

November 2, 2020

The Retirement Board
City of Marysville General City Employees Retirement System
Marysville, Michigan

Dear Board Members:

The purpose of the annual actuarial valuation of the City of Marysville General City Employees Retirement System as of June 30, 2020, is to:

- Compute the liabilities associated with benefits likely to be paid on behalf of current retired and active members of the Retirement System,
- Compare accrued assets with accrued liabilities to assess the funded condition of the Retirement System, and
- Compute the City's recommended contribution rate for the Fiscal Year beginning July 1, 2020 and July 1, 2021.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices. Data concerning active members, retirees, beneficiaries and assets was provided by the City of Marysville. This data has been reviewed for reasonableness, but no attempt has been made to audit such information. The valuation was based on the provisions of the Retirement System as amended through June 30, 2020. The actuarial assumptions used in this valuation represent reasonable expectations of future experience under the System. This valuation has been prepared under the supervision of a Member of the American Academy of Actuaries who meets the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



Denise M. Jones



Sandra W. Rodwan, M.A.A.A.

City of Marysville
General Employees Retirement System

Actuarial Valuation as of June 30, 2020

Table of Contents

Section One: Valuation Summary

Valuation Summary	1
-------------------------	---

Section Two: Actuarial Calculations – Funding

Computed Contribution Rates	3
-----------------------------------	---

Unfunded Actuarial Accrued Liability	4
--	---

Section Three: Retirement System Benefit Provisions

Benefit Provision Summary	7
---------------------------------	---

Section Four: Actuarial Assumptions and Methods

Actuarial Assumptions	10
-----------------------------	----

Actuarial Methods	13
-------------------------	----

Section Five: Valuation Data

Asset Summary	14
---------------------	----

Participant Summary	16
---------------------------	----





Section One:
Valuation Summary



Purpose of Valuation

The purpose of the annual actuarial valuation of the City of Marysville General City Employees Retirement System as of June 30, 2020 is to:

- ❖ Compute the liabilities associated with benefits likely to be paid on behalf of current retired and active members of the retirement system,
- ❖ Compare accrued assets with accrued liabilities to assess the funded condition of the retirement system, and
- ❖ Compute the City's recommended contribution rate for the Fiscal Year beginning July 1, 2020 and July 1, 2021.

Liabilities and Funded Condition of Retirement System

Accrued liabilities of the Retirement System as of June 30, 2020 were computed to be \$27,691,003. The funding value of assets was \$17,630,868. The ratio of the funding value of assets to accrued liabilities was 63.67%.

Funding Value of Assets

A smoothed market value of assets was used for the June 30, 2020 valuation. This method credits the assumed rate to the funding value of assets and spreads the difference between the actual and assumed return over 5 years.

City's Computed City Contribution Rate

The City's normal cost contribution rate was computed to be 5.05% of active member payroll (13.05% total normal cost less 8.00% member contributions). The unfunded accrued liabilities were amortized as a level percent of payroll over 24 years. The amortization of the unfunded accrued liabilities was 25.26% of member payroll. The City's total contribution for FY 20/21 and FY 21/22 was therefore computed to be 30.31% of member payroll.

Benefit Provision Changes

Members hired after July 1, 2019: 10 year vesting, 1.5% pension multiplier capped at 40 hours of overtime for Final Average Compensation.

Assumption and Method Changes

There were no assumption or method changes.

Participant Data

	<u>06/30/2020</u>	<u>06/30/2019</u>
Active Members	38	37
Active Member Payroll	\$2,404,957	\$2,189,937
Retirees and Beneficiaries	55	54
Annual Pensions	\$1,805,346	\$1,751,610
Vested Inactive Members	6	10
Deferred Annual Pensions	\$124,451	\$160,916

Financial Data

	<u>06/30/2020</u>	<u>06/30/2019</u>
Funding Value of Assets	\$17,630,868	\$17,508,058
Market Value of Assets	\$17,225,551	\$16,764,376



Section Two:

***Actuarial Calculations –
Funding***



Computed Contribution Rates for Fiscal Years 2020/2021 and 2021/2022

The contribution rates shown below are expressed as level percents of active member payroll.

The normal cost can be viewed as the long-term on-going cost of the Retirement System. Accrued liabilities exceeded accrued assets as of June 30, 2020. The unfunded actuarial accrued liability was amortized as a level percent of payroll, over a period of 24 years. The 24 year amortization period, is a one year decrease from the period used last year. This amortization payment was added to the normal cost contribution.

Normal Cost	
Regular Retirement	9.77%
Pre-retirement Death	0.36
Disability	0.68
Termination Benefits	<u>2.24</u>
Total Normal Cost	13.05%
Unfunded Actuarial Accrued Liability	25.26
Total Computed Contribution	38.31%
Member portion	8.00
City portion	30.31%
Dollar Amount Based on Valuation Payroll* FY 20/21	\$728,943

* Valuation Payroll was \$2,404,958 as of June 30, 2020.

Unfunded Actuarial Accrued Liability

	<u>2020</u>	<u>2019</u>
Actuarial accrued liability	\$27,691,003	\$27,098,881
Assets allocated to funding	<u>17,630,868</u>	<u>17,508,058</u>
Unfunded actuarial accrued Liability	\$10,060,135	\$9,590,823

Recommended City Contributions

Valuation Date June 30,	Fiscal Year	Computed City Contributions	
		% of Payroll	Dollar Amount
2000	00/01		\$0
2001	01/02		30,650
2002	02/03		153,461
2003	03/04		365,510
2004	04/05	16.01%	366,690
2005	05/06	18.69	402,441
2006	06/07	18.95	431,758
2007	07/08	16.05	340,030
2008(a)	08/09	19.76	443,123
2009(a)	09/10	21.79	497,771
2010	10/11	19.11	407,469
2011	11/12	22.30	425,214
2012	12/13	20.02	373,304
2013	13/14	24.82	453,888
2014(a)	14/15	23.44	460,017
2015	15/16	20.78	436,383
2016	16/17	23.09	480,183
2017(a)	17/18	27.90	614,325
2018	18/19	26.94	615,978
2019	19/20	31.24	684,137
2020	20/21	30.31	728,943

(a) After changes in assumptions and methods.

Note: Results prior to 2004 are based on reports provided by previous actuarial firm.

History of Assets and Accrued Liabilities

Valuation Date June 30,	Valuation Assets	Actuarial Accrued Liabilities	Funded Ratio	Unfunded Actuarial Accrued Liabilities
1993	\$7,861,280	\$7,184,653	109.42%	\$(676,627)
1994	8,639,945	7,960,198	108.54	(679,747)
1995	9,146,510	10,078,549	90.75	932,029
1996	10,048,696	10,971,000	91.59	922,304
1997	11,808,717	11,754,168	100.46	(54,549)
1998	13,686,707	12,734,370	107.48	(952,337)
1999	15,648,850	14,034,351	111.50	(1,614,499)
2000	16,941,119	15,032,094	112.70	(1,909,025)
2001	17,335,570	16,242,162	106.73	(1,093,408)
2002	17,040,860	16,746,879	101.76	(293,981)
2003	16,803,758	17,831,503	94.24	1,027,745
2004	17,172,124	18,776,905	91.45	1,604,781
2005	17,857,731	19,593,933	91.14	1,736,202
2006	18,783,632	20,814,117	90.24	2,030,485
2007	20,043,092	21,644,008	92.60	1,600,916
2008(a)			85.68	
	20,291,835	23,682,028		3,390,193
2009(a)	19,981,016	24,475,812	81.64	4,494,796
2010	19,685,258	22,872,797	86.06	3,187,539
2011	19,385,974	23,661,130	81.93	4,275,156
2012	18,672,826	22,895,219	81.55	4,222,393
2013	17,805,313	23,461,641	75.89	5,656,328
2014(a)	18,238,440	25,272,742	72.17	7,034,302
2015	18,366,503	24,567,768	74.76	6,201,265
2016	17,718,804	24,589,791	72.06	6,870,987
2017(a)	17,470,657	26,286,823	66.46	8,816,166
2018	17,682,351	26,305,228	67.22	8,622,877
2019	17,508,058	27,098,881	64.61	9,590,823
2020	17,630,858	27,691,003	63.67	10,060,135

(a) After changes in assumptions and methods.

Results shown throughout this report for years prior to 2004 were prepared by the previous actuarial firm.

Comments

Comment 1: The City's computed contribution for the fiscal year beginning July 1, 2020 has been computed to be 30.31% of active member payroll, or \$728,943 for FY 20/21.

Comment 2: During the year ended June 30, 2020, the recognized rate of the return on the smoothed funding value of assets was less than assumed. The funding value of assets includes carry-forwards of gains and losses from the 4 prior fiscal years. The recognized rate of return on the funding value of assets was 4.06% vs. 7.50%.



Section Three:

***Retirement System
Benefit Provisions***



Benefit Provision Summary

Regular Retirement

Eligibility:

General: Age 60 with 5 or more years of service or age 55 and 25 years of service.

516M: If hired before 7/1/84, attainment of age 60 and 5 years of service.

If hired after 7/1/84, age 62 and 5 years of service; or age 55 and 25 years of service regardless of date of hire.

Final Average Compensation (FAC): Average of highest 3 of the final 5 years of employment.

Annual Benefit:

Straight life pension equals 2.25% of FAC times years of service.

Minimum Benefit: \$99.96 plus 1% of FAC times years of service plus the actuarial equivalent of the participant's accumulated contributions at retirement.

Hired On/After July 1, 2019:

10 year vesting, 1.5% pension multiplier capped at 40 hours of overtime for Final Average Compensation.

Deferred Retirement

Eligibility:

5 or more years of credited service.

Annual Benefit:

General: Computed as service retirement at age 60 but based upon credited service, FAC and benefit provisions in effect at termination.

516M: If hired before 7/1/84, attainment of age 60 and 5 years of service. If hired after 7/1/84, age 62 and 5 years of service; or age 55 and 25 years of service regardless of date of hire.

Duty Disability Retirement

Eligibility:

Payable upon the total and permanent disability in the line of duty of a member who has not reached their normal retirement date. The participant must also be paid worker's compensation on account of the disability.

Annual Benefit:

Computed as a regular retirement based on credited service at the date of disability.
A minimum of 50% of FAC applies if the disability occurs prior to age 60 (age 62 for member of 516M who were hired after July 1, 1984).

Non-Duty Disability

Eligibility:

Payable upon the total and permanent disability of a member with 5 or more years of service

Annual Benefit:

Same as Service Retirement Pension based on credited service at date of disability.

Duty Death in Service Survivors Pension

Eligibility:

All participants.

Annual Benefit:

Refund of participant's accumulated contributions, plus 1/3 of final compensation payable to surviving spouse until death or remarriage. Unmarried children under 18 receive equal shares of final compensation subject to a maximum of 1/3 of final compensation, until earlier of marriage, death, or attainment of age 18. If no benefits are payable to a spouse or dependent children, a dependent mother or father shall each be paid 1/6 of final compensation not to exceed \$600.00 annually. These amounts are offset by any amount payable due to worker's compensation.

Non-Duty Death in Service Survivors Pension

Eligibility:

Elective Beneficiary Survivor Retirement Allowance: Attainment of age 55 and 5 years of service, or completion of 5 years of service if deferred retirement is elected.

Automatic Survivor Retirement Allowance to Spouse: Attainment of age 55 and 5 years of service.

Annual Benefit:

Same as Service Retirement Pension based on credited service at date of death if the deceased participant had elected a 100% joint and survivor form of payment.

Member Contributions

8% of pay.

Cost of Living

An annual cost of living supplement is payable and is determined by multiplying each .4(as a unit) change in the Consumer Price Index (CPI-W 1967=100) by one cent (\$.01) and multiplying that product by 2080. For retirements on or after July 1, 1995, the annual cost of living adjustment will be the rate of inflation measured by the Consumer Price Index (CPI-U). General benefit group members and members of group 516M who retire on or after 7/1/2011, the annual cost of living adjustment shall not exceed 2% of the base benefit amount and shall commence after the first three full years of retirement and shall cease after 23 full years of retirement. Members hired after June 30, 2011 are not eligible for the post-retirement cost of living supplement.

Section Four:

***Actuarial Assumptions
And Methods***



Actuarial Assumptions

Economic Assumptions

- (i) Interest Rate 7.50% (net of expenses)
- (ii) Salary Increases 4.0%

Sample Annual Rates of Salary Increase

Age	
20	4.0%
25	4.0
30	4.0
35	4.0
40	4.0
45	4.0
50	4.0
55	4.0
60	4.0
65	4.0

Demographic Assumptions

(i) Mortality

RP2000 Combined Healthy
Mortality Table Projected to 2014

Sample Ages	Future Life Expectancy (Years)	
	Men	Women
50	32.2	34.4
55	27.5	29.6
60	23.0	25.1
65	18.8	20.8
70	14.9	16.9
75	11.3	13.3
80	8.3	10.1

(ii) Disability

Sample Ages	Disability Rates Per 1,000 Members	
	Male	Female
25	.2	.1
30	.5	.4
35	.8	.7
40	1.1	1.0
45	1.9	1.7
50	2.7	2.3
55	4.7	3.5
60	6.7	4.6

(iii) Termination of employment

Service related rates for first 5 years of employment. Age related rates after first 5 years of employment.

Sample Ages	Years of Service	Percent Terminating
All	0	20.00%
	1	15.00
	2	10.00
	3	8.00
	4	7.00
20	5 and over	6.00
25		6.00
30		5.50
35		4.40
40		1.85
45		1.25
50		1.25
55	1.25	
60	1.25	
65	1.25	

(iv) Retirement Rates

Retirement assumed at earliest age participant becomes eligible for normal retirement.

Actuarial Method Used for the Valuation

Normal Cost. Normal cost and the allocation of actuarial present values between service rendered before and after the valuation date were determined using an individual entry age actuarial cost method having the following characteristics:

- ❖ The annual normal costs for each individual active member, payable from date of hire to date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement;
- ❖ Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

Financing of Unfunded Actuarial Accrued Liability. The excess of actuarial accrued liability over actuarial accrued assets was amortized as a level percent of payroll over a period of 24 years.



Section Five:
Valuation Data



Asset Summary

Statement of Assets

As of June 30, 2020, the market value of assets was reported to be \$17,225,551.

Reconciliation of the Reported Market Value of Assets

a. Market Value as of July 1, 2019	\$16,757,510
b. Additions	
(i) Member Contributions	192,471
(ii) Employer Contributions	1,041,867
(iii) Investment Income	1,137,207
(iv) Other	<u>-</u>
(v) Total Additions	2,371,545
c. Deductions	
(i) Pensions	1,785,606
(ii) Refund of member contributions	-
(iii) Investment Expense	93,575
(iv) Administrative Expenses	24,323
(v) Miscellaneous	<u>-</u>
(vi) Total Deductions	1,903,504
 Market Value as of June 30, 2020	 \$17,225,551

Funding Value of Assets – June 30,

	2019	2020
A. Funding Value Beginning of Year	\$17,682,351	17,508,058
B. Market Value End of Year	16,764,376	17,225,551
C. Market Value Beginning of Year	16,357,874	16,757,510
D. Non-Investment Net Cash Flow	(555,083)	(575,591)
E. Investment Income		
E1. Market Total B-C-D	961,595	1,043,632
E2. Amount for Immediate Recognition	1,305,360	1,291,520
E3. Amount for Phased-In Recognition: E1-E2	(343,765)	(247,888)
F. Phased-In Recognition of Investment Income		
F1. Current Year: 0.20 x E3	(68,753)	(49,578)
F2. First Prior Year	3,874	(68,753)
F3. Second Prior Year	(1,631)	3,874
F4. Third Prior Year	(477,031)	(1,631)
F5. Fourth Prior Year	(381,019)	(477,031)
F6. Total Phased-In Amount	(924,560)	(593,119)
G. Funding Value End of Year: A+D+E2+F6	17,508,058	17,630,868
H. Difference Between Market and Gross Funding Value	\$(743,682)	\$(405,317)

Participant Summary

Retirees and Beneficiaries Included in the Valuation

There were 55 retirees and beneficiaries and one alternate payee included in the valuation, with annual pensions totaling \$1,805,346. Two new retirees were added during the year and none were removed.

History of Pensions Being Paid

Valuation Date June 30	No.	Annual Pensions	% of Active Payroll	Average Pension	Discounted Value of Pensions	
					Total	Average
2002	36	\$450,604	20.0%	\$12,517	\$6,929,988	\$192,500
2003	37	523,678	22.8	14,153	7,906,473	213,688
2004	41	871,035	38.0	21,245	10,220,287	249,275
2005	42	961,685	44.7	22,897	11,282,237	268,625
2006	44	1,068,671	46.9	24,288	12,485,634	283,764
2007	47	1,171,703	55.3	24,930	13,913,214	296,026
2008	49	1,266,059	56.5	25,838	15,457,374	315,457
2009*	51	1,352,628	59.2	26,522	16,146,347	316,595
2010*	48	1,311,823	61.5	27,330	15,435,245	321,568
2011*	52	1,478,846	77.6	28,439	17,925,663	344,724
2012*	52	1,569,216	84.2	30,177	17,800,400	342,315
2013*	51	1,519,409	83.1	29,792	17,716,343	340,699
2014*	51	1,581,783	80.6	31,015	18,423,476	361,245
2015*	51	1,556,279	74.1	30,515	17,568,496	337,856
2016*	52	1,602,759	77.1	30,822	18,166,748	349,361
2017*	52	1,607,253	73.0	30,909	18,748,919	360,556
2018*	52	1,636,865	71.6	31,478	18,890,153	363,272
2019*	54	1,751,610	80.0	32,437	19,873,554	368,028
2020*	55	1,805,346	75.1	32,824	19,988,932	363,435

*Includes one alternate payee with an annual pension of \$9,125.

**Retired Members and
Survivors
as of June 30, 2020**

Attained Age	No.	Annual Pensions
59	1	\$38,035
60-64	8	237,780
65-69	18	662,433
70-74	7	205,411
75-79	10	394,145
81	1	13,225
82	1	26,410
83	2	46,995
84	2	43,836
86	1	30,118
90	1	21,908
95	1	39,451
96	1	31,151
97	1	14,448
Totals	55	\$1,805,346

Active Member Summary

**Active Members - June 30, 2020
Age and Service Distribution**

Attained Age	Service						Totals	
	0-4	5-9	10-14	15-19	20-24	30-34	No.	Payroll
20-24	1						1	\$66,658
25-29	1	1					2	118,579
30-34	3	1					4	198,483
35-39		1	1				2	73,673
40-44		1	2	1			4	287,067
45-49		2	2	2	4		10	642,427
50-54	3	1	1	2	1	1	9	555,842
55-59				1	2		3	199,390
60-64		1	1				2	187,034
65-69		1					1	75,805
Totals	8	8	7	6	7	1	38	\$2,404,957

Group Averages

Age: 45.6 years
 Service: 12.0 years
 Annual Pay: \$63,288

Active Members – Three-Year Summary

	2020	2019	2018
Active Members	38	37	38
Valuation Payroll	\$2,404,957	\$2,189,937	\$2,286,480
Average Compensation	\$63,288	\$59,187	\$60,170
Average Age (yrs.)	45.6	44.2	45.2
Average Service (yrs.)	12.0	11.5	12.1

Vested Inactive Members

There were eight vested terminated members eligible for estimated deferred pensions totaling \$124,550.

Inactive Members - June 30, 2020

Attained Age	No.	Estimated Annual Benefit
44	1	\$16,893
45	1	21,180
47	1	12,406
52	1	14,843
53	1	21,435
54	1	10,456
55	1	4,781
58	<u>1</u>	<u>22,456</u>
Totals	8	\$124,450