



City of Marine City Employees Retirement System

June 30, 2019
GASB Nos. 67 & 68 Report

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This report is prepared in accordance with our understanding of GASB Nos. 67 & 68 for the purpose of disclosing pension plans in financial statements. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report.

The information presented in this report is based on:

- the actuarial assumptions included in this report;
- the plan provisions;
- participant information furnished to us by the Plan Administrator;
- asset information furnished to us by the Plan Trustee.

We have reviewed the provided data for reasonableness when compared to prior information provided, but have not audited the data. Where relevant data may be missing, we may have made assumptions we believe are reasonable for the purpose of the measurement. We are not aware of any significant issues with and have relied on the data provided. Any errors in the data provided may result in a different result than those provided in this report.

The interest rate, other economic assumptions, and demographic assumptions have been selected by the plan sponsor with our recommendations. The assumptions used, in our opinion, are reasonable and represent a reasonable expectation of future experience under the plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

A summary of any assumptions not included in this report, the plan provisions and the participant information is included in the Actuarial Valuation Report for funding purposes.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and
- changes in plan provisions or applicable law.

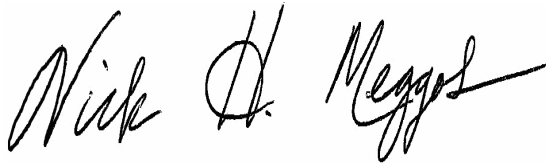
We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States.

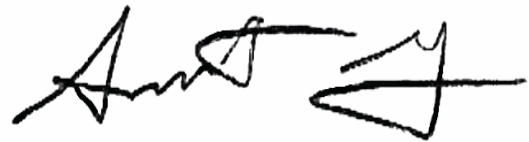
To our knowledge there have been no significant events prior to the current year's measurement date or as of the date of this report which could materially affect the results contained herein.

Neither Nyhart nor any of its employees have any relationships with the plan or plan sponsor which could impair or appear to impair the objectivity of this report.

Nyhart



Nick H. Meggos, EA, FCA



Scott Gavin, FSA, EA, MAAA

10/2/2019

Net Pension Liability

The components of the net pension liability at June 30

	<u>06/30/2019</u>	<u>06/30/2018</u>
Total pension liability	\$ 7,675,935	\$ 7,188,213
Plan fiduciary net position	(4,948,426)	(4,978,666)
Net pension liability	\$ 2,727,509	\$ 2,209,547
Plan fiduciary net position as a percent of the total pension liability	64.47%	69.26%
Pension Expense for the Fiscal Year Ended June 30	\$ 871,050	\$ 506,187

Actuarial Assumptions

The total pension liability was determined using the following actuarial assumptions

Inflation	2.00%	2.00%
Salary increases, including inflation	2.00%	2.00%
Investment rate of return, including inflation, and net of investment expense	6.50%	7.25%

Plan Membership

The total pension liability was determined based on the plan membership as of June 30

	<u>2019</u>	<u>2018</u>
Inactive plan members and beneficiaries currently receiving benefits	26	24
Inactive plan members entitled to but not yet receiving benefits	6	4
Active plan members	3	5
Total members	35	33

City of Marine City Employees Retirement System
GASB Nos. 67 & 68 Report as of Fiscal Year Ending June 30, 2019
Statement of Fiduciary Net Position

Assets	06/30/2019	06/30/2018
Cash and deposits	\$ 333,144	\$ 308,502
Securities lending cash collateral	0	0
Total cash	\$ 333,144	\$ 308,502
Receivables:		
Contributions	\$ 0	\$ 0
Due from broker for investments sold	0	0
Investment income	0	0
Other	0	0
Total receivables	\$ 0	\$ 0
Investments:		
Equity	\$ 2,242,737	\$ 2,489,662
Fixed Income	2,363,517	2,169,665
Alternatives	9,028	10,837
Total investments	\$ 4,615,282	\$ 4,670,164
Total assets	\$ 4,948,426	\$ 4,978,666
 Liabilities		
Payables:		
Investment management fees	\$ 0	\$ 0
Due to broker for investments purchased	0	0
Collateral payable for securities lending	0	0
Other	0	0
Total liabilities	\$ 0	\$ 0
 Net position restricted for pensions	 \$ 4,948,426	 \$ 4,978,666

City of Marine City Employees Retirement System
GASB Nos. 67 & 68 Report as of Fiscal Year Ending June 30, 2019
Statement of Changes in Fiduciary Net Position

	<u>06/30/2019</u>	<u>06/30/2018</u>
Additions		
Contributions:		
Employer	\$ 209,928	\$ 209,928
Member	13,274	14,284
Nonemployer contributing entity	0	0
Total contributions	\$ 223,202	\$ 224,212
Investment income:		
Net increase in fair value of investments	\$ 302,671	\$ 208,983
Interest and dividends	0	0
Less investment expense, other than from securities lending	0	0
Net income other than from securities lending	\$ 302,671	\$ 208,983
Securities lending income	0	0
Less securities lending expense	0	0
Net income from securities lending	\$ 0	\$ 0
Net investment income	\$ 302,671	\$ 208,983
Other	0	0
Total additions	\$ 525,873	\$ 433,195
Deductions		
Benefit payments, including refunds of member contributions	\$ 505,750	\$ 458,395
Administrative expense	50,363	38,823
Other	0	0
Total deductions	\$ 556,113	\$ 497,218
Net increase in net position	\$ (30,240)	\$ (64,023)
Net position restricted for pensions		
Beginning of year	4,978,666	5,042,689
End of year	\$ 4,948,426	\$ 4,978,666

City of Marine City Employees Retirement System
GASB Nos. 67 & 68 Report as of Fiscal Year Ending June 30, 2019
Schedule of Changes in Net Pension Liability and Related Ratios

	06/30/2019	06/30/2018
Total pension liability		
Service cost	\$ 23,076	\$ 38,798
Interest	504,485	490,001
Changes of benefit terms	0	0
Differences between expected and actual experience	(59,838)	(38,499)
Changes of assumptions	525,749	207,276
Benefit payments, including refunds of member contributions	(505,750)	(458,395)
Net change in total pension liability	487,722	239,181
Total pension liability - beginning	7,188,213	6,949,032
Total pension liability - ending (a)	\$ 7,675,935	\$ 7,188,213
Plan fiduciary net position		
Contributions - employer	\$ 209,928	\$ 209,928
Contributions - member	13,274	14,284
Contributions - nonemployer contributing member	0	0
Net investment income	302,671	208,983
Benefit payments, including refunds of member contributions	(505,750)	(458,395)
Administrative expenses	(50,363)	(38,823)
Other	0	0
Net change in plan fiduciary net position	\$ (30,240)	\$ (64,023)
Plan fiduciary net position - beginning	4,978,666	5,042,689
Plan fiduciary net position - ending (b)	\$ 4,948,426	\$ 4,978,666
Net pension liability - ending (a) - (b)	\$ 2,727,509	\$ 2,209,547
Plan fiduciary net position as a percentage of the total pension liability	64.47%	69.26%
Covered-employee payroll	\$ 224,481	\$ 285,980
Net pension liability as percentage of covered-employee payroll	1,215.03%	772.62%

City of Marine City Employees Retirement System
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Pension Expense

Fiscal year ending	<u>06/30/2019</u>	<u>06/30/2018</u>
Service cost	\$ 23,076	\$ 38,798
Interest on total pension liability	504,485	490,001
Projected earnings on pension plan investments	(348,885)	(355,698)
Changes of benefit terms	0	0
Employee contributions	(13,274)	(14,284)
Pension plan administrative expense	50,363	38,823
Other changes	0	0
Current period recognition of deferred outflows/(inflows) of resources		
Differences between Expected & Actual Experience in measurement of the Total Pension Liability	\$ (59,838)	\$ (78,860)
Changes of assumptions	525,749	207,276
Differences between Projected & Actual Earnings on Pension Plan Investments	189,374	180,131
Total	<u>\$ 871,050</u>	<u>\$ 506,187</u>

City of Marine City Employees Retirement System
GASB Nos. 67 & 68 Report as of Fiscal Year Ending June 30, 2019
Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

Differences between expected and actual experience in measurement of the total pension liability for fiscal year ending:	Initial Balance	Amortization Period	Annual Recognition	06/30/2019 Balance
June 30, 2019	\$ (59,838)	1.0	\$ (59,838)	\$ 0
			<u>\$ (59,838)</u>	<u>\$ 0</u>
Changes in assumptions for fiscal year ending:	Initial Balance	Initial Amortization Period	Annual Recognition	06/30/2019 Balance
June 30, 2019	\$ 525,749	1.0	\$ 525,749	\$ 0
			<u>\$ 525,749</u>	<u>\$ 0</u>
Differences between projected and actual earnings on pension plan investments for fiscal year ending:	Initial Balance	Initial Amortization Period	Annual Recognition	06/30/2019 Balance
June 30, 2019	\$ 46,214	5.0	\$ 9,243	\$ 36,971
June 30, 2018	\$ 146,715	5.0	\$ 29,343	\$ 88,029
June 30, 2017	\$ (98,018)	5.0	\$ (19,604)	\$ (39,206)
June 30, 2016	\$ 556,650	5.0	\$ 111,330	\$ 111,330
June 30, 2015	\$ 295,310	5.0	\$ 59,062	\$ 0
			<u>\$ 189,374</u>	<u>\$ 197,124</u>

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Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 0	\$ 0
Changes of Assumptions	\$ 0	\$ 0
Net difference between projected and actual earnings on pension plan investments	\$ 236,330	\$ (39,206)
	<u>\$ 236,330</u>	<u>\$ (39,206)</u>

The balances as of June 30, 2019 of the deferred outflows/(inflows) of resources will be recognized in pension expense for the fiscal year ending June 30.

2020	\$ 130,312
2021	\$ 18,984
2022	\$ 38,586
2023	\$ 9,242
2024	\$ 0
Thereafter	\$ 0

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These expected future real rates of return are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2019 are summarized in the following table:

Asset class	Target allocation	Long-term expected real rate of return
Equity	47.0%	6.70%
Fixed Income	47.0%	2.70%
Alternatives	0.0%	0.00%
Cash	6.0%	0.00%
Total	100.0%	

Long-term expected rate of return is 6.50%.

Money-weighted rate of return is 6.32%.

Discount rate

The discount rate used to measure the total pension liability was 6.50%. 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 contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Professional judgment on future contributions has been applied in those cases where contribution patterns deviate from the actuarially determined rates. 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 was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate

The following presents the net pension liability, calculated using the discount rate of 6.50%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (5.50%) or 1-percentage-point higher (7.50%) than the current rate:

	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)
Net pension liability	\$ 3,564,751	\$ 2,727,509	\$ 2,019,507

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Schedule of Contributions

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Actuarially determined contribution	\$ 209,066	\$ 189,645	\$ 188,938	\$ 158,748	\$ 164,043
Contributions in relation to the actuarially determined contribution	209,928	209,928	211,847	158,748	164,043
Contribution deficiency (excess)	\$ (862)	\$ (20,283)	\$ (22,909)	\$ 0	\$ 0
Covered-employee payroll	\$ 224,481	\$ 285,980	\$ 304,657	\$ 335,085	\$ 318,492
Contributions as a percentage of covered-employee payroll	93.52%	73.41%	69.54%	47.38%	51.51%

	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
Actuarially determined contribution	\$ 190,302	\$ 168,317	\$ 157,716	\$ 149,956	\$ 136,676
Contributions in relation to the actuarially determined contribution	190,302	171,849	110,871	97,480	95,469
Contribution deficiency (excess)	\$ 0	\$ (3,532)	\$ 46,845	\$ 52,476	\$ 41,207
Covered-employee payroll	\$ 379,897	\$ 479,446	\$ 647,948	\$ 824,677	\$ 930,742
Contributions as a percentage of covered-employee payroll	50.09%	35.84%	17.11%	11.82%	10.26%

Valuation Date	June 30, 2019
Participant and Asset Information Collected as of	June 30, 2019
Cost Method	Individual Entry Age Cost Method % of pay
Asset Valuation Method	Market Value
Interest Rates	<p>6.50% net of expenses</p> <p>The interest rate is the long-term rate of return on assets. This assumption is supported by the investment mix of the plan assets and long-term capital market return assumptions.</p>
Annual Pay Increases	<p>2.00%</p> <p>The annual pay increase assumption is based on recent experience and future expectations.</p>
Mortality Rates	
Healthy & Disabled	<p>RP-2014 Combined Mortality with generational improvements projected beginning in 2006 with Scale MP-2018</p> <p>As the plan is not large enough to have credible experience, mortality assumptions are set to reflect general population trends.</p>
Marital Status and Ages	<p>100% of Participants assumed to be married with wives assumed to be 3 years younger than husbands.</p>

Retirement Rates

Rates based on age shown below.

<u>Age</u>	<u>Rate</u>
55	30%
56	25%
57	20%
58	15%
59	20%
60	20%
61	40%
62	70%
63	50%
64	50%
65	80%
66	70%
67	60%
68	60%
69	70%
70	100%

Disability Rates

Rates based on age. Sample rates below.

<u>Age</u>	<u>Rate</u>
20	0.05%
25	0.07%
30	0.08%
35	0.10%
40	0.16%
45	0.24%
50	0.39%
55	0.69%
60	1.15%

Withdrawal Rates

Rates based on age and service. Sample rates below.

<u>Age</u>	<u>Service</u>	<u>Rate</u>
ALL	0	30.00%
ALL	1	20.00%
ALL	2	15.00%
ALL	3	10.00%
ALL	4	7.00%
25	5+	6.00%
30	5+	5.50%
35	5+	4.40%
40	5+	1.85%
45	5+	1.25%
50	5+	1.25%
55	5+	1.25%
60	5+	1.25%

Valuation Date	June 30, 2018
Participant and Asset Information Collected as of	June 30, 2018
Cost Method	Individual Entry Age Cost Method % of pay
Amortization Method	14 year closed level dollar amortization of Unfunded Actuarial Accrued Liability
Asset Valuation Method	4 year smoothing of asset gains and losses
Interest Rates	7.25% net of expenses The interest rate is the long-term rate of return on assets. This assumption is supported by the investment mix of the plan assets and long-term capital market return assumptions.
Annual Pay Increases	2.00% The annual pay increase assumption is based on recent experience and future expectations.
Mortality Rates	
Healthy & Disabled	RP-2014 Combined Mortality with generational improvements projected beginning in 2006 with Scale MP-2017 As the plan is not large enough to have credible experience, mortality assumptions are set to reflect general population trends.

Marital Status and Ages

100% of Participants assumed to be married with wives assumed to be 3 years younger than husbands.

Retirement Rates

Rates based on age shown below.

<u>Age</u>	<u>Rate</u>
55	30%
56	25%
57	20%
58	15%
59	20%
60	20%
61	40%
62	70%
63	50%
64	50%
65	80%
66	70%
67	60%
68	60%
69	70%
70	100%

Disability Rates

Rates based on age. Sample rates below.

<u>Age</u>	<u>Rate</u>
20	0.05%
25	0.07%
30	0.08%
35	0.10%
40	0.16%
45	0.24%
50	0.39%
55	0.69%
60	1.15%

Withdrawal Rates

Rates based on age and service. Sample rates below.

<u>Age</u>	<u>Service</u>	<u>Rate</u>
ALL	0	30.00%
ALL	1	20.00%
ALL	2	15.00%
ALL	3	10.00%
ALL	4	7.00%
25	5+	6.00%
30	5+	5.50%
35	5+	4.40%
40	5+	1.85%
45	5+	1.25%
50	5+	1.25%
55	5+	1.25%
60	5+	1.25%

Plan Effective Date

The effective date of the Plan is July 1, 1980. The most recent amendment was effective January 1, 2009.

Fiscal Year

The period beginning July 1, and ending on the next June 30.

Eligibility for Participation

The Plan is closed to new participants.

Accrual of Benefits

An eligible participant's monthly benefit shall be equal to the product of 2.25% of the participant's final average compensation, and the number of years of credited service at retirement or termination.

Benefits

Normal Retirement

Eligibility Attainment of age 55 with 25 or more years of credited service or age 60 and 10 or more years of credited service.

Benefit Unreduced Accrued Benefit payable immediately.

Early Retirement

Eligibility Attainment of age 55 with 15 or more years of credited service.

Benefit The early retirement benefit shall be equal to the participant's Accrued Benefit, reduced by 0.5% for each month by which the date of benefit commencement precedes the attainment of age 60.

Termination

Eligibility 10 years of credited service.

Benefit The participant's Accrued Benefit payable at age 60.

Death Before Retirement

Eligibility 10 years of credited service.

Benefit If a participant dies after becoming vested but prior to commencement of benefit, the spouse or beneficiary will receive a benefit as if the participant had retired under the joint and 100% survivor option. The beneficiary may elect to receive a lump sum payment in lieu of monthly benefits.

Disability

Eligibility Totally and permanently disabled at a time prior to normal retirement date after completion of 10 years of credited service.

Benefit Accrued Benefit payable immediately, reduced for any earnings from gainful employment, worker's compensation or unemployment payments.

Final Average Compensation

Defined as the average of the five consecutive years of compensation out of the previous 10 years that produces the highest average. Compensation includes base salary or wages, overtime salary or wages, longevity pay, vacation, holiday or illness pay, and worker's compensation benefits.

Credited Service

The number of calendar years worked by a participant. If the participant works less than 1,000 hours in a calendar year, the credited service granted for that calendar year will be the number of hours worked divided by 1,000.

Employee Contributions

5% of compensation.

Payment Forms

Normal Form	Single Life Annuity
Optional Forms	50% or 100% Joint and Survivor Annuity
	Social Security Adjustment Annuity

Actuarial Equivalence

1971 Group Annuity Mortality Table, set back no years for males and five years for females, and the interest rate published monthly by the Pension Benefit Guaranty Corporation for use in converting a series of monthly annuity payments into a lump sum value.

Cost-of-Living Allowance (COLA)

None

Plan Provisions Not Included

We are not aware of any plan provisions not included in the valuation.

Adjustments Made for Subsequent Events

We are not aware of any event following the measurement date and prior to the date of this report that would materially impact the results of this report.