of Defined Contribution RHSA participants to access the Health Care plan at reduced costs due to blended rates plus employer paid duty disability benefits.*

Projections
as of June 30, 2018*

Year Ending June 30,	Asset Value BOY	Actuarially Computed Employer Contribution	Health Care Benefits^	Investment Income	Asset Value EOY
2020	$ 20,494,451	$ 1,912,539	$ 2,695,828	$ 1,005,379	$ 20,716,541
2021	20,716,541	1,847,472	2,928,485	1,009,131	20,644,659
2022	20,644,659	1,806,215	3,030,112	1,002,009	20,422,771
2023	20,422,771	1,758,960	3,110,665	987,758	20,058,824
2024	20,058,824	1,695,456	3,209,965	965,540	19,509,855
2025	19,509,855	1,630,693	3,286,039	934,614	18,789,123
2026	18,789,123	1,567,477	3,466,810	892,552	17,782,342
2027	17,782,342	1,507,618	3,478,794	840,439	16,651,605
2028	16,651,605	1,443,523	3,398,049	784,313	15,481,392
2029	15,481,392	1,381,918	3,383,104	724,650	14,204,856
2030	14,204,856	1,340,298	3,394,083	659,524	12,810,595
2031	12,810,595	1,301,044	3,231,804	592,849	11,472,684
2032	11,472,684	1,267,495	2,991,608	531,057	10,279,628
2033	10,279,628	1,225,358	2,889,865	472,876	9,087,997
2034	9,087,997	1,188,553	2,688,663	417,355	8,005,242
2035	8,005,242	1,157,041	2,338,988	371,074	7,194,369
2036	7,194,369	1,126,965	2,194,637	333,352	6,460,049
2037	6,460,049	1,100,769	2,061,193	299,285	5,798,910
2038	5,798,910	1,076,404	1,812,832	271,759	5,334,241
2039	5,334,241	1,057,227	1,614,650	252,946	5,029,764
2040	5,029,764	1,041,968	1,466,315	241,009	4,846,426
2041	4,846,426	1,036,080	1,255,433	236,904	4,863,977
2042	4,863,977	15,506	1,243,216	212,880	3,849,147
2043	3,849,147	6,358	1,148,569	164,250	2,871,186
2044	2,871,186	-	910,977	121,063	2,081,272
2045	2,081,272	-	661,915	87,718	1,507,075
2046	1,507,075	-	505,000	62,883	1,064,958
2047	1,064,958	-	457,466	41,951	649,443
2048	649,443	-	314,980	24,694	359,157
2049	359,157	-	118,724	15,026	255,459
2050	255,459	-	128,423	9,602	136,638
2051	136,638	-	96,466	4,450	44,622
2052	44,622	-	45,724	1,102	-

* *The projected results above are based on the existing Defined Benefit active, deferred, and retired members on the valuation date. Any benefits and/or contributions associated with Defined Contribution RHSA members, or members hired after the valuation date have not been included in these results.*

^ *Health Care Benefit payments were loaded to reflect children's coverage.*

Unfunded actuarial accrued liabilities were amortized over a 22-year period.

Illustrative Projections
as of June 30, 2018*

Year Ending June 30,	Asset Value BOY	Actuarially Computed Employer Contribution	Health Care Benefits^	Investment Income	Asset Value EOY
2020	$ 20,494,451	$ 1,809,039	$ 2,695,828	$ 1,002,823	$ 20,610,485
2021	20,610,485	1,744,955	2,928,485	1,001,297	20,428,252
2022	20,428,252	1,703,695	3,030,112	988,657	20,090,492
2023	20,090,492	1,656,437	3,110,665	968,612	19,604,876
2024	19,604,876	1,592,928	3,209,965	940,311	18,928,150
2025	18,928,150	1,528,161	3,286,039	902,997	18,073,269
2026	18,073,269	1,464,941	3,466,810	854,227	16,925,627
2027	16,925,627	1,405,079	3,478,794	795,071	15,646,983
2028	15,646,983	1,340,978	3,398,049	731,550	14,321,462
2029	14,321,462	1,279,369	3,383,104	664,121	12,881,848
2030	12,881,848	1,237,747	3,394,083	590,842	11,316,354
2031	11,316,354	1,198,490	3,231,804	515,605	9,798,645
2032	9,798,645	1,164,939	2,991,608	444,823	8,416,799
2033	8,416,799	1,122,799	2,889,865	377,202	7,026,935
2034	7,026,935	1,085,991	2,688,663	311,769	5,736,032
2035	5,736,032	1,054,477	2,338,988	255,081	4,706,602
2036	4,706,602	1,024,399	2,194,637	206,431	3,742,795
2037	3,742,795	998,201	2,061,193	160,889	2,840,692
2038	2,840,692	973,835	1,812,832	121,316	2,123,011
2039	2,123,011	954,657	1,614,650	89,852	1,552,870
2040	1,552,870	939,396	1,466,315	64,631	1,090,582
2041	1,090,582	933,508	1,255,433	46,579	815,236
2042	815,236	928,127	1,243,216	32,981	533,128
2043	533,128	918,978	1,148,569	20,987	324,524
2044	324,524	912,620	910,977	16,267	342,434
2045	342,434	912,620	661,915	23,313	616,452
2046	616,452	912,620	505,000	40,889	1,064,961
2047	1,064,961	-	457,466	41,951	649,446
2048	649,446	-	314,980	24,694	359,160
2049	359,160	-	118,724	15,026	255,462
2050	255,462	-	128,423	9,602	136,641
2051	136,641	-	96,466	4,450	44,625
2052	44,625	-	45,727	1,102	-

* *The projected results above are based on the existing Defined Benefit active, deferred, and retired members on the valuation date. Any benefits and/or contributions associated with Defined Contribution RHSA members, or members hired after the valuation date have not been included in these results.*

^ *Health Care Benefit payments were loaded to reflect children's coverage.*

The above projection illustrates the potential impact on plan contributions, investment income, and asset value if unfunded actuarial accrued liabilities were amortized over a 27-year period instead of a 22-year period.

Extending the amortization period decreases the Actuarially Computed Employer Contribution for the fiscal year ending June 30, 2020 by $103,500.

Comments

Comment A: The Actuarially Computed Employer Contributions (ACEC) for the fiscal year ending June 30, 2020 decreased from the ACEC determined in the previous valuation report. Factors contributing to this decrease include, but are not limited to:

- Lower than expected claims experience.
- Lowering the load for children's coverage from 8% to 4%; and
- Based on conversations with the City, the removal of the 7% contingency load for possible future cost increases related to the "Cadillac" tax (also see Comment I).

Offsetting these factors are increases due to resetting the health care trend cost rates.

Comment B: One of the key assumptions used in any valuation of the cost of postemployment benefits is the long-term rate of investment return on the plan assets that will be used to pay plan benefits. The June 30, 2018 valuation investment return assumption is 5.0%, as requested by the City.

Comment C: The contribution rates shown include amortization of the unfunded actuarial accrued liability over a closed period of 22 years beginning with the fiscal year ending June 30, 2020.

Comment D: The cost of health care coverage for the children of retirees has decreased since the last measurement. A 4.0% load was applied to all health care liabilities and projections of benefits paid to value the additional cost of children's coverage, a decrease from the June 30, 2017 valuation load.

Comment E: Projections presented in this report will differ from those provided in the Trend Report dated September 28, 2018 due to:

- Age-based projection methodology used in this report versus non age-based projections used in the Trend Report;
- Data variances;
- Projected cash flows in this report are net of retiree contributions; and
- The valuation year starts July 1st while the rating year (for Trend Report purposes) starts January 1st.

Comment F: 100% of future eligible RHSA retirees were assumed to participate in the City of Grand Rapids Retiree Health Care Plan. The ACEC for the RHSA was provided for GASB reporting purposes. It is the decision of the City of Grand Rapids on how to pre-fund the RHSA portion of the ACEC, if at all. RHSA balances were not provided, and have not been used to offset benefits for future Duty Disability Retirements.

Comments

Comment G: The GASB issued Statement Nos. 74 and 75 for OPEB valuations similar to the pension accounting standards. GASB Statement No. 74 for the plan OPEB disclosures is effective for fiscal years beginning after June 15, 2016. GASB Statement No. 75 for employer OPEB disclosures is effective for employer fiscal years beginning after June 15, 2017. The GASB implementation guide for Statements No. 74 and No. 75 provides additional clarification related to the implementation of these Statements. The City has complied with GASB Statements No. 74 and No. 75 (please see the report dated September 28, 2018). The basis for the GASB Statement No. 74 and GASB Statement No. 75 information will be this valuation (as of June 30, 2018), where roll-forward techniques will be applied.

Comment H: The calculations within this report have been performed incorporating $19,156,719 in retiree health assets. We understand from the plan sponsor that these assets reside in a qualifying trust.

Comment I: The "Cadillac" tax is a 40% excise tax paid by the coverage provider (employer and/or insurer) on the value of health plan costs in excess of certain thresholds. The thresholds are $10,200 for single coverage or $27,500 for family coverage in 2022. Many plans are below the thresholds today, but are likely to exceed them in the next decade. The thresholds will be indexed at CPI-U, which is lower than the medical inflation rates affecting the cost of the plans. There is considerable uncertainty about how the tax would be applied, and considerable latitude in grouping of participants for tax purposes. Combining early retiree and Medicare eligible retiree costs is allowed and can keep plans under the thresholds for a longer period of time. For this valuation, no load was applied to the health care liabilities to approximate the cost for future excise tax, based on the current plan provisions and assumptions. We have not identified any other specific provision of health care reform that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued, we will review and monitor the impact.

Comment J: Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the market value of assets. Unless otherwise indicated, with regards to any funded status measurements presented in this report:

- The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, and
- The measure is inappropriate for assessing the need for or the amount of future employer contributions.

Comment K: Michigan Public Act 202 of 2017 created new reporting and other requirements for local units of government. As such, we can work with the City of Grand Rapids to develop a funding policy to document Plan procedures and facilitate compliance.

SECTION B

RETIREE PREMIUM RATE DEVELOPMENT

Retiree Premium Rate Development

The initial per capita health care costs are an important part of a retiree health valuation. The per capita health care costs used in this valuation are based on analysis performed in connection with the annual Trend Report prepared for the City dated September 28, 2018. The following process is used to determine per capita health costs for the valuation from the results provided in the Trend Report:

- The pre-65 retiree only "2019 Calculated Premium Rates" developed on page 19 of the Trend Report serve as the basis of pre-65 per capita costs used in the valuation. The per contract rates are converted to per member rates and then converted to age-graded rates.
- Beginning in 2019 the foundation of the participants contribution will change to be based on a percentage of the blended (active and pre-65 retiree) tier rate but since no experience is available under this new scheme and to be conservative, the 2019 overall blended (pre-65 retiree and active composite rate) implemented rates (page 20 of the Trend Report) serve as the basis for pre-65 retiree contributions.
- The post-65 retirees pay 100% of the true cost developed on page 19 (2019 Calculated Premium Rates).

Please see the Trend Report for other important details regarding the rate setting process. A general description of the process follows.

Background

Eligible City retirees (and eligible spouses) receive benefits from the self-insured plan. For Non-Medicare retirees, there is one benefit option and for Medicare retirees, there is a choice of four options with the same medical benefits but differing drug copays.

Rate Development

For the self-insured medical plans, initial per capita costs were developed separately for pre-65 and post-65 retirees using medical claims experience from July 2016 to June 2018 supplied by Meritain in conjunction with exposure data for the retired members of the health care program. These medical claims were projected on an incurred claim basis (using best estimate assumptions), adjusted for plan design changes, and loaded for administrative expenses.

For the self-insured drug plans, initial per capita costs were developed using drug claims experience July 2016 to June 2018 supplied by Meritain in conjunction with exposure data for the retired members of the health care program. These drug claims were projected on an incurred claim basis, adjusted for plan design changes and administrative expenses.

No Early Retirement Reinsurance Program (ERRP) reimbursements were reflected in the rates due to the short-term nature of the program.

Retiree Premium Rate Development

The initial medical and drug premium rates used in the valuation are a weighted average cost of the 2-year experience period to smooth out any large year to year fluctuations.

Age graded and sex distinct per capita costs are utilized by this valuation. The initial costs developed 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. This process more accurately reflects health care costs in the retired population over the projection period.

The table below shows the combined medical and prescription drug one-person monthly per capita costs at select ages.

Current and Future Retirees		
For Those Not Eligible for Medicare		
Age	**Male**	**Female**
45	$ 575.44	$ 794.19
50	749.29	923.05
55	985.98	1,076.55
60	1,273.45	1,253.91

The dental and vision per capita costs used in this valuation of the plan were not "age graded" since these claims do not vary significantly by age. The monthly dental per capita cost used in this valuation is $39.56 for single coverage and $77.14 for two-person or family coverage per month. The monthly vision per capita cost used in this valuation is $9.07 for single coverage and $17.69 for two-person or family coverage per month.

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

Consideration of Health Care Reform

Excise Tax on High-Cost Employer Health Plans (aka Cadillac Tax) Effective 1/1/2022. The "Cadillac" tax is a 40% excise tax paid by the coverage provider (employer and/or insurer) on the value of health plan costs in excess of certain thresholds. The thresholds are $10,200 for single coverage or $27,500 for family coverage in 2022. Many plans are below the thresholds today, but are likely to exceed them in the next decade. The thresholds will be indexed at CPI-U, which is lower than the medical inflation rates affecting the cost of the plans. There is considerable uncertainty about how the tax would be applied, and considerable latitude in grouping of participants for tax purposes. Combining early retiree and Medicare eligible retiree costs is allowed and can keep plans under the thresholds for a longer period of time.

For this Plan it is intended that, for purposes of the test, the pre and post Medicare members will be blended. Should the excise tax ever become applicable, and since all the health care plans are self-funded, then the plan sponsor will be the coverage provider paying the tax. The plan sponsor will need to decide whether to reduce benefits to avoid the tax, or how the additional cost will be allocated between the employer and the members. No load was applied to all health care liabilities and projections of benefits paid to approximate the cost for future excise tax in this valuation (previously, a 7% load was used).

We have not identified any other specific provision of health care reform that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued, we will review and monitor those impacts.

SECTION C

SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA

City of Grand Rapids Fire Retiree Health Care Plan
Defined Benefit Health Care
Summary of Benefits as of June 30, 2018

Plan Participants

Fire and IAFF members of the City of Grand Rapids Retiree Health Care Plan are eligible to receive retiree health care benefits. The City covers up to 100% of retiree health care coverage up to age 65.

Benefit Amount

Defined Benefit Retiree Health covers up to 100% of retiree health care coverage up to age 65 based on an accrual schedule. As of 9/12/2011, future retirees will pay a minimum of 20% of BLENDED active/pre-65 retiree cost per contract. This is applied before the accrual schedule shown below. Active employees with less than 10 years are no longer eligible for the Defined Benefit plan.

Retiree Health Care Blended Composite Premium Sharing

		Contract	City	Blended	Premium
Years	**Months**	**City%**	**Maximum**	**City%**	**EE%**
10	120	40%	80%	32.0%	68.0%
11	132	44%	80%	35.2%	64.8%
12	144	48%	80%	38.4%	61.6%
13	156	52%	80%	41.6%	58.4%
14	168	56%	80%	44.8%	55.2%
15	180	60%	80%	48.0%	52.0%
16	192	64%	80%	51.2%	48.8%
17	204	68%	80%	54.4%	45.6%
18	216	72%	80%	57.6%	42.4%
19	228	76%	80%	60.8%	39.2%
20	240	80%	80%	64.0%	36.0%
21	252	84%	80%	67.2%	32.8%
22	264	88%	80%	70.4%	29.6%
23	276	92%	80%	73.6%	26.4%
24	288	96%	80%	76.8%	23.2%
25	300	100%	80%	80.0%	20.0%
Age 55 & 10 years svc.		100%	80%	80.0%	20.0%
Disability Retirement		100%	80%	80.0%	20.0%

City of Grand Rapids Fire Retiree Health Care Plan
Defined Benefit Health Care
Summary of Benefits as of June 30, 2018

Normal Retirement Eligibility

Age 55 with 10 years. Firefighter members may also retire at the age their service reaches the pension service credit limit.

Deferred Retirement Benefits

Deferred retiree health care is available to terminated Firefighter members with 10 or more years of service. Deferred benefits begin at age 55.

Duty/Non-Duty Death-in-Service Retirement Benefits

No age or service requirement. Benefits are immediate.

Duty/Non-Duty Disabled Retirement Benefits

No age or service requirement. Benefits commence immediately for qualified disabled member.

Benefits for Spouses of Retired Employees

Spouses of retired employees are eligible to receive health care benefits as long as the retiree is eligible. Coverage continues to surviving spouses of deceased retirees until the earlier of when retiree would have reached age 65 or when the spouse reaches age 65.

Medicare-Eligible Provisions

Retirees are required to enroll in Medicare once eligible. Retiree is responsible for paying the full premium for retiree Medicare coverage offered through the City.

Dental/Vision Coverage

Same as Retiree Health Care Eligibility Conditions.

Life Insurance Coverage

The City does not provide life insurance for retirees.

Opt-Out

The City does not provide Opt-Out payments or payment in lieu of retiree health care coverage for retirees.

Other Employment and Compensation

A retiree, spouse or other dependent who has coverage from an employer who provides medical coverage should coordinate benefits, making the City's coverage secondary.

This is a brief summary of the City of Grand Rapids Retiree Health Care Plan provisions. In the event that any description contained herein differs from the actual eligibility or benefit, the appropriate employee contract or governing document will prevail.

City of Grand Rapids Fire Retiree Health Care Plan
RHSA Members
Summary of Benefits as of June 30, 2018

Plan Participants

Fire and IAFF members participating in RHSA through the City of Grand Rapids are eligible to purchase retiree health care benefits until Medicare eligible.

Benefit Amount

Defined Contribution RHSA members can purchase retiree health care coverage through the City by paying the full blended (active/pre-65 retiree) premium. For Duty Death-In-service retirements and Duty Disability retirements, after RHSA is exhausted, the City will resume paying the premiums less any applicable premium sharing amount until such time as the covered person would have reached age 65. Defined contributions paid by the City or the member to the RHSA accounts were not included in this valuation.

Normal Retirement Eligibility

Age 55 with 10 years. Firefighter members may also retire at the age their service reaches the pension service credit limit.

Deferred Retirement Benefits

Retiree health care is not available to deferred retirees whose coverage ceases during deferral period. RHSA members can purchase retiree health care coverage through the City by paying the full blended (active/pre-65 retiree) premium.

Duty Death-in-Service Retirement Benefits

No age or service requirement for duty death-in-service. Benefits are immediate. Premiums shall be first paid to the City from funds in the employee's RHSA account if the surviving spouse and/or eligible dependents wish to continue to receive retiree health care. When RHSA is exhausted, the City shall resume paying the premiums, less any applicable premium sharing amount until such time as the covered person would have reached age 65.

Non-Duty Death-in-Service Retirement Benefits

No age or service requirement for Duty Death-in-Service. Benefits are immediate.

Duty Disabled Retirement Benefits

No age or service requirement. Benefits commence immediately for qualified disabled member. Premiums shall be first paid to the City from funds in the employee's RHSA account if the surviving spouse and/or eligible dependents wish to continue to receive retiree health care. When RHSA is exhausted, the City shall resume paying the premiums, less any applicable premium sharing amount until such time as the covered person would have reached age 65.

Non-Duty Disabled Retirement Benefits

No age or service requirement. Benefits commence immediately for qualified disabled member.

City of Grand Rapids Fire Retiree Health Care Plan
RHSA Members
Summary of Benefits as of June 30, 2018

Benefits for Spouses of Retired Employees

Spouses of retired employees are eligible to receive health care benefits as long as the retiree is eligible. Coverage continues to surviving spouses of deceased retirees until the earlier of when retiree would have reached age 65 or when the spouse reaches age 65.

Medicare-Eligible Provisions

Retirees are required to enroll in Medicare once eligible. Retiree is responsible for paying the full premium for retiree Medicare coverage offered through the City.

Dental/Vision Coverage

Same as Retiree Health Care Eligibility Conditions.

Life Insurance Coverage

The City does not provide life insurance for retirees.

Opt-Out

The City does not provide Opt-Out payments or payment in lieu of retiree health care coverage for retirees.

Other Employment and Compensation

A retiree, spouse or other dependent who has coverage from an employer who provides medical coverage should coordinate benefits, making the City's coverage secondary.

This is a brief summary of the City of Grand Rapids Retiree Health Care Plan provisions. In the event that any description contained herein differs from the actual eligibility or benefit, the appropriate employee contract or governing document will prevail.

City of Grand Rapids Fire
Active Member Demographic Data as of June 30, 2018

	Years of Service to Valuation Date							
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 Plus**	**Total**
20-24								
25-29	13	4						17
30-34	10	10						20
35-39	11	13	3	4				31
40-44	1	6	3	11				21
45-49		2		11	23	3		39
50-54	1		1	4	20	13	1	40
55-59				1	5	5	3	14
60-64					2	3	1	6
Totals	**36**	**35**	**7**	**31**	**50**	**24**	**5**	**188**

The active member counts above include current active employees who participate in the City's defined contribution plan and are eligible to purchase retiree health benefits through the City.

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

	DB	RHSA	Total
Count:	125	63	188
Age (Years):	48.7	33.6	43.6
Service (Years):	21.3	4.7	15.7

City of Grand Rapids Fire
Retired and Deferred
Member Demographic Data as of June 30, 2018

Fire Retirees

Age	Number of Retirees		
	Male	Female	Total
Under 55	9	4	13
55-59	42	6	48
60-64	36	4	40
65 & Over	2	0	2
Totals	**89**	**14**	**103**

The above exhibit includes only defined benefit retirees receiving health care benefits from the City. There are no RHSA Fire retirees.

Fire Vested Deferred

Age	Number of Deferred Members		
	Male	Female	Total
Under 40	1	0	1
40-44	1	0	1
45-49	1	0	1
50 & Over	2	1	3
Totals	**5**	**1**	**6**

Only retirees and vested deferred members valued in this report are shown in the exhibits above.

SECTION D

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 Normal 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) were amortized on a level dollar basis. The UAAL were determined using the funding value of assets and actuarial accrued liability calculated as of the valuation date. The UAAL amortization payment is the amount required to fully amortize the UAAL over a 22-year period beginning with the fiscal year ending June 30, 2020. This UAAL payment reflects payments expected to be made between the valuation date and the fiscal year for which the contributions in this report have been calculated. The 22-year amortization factor used is 13.4894.

Actuarial Value of Assets. The Actuarial Value of Assets is set equal to the market value of assets. The City allocated all of the assets to the Defined Benefit portion of the plan.

Actuarial Assumptions

The rationale for the retirement rates, rates of merit and seniority salary increases, rates of separation from active membership, and disability rates used in this valuation is included in the 5-year experience study for the period December 31, 2009 through December 31, 2014 issued December 7, 2015. All assumptions are expectations of future experience, not market measures.

Rates of Investment Return used in the valuation was 5.0% per year, compounded annually, net of expenses. This assumption is used to equate the value of payments due at different points in time.

The total number of active defined benefit retiree health care participants is expected to decline in the future.

The rates of Price Inflation are not specifically used for this valuation. However, a rate of price inflation of 2.0% to 2.5% would be consistent with other assumptions in this report.

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

Service at Beginning of Year	% Increase in Salary		
	Merit & Seniority	Base (Economic)	Increase Next Year
1	17.00 %	3.25 %	20.25 %
2	7.00	3.25	10.25
3	6.00	3.25	9.25
4	5.00	3.25	8.25
5	4.00	3.25	7.25
6 & Beyond	1.00	3.25	4.25

Actuarial Assumptions (Continued)

The mortality tables used to project the mortality experience of Fire plan members is the RP-2014 Healthy Annuitant Mortality Table projected to 2019 using the MP-2014 mortality improvement scale.

Sample	Probability of Dying Next Year		Future Life Expectancy (years)	
Ages	Men	Women	Men	Women
50	0.37 %	0.26 %	33.25	35.95
55	0.53	0.35	28.92	31.44
60	0.74	0.49	24.73	27.02
65	1.04	0.74	20.70	22.74
70	1.56	1.17	16.85	18.67
75	2.45	1.90	13.26	14.86
80	4.06	3.18	10.01	11.41

This assumption is used to measure the probabilities of each benefit payment being made after retirement.

For disabled Fire retirees, RP-2014 Disabled Retirees Mortality Table projected to 2019 using the MP-2014 mortality improvement scale was used.

Actuarial Assumptions (Continued)

The rates of normal retirement used to measure the probability of eligible members retiring under normal retirement conditions during the next year, were as follows:

Retirement Ages	Percent of Eligible Active Members Retiring within Next Year Fire
50	25 %
51	25
52	25
53	25
54	25
55	25
56	25
57	25
58	25
59	25
60	50
61	60
62	70
63	80
64	90
65	100

A member is eligible for pension retirement after both attaining age 55 and completing 10 or more years of service. Prior to the above eligibility, members who are eligible for early reduced retirement are assumed to elect this option at a 3% rate per year until eligible for normal retirement. Firefighters with 34 or more years of service are assumed to retire within the next year.

Actuarial Assumptions (Continued)

Rates of separation from active membership are used to estimate the number of employees at each age that are expected to terminate employment before qualifying for retirement benefits. The withdrawal rates do not apply to members eligible to retire, and do not include separation on account of death or disability.

Sample rates of separation from active employment are shown below:

Sample Ages	Fire % of Active Members Separating within Next Year
25	2.76 %
30	2.28
35	1.56
40	1.08
45	0.84
50	0.72
55	0.72

Rates of disability among active members are used to estimate the incidence of member disability in future years. 75% of disabilities were assumed to be duty related and 25% of disabilities are assumed to be non-duty related.

Sample Ages	Percent Becoming Disabled within Next Year
20	0.12 %
25	0.12
30	0.12
35	0.27
40	0.59
45	1.05
50	1.68
55	2.51

Actuarial Assumptions (Concluded)

Health care trend rates used in the valuation were as shown below:

Year	Medical and Prescription Drugs	Dental	Vision
2019	8.50 %	3.25 %	3.25 %
2020	8.25	3.25	3.25
2021	8.00	3.25	3.25
2022	7.50	3.25	3.25
2023	7.00	3.25	3.25
2024	6.50	3.25	3.25
2025	5.75	3.25	3.25
2026	5.00	3.25	3.25
2027	4.25	3.25	3.25
2028	3.50	3.25	3.25
2029	3.25	3.25	3.25
2029 & Later	3.25	3.25	3.25

Miscellaneous and Technical Assumptions

Decrement Operation:	Disability and mortality decrements do not operate during the first five 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.
Marriage Assumption:	90% of Fire 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.
Medicare Coverage:	Assumed to be available for all covered employees on attainment of age 65.
Covered Children:	A 4% load was applied for children's coverage.
Election Percentage:	(Fire) It was assumed that 100% of retirees would choose to receive retiree health care benefits through the City. Of those assumed to elect coverage, 75% of retirees 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 100% of the time, if eligible. A load of 75% was applied to deferred member liabilities to reflect future election rates.
Retiree Opt-Outs:	Retirees and spouses who have opted-out of coverage are assumed to not re-enroll.
Patient Protection and Affordable Care Act:	In general, changes related to the Patient Protection and Affordable Care Act are reflected to the extent that they are already implemented in the Plan and future changes will be reflected as they become effective. Per the City, no load of was applied to the valuation results in anticipation of future cost increases resulting from this Act. The excise tax applicable to health plan benefits over certain statutory limits is estimated at this time to be 15% of claims. This could raise valuation results an additional 15%.
Deferred and Retired Members:	All retired members valued in this valuation were assumed to be part of the Defined Benefit plan. Current deferred members not electing to continue coverage through the deferral period are ineligible to participate in the Defined Benefit Retiree Health Care plan.

SECTION E

SUPPLEMENTARY INFORMATION

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

Supplementary Information

Valuation Date	June 30, 2018
Actuarial Cost Method	Individual Entry Age Normal Cost
Amortization Method	Level Dollar Closed
Remaining Amortization Periods	22 Years
Asset Valuation Method	Market Value
Actuarial Assumptions:	
Discount Rate	5.0% Per Year
Projected Salary Increases	
Fire	4.25% - 20.25%
Valuation Health Care Cost Trend Rate:	
Medical and Drug	8.5% in 2019 grading to 3.25% in 2029
Dental and Vision	3.25% in All Years

Supplementary Information

Schedule of Funding Progress

Actuarial Valuation Date June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b)-(a)	Funded Ratio (a)/(b)
2009	$ 0	$ 44,488,777	$ 44,488,777	0.0 %
2011	2,556,684	36,411,404	33,854,720	7.0
2012	6,190,800	32,755,074	26,564,274	18.9
2013	8,003,318	38,953,456	30,950,138	20.5
2014	10,276,569	39,586,693	29,310,124	26.0
2015	12,289,119	38,287,273	25,998,154	32.1
2016	14,421,497	38,620,175	24,198,678	37.3
2017	16,828,854	40,143,680	23,314,826	41.9
2018	19,156,719	34,173,533	15,016,814	56.1

Calculation of Net OPEB Obligation

Valuation Date June 30	Fiscal Year Ending June 30	Annual Required Contribution @	Annual OPEB Costs*	Percentage of ARC Contributed	Percentage of OPEB Costs Contributed	Net OPEB Obligation*
						$ 3,365,847
2009	2010	$ 3,574,369	$ 3,537,667	45.1%	45.6%	5,289,866
2009	2011	3,574,369	3,592,147	107.5%	107.0%	5,039,316
2011	2012	3,935,129	3,867,214	134.3%	136.7%	3,621,899
2011	2013	3,921,500	3,869,173	89.6%	90.8%	3,977,998
2012	2014	3,157,470	3,095,818	102.2%	104.3%	3,846,211
2013^	2015	3,622,949	3,558,950	102.6%	104.5%	3,687,443
2014^	2016	3,461,882	3,395,947	106.9%	109.0%	3,382,487
2015	2017	3,036,781	2,971,716	103.5%	105.8%	3,210,504
2016	2018	2,907,020	2,840,507	103.2%	105.6%	3,051,105
2017	2019	2,863,499	2,795,329	N/A	N/A	N/A
2018	2020	2,033,496	N/A	N/A	N/A	N/A

* *Figures prior to FY 2012 are based on client provided information. The NOO for the fiscal year ending June 30, 2018 was calculated using an employer contribution of $2,999,906.*

^ *The development of the NOO has been revised and updated since the June 30, 2015 valuation.*

@ *For the fiscal year ending June 30, 2020, this is considered an Actuarially Computed Employer Contribution instead of an Annual Required Contribution as the new GASB accounting standards do not stipulate a contribution amount.*

The exhibits on this page show results for both the Defined Benefit group and the RHSA group combined.

APPENDIX

GLOSSARY

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.

Actuarially Computed Employer Contribution (ACEC) - The ACEC is the normal cost plus the portion of the unfunded actuarial accrued liability to be amortized in the current period. The ACEC 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.

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.

Glossary (Concluded)

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 is 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.