

**CITY OF MADISON HEIGHTS POLICEMEN AND FIREMEN  
OTHER POSTEMPLOYMENT BENEFITS**

**ACTUARIAL VALUATION REPORT**

**AS OF JUNE 30, 2016**

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January 10, 2017

Ms. Melissa Marsh  
Assistant City Manager  
City of Madison Heights  
300 West 13 Mile Road  
Madison Heights, Michigan 48071

Dear Ms. Marsh:

Submitted in this report are the results of an Actuarial Valuation of the benefit values for Policemen and Firemen associated with the employer financed retiree health care provided by the City of Madison Heights. The date of the valuation was June 30, 2016, effective for the fiscal years beginning July 1, 2017 and July 1, 2018. This report was prepared at the request of the City of Madison Heights.

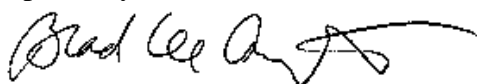
The actuarial calculations were prepared for purposes of complying with the requirements of Statements No. 43 and No. 45 of the Governmental Accounting Standards Board (GASB). The calculations reported herein have been made on a basis consistent with our understanding of these accounting standards. Determinations of the liability associated with the benefits described in this report for purposes other than satisfying the City's financial reporting requirements may produce significantly different results. This report may be provided to parties other than the City of Madison Heights only in its entirety and only with the permission of the City of Madison Heights. GRS is not responsible for unauthorized use of this report.

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

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

Brad Lee Armstrong and Heidi G. Barry are independent of the plan sponsor, 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.

Respectfully submitted,



Brad Lee Armstrong, ASA, EA, FCA, MAAA



Heidi G. Barry, ASA, MAAA

BLA/HGB:mrb

C2601

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## **EXECUTIVE SUMMARY**

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## **EXECUTIVE SUMMARY**

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### **Annual Required Contribution**

This report presents the Annual Required Contribution (ARC) calculated in compliance with the accounting requirements of Governmental Accounting Standards Board (GASB) Statement No. 45. In addition, the Plan may need to comply with GASB Statement No. 43. Please consult with legal counsel and your auditors to determine whether you have a Plan for GASB Statement No. 43 purposes.

The Annual Required Contribution (ARC) for the fiscal year beginning July 1, 2017 was determined to be \$4,349,707. Actual claims and premiums paid on behalf of retirees including the implicit subsidy may be treated as employer contributions in relation to the ARC if paid from outside plan assets. The expected employer portion of the claims and premium amounts paid is estimated to be \$2,562,071 for the fiscal year beginning July 1, 2017.

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

### **Additional OPEB Reporting Requirements**

In addition to the annual OPEB cost described above, employers will have to disclose a Net OPEB Obligation (or asset). The Net OPEB Obligation is the cumulative difference between annual OPEB costs and annual employer contributions in relation to the ARC, accumulated from the implementation of GASB Statement No. 45.

The requirements for determining the employer's contributions in relation to the ARC are described in paragraph 13 g. of GASB Statement No. 45. Additional information required to be disclosed in the employer's financial statements is detailed in paragraphs 24 through 27 of GASB Statement No. 45.

## EXECUTIVE SUMMARY

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### **Liabilities and Assets**

The present value of all benefits expected to be paid to current plan members as of June 30, 2016 is \$64,490,515. The actuarial accrued liability, which is the portion of the above amounts attributable to service accrued by plan members as of June 30, 2016, is \$60,778,946. (These results are based on a 6.5% discount rate.) The assets currently set aside for GASB OPEB purposes as of June 30, 2016 are \$13,300,964.

### **Assumption & Method Changes**

The mortality and wage inflation assumptions were reviewed and subsequently changed in conjunction with the June 30, 2016 Actuarial Valuation Report for the City of Madison Heights Policemen and Firemen Retirement System. For consistency across plans, the mortality table used has been updated to the RP-2014 mortality table projected from 2006 to 2016 using the MP-2016 improvement scale and the wage inflation assumption has been lowered to 4% for the June 30, 2016 OPEB valuation.

After reviewing election patterns from the past several years, the election percentage assumption of current actives choosing two-person coverage when eligible for retiree health care benefits was increased to 85% from 70%.

Annual premium increases, or health care trend rates, were reset to assume a 9% increase in 2017 grading down to the ultimate trend rate of 4% in 2028.

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**SECTION A**  
VALUATION RESULTS

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**DEVELOPMENT OF THE ANNUAL REQUIRED CONTRIBUTION  
FOR THE OTHER POSTEMPLOYMENT BENEFITS  
AS OF JULY 1, 2017**

Contributions for	Development of the Annual Required Contribution for July 1, 2017 - June 30, 2018
Normal Cost	
Normal Retirement	\$ 456,241
Early Retirement	0
Termination Benefits	0
Death-in-Service	5,025
Disability	26,531
Life Insurance	<u>1,206</u>
Total Normal Cost	\$ 489,003
Annual Active Member Contribution	\$ 0
Employer Normal Cost	\$ 489,003
Amortization of Unfunded Actuarial Accrued Liabilities (Amortized over 24 years)	\$3,860,704
<b>Annual Required Contribution (ARC)</b>	<b>\$4,349,707</b>
Projected Payroll for the Fiscal Year Beginning July 1, 2017	\$4,020,909
<b>Annual Required Contribution (ARC) as a     Percentage of Projected Payroll</b>	<b>108.18%</b>
<b>Annual Required Contribution (ARC) for the     Fiscal Year beginning July 1, 2018</b>	<b>\$4,338,351</b>
Projected Payroll for the Fiscal Year Beginning July 1, 2018	\$3,927,098
<b>Annual Required Contribution (ARC) as a     Percentage of Projected Payroll</b>	<b>110.47%</b>

The assumptions used to calculate the liabilities shown above include a 6.5% investment return rate.

The unfunded actuarial accrued liabilities were amortized as a level dollar amount over 24 years. A 30-year amortization period for unfunded actuarial accrued liabilities is the maximum period that complies with GASB requirements.

The ARC for the year beginning July 1, 2016 was \$3,200,384 or 68.38% of payroll.



**DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY  
AS OF JUNE 30, 2016**

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A. Present Value of Future Benefits	
1. Retirees and Beneficiaries	\$47,144,093
2. Vested Terminated Members	0
3. Active Members	<u>17,346,422</u>
Total Present Value of Future Benefits	\$64,490,515
B. Present Value of Future Employer Normal Costs	3,711,569
C. Present Value of Future Contributions from Current Active Members	0
D. Actuarial Accrued Liability (A.-B.-C.)	60,778,946
E. Market Value of Assets	13,300,964
F. Unfunded Actuarial Accrued Liability (D.-E.)	\$47,477,982
G. Funded Ratio (E./D.)	21.9%

**The assumptions used to calculate the liabilities shown above include a 6.5% investment return rate.**

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

The Unfunded Actuarial Accrued Liability as of June 30, 2014 was \$34,352,963 and the funded ratio was 25.2%.

## COMMENTS

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**COMMENT A:** The Annual Required Contribution (ARC) has increased from the last valuation. Factors contributing to this increase include, but are not limited to:

- Lower than expected asset return (6.5% expected vs. 5.4% actual in FY15 & -1.1% actual in FY16)
- Partial ARC contributions in FY15 & FY16
- Updating the mortality assumption to the RP-2014 mortality table projected from 2006 to 2016 using the MP-2016 improvement scale
- Increasing the election percentage assumption of members choosing two-person coverage to 85%
- Resetting of health care trend cost rates (9% in 2017, grading to 4.0% in 2028)

Partially offsetting these factors were decreases due to:

- Lower medical rates than projected

**COMMENT B:** One of the key assumptions used in any valuation of the cost of postemployment benefits is the rate of return on Plan assets. Higher assumed investment returns will result in a lower ARC. Lower assumed returns will result in a higher ARC. Since the City has established a trend of contributing a greater percentage of the prior ARCs for several years, we have calculated the liability and the resulting ARC using an assumed long term rate of investment return of 6.5% beginning with the June 30, 2014 valuation. This assumes continuation of the trend for the City toward contributing 100% of the ARC during fiscal years 2017, 2018, and 2019.

**COMMENT C:** Based on the number of Plan members as of this valuation, the Plan Sponsor is required by GASB to perform actuarial valuations at least biennially unless there are significant changes in the OPEB. It is our understanding that the City will need to comply with GASB Statement No. 74 reporting effective with the fiscal year ending June 30, 2017 and GASB Statement No. 75 reporting effective with the fiscal year ending June 30, 2018. Please verify the next required valuation with the auditor.

## COMMENTS (CONTINUED)

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The GASB issued Statements Nos. 74 and 75 for OPEB valuations similar to the new pension 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 has not yet issued implementation guides for these new standards. These guides will provide additional clarification related to the implementation of Statements No. 74 and No. 75. Our understanding of the application of the recent GASB Statements is stated below; however, GRS consultants are not auditors and we recommend consultation with your auditor for final determination of which standards will be applicable. Please contact us to discuss implementation of the recent GASB standards.

**COMMENT D:** The contribution rates shown include amortization of the unfunded actuarial accrued liability over 24 years beginning July 1, 2017. A shorter amortization period would result in a higher ARC.

**COMMENT E:** Actual claims and/or premiums paid on behalf of retirees may be treated as employer contributions in relation to the ARC if paid from outside plan assets. For the fiscal year ending June 30, 2018, the amount of estimated claims and/or premiums paid by the employer on behalf of retirees including the effect of the implicit rate subsidy under GASB is \$2,562,071. For the fiscal year ending June 30, 2019, the amount of estimated claims and/or premiums paid by the employer on behalf of retirees including the effect of the implicit rate subsidy under GASB is \$2,786,099.

**COMMENT F:** The retiree health plan is closed to new entrants; therefore, the unfunded actuarial accrued liability is amortized as a level dollar amount in order to comply with GASB requirements.

## COMMENTS (CONCLUDED)

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**COMMENT G:** Although there is significant uncertainty that the Affordable Care act (ACA) will survive three years in the current political environment, it currently has a provision for an excise tax on certain levels of benefits. 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 one-person coverage or \$27,500 for family coverage in 2020. 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 limited guidance about how the tax would be applied, though there is considerable latitude in grouping of participants for tax purposes. Combining early retiree and Medicare eligible (post-65) retiree costs is allowed and can keep plans under the thresholds for a longer period of time. For this valuation, a 7% load was applied to the health care liabilities for the future excise tax, based on the current plan provisions and assumptions. We have not identified any other specific provision of the ACA that would be expected to have a significant impact on the measured obligation.

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**SECTION B**

RETIREE PREMIUM RATE DEVELOPMENT

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## RETIREE PREMIUM RATE DEVELOPMENT

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Initial premium rates were developed for the two classes of retirees (pre-65 and post-65). The rates were calculated by using actual paid claims and exposure data for the period of January 2014 to September 2016, adjusted for catastrophic claims, plus the load for administration, network access fees, and stop loss premiums. The Self-insured Medical and prescription drug data were provided by Madison Heights. The Medical data was analyzed for the pre-65 and post-65 participants separately since Medicare is available for the post-65 participants and has a significant impact on the claim experience. Furthermore, since the prescription drug claims and the medical claims exhibit different trends and claim payment patterns, we analyzed these claims separately as well. There are very few post-65 members that are using the self-insured program since most have chosen the Medicare Advantage program, therefore since the self-insured data is not credible for this portion of the benefit program we used strictly the MA rates.

The benefit options available to future retirees are different than current retirees. We have developed separate premium rates for future retirees in order to reflect the benefit differences.

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

## RETIREE PREMIUM RATE DEVELOPMENT (CONCLUDED)

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

### Future Retirees

#### For Those Not Eligible for Medicare

Age	Male	Female
45	\$ 463.99	\$ 640.37
50	604.17	744.28
55	795.02	868.05
60	1,026.82	1,011.06

#### For Those Eligible for Medicare

Age	Male	Female
65	\$ 592.16	\$ 558.53
70	645.08	624.21
75	692.83	676.05

### Current Retirees

#### For Those Not Eligible for Medicare

Age	Male	Female
45	\$ 621.87	\$ 858.26
50	809.74	997.52
55	1,065.53	1,163.40
60	1,376.19	1,355.07

#### For Those Eligible for Medicare

Age	Male	Female
65	\$ 875.88	\$ 826.13
70	954.15	923.29
75	1,024.78	999.95

Alex Rivera 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.



Alex Rivera, FSA, EA, MAAA, FCA

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## **SECTION C**

### **SUMMARY OF BENEFIT PROVISIONS AND VALUATION DATA**

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**CITY OF MADISON HEIGHTS POLICEMEN AND FIREMEN  
OTHER POSTEMPLOYMENT BENEFITS  
SUMMARY OF BENEFITS AS OF JUNE 30, 2016**

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**PLAN PARTICIPANTS**

Employees of the City of Madison Heights Policemen and Firemen Retiree Health Care Plan are eligible to receive retiree health care benefits.

**NORMAL RETIREMENT BENEFITS**

Eligibility conditions for retiree health care benefits under a normal retirement are as follows:

**Police Patrol hired before July 1, 2009:** Any age with 25 years of service.

**Police Patrol hired on or after July 1, 2009:** For all eligible full-time employees, no retiree health insurance shall be provided. In lieu of health insurance, the employee shall receive a health care savings plan (HCSP) into which the city will contribute \$100 per month and the employee shall contribute 8% of base salary. Upon termination of employment with the city, for any reason, the employee contribution portion of the HCSP shall be available for use on a tax-free basis for any medically related expense as permitted under IRS regulations. The employer contribution portion shall be available to the employee after a 7-year vesting period.

**Department Heads hired before September 28, 2009:** Any age with 25 years of service.

**Department Heads hired on or after September 28, 2009:** No retiree health insurance will be provided to any full-time employee. In lieu of health insurance, the employee shall receive a health care savings plan into which the City will contribute \$100 per month and the employee will contribute 8% of their base salary. Upon termination of employment with the city, for any reason, the employee contribution portion of the HCSP shall be available for use on a tax-free basis for any medically related expense as permitted under IRS regulations. The employer contribution portion shall be available to the employee after a 7-year vesting period.

**Firemen hired before July 1, 2009:** Any age with 25 years of service.

**Firemen hired on or after July 1, 2009:** For all eligible full-time employees, no retiree Health Insurance shall be provided. In lieu of health insurance, the employee shall receive a health care savings plan (HCSP) into which the city will contribute \$100 per month and the employee shall contribute 5% of base salary. Upon termination of employment with the city, for any reason, the employee contribution portion of the HCSP shall be available for use on a tax-free basis for any medically related expense as permitted under IRS regulations. The employer contribution portion shall be available to the employee after a 7-year vesting period.

**Police Command hired before July 1, 2009:** Any age with 25 years of service.

**Police Command hired on or after July 1, 2009:** For all eligible full-time employees, no retiree Health Insurance shall be provided. In lieu of health insurance, the employee shall receive a health care savings plan (HCSP) into which the city will contribute \$100 per month and the employee shall contribute 5% of base salary. Upon termination of employment with the city, for any reason, the employee contribution portion of the HCSP shall be available for use on a tax-free basis for any medically related expense as permitted under IRS regulations. The employer contribution portion shall be available to the employee after a 7-year vesting period.

**CITY OF MADISON HEIGHTS POLICEMEN AND FIREMEN  
OTHER POSTEMPLOYMENT BENEFITS  
SUMMARY OF BENEFITS AS OF JUNE 30, 2016**

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**DEFERRED RETIREMENT BENEFITS**

City of Madison Heights Policemen and Firemen Retiree Health Care Plan does not provide deferred retiree health care coverage for members terminating employment with less than 25 years of service.

**DUTY DISABILITY RETIREMENT BENEFITS**

Eligibility conditions for retiree health care benefits under a duty disability retirement are as follows:

**All Members:** No age or service restrictions. Benefits commence immediately.

**NON-DUTY DISABILITY RETIREMENT BENEFITS**

City of Madison Heights Policemen and Firemen Retiree Health Care Plan does not provide retiree health care coverage for members retiring under non-duty disability retirement if less than 25 years of service.

**DUTY DEATH-IN-SERVICE RETIREMENT BENEFITS**

Eligibility conditions for retiree health care benefits under a duty death retirement are as follows:

**All Members:** No age or service restrictions. Benefits commence immediately.

**NON-DUTY DEATH-IN-SERVICE RETIREMENT BENEFITS**

Eligibility conditions for retiree health care benefits under a non-duty death retirement are as follows:

**All Members:** 25 years of service. Benefit commences immediately.

**BENEFITS FOR RETIRED EMPLOYEES**

**All Members**

**Member:** City pays 100% of the premiums for base plan.

**Spouse:** City pays 100% of premiums for a retiree's spouse at time of retirement. Coverage continues to surviving spouses of deceased retirees. (Limited to spouse at time of retirement.)

If retiree obtains employment from an employer who provides medical coverage, the member, spouse and eligible dependent are not covered by City's coverage where applicable for duration of employment.

**CITY OF MADISON HEIGHTS POLICEMEN AND FIREMEN  
OTHER POSTEMPLOYMENT BENEFITS  
SUMMARY OF BENEFITS AS OF JUNE 30, 2016**

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**NON-MEDICARE AND MEDICARE-ELIGIBLE PROVISIONS**

Policemen and Firemen retirees who were hired on or before April 1986 are not required to enroll in Medicare Part A once eligible.

All other retirees are required to enroll in Medicare once eligible.

**LIFE INSURANCE COVERAGE**

City pays for \$10,000 life insurance coverage for retirees.

*This is a brief summary of the City of Madison Heights Policemen and Firemen Other Postemployment Benefit 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.*

**ACTIVE MEMBERS AS OF JUNE 30, 2016**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

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Attained Age	Years of Service to Valuation Date						Totals	
	0-4	5-9	10-14	15-19	20-24	25+	No.	Valuation Payroll
30-34		1					1	\$ 72,982
35-39			2	2			4	378,120
40-44			1	8			9	784,805
45-49			1	9	4	1	15	1,394,397
50-54			1	5	5		11	1,001,853
55-59				2	1	1	4	340,158
60-64					2		2	175,537
<b>Totals</b>		<b>1</b>	<b>5</b>	<b>26</b>	<b>12</b>	<b>2</b>	<b>46</b>	<b>\$4,147,852</b>

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

**Age:** 47.2 years  
**Service:** 19.1 years  
**Annual Pay:** \$90,171

**RETIRED MEMBERS AS OF JUNE 30, 2016**  
**BY ATTAINED AGE**

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<b>Attained Age</b>	<b>Number of Retirees</b>		
	<b>Male</b>	<b>Female</b>	<b>Total</b>
Under 55	20	2	22
55-59	11	1	12
60-64	15	5	20
65 & Over	43	7	50
<b>Totals</b>	<b>89</b>	<b>15</b>	<b>104</b>

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## **SECTION D**

### ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

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## VALUATION METHODS

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

- (i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

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

**Financing of Unfunded Actuarial Accrued Liabilities.** The Unfunded Actuarial Accrued Liabilities were determined using the funding value of assets and actuarial accrued liability calculated as of the valuation date and projected 12 months to the beginning of the fiscal year. The UAAL amortization payment is the amount required to fully amortize the UAAL over a 24-year period beginning on the first day of the fiscal year for which the contributions in this report have been calculated. Level dollar amortization has been used.

The following amortization factors were used in developing the Annual Required Contribution for the fiscal years shown:

	<b>Fiscal Year Beginning July 1,</b>	
	<b>2017</b>	<b>2018</b>
<b>Years Remaining</b>	24	23
<b>Amortization Factor</b>	12.37635	12.14865

## ACTUARIAL ASSUMPTIONS

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**Rate of Investment Return.** **6.5% per year**, compounded annually, net of expenses. This assumption is used to equate the value of payments due at different points in time.

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

<b>% Increase in Salary at Sample Ages</b>			
<b>Sample Ages</b>	<b>Merit &amp; Seniority</b>	<b>Base (Economic)</b>	<b>Increase Next Year</b>
20	3.00%	4.00%	7.00%
25	3.00%	4.00%	7.00%
30	2.60%	4.00%	6.60%
35	1.10%	4.00%	5.10%
40	0.20%	4.00%	4.20%
45	0.20%	4.00%	4.20%
50	0.20%	4.00%	4.20%
55	0.10%	4.00%	4.10%
60	0.00%	4.00%	4.00%
Ref	33		

**The mortality table** used to measure post-retirement mortality is the RP-2014 Healthy Annuitant Mortality for males and females projected to 2016, with MP-2016 Mortality Improvement Scale. The corresponding Disability and Employee tables were used to measure Disabled mortality and Pre-Retirement mortality, respectively. Mortality rates include some margin for future mortality improvements. The mortality table was last updated for the June 30, 2016 actuarial valuation.

<b>Sample Attained Ages</b>	<b>Probability of Dying Next Year</b>		<b>Future Life Expectancy (years)</b>	
	<b>Men</b>	<b>Women</b>	<b>Men</b>	<b>Women</b>
45	0.28 %	0.21 %	36.52	39.19
50	0.41	0.27	32.08	34.63
55	0.58	0.38	27.79	30.13
60	0.80	0.56	23.65	25.75
65	1.15	0.84	19.65	21.53
70	1.74	1.33	15.86	17.52
75	2.79	2.17	12.34	13.79
80	4.70	3.69	9.21	10.42
Ref	#2135		#2136	



## ACTUARIAL ASSUMPTIONS (CONTINUED)

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

<b>Hired before July 1, 2009</b>		
<b>Retirement Ages</b>	<b>Percent of Eligible Active Members Retiring within Next Year</b>	
	<b>Police</b>	<b>Fire &amp; Dept. Heads</b>
45	40 %	20 %
46	40	20
47	40	20
48	40	20
49	40	20
50	40	20
51	35	15
52	20	10
53	15	10
54	15	10
55	15	10
56	15	10
57	15	10
58	15	10
59	25	20
60*	100	100
Ref	46	47

\* *If a member reaches age 60 and has not attained 25 years of service, that member was assumed to continue working until reaching 25 years.*

## ACTUARIAL ASSUMPTIONS (CONTINUED)

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*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	Years of Service	% of Active Members Separating within Next Year	
		Police	Fire & Dept. Heads
ALL	0	12.00 %	10.00 %
	1	9.00	7.00
	2	7.00	5.00
	3	5.00	4.00
	4	4.50	3.50
25	5 & Over	4.50	3.50
30		3.90	2.90
35		2.30	1.50
40		0.90	0.60
45		0.50	0.50
50		0.50	0.50
Ref		29 53	30 54

## ACTUARIAL ASSUMPTIONS (CONCLUDED)

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*Rates of disability* among active members are used to estimate the incidence of member disability in future years. 50% of disabilities were assumed to be duty related and 50% of disabilities were assumed to be non-duty related.

Sample Ages	Percent Becoming Disabled within Next Year	
	Male	Female
20	0.07 %	0.03 %
25	0.09	0.05
30	0.10	0.07
35	0.14	0.13
40	0.21	0.19
45	0.32	0.28
50	0.52	0.45
55	0.92	0.76
60	1.53	1.10
Ref	#33x1	#34x1

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

Year	Medical and Prescription Drugs
2017	9.00 %
2018	8.50
2019	8.00
2020	7.50
2021	7.00
2022	6.50
2023	6.00
2024	5.50
2025	5.00
2026	4.50
2027	4.25
2028 & Later	4.00

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

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Valuation Date	June 30, 2016
Actuarial Cost Method	Individual Entry Age
Amortization Method	Level Dollar Closed
Remaining Amortization Periods	24 Years for FYE 2018 23 Years for FYE 2019
Asset Valuation Method	Market Value
Actuarial Assumptions:	
Discount Rate	6.5% Per Year
Projected Salary Increases	4.0%
Valuation Health Care Cost Trend Rate	9% in 2017, grading to 4.0% in 2028

## SCHEDULE OF FUNDING PROGRESS

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Rounded to the Nearest \$1,000

Actuarial Valuation Date June 30,	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b)-(a)	Funded Ratio (a)/(b)	Active Member Covered Payroll (c)	Unfunded AAL as a Percentage of Active Member Covered Payroll ((b-a)/c)
2008	\$ 2,716	\$33,574	\$30,858	8.1 %	\$6,476	476.5 %
2010	4,805	35,554	30,749	13.5	7,250	424.1
2012	7,245	47,596	40,351	15.2	5,058	797.7
2014	11,575	45,928	34,353	25.2	4,744	724.1
<b>2016</b>	<b>13,301</b>	<b>60,779</b>	<b>47,478</b>	<b>21.9</b>	<b>4,148</b>	<b>1,144.6</b>

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

## MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

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<b>Decrement Timing:</b>	Decrements of all types are assumed to occur mid-year.
<b>Eligibility Testing:</b>	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.
<b>Incidence of Contributions:</b>	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
<b>Marriage Assumption:</b>	70% of males and 70% of 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.
<b>Medicare Coverage:</b>	Assumed to be available for all covered employees on attainment of age 65.
<b>Election Percentage:</b>	<p>It was assumed that 100% of eligible retirees will elect to receive retiree health care benefits through the City. Of those assumed to elect coverage, 85% were assumed to elect two-person coverage, if eligible. For those that elect two-person coverage, it was assumed that coverage would continue to the spouse upon death of the retiree, if eligible.</p> <p>For active employees who have opted-out of the City's active health care plan, it was assumed they would elect retiree health care coverage upon retiring.</p>
<b>Excise Tax:</b>	All costs were increased by 7% to reflect the projected excise tax from the Affordable Care Act.

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## **APPENDIX A**

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## **GASB BACKGROUND**

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

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

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

### **GASB Statement No. 45**

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

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

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

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



## **GASB BACKGROUND (CONCLUDED)**

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Paragraph 13g. of Statement No. 45 states:

“An employer has made a contribution in relation to the ARC if the employer has:

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

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

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

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

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

### **GASB Statement No. 43**

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

## OPEB PRE-FUNDING

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

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

The GASB statements are not funding requirements. They are accounting standards that require plan sponsors to calculate the annual expense associated with OPEB using certain methods.

The ultimate determination as to the level of pre-funding will be the result of decisions made in an attempt to support benefit security for members and the fiscal management needs of the employer.

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## **APPENDIX B**

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## GLOSSARY

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**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.

## **GLOSSARY (CONCLUDED)**

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

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

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

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

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

January 10, 2017

Ms. Melissa Marsh  
Assistant City Manager  
City of Madison Heights  
300 West 13 Mile Road  
Madison Heights, Michigan 48071

**Re: City of Madison Heights Policemen and Firemen  
Other Postemployment Benefits Valuation**

Dear Ms. Marsh:

Enclosed are thirty copies of our report of the actuarial valuation of the City of Madison Heights Policemen and Firemen Other Postemployment Benefits.

Respectfully submitted,



Heidi G. Barry, ASA, MAAA

HGB:mrb  
Enclosures