

CITY OF MARYSVILLE  
GENERAL CITY EMPLOYEES RETIREMENT SYSTEM

ACTUARIAL VALUATION  
AS OF JUNE 30, 2022

CONTRIBUTIONS APPLICABLE TO THE  
PLAN/FISCAL YEAR BEGINNING JULY 1, 2022

P.A. 202 VALUATION  
AS OF JUNE 30, 2022

GASB 67/68 DISCLOSURE INFORMATION  
AS OF JUNE 30, 2022



**FOSTER & FOSTER**  
ACTUARIES AND CONSULTANTS



October 17, 2022

The Retirement Board  
City of Marysville General City Employees Retirement System

Re: Actuarial Valuation Report (including GASB Statements No. 67 and No. 68) – City of Marysville  
General City Employees Retirement System

Dear Board Members:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Marysville General City Employees Retirement System. Included are the related results for GASB Statements No. 67 and No. 68. The funding valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. The calculation of the liability for GASB results was performed for the purpose of satisfying the requirements of GASB Statements No. 67 and No. 68. Use of the results for other purposes may not be applicable and could produce significantly different results.

The valuations have been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflect laws and regulations issued to date pursuant to the Retirement System, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuations, we did not perform an analysis of the potential range of such future measurements.

The funding percentages and unfunded accrued liability as measured based on the actuarial value of assets will differ from similar measures based on the market value of assets. These measures, as provided, are appropriate for determining the adequacy of future contributions, but may not be appropriate for the purpose of settling a portion or all of its liabilities.

In conducting the valuations, we have relied on personnel, plan design, and asset information supplied by the Board, financial reports prepared by the custodian bank and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The total pension liability, net pension liability, and certain sensitivity information shown in the GASB results are based on an actuarial valuation performed as of the valuation date.

In performing the analysis, we used third-party software to model (calculate) the underlying liabilities and costs. These results are reviewed in the aggregate and for individual sample lives. The output from the software is either used directly or input into internally developed models to generate the costs. All internally developed models are reviewed as part of the process. As a result of this review, we believe that the models have produced reasonable results. We do not believe there are any material inconsistencies among assumptions or unreasonable output produced due to the aggregation of assumptions.

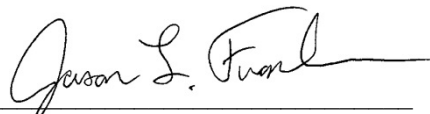
The undersigned is familiar with the immediate and long-term aspects of pension valuations and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Marysville, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the City of Marysville General City Employees Retirement System. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 630-620-0200.

Respectfully submitted,

Foster & Foster, Inc.

By:   
Jason L. Franken, FSA, EA, MAAA

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SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Marysville General City Employees Retirement System, performed as of June 30, 2022, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the plan/fiscal year beginning July 1, 2022.

The contribution requirements, compared with those set forth in the June 30, 2021 actuarial report, are as follows:

|                                       |                    |                  |
|---------------------------------------|--------------------|------------------|
| Valuation Date                        | 6/30/2022          | 6/30/2021        |
| Applicable to Fiscal Year Beginning   | <u>7/1/2022</u>    | <u>7/1/2021</u>  |
| <b>Total Recommended Contribution</b> | <b>\$1,004,211</b> | <b>\$951,350</b> |
| % of Projected Annual Payroll         | 41.33%             | 40.42%           |
| Member Contributions (Est.)           | (208,941)          | (202,434)        |
| % of Projected Annual Payroll         | (8.60%)            | (8.60%)          |
| <b>City Recommended Contribution</b>  | <b>795,270</b>     | <b>748,916</b>   |
| % of Projected Annual Payroll         | 32.73%             | 31.82%           |

As you can see, the Total Recommended Contribution shows an increase from the June 30, 2021 actuarial valuation report. The increase is attributable to unfavorable plan experience and the natural increase in the amortization payment due to the payroll growth assumption.

Plan experience was unfavorable overall on the basis of the plan's actuarial assumptions. Sources of unfavorable experience included an investment return of 5.61% (Actuarial Asset Basis) which fell short of the 7.50% assumption and lower than expected inactive mortality. These losses were offset in part by a gain associated with fewer retirements than expected.

## CHANGES SINCE THE PRIOR VALUATION

The valuation reflects no plan changes.

The valuation reflects no assumption or method changes.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

| Valuation Date                  | <u>6/30/2022</u> | <u>6/30/2021</u> |
|---------------------------------|------------------|------------------|
| <b>A. Participant Data</b>      |                  |                  |
| Number Included                 |                  |                  |
| Actives                         | 39               | 38               |
| Service Retirees                | 46               | 45               |
| Beneficiaries                   | 8                | 7                |
| Disability Retirees             | 1                | 1                |
| Terminated Vested               | <u>7</u>         | <u>8</u>         |
| Total                           | 101              | 99               |
| Total Projected Annual Payroll  | \$2,706,164      | \$2,579,838      |
| Payroll Under Assumed Ret. Age  | 2,429,546        | 2,353,887        |
| Annual Rate of Payments to:     |                  |                  |
| Service Retirees                | 1,663,732        | 1,607,700        |
| Beneficiaries                   | 143,912          | 126,529          |
| Disability Retirees             | 32,622           | 31,105           |
| Terminated Vested               | 101,994          | 124,450          |
| <b>B. Assets</b>                |                  |                  |
| Actuarial Value                 | 19,241,134       | 18,818,595       |
| Market Value                    | 17,619,576       | 20,590,367       |
| <b>C. Liabilities</b>           |                  |                  |
| Present Value of Benefits (PVB) |                  |                  |
| Actives                         |                  |                  |
| Retirement Benefits             | 9,488,532        | 8,832,019        |
| Disability Benefits             | 251,668          | 252,480          |
| Death Benefits                  | 178,348          | 179,468          |
| Vested Benefits                 | 672,087          | 666,672          |
| Service Retirees                | 18,824,819       | 18,474,060       |
| Beneficiaries                   | 998,489          | 954,216          |
| Disability Retirees             | 347,721          | 342,929          |
| Terminated Vested               | <u>700,903</u>   | <u>928,525</u>   |
| Total                           | 31,462,567       | 30,630,369       |

| C. Liabilities - (Continued)                | <u>6/30/2022</u>  | <u>6/30/2021</u>  |
|---|-------------------|-------------------|
| Present Value of Future Salaries            | 17,841,697        | 17,584,574        |
| Normal Cost (Retirement)                    | 226,199           | 225,026           |
| Normal Cost (Disability)                    | 11,547            | 11,590            |
| Normal Cost (Death)                         | 8,244             | 8,288             |
| Normal Cost (Vesting)                       | <u>49,679</u>     | <u>48,676</u>     |
| Total Normal Cost (EAN)                     | 295,669           | 293,580           |
| Present Value of Future Normal Costs        | 2,078,450         | 2,131,272         |
| Accrued Liability (Retirement)              | 7,915,967         | 7,212,095         |
| Accrued Liability (Disability)              | 169,147           | 166,602           |
| Accrued Liability (Death)                   | 119,996           | 118,449           |
| Accrued Liability (Vesting)                 | 307,075           | 302,221           |
| Accrued Liability (Inactives)               | <u>20,871,932</u> | <u>20,699,730</u> |
| Total Actuarial Accrued Liability           | 29,384,117        | 28,499,097        |
| Unfunded Actuarial Accrued Liability (UAAL) | 10,142,983        | 9,680,502         |
| Funded Ratio (AVA / AL)                     | 65.5%             | 66.0%             |



|  | <u>6/30/2022</u> | <u>6/30/2021</u> |
|--|------------------|------------------|
| D. Actuarial Present Value of Accrued Benefits                               |                  |                  |
| Vested Accrued Benefits  |                  |                  |
| Inactives  | 20,871,932       | 20,699,730       |
| Actives  | 3,384,910        | 2,994,414        |
| Member Contributions   | <u>2,732,576</u> | <u>2,503,069</u> |
| Total  | 26,989,418       | 26,197,213       |
| Non-vested Accrued Benefits  | <u>54,670</u>    | <u>34,614</u>    |
| Total Present Value Accrued Benefits   | 27,044,088       | 26,231,827       |
| Funded Ratio (MVA / PVAB)  | 65.2%            | 78.5%            |
| Increase (Decrease) in Present Value of<br>Accrued Benefits Attributable to: |                  |                  |
| Plan Amendments  | 0                |                  |
| Assumption Changes   | 0                |                  |
| Plan Experience  | 788,577          |                  |
| Benefits Paid  | (1,873,449)      |                  |
| Interest   | 1,897,133        |                  |
| Other  | <u>0</u>         |                  |
| Total  | 812,261          |                  |

|                                     |                 |                 |
|-------------------------------------|-----------------|-----------------|
| Valuation Date                      | 6/30/2022       | 6/30/2021       |
| Applicable to Fiscal Year Beginning | <u>7/1/2022</u> | <u>7/1/2021</u> |

E. Pension Cost

|   |           |           |
|---|-----------|-----------|
| Normal Cost <sup>1</sup>  | \$317,844 | \$315,599 |
| % of Total Annual Payroll <sup>1</sup>  | 13.08     | 13.41     |
| Payment Required to Amortize<br>Unfunded Actuarial Accrued<br>Liability over 22 years<br>(as of 6/30/2022) <sup>1</sup> | 686,367   | 635,751   |
| % of Total Annual Payroll <sup>1</sup>  | 28.25     | 27.01     |
| Total Recommended Contribution  | 1,004,211 | 951,350   |
| % of Total Annual Payroll <sup>1</sup>  | 41.33     | 40.42     |
| Expected Member Contributions <sup>1</sup>  | (208,941) | (202,434) |
| % of Total Annual Payroll <sup>1</sup>  | (8.60)    | (8.60)    |
| Expected City Contribution  | 795,270   | 748,916   |
| % of Total Annual Payroll <sup>1</sup>  | 32.73     | 31.82     |

F. Past Contributions

Plan Years Ending: 6/30/2022

|                                |         |
|--------------------------------|---------|
| Total Recommended Contribution | 955,272 |
| City Requirement               | 748,894 |

Actual Contributions Made:

|                             |                  |
|-----------------------------|------------------|
| Members (excluding buyback) | 206,378          |
| City                        | <u>1,074,810</u> |
| Total                       | 1,281,188        |

G. Net Actuarial (Gain)/Loss 738,394

<sup>1</sup> Contributions developed as of 6/30/2022 displayed above have been adjusted to account for assumed interest.

H. Schedule Illustrating the Amortization of the Total Unfunded Actuarial Accrued Liability as of:

| <u>Year</u> | <u>Projected Unfunded<br/>Accrued Liability</u> |
|-------------|---|
| 2022        | 10,142,983                                      |
| 2023        | 10,217,340                                      |
| 2024        | 10,269,819                                      |
| 2029        | 10,099,012                                      |
| 2034        | 8,847,528                                       |
| 2039        | 5,826,578                                       |
| 2044        | 0   |

I. (i) 3 Year Comparison of Actual and Assumed Salary Increases

|            |           | <u>Actual</u> | <u>Assumed</u> |
|------------|-----------|---------------|----------------|
| Year Ended | 6/30/2022 | 3.50%         | 4.00%          |
| Year Ended | 6/30/2021 | 4.32%         | 4.00%          |
| Year Ended | 6/30/2020 | N/A           | N/A            |

(ii) 3 Year Comparison of Investment Return on Actuarial Value

|            |           | <u>Actual</u> | <u>Assumed</u> |
|------------|-----------|---------------|----------------|
| Year Ended | 6/30/2022 | 5.61%         | 7.50%          |
| Year Ended | 6/30/2021 | 9.75%         | 7.50%          |
| Year Ended | 6/30/2020 | 4.06%         | 7.50%          |

DEVELOPMENT OF JUNE 30, 2022 AMORTIZATION PAYMENT

|      |  |             |
|------|--|-------------|
| (1)  | Unfunded Actuarial Accrued Liability as of June 30, 2021                                   | \$9,680,502 |
| (2)  | Sponsor Normal Cost developed as of June 30, 2021  | 105,269     |
| (3)  | Expected administrative expenses for the year ended June 30, 2022                          | 0           |
| (4)  | Expected interest on (1), (2) and (3)  | 733,933     |
| (5)  | Sponsor contributions to the System during the year ended June 30, 2022                    | 1,074,810   |
| (6)  | Expected interest on (5)   | 40,305      |
| (7)  | Expected Unfunded Actuarial Accrued Liability as of June 30, 2022, (1)+(2)+(3)+(4)-(5)-(6) | 9,404,589   |
| (8)  | Change to UAAL due to Assumption Change  | 0           |
| (9)  | Change to UAAL due to Actuarial (Gain)/Loss  | 738,394     |
| (10) | Unfunded Accrued Liability as of June 30, 2022   | 10,142,983  |
| (11) | UAAL Subject to Amortization (100% AAL less Actuarial Assets)                              | 10,142,983  |

| <u>Date</u><br><u>Established</u> | <u>Years</u><br><u>Remaining</u> | <u>6/30/2022</u><br><u>Amount</u> | <u>Amortization</u><br><u>Amount</u> |
|-----------------------------------|----------------------------------|-----------------------------------|--------------------------------------|
| 6/30/2022                         | 22                               | 10,142,983                        | 638,481                              |

## DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

|   |                |
|---|----------------|
| (1) Unfunded Actuarial Accrued Liability (UAAL) as of June 30, 2021 | \$9,680,502    |
| (2) Expected UAAL as of June 30, 2022                               | 9,404,589      |
| <br>(3) Summary of Actuarial (Gain)/Loss, by component:             |                |
| Investment Return (Actuarial Asset Basis)                           | 349,488        |
| Salary Increases  | 75,037         |
| Active Decrements   | (90,641)       |
| Inactive Mortality  | 242,300        |
| Other   | <u>162,210</u> |
| Change in UAAL due to (Gain)/Loss                                   | 738,394        |
| Change to UAAL due to Assumption Change                             | <u>0</u>       |
| (4) Actual UAAL as of June 30, 2022                                 | \$10,142,983   |

RECONCILIATION OF CHANGES IN CONTRIBUTION REQUIREMENT

|   |    |                |
|---|----|----------------|
| (1) Contribution Determined as of June 30, 2021                   | \$ | 748,916        |
|   |    |                |
| (2) Summary of Contribution Impact by component:                  |    |                |
| Change in Normal Cost   |    | 2,245          |
| Change in Assumed Administrative Expense                          |    | -              |
| Investment Return (Actuarial Asset Basis)                         |    | 23,650         |
| Salary Increases  |    | 5,078          |
| New Entrants  |    | 639            |
| Active Decrements   |    | (6,134)        |
| Inactive Mortality  |    | 16,396         |
| Contributions (More) or Less than Recommended                     |    | (22,881)       |
| Increase in Amortization Payment Due to Payroll Growth Assumption |    | 25,430         |
| Change in Expected Member Contributions                           |    | 6,507          |
| Assumption Change   |    | -              |
| Other   |    | <u>(4,576)</u> |
| Total Change in Contribution                                      |    | 46,354         |
| (3) Contribution Determined as of June 30, 2022                   |    | \$795,270      |

**P.A. 202 REPORTING**  
AS OF JUNE 30, 2022

Michigan Public Act 202 of 2017 requires municipal retirement systems in the state to submit information concerning their actuarial accrued liabilities and funded status based on uniform assumptions. The information is to be furnished by the municipality on Form 5572.

|           |                                     |              |
|-----------|-------------------------------------|--------------|
| Form 5572 |                                     |              |
| Line      |                                     |              |
| 24        | Actuarial Value of Assets           | 19,241,134   |
| 25        | Actuarial Accrued Liabilities       | 33,540,575   |
| <b>26</b> | <b>Funded Ratio</b>                 | <b>57.4%</b> |
| 27        | Actuarially Determined Contribution | 1,492,053    |

The information was calculated based on the following assumptions, in compliance with the Uniform Assumptions pursuant to PA 202, applicable for fiscal year 2022. All other assumptions are as described in the Actuarial Assumptions and Methods section of this report.

|   |                       |
|---|-----------------------|
| Investment Rate of Return                   | 6.85%                 |
| Discount Rate (equivalent single rate used) | 6.85%                 |
| Periods with sufficient assets              | 6.85%                 |
| Periods without sufficient assets           | 2.16%                 |
| Salary Increase                             | 4.00%                 |
| Mortality Table                             | Pub-2010 with MP-2020 |
| Amortization Period for Unfunded            |                       |
| Actuarial Accrued Liability                 | 17 years              |
| Cost Method                                 | Entry Age Normal      |
| Amortization Method                         | Level percent of pay  |
| Payroll Growth Assumption                   | 4.00%                 |

## FUNDING HISTORY

| Valuation Date | Applicable Fiscal Year Beginning | Valuation Assets | Actuarial Accrued Liabilities | Funded Ratio | Unfunded Actuarial Accrued Liabilities | Recommended Employer Contribution - as a % of Payroll |
|----------------|----------------------------------|------------------|-------------------------------|--------------|--|---|
| 6/30/2003      | 7/1/2004                         | 16,803,758       | 17,831,503                    | 94.2%        | 1,027,745                              |   |
| 6/30/2004      | 7/1/2005                         | 17,172,124       | 18,776,905                    | 91.5%        | 1,604,781                              | 16.01%  |
| 6/30/2005      | 7/1/2006                         | 17,857,731       | 19,593,933                    | 91.1%        | 1,736,202                              | 18.69%  |
| 6/30/2006      | 7/1/2007                         | 18,783,632       | 20,814,117                    | 90.2%        | 2,030,485                              | 18.95%  |
| 6/30/2007      | 7/1/2008                         | 20,043,092       | 21,644,008                    | 92.6%        | 1,600,916                              | 16.05%  |
| 6/30/2008      | 7/1/2009                         | 20,291,835       | 23,682,028                    | 85.7%        | 3,390,193                              | 19.76%  |
| 6/30/2009      | 7/1/2010                         | 19,981,016       | 24,475,812                    | 81.6%        | 4,494,796                              | 21.79%  |
| 6/30/2010      | 7/1/2011                         | 19,685,258       | 22,872,797                    | 86.1%        | 3,187,539                              | 19.11%  |
| 6/30/2011      | 7/1/2012                         | 19,385,974       | 23,661,130                    | 81.9%        | 4,275,156                              | 22.30%  |
| 6/30/2012      | 7/1/2013                         | 18,672,826       | 22,895,219                    | 81.6%        | 4,222,393                              | 20.02%  |
| 6/30/2013      | 7/1/2014                         | 17,805,313       | 23,461,641                    | 75.9%        | 5,656,328                              | 24.82%  |
| 6/30/2014      | 7/1/2015                         | 18,238,440       | 25,272,742                    | 72.2%        | 7,034,302                              | 23.44%  |
| 6/30/2015      | 7/1/2016                         | 18,366,503       | 24,567,768                    | 74.8%        | 6,201,265                              | 20.78%  |
| 6/30/2016      | 7/1/2017                         | 17,718,804       | 24,589,791                    | 72.1%        | 6,870,987                              | 23.09%  |
| 6/30/2017      | 7/1/2018                         | 17,470,657       | 26,286,823                    | 66.5%        | 8,816,166                              | 27.90%  |
| 6/30/2018      | 7/1/2019                         | 17,682,351       | 26,305,228                    | 67.2%        | 8,622,877                              | 26.94%  |
| 6/30/2019      | 7/1/2020                         | 17,508,058       | 27,098,881                    | 64.6%        | 9,590,823                              | 31.24%  |
| 6/30/2020      | 7/1/2021                         | 17,630,868       | 27,691,003                    | 63.7%        | 10,060,135                             | 30.31%  |
| 6/30/2021      | 7/1/2022                         | 18,818,595       | 28,499,097                    | 66.0%        | 9,680,502                              | 31.82%  |
| 6/30/2022      | 7/1/2023                         | 19,241,134       | 29,384,117                    | 65.5%        | 10,142,983                             | 32.73%  |



PROJECTION OF BENEFIT PAYMENTS

| Year | Payments for<br>Current Actives | Payments for<br>Current Inactives | Total<br>Payments |
|------|---------------------------------|-----------------------------------|-------------------|
| 2022 | 92,175                          | 1,825,240                         | 1,917,415         |
| 2023 | 183,935                         | 1,839,951                         | 2,023,886         |
| 2024 | 239,361                         | 1,854,941                         | 2,094,302         |
| 2025 | 242,203                         | 1,865,037                         | 2,107,240         |
| 2026 | 335,820                         | 1,886,918                         | 2,222,738         |
| 2027 | 410,179                         | 1,899,239                         | 2,309,418         |
| 2028 | 530,116                         | 1,906,259                         | 2,436,375         |
| 2029 | 621,115                         | 1,894,443                         | 2,515,558         |
| 2030 | 787,576                         | 1,877,137                         | 2,664,713         |
| 2031 | 875,553                         | 1,854,342                         | 2,729,895         |
| 2032 | 891,719                         | 1,830,848                         | 2,722,567         |
| 2033 | 897,237                         | 1,803,274                         | 2,700,511         |
| 2034 | 1,031,712                       | 1,767,478                         | 2,799,190         |
| 2035 | 1,148,667                       | 1,749,247                         | 2,897,914         |
| 2036 | 1,210,460                       | 1,697,522                         | 2,907,982         |
| 2037 | 1,258,528                       | 1,637,174                         | 2,895,702         |
| 2038 | 1,262,421                       | 1,571,203                         | 2,833,624         |
| 2039 | 1,266,275                       | 1,498,418                         | 2,764,693         |
| 2040 | 1,376,459                       | 1,420,926                         | 2,797,385         |
| 2041 | 1,384,483                       | 1,337,847                         | 2,722,330         |
| 2042 | 1,425,661                       | 1,250,966                         | 2,676,627         |
| 2043 | 1,444,423                       | 1,160,791                         | 2,605,214         |
| 2044 | 1,529,697                       | 1,069,182                         | 2,598,879         |
| 2045 | 1,519,056                       | 977,371                           | 2,496,427         |
| 2046 | 1,519,074                       | 887,204                           | 2,406,278         |
| 2047 | 1,558,339                       | 799,880                           | 2,358,219         |
| 2048 | 1,550,619                       | 716,390                           | 2,267,009         |
| 2049 | 1,574,761                       | 637,592                           | 2,212,353         |
| 2050 | 1,539,546                       | 563,841                           | 2,103,387         |
| 2051 | 1,514,819                       | 495,372                           | 2,010,191         |
| 2052 | 1,523,664                       | 432,598                           | 1,956,262         |
| 2053 | 1,472,476                       | 375,803                           | 1,848,279         |
| 2054 | 1,414,807                       | 324,892                           | 1,739,699         |
| 2055 | 1,352,611                       | 279,623                           | 1,632,234         |
| 2056 | 1,315,561                       | 239,627                           | 1,555,188         |
| 2057 | 1,248,791                       | 204,236                           | 1,453,027         |
| 2058 | 1,178,826                       | 173,363                           | 1,352,189         |
| 2059 | 1,107,103                       | 146,056                           | 1,253,159         |
| 2060 | 1,034,854                       | 122,466                           | 1,157,320         |
| 2061 | 962,701                         | 102,176                           | 1,064,877         |

## ACTUARIAL ASSUMPTIONS AND METHODS

|                                    |  |
|------------------------------------|--|
| Interest Rate                      | 7.50% per year compounded annually, net of investment related expenses.  |
| Mortality Rate                     | RP-2000 Combined Healthy Mortality Table Projected to 2014.  |
| Retirement Age                     | Retirement assumed at earliest age member become eligible for normal retirement.   |
| Disability Rate                    | See table later in this section. 100% of disabilities are assumed to be non-duty related.  |
| Termination Rate                   | See table later in this section.   |
| Inflation                          | 2.50%.   |
| Salary Increases                   | 4.00%.   |
| Marital Status                     | 100% of Members are assumed to be married.   |
| Spouse's Age                       | Males are assumed to be three years older than females.  |
| Member Contribution Interest       | 2.00%.   |
| Funding Method                     | Entry Age Normal.  |
| Actuarial Asset Method             | Investment gains and losses are smoothed over a five-year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80% and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return. Actuarial Assets shall not be less than 80% nor greater than 120% of the Market Value of Assets. |
| Funding Policy Amortization Method | The unfunded actuarial accrued liability is amortized according to a level percentage of payroll method over a closed period. 22 years as of June 30, 2022.  |
| Payroll Growth                     | 4.00%.   |
| Cost of Living Increase            | 3.00% per year for members retired on or after 7/1/1995 and prior to 7/1/2011; 2.00% per year after having been retired for 3 years and cease after 23 full years of retirement for members retired on or after 7/1/2011; none for members hired after 6/30/2011.  |

Decrement Tables

| % Terminating<br>During the Year |        |        |        |       |       |       | % Becoming Disabled<br>During the Year |        |        |
|----------------------------------|--------|--------|--------|-------|-------|-------|--|--------|--------|
| Service                          |        |        |        |       |       |       | Age                                    | Male   | Female |
| Age                              | 0      | 1      | 2      | 3     | 4     | 5+    |  |        |        |
| 20                               | 20.00% | 15.00% | 10.00% | 8.00% | 7.00% | 6.00% | 20                                     | 0.020% | 0.010% |
| 25                               | 20.00% | 15.00% | 10.00% | 8.00% | 7.00% | 6.00% | 25                                     | 0.020% | 0.010% |
| 30                               | 20.00% | 15.00% | 10.00% | 8.00% | 7.00% | 5.50% | 30                                     | 0.050% | 0.040% |
| 35                               | 20.00% | 15.00% | 10.00% | 8.00% | 7.00% | 4.40% | 35                                     | 0.080% | 0.070% |
| 40                               | 20.00% | 15.00% | 10.00% | 8.00% | 7.00% | 1.85% | 40                                     | 0.110% | 0.100% |
| 45                               | 20.00% | 15.00% | 10.00% | 8.00% | 7.00% | 1.25% | 45                                     | 0.190% | 0.170% |
| 50                               | 20.00% | 15.00% | 10.00% | 8.00% | 7.00% | 1.25% | 50                                     | 0.270% | 0.230% |
| 55                               | 20.00% | 15.00% | 10.00% | 8.00% | 7.00% | 1.25% | 55                                     | 0.470% | 0.350% |
| 60                               | 20.00% | 15.00% | 10.00% | 8.00% | 7.00% | 1.25% | 60                                     | 0.670% | 0.460% |
| 66+                              | 20.00% | 15.00% | 10.00% | 8.00% | 7.00% | 1.25% |  |        |        |

## GLOSSARY

Total Annual Payroll is the projected annual rate of pay for the fiscal year following the valuation date of all covered members.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Normal (Current Year's) Cost is the current year's cost for benefits yet to be funded.

Unfunded Accrued Liability is the excess of the Accrued Actuarial Liability over the Actuarial Value of Assets.

Total Recommended Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over closed period (22 years as of June 30, 2022). The recommended amount is adjusted for interest according to the timing of contributions during the year.

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation.

- (a) The normal cost accrual rate equals:
  - (i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by
  - (ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age.
- (b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.
- (c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.
- (d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

## DISCUSSION OF RISK

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined under various assumption scenarios. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. It is possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss is amortized over a period of time determined by the plan's amortization method. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's contribution requirements associated with plan experience. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization payment could potentially grow to an unmanageable level.

- Investment Return: When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.
- Salary Increases: When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.
- Payroll Growth: The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization payment can increase significantly as a percentage of payroll even if all assumptions other than the payroll growth assumption are realized.
- Demographic Assumptions: Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

- **Contribution Risk:** This risk results from the potential that actual employer contributions may deviate from actuarially determined contributions, which are determined in accordance with the Board’s funding policy. The funding policy is intended to result in contribution requirements that if paid when due, will result in a reasonable expectation that assets will accumulate to be sufficient to pay plan benefits when due. Contribution deficits, particularly large deficits and those that occur repeatedly, increase future contribution requirements and put the plan at risk for not being able to pay plan benefits when due.

### Impact of Plan Maturity on Risk

For newer pension plans, most of the participants and associated liabilities are related to active members who have not yet reached retirement age. As pension plans continue in operation and active members reach retirement ages, liabilities begin to shift from being primarily related to active members to being shared amongst active and retired members. Plan maturity is a measure of the extent to which this shift has occurred. It is important to understand that plan maturity can have an impact on risk tolerance and the overall risk characteristics of the plan. For example, plans with a large amount of retired liability do not have as long of a time horizon to recover from losses (such as losses on investments due to lower than expected investment returns) as plans where the majority of the liability is attributable to active members. For this reason, less tolerance for investment risk may be warranted for highly mature plans with a substantial inactive liability. Similarly, mature plans paying substantial retirement benefits resulting in a small positive or net negative cash flow can be more sensitive to near term investment volatility, particularly if the size of the fund is shrinking, which can result in less assets being available for investment in the market.

To assist with determining the maturity of the plan, we have provided some relevant metrics in the table following titled “Plan Maturity Measures and Other Risk Metrics”. Highlights of this information are discussed below:

- The Support Ratio, determined as the ratio of active to inactive members, has increased from 60.3% on June 30, 2020 to 62.9% on June 30, 2022, indicating that the plan has experienced growth in the active population.
- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 71.0%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors will need to be made up for over a shorter time horizon than would be needed for a less mature plan.
- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has increased from 63.7% on June 30, 2019 to 65.5% on June 30, 2022.
- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments and administrative expenses) to the Market Value of Assets, stayed approximately the same from June 30, 2020 to June 30, 2022. The current Net Cash Flow Ratio of -3.5% indicates that contributions are not currently covering the plan's benefit payments and administrative expenses.

It is important to note that the actuary has identified the risks above as the most significant risks based on the characteristics of the plan and the nature of the project, however, it is not an exhaustive list of potential risks that could be considered. Additional advanced modeling, as well as the identification of additional risks, can be provided at the request of the audience addressed on page 2 of this report.

PLAN MATURITY MEASURES AND OTHER RISK METRICS

|                      | <u>6/30/2022</u> | <u>6/30/2021</u> | <u>6/30/2020</u> |
|----------------------|------------------|------------------|------------------|
| <u>Support Ratio</u> |                  |                  |                  |
| Total Actives        | 39               | 38               | 38               |
| Total Inactives      | 62               | 61               | 63               |
| Actives / Inactives  | 62.9%            | 62.3%            | 60.3%            |

Asset Volatility Ratio

|                              |            |            |            |
|------------------------------|------------|------------|------------|
| Market Value of Assets (MVA) | 17,619,576 | 20,590,367 | 17,225,551 |
| Total Annual Payroll         | 2,706,164  | 2,579,838  | 2,227,803  |
| MVA / Total Annual Payroll   | 651.1%     | 798.1%     | 773.2%     |

Accrued Liability (AL) Ratio

|                            |            |            |            |
|----------------------------|------------|------------|------------|
| Inactive Accrued Liability | 20,871,932 | 20,699,730 | 20,874,099 |
| Total Accrued Liability    | 29,384,117 | 28,499,097 | 27,691,003 |
| Inactive AL / Total AL     | 71.0%      | 72.6%      | 75.4%      |

Funded Ratio

|                                 |            |            |            |
|---------------------------------|------------|------------|------------|
| Actuarial Value of Assets (AVA) | 19,241,134 | 18,818,595 | 17,630,868 |
| Total Accrued Liability         | 29,384,117 | 28,499,097 | 27,691,003 |
| AVA / Total Accrued Liability   | 65.5%      | 66.0%      | 63.7%      |

Net Cash Flow Ratio

|                              |            |            |            |
|------------------------------|------------|------------|------------|
| Net Cash Flow <sup>1</sup>   | (616,258)  | (506,190)  | (575,591)  |
| Market Value of Assets (MVA) | 17,619,576 | 20,590,367 | 17,225,551 |
| Ratio                        | -3.5%      | -2.5%      | -3.3%      |

<sup>1</sup> Determined as total contributions minus benefit payments and administrative expenses.

STATEMENT OF FIDUCIARY NET POSITION  
June 30, 2022

| <u>ASSETS</u>                        | MARKET VALUE |
|--------------------------------------|--------------|
| Cash and Cash Equivalents            | 4,700        |
| Total Cash and Equivalents           | 4,700        |
| Receivables:                         |              |
| Accounts Receivable-Other            | 16,092       |
| Accrued Interest and Dividends       | 31,044       |
| Total Receivable                     | 47,136       |
| Investments:                         |              |
| Domestic and International Equities  | 12,171,671   |
| Fixed Income                         | 5,033,935    |
| Other - Cash Sweep, Money Market     | 387,341      |
| Total Investments                    | 17,592,947   |
| Total Assets                         | 17,644,783   |
| <br><u>LIABILITIES</u>               |              |
| Liabilities:                         |              |
| Payable:                             |              |
| Accrued Expenses                     | 25,207       |
| Total Liabilities                    | 25,207       |
| Net Assets:                          |              |
| Active and Retired Members' Equity   | 17,619,576   |
| NET POSITION RESTRICTED FOR PENSIONS | 17,619,576   |
| TOTAL LIABILITIES AND NET ASSETS     | 17,644,783   |



STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
 FOR THE YEAR ENDED June 30, 2022  
 Market Value Basis

ADDITIONS

Contributions:

|        |           |
|--------|-----------|
| Member | 206,378   |
| City   | 1,074,810 |

Total Contributions 1,281,188

Investment Income:

|   |             |
|---|-------------|
| Net Increase in Fair Value of Investments | (2,239,677) |
| Less Expenses <sup>1</sup>                | (114,856)   |

Net Investment Income (2,354,533)

Total Additions (1,073,345)

DEDUCTIONS

Distributions to Members:

|                                    |           |
|------------------------------------|-----------|
| Benefit Payments including Refunds | 1,873,449 |
|------------------------------------|-----------|

Total Distributions 1,873,449

Administrative Expenses 23,997

Total Deductions 1,897,446

Net Increase in Net Position (2,970,791)

**NET POSITION RESTRICTED FOR PENSIONS**

Beginning of the Year 20,590,367

End of the Year 17,619,576

<sup>1</sup> Expenses include investment advisory, custodial and performance monitoring fees

ACTUARIAL ASSET VALUATION  
June 30, 2022

Development of Actuarial Value of Assets

|  |            |
|--|------------|
| Market Value of Assets, 6/30/2022                | 17,619,576 |
| (Gains)/Losses Not Yet Recognized                | 1,621,558  |
| Preliminary Actuarial Value of Assets, 6/30/2022 | 19,241,134 |
| 6/30/2022 Limited Actuarial Assets, Total        | 19,241,134 |

Development of Investment Gain/Loss

|   |             |
|---|-------------|
| Market Value of Assets, 6/30/2021                               | 20,590,367  |
| Actuarial Value of Assets, 6/30/2021                            | 18,818,595  |
| Contributions Less Benefit Payments and Administrative Expenses | (616,258)   |
| Expected Investment Earnings <sup>1</sup>                       | 1,388,285   |
| Actual Net Investment Earnings                                  | (2,354,533) |
| 2022 Actuarial Investment Gain/(Loss)                           | (3,742,818) |

<sup>1</sup> Expected Investment Earnings = 7.50% x (18,818,595 + 0.5 x -616,258)

Gains/(Losses) Not Yet Recognized

| Plan Year<br>Ending | Gain/(Loss) | Amounts Not Yet Recognized by Valuation Year |             |             |           |      |
|---------------------|-------------|--|-------------|-------------|-----------|------|
|                     |             | 2022   | 2023        | 2024        | 2025      | 2026 |
| 6/30/2018           | 19,368      | 0  | 0           | 0           | 0         | 0    |
| 6/30/2019           | (343,765)   | (68,753)                                     | 0           | 0           | 0         | 0    |
| 6/30/2020           | (247,888)   | (99,155)                                     | (49,578)    | 0           | 0         | 0    |
| 6/30/2021           | 2,567,673   | 1,540,604                                    | 1,027,069   | 513,535     | 0         | 0    |
| 6/30/2022           | (3,742,818) | (2,994,254)                                  | (2,245,691) | (1,497,127) | (748,564) | 0    |
| Total               |             | (1,621,558)                                  | (1,268,200) | (983,592)   | (748,564) | 0    |

Development of Asset Returns

|  |            |
|--|------------|
| (A) 6/30/2021 Actuarial Assets:  | 18,818,595 |
| (I) Net Investment Income:   |            |
| 1. Change in Actuarial Value   | 3,393,330  |
| 2. Investment Expenses   | (114,856)  |
| Total  | 1,038,797  |
| (B) 6/30/2022 Preliminary Actuarial Assets:                            | 19,241,134 |
| Actuarial Asset Rate of Return = (2 x I) / (A + B - I):                | 5.61%      |
| Market Value of Assets Rate of Return:                                 | -11.61%    |
| Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis) | (349,488)  |

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS  
 June 30, 2022  
 Actuarial Asset Basis

| INCOME                              |             |            |
|-------------------------------------|-------------|------------|
| Contributions:                      |             |            |
| Member                              | 206,378     |            |
| City                                | 1,074,810   |            |
| Total Contributions                 |             | 1,281,188  |
| Earnings from Investments           |             |            |
| Net Investment Income               | (2,239,677) |            |
| Change in Actuarial Value           | 3,393,330   |            |
| Total Earnings and Investment Gains |             | 1,153,653  |
| EXPENSES                            |             |            |
| Administrative Expenses:            |             |            |
| Investment Related <sup>1</sup>     | 114,856     |            |
| Other                               | 23,997      |            |
| Total Administrative Expenses       |             | 138,853    |
| Distributions to Members:           |             |            |
| Benefit Payments                    | 1,873,449   |            |
| Refunds                             | 0           |            |
| Total Distributions                 |             | 1,873,449  |
| Change in Net Assets for the Year   |             | 422,539    |
| Net Assets Beginning of the Year    |             | 18,818,595 |
| Net Assets End of the Year          |             | 19,241,134 |
| Excess Earnings Reserve             |             |            |

<sup>1</sup> Investment Related expenses include investment advisory, custodial and performance monitoring fees.

## STATISTICAL DATA

| Valuation Date               | <u>6/30/2022</u> | <u>6/30/2021</u> | <u>6/30/2020</u>      |
|------------------------------|------------------|------------------|-----------------------|
| <u>Actives</u>               |                  |                  |                       |
| Number                       | 39               | 38               | 38                    |
| Average Current Age          | 46.4             | 46.7             | 45.1                  |
| Average Age at Employment    | 33.8             | 34.0             | 33.7                  |
| Average Past Service         | 12.6             | 12.7             | 11.4                  |
| Average Annual Salary        | \$66,360         | \$65,279         | \$63,288              |
| <u>Service Retirees</u>      |                  |                  |                       |
| Number                       | 46               | 45               | 45                    |
| Average Current Age          | 71.0             | 71.0             | 70.7                  |
| Average Annual Benefit       | \$36,168         | \$35,727         | \$33,432 <sup>1</sup> |
| <u>Beneficiaries</u>         |                  |                  |                       |
| Number                       | 8                | 7                | 9                     |
| Average Current Age          | 81.6             | 79.4             | 83.9                  |
| Average Annual Benefit       | \$17,989         | \$18,076         | N/A                   |
| EDROs incl. in Beneficiaries | 1                | 1                | 1                     |
| <u>Disability Retirees</u>   |                  |                  |                       |
| Number                       | 1                | 1                | 1                     |
| Average Current Age          | 68.9             | 67.9             | 66.9                  |
| Average Annual Benefit       | \$32,622         | \$31,105         | N/A                   |
| <u>Terminated Vested</u>     |                  |                  |                       |
| Number                       | 7                | 8                | 8                     |
| Average Current Age          | 52.4             | 52.4             | 51.4                  |
| Average Annual Benefit       | \$14,571         | \$15,556         | \$15,556              |

<sup>1</sup> 6/30/2020 Retiree average annual benefit amount includes retirees, beneficiaries and disableds.

AGE AND SERVICE DISTRIBUTION  
TOTAL

| AGE     | PAST SERVICE |   |   |   |   |     |       |       |       |       |     | Total | Total Pay <sup>1</sup> |
|---------|--------------|---|---|---|---|-----|-------|-------|-------|-------|-----|-------|------------------------|
|         | 0            | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ |       |                        |
| 20 - 24 | 1            | 0 | 0 | 0 | 0 | 0   | 0     | 0     | 0     | 0     | 0   | 1     | \$ 62,366              |
| 25 - 29 | 0            | 0 | 0 | 2 | 0 | 0   | 0     | 0     | 0     | 0     | 0   | 2     | \$ 129,593             |
| 30 - 34 | 1            | 0 | 0 | 0 | 0 | 2   | 0     | 0     | 0     | 0     | 0   | 3     | \$ 165,545             |
| 35 - 39 | 0            | 0 | 0 | 1 | 0 | 2   | 0     | 0     | 0     | 0     | 0   | 3     | \$ 149,623             |
| 40 - 44 | 1            | 0 | 1 | 0 | 0 | 1   | 1     | 2     | 0     | 0     | 0   | 6     | \$ 316,995             |
| 45 - 49 | 0            | 0 | 0 | 0 | 0 | 1   | 1     | 0     | 2     | 1     | 0   | 5     | \$ 369,988             |
| 50 - 54 | 0            | 0 | 1 | 1 | 0 | 2   | 1     | 2     | 4     | 0     | 0   | 11    | \$ 763,636             |
| 55 - 59 | 0            | 0 | 0 | 0 | 1 | 0   | 0     | 2     | 2     | 0     | 1   | 6     | \$ 417,575             |
| 60 - 64 | 0            | 0 | 0 | 0 | 0 | 0   | 0     | 0     | 0     | 0     | 0   | 0     | \$ 0                   |
| 65+     | 0            | 0 | 0 | 0 | 0 | 2   | 0     | 0     | 0     | 0     | 0   | 2     | \$ 212,727             |
| Total   | 3            | 0 | 2 | 4 | 1 | 10  | 3     | 6     | 8     | 1     | 1   | 39    | \$ 2,588,049           |

<sup>1</sup> Total Pay is salaries for the period ending 6/30/2022.

AGE DISTRIBUTION  
 RETIREES, DISABLEDS AND BENEFICIARIES

| AGE     | Count | Annual Pensions |
|---------|-------|-----------------|
| < 45    | 0     | \$ 0            |
| 45 - 49 | 0     | \$ 0            |
| 50 - 54 | 0     | \$ 0            |
| 55 - 59 | 0     | \$ 0            |
| 60 - 64 | 8     | \$ 218,798      |
| 65 - 69 | 17    | \$ 567,865      |
| 70 - 74 | 10    | \$ 434,385      |
| 75 - 79 | 7     | \$ 218,299      |
| 80 - 84 | 7     | \$ 261,014      |
| 85 - 89 | 5     | \$ 123,356      |
| 90 - 94 | 1     | \$ 16,549       |
| 95 - 99 | 0     | \$ 0            |
| 100 +   | 0     | \$ 0            |
| Total   | 55    | \$ 1,840,266    |

AGE DISTRIBUTION  
INACTIVE VESTED MEMBERS

| AGE     | Count | <u>Total</u><br>Annual<br>Pensions |
|---------|-------|------------------------------------|
| < 45    | 0     | \$ 0                               |
| 45 - 49 | 3     | \$ 50,479                          |
| 50 - 54 | 1     | \$ 14,843                          |
| 55 - 59 | 3     | \$ 36,672                          |
| 60 - 64 | 0     | \$ 0                               |
| 65 +    | 0     | \$ 0                               |
| Total   | 7     | \$ 101,994                         |

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

|   |          |
|---|----------|
| a. Number in prior valuation 6/30/2021                | 38       |
| b. Terminations                                       |          |
| i. Vested (partial or full) with deferred benefits    | 0        |
| ii. Non-vested or full lump sum distribution received | 0        |
| iii. Refunded   | (1)      |
| c. Deaths   |          |
| i. Beneficiary receiving benefits                     | 0        |
| ii. No future benefits payable                        | 0        |
| d. Disabled   | 0        |
| e. Retired  | (1)      |
| f. Continuing participants                            | 36       |
| g. New entrants                                       | <u>3</u> |
| h. Total active life participants in valuation        | 39       |

2. Non-Active lives (including beneficiaries receiving benefits)

|                             | Service<br>Retirees,<br>Vested<br>Receiving<br><u>Benefits</u> | Receiving<br>Death<br><u>Benefits</u> | Receiving<br>Disability<br><u>Benefits</u> | Vested<br><u>Deferred</u> | <u>Total</u> |
|-----------------------------|--|---------------------------------------|--|---------------------------|--------------|
| a. Number prior valuation   | 45   | 7                                     | 1  | 8                         | 61           |
| Retired                     | 2  | 0                                     | 0  | (1)                       | 1            |
| Vested Deferred             | 0  | 0                                     | 0  | 0                         | 0            |
| Death, With Survivor        | (1)  | 1                                     | 0  | 0                         | 0            |
| Death, No Survivor          | 0  | 0                                     | 0  | 0                         | 0            |
| Disabled                    | 0  | 0                                     | 0  | 0                         | 0            |
| Refund of Contributions     | 0  | 0                                     | 0  | 0                         | 0            |
| Rehires                     | 0  | 0                                     | 0  | 0                         | 0            |
| New EDROs                   | 0  | 0                                     | 0  | 0                         | 0            |
| Data Corrections            | 0  | 0                                     | 0  | 0                         | 0            |
| Hired/Termed in Same Year   | 0  | 0                                     | 0  | 0                         | 0            |
| b. Number current valuation | 46   | 8                                     | 1  | 7                         | 62           |



## SUMMARY OF CURRENT PLAN PROVISIONS

|                                |   |
|--------------------------------|---|
| Plan Administration            | <p>The Plan is a single employer defined benefit pension plan administered by City of Marysville, Michigan.</p> <p>The Pension Commission has the authority to amend the terms of the Plan and is comprised of:</p> <ul style="list-style-type: none"> <li>a.) Mayor of the City of Maryville,</li> <li>b.) One council member selected by the City Council,</li> <li>c.) Two members of General City Employees Retirement System (GCERS),</li> <li>d.) A citizen who is not a member.</li> </ul> |
| Final Average Salary (FAS)     | <p>Average of highest 3 of the final 5 years of employment.<br/>Capped at 40 hours of overtime if hired on or after 7/1/2019.</p>   |
| Normal Retirement              |   |
| Eligibility                    |   |
| General                        | Age 60 with 5 (10 if hired on or after 7/1/2019) or more years of service or age 55 and 25 years of service.  |
| 516M(Hired before 7/1/1984)    | Age 60 with 5 or more years of service.   |
| 516M(Hired after 7/1/1984)     | Age 62 with 5 or more years of service or age 55 and 25 years of service regardless of date of hire.  |
| Annual Benefit                 | 2.25% (1.50% if hired on or after 7/1/2019) of FAS times years of service. Minimum benefit is \$99.96 plus 1% of FAS times years of service plus the actuarial equivalent of the participant's accumulated contributions at retirement.   |
| Duty Disability Retirement     |   |
| Eligibility                    | No age or service requirements. Must also be in receipt of Workers Compensation.  |
| Annual Benefit                 | Computed as a regular retirement based on credited service at the date of disability. A minimum of 50% of FAS applies if the disability occurs prior to age 60 (age 62 for member of 516M who were hired after 7/1/1984).   |
| Non-Duty Disability Retirement |   |
| Eligibility                    | Total and permanent disability of a member with 5 (10 if hired on or after 7/1/2019) or more years of credited service.   |
| Annual Benefit                 | Accrued regular retirement amount.  |

## Deferred Retirement

Eligibility 5 (10 if hired on or after 7/1/2019) or more years of service regardless of age. Benefit begins at regular retirement age.

Annual Benefit Computed as regular retirement but based on service and final average salary at time of termination.

## Duty Death

Eligibility No age or service requirement.

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 Before Retirement

Eligibility 5 (10 if hired on or after 7/1/2019) or more years of service or age 55 with 5 (10 if hired on or after 7/1/2019) years of service.

Annual Benefit Regular retirement amount reduced actuarially in accordance with a 100% joint and survivor election.

## Member Contributions

8.00% of annual salary.

## Cost-of-Living Adjustments

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.

SUMMARY

|   |                   |                   |
|---|-------------------|-------------------|
| Valuation Date                                      | 6/30/2022         | 6/30/2021         |
| Measurement Date                                    | 6/30/2022         | 6/30/2021         |
| Plan Membership:                                    |                   |                   |
| Inactives Currently Receiving Benefits <sup>1</sup> | 54                | 52                |
| Inactives Not Yet Receiving Benefits                | 7                 | 8                 |
| Active Plan Members                                 | <u>39</u>         | <u>38</u>         |
| Total   | 100               | 98                |
| Covered Payroll                                     | \$ 2,588,049      | \$ 2,480,613      |
| Net Pension Liability                               |                   |                   |
| Total Pension Liability                             | \$ 29,384,117     | \$ 28,499,097     |
| Plan Fiduciary Net Position                         | <u>17,619,576</u> | <u>20,590,367</u> |
| Net Pension Liability                               | \$ 11,764,541     | \$ 7,908,730      |
| Plan Fiduciary Net Position                         |                   |                   |
| As a Percentage of Total Pension Liability          | 59.96%            | 72.25%            |
| Net Pension Liability                               |                   |                   |
| As a Percentage of Covered Payroll                  | 454.57%           | 318.82%           |
| Total Pension Expense                               | \$ 1,211,769      | \$ 469,697        |
| Development of Single Discount Rate                 |                   |                   |
| Single Discount Rate                                | 7.50%             | 7.50%             |
| Long-Term Expected Rate of Return                   | 7.50%             | 7.50%             |
| High-quality Municipal Bond Rate                    | 4.09%             | 2.18%             |
| Number of Years Future Benefit Payments             |                   |                   |
| Are Expected to be Paid                             | 99                | 99                |

<sup>1</sup> Excludes members with EDRO (1 for both the 6/30/2022 and 6/30/2021 measurement dates)

SCHEDULE OF CHANGES IN NET PENSION LIABILITY  
PLAN AND CITY REPORTING

| GASB 68 Reporting Period Ending  | 06/30/2022         | 06/30/2021         |
|--|--------------------|--------------------|
| Measurement Date   | <u>06/30/2022</u>  | <u>06/30/2021</u>  |
| Total Pension Liability  |                    |                    |
| Service Cost   | 293,581            | 290,501            |
| Interest   | 2,089,197          | 2,032,212          |
| Changes of Benefit Terms   | -                  | -                  |
| Differences Between Expected and Actual Experience                             | 375,691            | 256,077            |
| Changes of Assumptions   | -                  | -                  |
| Benefit Payments, Including Refunds of Employee Contributions                  | <u>(1,873,449)</u> | <u>(1,770,696)</u> |
| Net Change in Total Pension Liability  | 885,020            | 808,094            |
| Total Pension Liability - Beginning  | <u>28,499,097</u>  | <u>27,691,003</u>  |
| Total Pension Liability - Ending (a)   | \$ 29,384,117      | \$ 28,499,097      |
| <br>Plan Fiduciary Net Position  |                    |                    |
| Contributions - Employer   | 1,074,810          | 1,074,810          |
| Contributions - Employee   | 206,378            | 203,166            |
| Net Investment Income  | (2,354,533)        | 3,871,007          |
| Benefit Payments, Including Refunds of Employee Contributions                  | (1,873,449)        | (1,770,696)        |
| Administrative Expense   | <u>(23,997)</u>    | <u>(13,471)</u>    |
| Net Change in Plan Fiduciary Net Position                                      | (2,970,791)        | 3,364,816          |
| Plan Fiduciary Net Position - Beginning  | <u>20,590,367</u>  | <u>17,225,551</u>  |
| Plan Fiduciary Net Position - Ending (b)                                       | \$ 17,619,576      | \$ 20,590,367      |
| <br>Net Pension Liability - Ending (a) - (b)                                   | \$ 11,764,541      | \$ 7,908,730       |
| <br>Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | 59.96%             | 72.25%             |
| <br>Covered Payroll  | \$ 2,588,049       | \$ 2,480,613       |
| Net Pension Liability as a Percentage of Covered Payroll                       | 454.57%            | 318.82%            |

STATEMENT OF CHANGES IN NET PENSION LIABILITY  
CITY REPORTING

|  | Increase (Decrease)        |                                |                          |
|--|----------------------------|--------------------------------|--------------------------|
|  | Total Pension<br>Liability | Plan Fiduciary<br>Net Position | Net Pension<br>Liability |
|  | (a)                        | (b)                            | (a)-(b)                  |
| Balances at June 30, 2021  | \$ 28,499,097              | \$ 20,590,367                  | \$ 7,908,730             |
| Changes for a Year:  |                            |                                |                          |
| Service Cost   | 293,581                    | -                              | 293,581                  |
| Interest   | 2,089,197                  | -                              | 2,089,197                |
| Differences Between Expected and Actual Experience               | 375,691                    | -                              | 375,691                  |
| Changes of Assumptions   | -                          | -                              | -                        |
| Changes of Benefit Terms   | -                          | -                              | -                        |
| Contributions - Employer   | -                          | 1,074,810                      | (1,074,810)              |
| Contributions - Employee   | -                          | 206,378                        | (206,378)                |
| Net Investment Income  | -                          | (2,354,533)                    | 2,354,533                |
| Benefit Payments, Including Refunds of Employee<br>Contributions | (1,873,449)                | (1,873,449)                    | -                        |
| Administrative Expense   | -                          | (23,997)                       | 23,997                   |
| Net Changes  | 885,020                    | (2,970,791)                    | 3,855,811                |
| Balances at June 30, 2022  | \$ 29,384,117              | \$ 17,619,576                  | \$ 11,764,541            |

*Sensitivity of Net Pension Liability to changes in the Discount Rate:*

|                                 | Current Discount |               |              |
|---------------------------------|------------------|---------------|--------------|
|                                 | 1% Decrease      | Rate          | 1% Increase  |
|                                 | 6.50%            | 7.50%         | 8.50%        |
| Sponsor's Net Pension Liability | \$ 14,870,796    | \$ 11,764,541 | \$ 9,116,464 |

*Pension Plan Fiduciary Net Position*

Detailed information about the Pension Plan's Fiduciary Net Position is available in a separately issued Plan financial report.

PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF  
RESOURCES RELATED TO PENSIONS  
YEAR-END JUNE 30, 2022

For the year ended June 30, 2022, the Sponsor will recognize a pension expense of \$1,211,769.

On June 30, 2022, the Sponsor reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

|  | Deferred<br>Outflows of<br>Resources | Deferred<br>Inflows of<br>Resources |
|--|--------------------------------------|-------------------------------------|
| Differences between actual and expected experience                               | 421,741                              | 0                                   |
| Changes of assumptions   | 0                                    | 0                                   |
| Net difference between projected and actual earnings on pension plan investments | 1,666,884                            | 0                                   |
| Total  | \$2,088,625                          | \$0                                 |

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year-ended June 30:

|            |           |
|------------|-----------|
| 2023       | \$512,247 |
| 2024       | \$451,789 |
| 2025       | \$349,449 |
| 2026       | \$775,140 |
| 2027       | \$0       |
| Thereafter | \$0       |

COMPONENTS OF PENSION EXPENSE  
YEAR-END JUNE 30, 2022

|   | Net Pension<br>Liability | Deferred<br>Inflows | Deferred<br>Outflows | Pension<br>Expense  |
|---|--------------------------|---------------------|----------------------|---------------------|
| Beginning Balance   | \$ 7,908,730             | \$ 2,005,988        | \$ 375,761           |                     |
| Total Pension Liability Factors:  |                          |                     |                      |                     |
| Service Cost  | 293,581                  | -                   | -                    | 293,581             |
| Interest  | 2,089,197                | -                   | -                    | 2,089,197           |
| Changes in Benefit Terms  | -                        | -                   | -                    | -                   |
| Differences Between Expected and Actual<br>Experience With Regard to Economic or<br>Demographic Assumptions | 375,691                  | -                   | 375,691              | -                   |
| Current Year Amortization   | -                        | -                   | (223,584)            | 223,584             |
| Changes in Assumptions About Future Economic or<br>Demographic Factors or Other Inputs                      | -                        | -                   | -                    | -                   |
| Current Year Amortization   | -                        | -                   | -                    | -                   |
| Benefit Payments, Including Refunds of Employee<br>Contributions  | (1,873,449)              | -                   | -                    | -                   |
| Net Change  | <u>885,020</u>           | <u>-</u>            | <u>152,107</u>       | <u>2,606,362</u>    |
| Plan Fiduciary Net Position:  |                          |                     |                      |                     |
| Contributions - Employer  | 1,074,810                | -                   | -                    | -                   |
| Contributions - Employee  | 206,378                  | -                   | -                    | (206,378)           |
| Projected Net Investment Income   | 1,521,168                | -                   | -                    | (1,521,168)         |
| Difference Between Projected and Actual Earnings<br>on Pension Plan Investments                             | (3,875,701)              | -                   | 3,875,701            | -                   |
| Current Year Amortization   | -                        | (553,030)           | (861,986)            | 308,956             |
| Benefit Payments, Including Refunds of Employee<br>Contributions  | (1,873,449)              | -                   | -                    | -                   |
| Administrative Expenses   | (23,997)                 | -                   | -                    | 23,997              |
| Net Change  | <u>(2,970,791)</u>       | <u>(553,030)</u>    | <u>3,013,715</u>     | <u>(1,394,593)</u>  |
| Ending Balance  | <u>\$ 11,764,541</u>     | <u>\$ 1,452,958</u> | <u>\$ 3,541,583</u>  | <u>\$ 1,211,769</u> |

AMORTIZATION SCHEDULE – EXPERIENCE

| Year Base Established                      | Differences Between Expected and Actual Experience | Recognition Period (Years) | 2022      | 2023      | 2024      | 2025      | 2026 | Thereafter |
|--|--|----------------------------|-----------|-----------|-----------|-----------|------|------------|
| 2022                                       | \$ 375,691   | 4                          | \$ 93,922 | \$ 93,923 | \$ 93,923 | \$ 93,923 | \$ - | \$ -       |
| 2021                                       | \$ 256,077   | 4                          | \$ 64,019 | \$ 64,019 | \$ 64,019 | \$ -      | \$ - | \$ -       |
| 2020                                       | \$ 131,286   | 3.3                        | \$ 39,784 | \$ 11,934 | \$ -      | \$ -      | \$ - | \$ -       |
| 2019                                       | \$ 284,447   | 3.3                        | \$ 25,859 | \$ -      | \$ -      | \$ -      | \$ - | \$ -       |
| Net Increase (Decrease) in Pension Expense |  |                            | 223,584   | 169,876   | 157,942   | 93,923    | -    | -          |



AMORTIZATION SCHEDULE – INVESTMENTS

Increase (Decrease) in Pension Expense Arising from the Recognition of the Differences  
Between Projected and Actual Earnings on Pension Plan Investments

| Year Base<br>Established                   | Differences Between<br>Projected and Actual<br>Earnings | Recognition<br>Period (Years) | 2022         | 2023         | 2024         | 2025         | 2026       | Thereafter |
|--|---|-------------------------------|--------------|--------------|--------------|--------------|------------|------------|
| 2022                                       | \$ 3,875,701  | 5                             | \$ 775,141   | \$ 775,140   | \$ 775,140   | \$ 775,140   | \$ 775,140 | \$ -       |
| 2021                                       | \$ (2,598,072)  | 5                             | \$ (519,614) | \$ (519,614) | \$ (519,614) | \$ (519,614) | \$ -       | \$ -       |
| 2020                                       | \$ 191,597  | 5                             | \$ 38,319    | \$ 38,319    | \$ 38,321    | \$ -         | \$ -       | \$ -       |
| 2019                                       | \$ 251,295  | 5                             | \$ 48,526    | \$ 48,526    | \$ -         | \$ -         | \$ -       | \$ -       |
| 2018                                       | \$ (167,084)  | 5                             | \$ (33,416)  | \$ -         | \$ -         | \$ -         | \$ -       | \$ -       |
| Net Increase (Decrease) in Pension Expense |   |                               | \$ 308,956   | \$ 342,371   | \$ 293,847   | \$ 255,526   | \$ 775,140 | \$ -       |

SCHEDULE OF CONTRIBUTIONS

| Plan Year-End | Actuarially Determined Contribution | Contributions in Relation to the Actuarially Determined Contributions | Contribution Deficiency (Excess) | Covered Payroll | Contributions as a Percentage of Covered Payroll |
|---------------|-------------------------------------|---|----------------------------------|-----------------|--|
| 06/30/2022    | 748,916                             | 1,074,810   | (325,894)                        | 2,588,049       | 41.53%   |
| 06/30/2021    | 728,943                             | 1,074,810   | (345,867)                        | 2,480,613       | 43.33%   |

The following assumptions were used to determine the Actuarially Determined Contribution for the plan year ending June 30, 2022:

|                    |   |
|--------------------|---|
| Calculation Timing | The Actuarially Determined Contribution is calculated using a June 30, 2021 valuation date.   |
| Interest Rate      | 7.50%   |
| Mortality Rate     | RP-2000 Combined Healthy Mortality Projected to 2014.   |
| Assumptions        | All other assumptions and methods used for determining the Actuarially Determined Contribution can be found in the June 30, 2021 Actuarial Valuation Report for the City of Marysville General Employees Retirement System prepared by Foster & Foster Actuaries and Consultants. |

ASSUMPTIONS – GASB PENSION LIABILITY AND PENSION EXPENSE

The GASB 67/GASB 68 Pension Liability for Plan reporting as of June 30, 2022 and GASB 68 Pension Expense were determined as follows:

|                                       |  |
|---------------------------------------|--|
| Valuation Date                        | June 30, 2022  |
| Measurement Date                      | June 30, 2022  |
| GASB 68 Expense<br>Measurement Period | July 1, 2021 - June 30, 2022   |
| Reporting Period                      | July 1, 2021 - June 30, 2022   |
| Discount Rate                         | 7.50%  |
| Inflation                             | 2.50%  |
| Salary Increases                      | 4.00%  |
| Other Assumptions                     | A summary of complete assumptions can be found in the accompanying Actuarial Valuation as of June 30, 2022 for the City of Marysville General Employees Retirement System prepared by Foster & Foster Actuaries and Consultants. |

NOTES TO THE FINANCIAL STATEMENTS

*Discount Rate*

The Discount Rate used to measure the Total Pension Liability was 7.50 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments (7.50 percent) was applied to all periods of projected benefit payments to determine the Total Pension Liability.

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.50 percent. The municipal bond rate is 4.09 percent (based on the daily rate closest to, but not later than the measurement date of the S&P Municipal Bond 20 Year High Grade Rate Index). The resulting single discount rate is 7.50 percent.

SUMMARY OF CURRENT PLAN

Pension Fund

The Plan was established by City Council in 1945 for the purpose of continuing and providing retirement income to certain employees and retired employees and survivor benefits to their eligible beneficiaries.

Plan Administration

The Plan is a single employer defined benefit pension plan administered by the City of Marysville, Michigan.

The Pension Commission has the authority to amend the terms of the Plan and consist of:

- a.) The Mayor of the City of Marysville;
- b.) One council member selected by the City Council;
- c.) A citizen who is not a member;
- d.) Two members of the Plan.

Benefits Provided

The Plan provides retirement, termination, disability and death benefits.

A summary of the benefit provisions can be found in the accompanying Actuarial Valuation as of June 30, 2022 for the City of Marysville General Employees Retirement System prepared by Foster & Foster Actuaries and Consultants.