

# City of Madison Heights General Other Postemployment Benefits

Actuarial Valuation Report as of June 30, 2018



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March 1, 2019

Ms. Melissa R. Marsh  
Deputy City Manager/Finance Director  
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 General Employees associated with the employer financed retiree health care provided by the City of Madison Heights. The date of the valuation was June 30, 2018.

This report was prepared at the request of the City of Madison Heights and is intended for use by the Plan and those designated or approved 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. GRS is not responsible for unauthorized use of this report.

The purpose of the valuation is to measure the Plan's financial status and to determine the Actuarially Determined Contribution for the fiscal years beginning July 1, 2019 and July 1, 2020. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section D of this report. This report does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The findings in this report are based on data and other information through June 30, 2018. The valuation was based upon information furnished by the City concerning Plan benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the City.

Ms. Melissa R. Marsh  
City of Madison Heights  
March 1, 2019  
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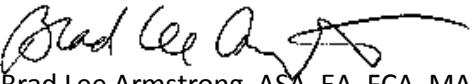
Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or 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.

The signing actuaries are independent of the plan sponsor.

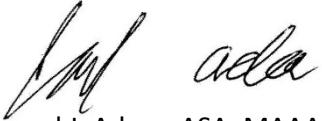
Brad Lee Armstrong and Jamal J. Adora are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Respectfully submitted,



Brad Lee Armstrong, ASA, EA, FCA, MAAA



Jamal J. Adora, ASA, MAAA

BLA/JJA:dj

C2601



## **EXECUTIVE SUMMARY**

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# Executive Summary

## Actuarially Determined 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 was replaced by GASB Statement No. 75. The report dated August 17, 2018 complies with the actuarial requirements of GASB Statements No. 74 and No. 75 beginning with the fiscal year ending June 30, 2018. As such, there will no longer be an "Annual Required Contribution" calculated in the valuation reports. Therefore, we have determined the "Actuarially Determined Contribution" for subsequent years.

We have calculated the Actuarially Determined Contribution (ADC) for the fiscal years beginning July 1, 2019 and July 1, 2020 under the interest rate assumption of 6.50%. Below is a summary of the results.

The Actuarially Determined Contribution (ADC) for the fiscal year beginning July 1, 2019 was determined to be \$1,642,937. The expected employer portion of the claims and premium amounts paid is estimated to be \$1,608,005 for the fiscal year beginning July 1, 2019. 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 present value of all benefits expected to be paid to current plan members as of June 30, 2018 is \$32,671,607. The actuarial accrued liability, which is the portion of the above amounts attributable to service accrued by plan members as of June 30, 2018 is \$31,577,777. (These results are based on a 6.5% discount rate.) The assets currently set aside for GASB OPEB purposes as of June 30, 2018 are \$13,264,146.

## Assumption & Method Changes

Assumptions have been updated for the June 30, 2018 valuation to maintain consistency with MERS. In particular, the mortality tables used has been updated to the RP-2014 Mortality Tables. Assumptions for members terminating employment due to withdrawal, disability, and retirement were also updated. Please see Section D for a complete listing of the assumption tables. The wage inflation assumption has been lowered to 3.75% for the June 30, 2018 OPEB valuation.

Annual premium increases, or health care trend rates, were reset to assume a 9% increase in 2019 grading down to the ultimate trend rate of 3.75% in 2033. The ultimate trend rate of 3.75% was lowered from 4.00% for the June 30, 2018 OPEB valuation. The load applied to all health care liabilities to approximate the cost for future excise tax was lowered from 7.00% to 4.00% for the June 30, 2018 OPEB valuation.

## Benefit Changes

Upon eligibility for Medicare, availability of City provided healthcare has changed for certain future retirees. Please see Comment A and Section C for more information.

## **SECTION A**

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### **VALUATION RESULTS**

# Development of the Actuarially Determined Contribution for the Other Postemployment Benefits as of July 1, 2019

Contributions for	Development of the Actuarially Determined Contribution for Fiscal Years Beginning July 1, 2019 and July 1, 2020						
	Dept Heads/Non- Union	Supervisors	Municipal	Dispatchers	DPS	Courthouse	Total
Normal Cost							
Normal Retirement	\$ 19,761	\$ 7,927	\$ 23,089	\$ 21,258	\$ 24,948	\$ 20,633	\$ 117,616
Early Retirement	2,247	1,238	3,064	3,493	4,396	0	14,438
Termination Benefits	0	65	634	259	1,028	1,301	3,287
Death-in-Service	397	152	423	431	628	320	2,351
Disability	529	0	0	388	0	525	1,442
Life Insurance	<u>132</u>	<u>65</u>	<u>211</u>	<u>65</u>	<u>171</u>	<u>46</u>	<u>690</u>
Total Normal Cost	\$ 23,066	\$ 9,447	\$ 27,421	\$ 25,894	\$ 31,171	\$ 22,825	\$ 139,824
Amortization of Unfunded Actuarial Accrued Liabilities	\$193,310	\$197,577	\$229,244	\$38,026	\$ 730,522	\$ 114,434	\$1,503,113
Amortization Period	22 years	22 years	22 years	22 years	18 years	18 years	
<b>Actuarially Determined Contribution (ADC)</b>	<b>\$216,376</b>	<b>\$207,024</b>	<b>\$256,665</b>	<b>\$ 63,920</b>	<b>\$761,693</b>	<b>\$137,259</b>	<b>\$1,642,937</b>
Projected Payroll for the Fiscal Year Beginning July 1, 2019	\$660,919	\$217,170	\$528,360	\$215,600	\$570,883	\$228,244	\$2,421,176
Actuarially Determined Contribution (ADC) as a Percentage of Projected Payroll	32.74%	95.33%	48.58%	29.65%	133.42%	60.14%	67.86%
<b>Actuarially Determined Contribution (ADC) for the Fiscal Year Beginning July 1, 2020</b>	<b>\$214,487</b>	<b>\$206,558</b>	<b>\$255,558</b>	<b>\$ 64,342</b>	<b>\$761,047</b>	<b>\$136,907</b>	<b>\$1,638,899</b>
Projected Payroll for the Fiscal Year Beginning July 1, 2020	\$606,779	\$206,455	\$507,025	\$219,117	\$ 559,056	\$224,724	\$2,323,156
Actuarially Determined Contribution (ADC) as a Percentage of Projected Payroll	35.35%	100.05%	50.40%	29.36%	136.13%	60.92%	70.55%

**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 18 years for Court and DPS and 22 years for other groups.

The ADC year beginning July 1, 2018 was \$2,626,213 or 90.13% of payroll.

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

	Dept Heads/Non- Union	Supervisors	Municipal	Dispatchers	DPS	Courthouse	Total
A. Present Value of Future Benefits							
1. Retirees and Beneficiaries	\$3,493,676	\$3,925,598	\$4,177,152	\$ 0	\$13,330,558	\$ 1,478,946	\$26,405,931
2. Vested Terminated Members	0	0	0	0	0	0	0
3. Active Members	<u>1,014,840</u>	<u>475,448</u>	<u>1,213,829</u>	<u>1,069,920</u>	<u>1,465,672</u>	<u>1,025,967</u>	<u>6,265,676</u>
Total Present Value of Future Benefits	\$4,508,516	\$4,401,046	\$5,390,981	\$1,069,920	\$14,796,230	\$2,504,913	\$32,671,607
B. Present Value of Future Employer Normal Costs	165,468	69,413	194,625	240,919	271,054	152,351	1,093,830
C. Present Value of Future Contributions from Current Active Members	0	0	0	0	0	0	0
D. Actuarial Accrued Liability (A.-B.-C.)	4,343,048	4,331,633	5,196,356	829,001	14,525,176	2,352,562	31,577,777
E. Market Value of Assets <sup>1</sup>	1,824,284	1,819,489	2,182,713	348,219	6,101,255	988,186	13,264,146
F. Unfunded Actuarial Accrued Liability (D.-E.)	\$2,518,765	\$2,512,144	\$3,013,643	\$ 480,782	\$8,423,922	\$1,364,376	\$18,313,631
G. Funded Ratio (E./D.)	42.0%	42.0%	42.0%	42.0%	42.0%	42.0%	42.0%

<sup>1</sup> Allocated based on Actuarial Accrued Liability.

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

The funded ratio measurement shown above is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the City's benefit obligations.

The Unfunded Actuarial Accrued Liability as of June 30, 2016 was \$27,937,599 and the funded ratio was 26.1%.

## Comments

**Comment A:** The Actuarially Determined Contribution (ADC) has decreased from the last valuation. Factors contributing to this decrease include, but are not limited to:

- Benefit change which entitles members retiring after March 1, 2019 of DPS, MEU, Department Heads, and Supervisors and their eligible spouses to receive a \$300 monthly stipend to purchase Medicare Supplemental insurance after attaining Medicare eligibility, at which City obligations for healthcare benefits shall cease;
- A reduction in the ultimate health care trend rate from 4.00% to 3.75%;
- Higher than expected asset return (6.5% expected vs. 11.5% actual in FY17 & 8.2% actual in FY18);
- Favorable claims and premium experience; and
- Updating the actuarial assumptions to match assumptions recently adopted by MERS.

Factors partially offsetting the magnitude of the decrease were:

- Partial ADC contributions in FY17 & FY18; and
- Resetting of health care trend cost rates (9% in 2019, grading to 3.75% in 2033).

**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 ADC. Lower assumed returns will result in a higher ADC. Since the City has established a trend of contributing a greater percentage of the prior ADCs for several years, we have calculated the liability and the resulting ADC 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 ADC during fiscal years 2019, 2020, and 2021.

**Comment C:** Most of the actuarial assumptions were updated since the last valuation. The mortality tables, wage inflation assumption, retirement rates, disability rates, and withdrawal rates were reviewed and subsequently changed to reflect MERS assumptions. For more detail on these updated assumptions, see section D of this report. The impact of these assumption changes was a slight decrease in liabilities and the ADC.

In addition, the healthcare inflation assumption was updated, as was the excise tax load (see Comment G).

**Comment D:** For the fiscal year ending June 30, 2020 and June 30, 2021, the estimated claims and/or premiums paid by the employer on behalf of retirees (including the effect of the implicit rate subsidy) is \$1,608,005 and \$1,742,419, respectively.

**Comment E:** The contribution rates shown include amortization of the unfunded actuarial accrued liability over 22 years for non-Court/DPS members, and 18 years for Court/DPS members beginning July 1, 2019. A shorter amortization period would result in a higher ADC.

**Comment F:** All groups are now closed to new entrants; therefore, their unfunded actuarial accrued liability is amortized as a level dollar amount in order to comply with GASB requirements.

## Comments (Concluded)

**Comment G: 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. 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. 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. The excise tax is projected to be between 5%-10% of premiums. A 4.0% load was applied to all health care liabilities to approximate the cost for future excise tax.

**Comment H:** The Michigan State Treasurer has established uniform actuarial assumptions as required by Public Act 202 (PA 202) of 2017 for use with the annual Form 5572 (Retirement System Annual Report). The use of the uniform assumptions for reporting will be required for the 2019 fiscal year (note that the Department of Treasury is encouraging early adoption).

The current valuation assumptions and/or methods used by the Plan match or fall in the range of uniform assumptions established by the Treasurer for PA 202 reporting purposes, **with the exception of healthcare trend**. Therefore, the results in the valuation would most likely not be suitable for the reporting requirements for the 2019 fiscal year. We can either:

- Perform calculations based on a different set of assumptions consistent with the Treasurer’s established uniform assumptions for PA 202 reporting purposes.
- Discuss with the Board the suitability of using the Treasurer’s established assumptions for funding purposes if policymakers wish to consider that change.

Additionally, PA 202 requires submitting a funding improvement plan to the State Treasurer if the OPEB Plan’s funded status is less than 40%. Under current assumptions the plan is 42% funded.

Fees associated with these reporting requirements would be based on the complexity of the assignment.

## **SECTION B**

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### **RETIREE PREMIUM RATE DEVELOPMENT**

## Retiree Premium Rate Development

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 2016 to September 2018, 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 the City of 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)

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	\$ 503.27	\$ 694.58
50	655.31	807.28
55	862.32	941.52
60	1,113.73	1,096.64

### For Those Eligible for Medicare

Age	Male	Female
65	\$ 580.94	\$ 547.94
70	632.85	612.38
75	679.70	663.23

## Current Retirees

### For Those Not Eligible for Medicare

Age	Male	Female
45	\$ 542.92	\$ 749.31
50	706.95	870.89
55	930.26	1,015.71
60	1,201.49	1,183.05

### For Those Eligible for Medicare

Age	Male	Female
65	\$ 886.92	\$ 836.54
70	966.17	934.92
75	1,037.69	1,012.56

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, FSA, EA, MAAA, FCA

## **SECTION C**

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

# **City of Madison Heights General Other Postemployment Benefits Summary of Benefits as of June 30, 2018**

## **Plan Participants**

Employees of the City of Madison Heights 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:

**Non-Union and Department Heads Members:** Age 55 with 25 years of service. Employees hired after 9/28/2009 will not have retiree health care benefits. Instead, they will have a Health Care Savings Plan (established through MERS) and will purchase their own insurance.

**Supervisors and Assistants Members:** Age 55 with 25 years of service. Employees hired after 8/24/2009 will not have retiree health care benefits. Instead, they will have a Health Care Savings Plan (established through MERS) and will purchase their own insurance.

**MEU Members:** Age 55 with 25 years of service. Employees hired after 5/27/2009 will not have retiree health care benefits. Instead, they will have a Health Care Savings Plan (established through MERS) and will purchase their own insurance.

**Court Members:** Age 55 with 25 years of service. Employees hired after 10/1/2006 will not have retiree health care benefits. Instead, they will have a Health Care Savings Plan (established through MERS) and will purchase their own insurance.

**DPS Members:** Age 55 with 25 years of service. Employees hired after 7/1/2005 will not have retiree health care benefits. Instead, they will have a Health Care Savings Plan (established through MERS) and will purchase their own insurance.

**Dispatch Members:** Age 55 with 25 years of service. Employees hired after 7/1/2009 will not have retiree health care benefits. Instead, they will have a Health Care Savings Plan (established through MERS) and will purchase their own insurance.

## **Deferred Retirement Benefits**

City of Madison Heights does not provide deferred retiree health care coverage for members terminating employment with less than 25 years of service.

# **City of Madison Heights General Other Postemployment Benefits Summary of Benefits as of June 30, 2018**

## **Duty Disability Retirement Benefits**

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

**Non-Union & Department Heads, Court and Dispatch Members:** No age or service restrictions. Benefits commence immediately.

**MEU and DPS Members:** Health insurance continues for 18 months from date of injury.

**Supervisors and Assistants:** Health insurance continues for two years from date of injury.

## **Non-Duty Disability Retirement Benefits**

City of Madison Heights General Retirement Health Care Plan does not provide retiree health care coverage for members retiring under non-duty disability retirement with less than 25 years.

## **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. Benefits commence immediately.

## **Benefits for Retired Employees**

**All Members:**

**Member:** City pays 100% of the premiums for base plan. Prescription benefits will mirror active employees.

**Non-Union & Department Heads, Court and Dispatch Spouse:** City pays 100% of premiums for retiree's spouse at time of retirement. Coverage continues to surviving spouses of deceased retirees. (Limited to spouse at time of retirement.) Prescription benefits will mirror active employees.

**Supervisors & Assistants, MEU and DPS Spouse:** City continues to pay 100% of premiums for the City plan. Prescription benefits will mirror active employees.

# **City of Madison Heights General Other Postemployment Benefits Summary of Benefits as of June 30, 2018**

**With the exception of Court and Dispatch members,** all members who retire after March 2, 2019 are eligible to receive retiree health care benefits until Medicare age, after which they shall be entitled to a \$300 monthly stipend for them and their eligible spouse for purchasing Medicare Supplemental insurance, at which point all city obligations shall cease.

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.

## **Non-Medicare and Medicare-Eligible Provisions**

All retirees are required to enroll in Medicare Part A and B once eligible.

## **Life Insurance Coverage**

City provides life insurance coverage of retirees in the amount of \$10,000.

*This is a brief summary of the City of Madison Heights General 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, 2018 by Attained Age and Years of Service

## Non-Union/Department Heads

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34									
35-39									
40-44				1				1	\$ 106,046
45-49			1	1				2	220,101
50-54									
55-59				2	1	1	2	6	592,697
60-64									
65 & Over									
<b>Totals</b>			<b>1</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>9</b>	<b>\$ 918,844</b>

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

Age: 53.3 Years  
Service: 22.1 Years  
Annual Pay: \$102,094

## Supervisors & Assistants

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34									
35-39									
40-44				1				1	\$ 77,866
45-49									
50-54						1		1	68,210
55-59						1		1	84,215
60-64									
65 & Over									
<b>Totals</b>			<b>1</b>			<b>2</b>		<b>3</b>	<b>\$ 230,291</b>

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

Age: 48.9 Years  
Service: 21.5 Years  
Annual Pay: \$76,764

## Active Members as of June 30, 2018 by Attained Age and Years of Service

### MEU

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34				1				1	\$ 49,012
35-39				1				1	45,360
40-44				2	1	2		5	261,104
45-49				2		2		2	100,008
50-54				1				2	99,182
55-59								2	107,529
60-64									
65 & Over									
<b>Totals</b>				<b>4</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>13</b>	<b>\$ 662,195</b>

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

**Age:** 55.0 Years  
**Service:** 23.8 Years  
**Annual Pay:** \$50,938

### Dispatchers

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34				1				1	\$ 48,871
35-39				1				2	108,047
40-44				1				1	48,804
45-49				1					
50-54				1					
55-59									
60-64									
65 & Over									
<b>Totals</b>				<b>3</b>	<b>1</b>			<b>4</b>	<b>\$ 205,722</b>

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

**Age:** 47.4 Years  
**Service:** 19.0 Years  
**Annual Pay:** \$51,431

## Active Members as of June 30, 2018 by Attained Age and Years of Service

### Court

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34									
35-39					1			1	\$ 54,137
40-44						1		1	62,585
45-49									
50-54				1				1	52,111
55-59				1				1	50,832
60-64									
65 & Over									
<b>Totals</b>				<b>2</b>	<b>1</b>	<b>1</b>		<b>4</b>	<b>\$ 219,665</b>

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

**Age:** 52.9 Years  
**Service:** 21.9 Years  
**Annual Pay:** \$54,916

### DPS

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34									
35-39				4				4	\$ 220,610
40-44									
45-49									
50-54				1	1	2		4	235,253
55-59				1	1	1		3	189,366
60-64									
65 & Over									
<b>Totals</b>				<b>6</b>	<b>2</b>	<b>3</b>		<b>11</b>	<b>\$ 645,229</b>

**Age:** 47.6 Years  
**Service:** 20.6 Years  
**Annual Pay:** \$58,657

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

# Retired Members as of June 30, 2018 by Attained Age

## Dept. Heads/Non-Union

Attained Age	Number of Retirees		
	Male	Female	Total
Under 55	0	0	0
55-59	1	0	1
60-64	1	0	1
65 & Over	3	3	6
<b>Totals</b>	<b>5</b>	<b>3</b>	<b>8</b>

## Supervisors

Attained Age	Number of Retirees		
	Male	Female	Total
Under 55	0	0	0
55-59	0	0	0
60-64	2	2	4
65 & Over	5	0	5
<b>Totals</b>	<b>7</b>	<b>2</b>	<b>9</b>

## Municipal

Attained Age	Number of Retirees		
	Male	Female	Total
Under 55	0	1	1
55-59	0	0	0
60-64	0	1	1
65 & Over	3	10	13
<b>Totals</b>	<b>3</b>	<b>12</b>	<b>15</b>

## Courthouse

Attained Age	Number of Retirees		
	0	Female	Total
Under 55	0	1	1
55-59	0	1	1
60-64	0	0	0
65 & Over	1	0	1
<b>Totals</b>	<b>1</b>	<b>2</b>	<b>3</b>

## DPS

Attained Age	Number of Retirees		
	Male	Female	Total
Under 55	1	0	1
55-59	3	0	3
60-64	8	1	9
65 & Over	17	0	17
<b>Totals</b>	<b>29</b>	<b>1</b>	<b>30</b>

## **SECTION D**

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### **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 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; and
- (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 (UAAL) 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 reflecting anticipated contributions.

**Non-Union, MEU, Department Heads and Supervisors & Assistants** - The UAAL amortization payment is the level dollar required to fully amortize the UAAL over a closed 22-year period beginning on the first day of the fiscal year for which the contributions in this report have been calculated.

**Court and DPS** - The UAAL amortization payment is the level dollar required to fully amortize the UAAL over a closed 18-year period beginning on the first day of the fiscal year for which the contributions in this report have been calculated.

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

	All Other Groups Fiscal Year Beginning July 1,		Court and DPS Fiscal Year Beginning July 1,	
	2019	2020	2019	2020
Years Remaining Amortization Factor	22 11.90615	21 11.64790	18 10.76796	17 10.43572

## Actuarial Assumptions

**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.

% Increase in Salary at Sample Ages			
Sample Ages	Merit & Seniority	Base (Economic)	Increase Next Year
20	11.00%	3.75%	14.75%
25	7.20%	3.75%	10.95%
30	3.10%	3.75%	6.85%
35	1.90%	3.75%	5.65%
40	1.20%	3.75%	4.95%
45	0.81%	3.75%	4.56%
50	0.52%	3.75%	4.27%
55	0.30%	3.75%	4.05%
60	0.00%	3.75%	3.75%
Ref	501		

**The mortality table** used to project the mortality experience of plan member's a unisex blend of the RP-2014 Healthy Annuitant Mortality Table with rates multiplied by 105% for current and future retirees and the RP-2014 Employee Mortality Table for active members. For disabled retirees, a unisex blend of the RP-2014 Disabled Retiree Mortality Tables is used. This table was first used for the June 30, 2018 valuation.

Sample Attained Ages	Probability of Dying Next Year		Future Life Expectancy (Years)	
	Men	Women	Men	Women
50	0.23 %	0.23 %	33.74	33.74
55	0.37	0.37	29.18	29.18
60	0.58	0.58	24.79	24.79
65	0.94	0.94	20.59	20.59
70	1.56	1.56	16.66	16.66
75	2.51	2.51	13.07	13.07
80	4.18	4.18	9.85	9.85
Ref	1603x1sb0yrs0Unisex		#1603x1sb0yrs0Unisex	

## Actuarial Assumptions (Continued)

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

Retirement Age	Percent of Eligible Active Members Retiring within Next Year*	
	All Divisions	
50	20	%
51	20	
52	20	
53	20	
54	20	
55	20	
56	20	
57	21	
58	21	
59	21	
60	21	
61	22	
62	22	
63	22	
64	23	
65	25	
66	25	
67	26	
68	28	
69	30	
70	100	
Ref	1876	

\* All members who reach eligibility for normal retirement pension benefits before reaching eligibility for retiree health benefits are assumed to retire at the rate of 3% per year during the period when they are not eligible for health.

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

Retirement Ages	Percent of Eligible Active Members Retiring Early within Next Year	
	All Divisions	
50	2.0	%
51	2.0	
52	3.3	
53	3.8	
54	5.6	
55	4.3	
Ref	2736	

## 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 rates of separation from active membership do not apply to members eligible to retire, and do not include separation on account of death or disability. The assumed rates of separation applied in the current valuation are based on years of service, and scaled up or down according to each group's experience.

Group	Separation Rate Scaling Factor
All Divisions	80%

The base separation rates (see the table below) are multiplied by the scaling factor to obtain the assumed withdrawal rates. Sample rates of separation from active employment, before application of the scaling factor, are shown below:

Years of Service	% of Active Members Separating within Next Year
0	19.60 %
1	16.30
2	13.30
3	10.50
4	8.60
5	6.90
10	4.60
15	3.40
20	2.60
25	2.20
30	2.20
34 and over	2.20
Ref	1114

## Actuarial Assumptions (Concluded)

**Rates of disability** among active members are used to estimate the incidence of member disability in future years. 80% of disabilities were assumed to be non-duty related and 20% of disabilities were assumed to be duty related.

Sample Ages	Percent Becoming Disabled within Next Year	
	Male	Female
20	0.02 %	0.02 %
25	0.02	0.02
30	0.02	0.02
35	0.05	0.05
40	0.08	0.08
45	0.20	0.20
50	0.29	0.29
55	0.38	0.38
Ref	#1106x1	#1106x1

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

Year	Medical and Prescription Drugs
2019	9.00 %
2020	8.50
2021	8.00
2022	7.50
2023	7.00
2024	6.50
2025	6.00
2026	5.50
2027	5.25
2028	5.00
2029	4.75
2030	4.50
2031	4.25
2032	4.00
2033 and later	3.75

## Supplementary Information

Valuation Date	June 30, 2018
Actuarial Cost Method	Individual Entry Age
Amortization Method	
Non-Union, MEU, Department Heads and Supervisors & Assistants	Level Dollar Closed
Court and DPS	Level Dollar Closed
Remaining Amortization Periods	
Non-Union, MEU, Department Heads and Supervisors & Assistants	22 Years
Court and DPS	18 Years
Asset Valuation Method	Market Value
Actuarial Assumptions:	
Discount Rate	6.50% Per Year
Projected Salary Increases	3.75%
Valuation Health Care Cost Trend Rate	9.00% in 2019, grading to 3.75% in 2033

## Schedule of Funding Progress

(Dollars in Thousands)

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)
2006	\$ 543	\$21,977	\$21,433	2.5 %	\$4,281	500.6 %
2008	2,389	21,497	19,108	11.1	4,371	437.1
2010	3,876	21,930	18,053	17.7	3,848	469.2
2012	6,249	33,130	26,881	18.9	3,650	736.4
2014	9,329	32,177	22,847	29.0	3,137	728.4
2016	9,887	37,824	27,938	26.1	2,989	934.6
<b>2018</b>	<b>13,264</b>	<b>31,578</b>	<b>18,314</b>	<b>42.0</b>	<b>2,521</b>	<b>726.5</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

<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>Data Adjustments:</b>	One retired male member with two-person coverage, for whom there was no spouse listed, was assumed to be three years older than the female spouse. Last year's pay with wage inflation was used for active member pays that were not provided as of the valuation date. Following the valuation date, there were two terminations and three retirements which are reflected in the liabilities, but not the data schedules.
<b>Medicare Coverage:</b>	Assumed to be available for all covered employees on attainment of age 65. Disabled retirees were assumed to be eligible for Medicare coverage at age 65.
<b>Election Percentage:</b>	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, 80% 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.
	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.
	Active members who have chosen an HSA instead of city sponsored retiree healthcare have been excluded from the valuation.
<b>Excise Tax:</b>	All costs were increased by 4% to reflect the projected excise tax from the Affordable Care Act.

## 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.

**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.

## 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 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.