

GASB 74/75 INTERIM ACTUARIAL VALUATION Fiscal Year Ending June 30, 2019

CITY OF MARINE CITY

CONTACT

Emily Clauss, ASA, MAAA emily.clauss@nyhart.com

ADDRESS

Nyhart

8415 Allison Pointe Blvd. Suite 300 Indianapolis, IN 46250

PHONE

General (317) 845-3500 Toll-Free (800) 428-7106 Fax (317) 845-3654

Table of Contents

	Page
Certification	1
Executive Summary	3
GASB Disclosures	
Schedule of Changes in Net OPEB Liability and Related Ratios	4
Schedule of Employer Contributions	5
OPEB Expense	6
Deferred Outflows / (Inflows) of Resources	7
Sensitivity Results	9
Asset Information	10
Actuarially Determined Contributions	12
Discussion of Discount Rates	13
Summary of Key Actuarial Assumptions	14
Actuary's Notes	15
PA 202 Disclosures	16



October 14, 2019

Mary Ellen McDonald City of Marine City 303 S. Water Street Marine City, MI 48039

This report summarizes the interim GASB actuarial valuation for the City of Marine City 2018/19 fiscal year. To the best of our knowledge, the report presents a fair position of the funded status of the plan in accordance with GASB Statement No. 74 (Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans) and GASB Statement No. 75 (Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions).

The information presented herein is based on the actuarial assumptions and substantive plan provisions summarized in this report and participant information furnished to us by the Plan Sponsor. We have reviewed the employee census provided by the Plan Sponsor for reasonableness when compared to the prior information provided but have not audited the information at the source, and therefore do not accept responsibility for the accuracy or the completeness of the data on which the information is based. When relevant data may be missing, we may have made assumptions we feel are neutral or conservative to the purpose of the measurement. We are not aware of any significant issues with and have relied on the data provided.

The discount rate, other economic assumptions, and demographic assumptions have been selected by the Plan Sponsor with the concurrence of Nyhart. In our opinion, the actuarial assumptions are individually reasonable and in combination represent our estimate of anticipated experience of the Plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

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); 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.

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 that could materially affect the results contained herein.



Neither Nyhart nor any of its employees has any relationship with the plan or its sponsor that could impair or appear to impair the objectivity of this report. Our professional work is in full compliance with the American Academy of Actuaries "Code of Professional Conduct" Precept 7 regarding conflict of interest. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Should you have any questions please do not hesitate to contact us.

Randy Gomez, FSA, MAAA Consulting Actuary

Randy Gomez

Emily Clauss, ASA, MAAA Valuation Actuary

Emily Clauss

Executive Summary

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Summary of Results

Presented below is the summary of GASB 75 results for the fiscal year ending June 30, 2019 compared to the prior fiscal year as shown in the City's Notes to Financial Statement.

	As of June 30, 2018	As of June 30, 2019
Total OPEB Liability	\$ 4,271,964	\$ 4,239,338
Actuarial Value of Assets	\$ (186,097)	\$ (208,813)
Net OPEB Liability	\$ 4,085,867	\$ 4,030,525
Funded Ratio	4.4%	4.9%
	FY 2017/18	FY 2018/19
OPEB Expense	\$ (254,503)	\$ (382,594)
Annual Employer Contributions	\$ 265,663	\$ 255,752
Actuarially Determined Contribution	\$ 329,021	\$ 331,458
	As of June 30, 2018	As of June 30, 2019
Discount Rate	 6.90%	5.90%
Expected Return on Assets	7.65%	6.10%

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Schedule of Changes in Net OPEB Liability and Related Ratios

OPEB Liability	FY 2018/19	FY 2017/18
Total OPEB Liability		
Total OPEB Liability - beginning of year	\$ 4,271,964	\$ 5,355,404
Service cost	11,348	18,400
Interest	287,503	319,964
Change of benefit terms	0	0
Changes in assumptions	460,618	151,350
Differences between expected and actual experience	(554,926)	(1,312,300)
Benefit payments	(237,169)	(260,854)
Net change in total OPEB liability	\$ (32,626)	\$ (1,083,440)
Total OPEB Liability - end of year	\$ 4,239,338	\$ 4,271,964
Plan Fiduciary Net Position		
Plan fiduciary net position - beginning of year	\$ 186,097	\$ 172,979
Contributions - employer	255,752	265,663
Contributions - active employees	0	0
Net investment income	10,266	8,309
Benefit payments	(237,169)	(260,854)
Trust administrative expenses	(6,133)	0
Net change in plan fiduciary net position	\$ 22,716	\$ 13,118
Plan fiduciary net position - end of year	\$ 208,813	\$ 186,097
Net OPEB Liability - end of year	\$ 4,030,525	\$ 4,085,867
Plan fiduciary net position as % of total OPEB liability	4.9%	4.4%
Covered employee payroll	\$ 229,481	\$ 259,705
Net OPEB liability as % of covered payroll	1,756.4%	1,573.3%

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Schedule of Employer Contributions

The Actuarially Determined Contributions (ADC) shown below are based on the Annual Required Contribution (ARC) calculated in prior GASB 45 actuarial valuations as shown in the City's financial statements.

	FY 2018/19	FY 2017/18	FY 2016/17	FY 2015/16
Actuarially Determined Contribution (ADC)	\$ 331,458	\$ 329,021	\$ 569,428	\$ 547,526
Contributions in relation to the ADC	255,752	265,663	256,929	233,279
Contribution deficiency/(excess)	\$ 75,706	\$ 63,358	\$ 312,499	\$ 314,247
Covered employee payroll	\$ 229,481	\$ 259,705	\$ 300,535	\$ 300,535
Contribution as a % of covered payroll	111.4%	102.3%	85.5%	77.6%

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

OPEB Expense

OPEB Expense	FY 2018/19	FY 2017/18
Discount Rate		
Beginning of year	6.90%	6.10%
End of year	5.90%	6.90%
Service cost	\$ 11,348	\$ 18,400
Interest	287,503	319,964
Change of benefit terms	0	0
Projected earnings on OPEB plan investments	(14,704)	(13,413)
Reduction for contributions from active employees	0	0
OPEB plan administrative expenses	6,133	0
Current period recognition of deferred outflows / (inflows) of resources		
Differences between expected and actual experience	\$ (1,211,076)	\$ (656,150)
Changes in assumptions	536,293	75,675
Net difference between projected and actual earnings on OPEB plan investments	1,909	1,021
Total current period recognition	\$ (672,874)	\$ (579,454)
Total OPEB expense	\$ (382,594)	\$ (254,503)

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Deferred Outflows / (Inflows) of Resources

Deferred Outflows / (Inflows) of Resources represents the following items that have not been recognized in the OPEB Expense:

- 1. Differences between expected and actual experience of the OPEB plan
- 2. Changes of assumptions
- 3. Differences between projected and actual earnings in OPEB plan investments (for funded plans only)

The initial amortization period for the first two items noted above is based on expected future service lives while the difference between the projected and actual earnings in OPEB plan investment is amortized over five years. All balances are amortized linearly on a principal only basis and new bases will be created annually for each of the items above.

Differences between expected and actual experience for FYE	Initial Balance	Initial Amortization Period	Annual Recognition	Ur	namortized Balance as of June 30, 2019
June 30, 2018	\$ (1,312,300)	2	\$ (656,150)	\$	0
June 30, 2019	\$ (554,926)	1	\$ (554,926)	\$	0

Changes in assumptions for FYE	Init	tial Balance	Initial Amortization Period	R	Annual ecognition	Un	namortized Balance as of June 30, 2019
June 30, 2018	\$	151,350	2	\$	75,675	\$	0
June 30, 2019	\$	460,618	1	\$	460,618	\$	0

Net Difference between projected and actual earnings in OPEB plan investments for FYE	Init	ial Balance	Initial Amortization Period	R	Annual ecognition	Ur	namortized Balance as of June 30, 2019
June 30, 2018	\$	5,104	5	\$	1,021	\$	3,062
June 30, 2019	\$	4,438	5	\$	888	\$	3,550

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Deferred Outflows / (Inflows) of Resources (Continued)

As of fiscal year ending June 30, 2019	Deferred Outflows		Deferr	ed Inflows
Differences between expected and actual experience	\$	0	\$	0
Changes in assumptions		0		0
Net difference between projected and actual earnings in OPEB plan investments		6,612		0
Total	\$	6,612	\$	0

Annual Amortization of Deferred Outflows / (Inflows)

The balances as of June 30, 2019 of the deferred outflows / (inflows) of resources will be recognized in OPEB expense in the future fiscal years as noted below.

FYE	I	Balance
2020	\$	1,909
2021	\$	1,909
2022	\$	1,908
2023	\$	886
2024	\$	0
Thereafter	\$	0

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Sensitivity Results

The following presents the Net OPEB Liability as of June 30, 2019, calculated using the discount rate assumed and what it would be using a 1% higher and 1% lower discount rate.

- The current discount rate is 5.90%.
- The 1% decrease in discount rate would be 4.90%.
- The 1% increase in discount rate would be 6.90%.

As of June 30, 2019	Net OPEB Liabilit			
1% Decrease	\$	4,589,309		
Current Discount Rate	\$	4,030,525		
1% Increase	\$	3,569,906		

The following presents the Net OPEB Liability as of June 30, 2019, using the health care trend rates assumed and what it would be using 1% higher and 1% lower health care trend rates.

- The current health care trend rate starts at an initial rate of 8.50%, decreasing to an ultimate rate of 4.50%.
- The 1% decrease in health care trend rates would assume an initial rate of 7.50%, decreasing to an ultimate rate of 3.50%.
- The 1% increase in health care trend rates would assume an initial rate of 9.50%, decreasing to an ultimate rate of 5.50%.

As of June 30, 2019	Net OPEB Liability				
1% Decrease	\$	3,519,933			
Current Trend Rates	\$	4,030,525			
1% Increase	\$	4,645,247			

^{*} In addition to the medical/Rx trend rates mentioned above, the sensitivity of +/- 1% in health care trend for the Net OPEB Liability includes the sensitivity of dental/vision trend. Dental/vision trend rates start at an initial rate of 4.5% in 2019/20, decreasing by 0.5% annually to an ultimate rate of 2.5%.

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Asset Information

Asset Breakdown	FY 2017/18	FY 2018/19
Assets		
Cash and cash equivalents	\$ 0	\$ 34,919
Securities lending cash collateral	0	0
Total cash	\$ 0	\$ 34,919
Receivables		
Contributions	\$ 0	\$ 0
Accrued interest	0	0
Total receivables	\$ 0	\$ 0
Investments		
Fixed income	\$ 93,048	\$ 0
Equities	93,049	173,530
Mutual Funds	0	0
Total investments	\$ 186,097	\$ 173,530
Total Assets	\$ 186,097	\$ 208,449
Liabilities		
Payables		
Investment management fees	\$ 0	\$ (364)
Securities lending expense	0	0
Total liabilities	\$ 0	\$ (364)
Net Position Restricted to OPEB	\$ 186,097	\$ 208,813

^{*} Asset Allocation shown as of June 30, 2018 is based on target asset class allocations and not actual dollar amounts.

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Asset Information (Continued)

Asset Reconciliation	FY 2017/18	FY 2018/19
Additions		
Contributions Received		
Employer	\$ 265,663	\$ 255,752
Employee	0	0
Total contributions	\$ 265,663	\$ 255,752
Investment Income		
Net increase in fair value of investments	\$ 9,576	\$ 5,631
Interest and Dividends	(1,267)	4,635
Investment expense, other than from securities lending	0	0
Securities lending income	0	0
Securities lending expense	0	0
Net investment income	\$ 8,309	\$ 10,266
Total additions	\$ 273,972	\$ 266,018
Deductions		
Benefit payments	\$ 260,854	\$ 237,169
Administrative expenses	0	6,133
Other	0	0
Total deductions	\$ 260,854	\$ 243,302
Net increase in net position	\$ 13,118	\$ 22,716
Net position restricted to OPEB		
Beginning of year	\$ 172,979	\$ 186,097
End of year	\$ 186,097	\$ 208,813

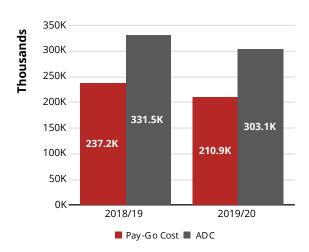
^{*} Asset Allocation shown as of June 30, 2018 is based on target asset class allocations and not actual dollar amounts.

Actuarially Determined Contributions

City of Marine City Interim GASB 74/75 Valuation For Fiscal Year Ending June 30, 2019

	FY 2018/19	FY 2019/20
Discount rate (Funding)	7.65%	6.10%
Payroll growth factor used for amortization	N/A	N/A
Actuarial cost method	Entry Age Normal Level % of Salary	Entry Age Normal Level % of Salary
Amortization type	Level Dollar	Level Dollar
Amortization period (years)	30	30
Actuarial Accrued Liability (AAL) - beginning of year	\$ 3,930,688	\$ 4,140,118
Actuarial Value of Assets (AVA) - beginning of year	(186,097)	(208,813)
Unfunded AAL - beginning of year	\$ 3,744,591	\$ 3,931,305
Normal Cost	\$ 9,063	\$ 13,620
Amortization of Unfunded AAL	298,840	272,071
Total normal cost plus amortization	\$ 307,903	\$ 285,691
Interest to end of year	23,555	17,427
Actuarially Determined Contribution - Preliminary	\$ 331,458	\$ 303,118
Expected Benefit Payments	237,169	210,926
Actuarially Determined Contribution - Final	\$ 331,458	\$ 303,118

Cash Vs Accrual Accounting



Actuarially Determined Contribution (ADC) is the target or recommended contribution to a defined benefit OPEB plan, which if paid on an ongoing basis, will provide sufficient resources to fund future costs for services to be earned and liabilities attributed to past services. This is typically higher than the pay-as-you-go cost because it includes recognition of employer costs expected to be paid in future accounting periods.

Discussion of Discount Rates

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Under GASB 74, the discount rate used in valuing OPEB liabilities for funded plans as of the Measurement Date must be based on the long-term expected rate of return on OPEB plan investments that are expected to be used to finance future benefit payments to the extent that (a) they are sufficient to pay for the projected benefit payments and (b) the OPEB plan assets are invested using a strategy that will achieve that return. When the OPEB plan investments are insufficient to cover future benefit payments, a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA /Aa or higher (or equivalent quality on another rating scale) must be used.

For the current valuation:

1. The long-term expected rate of return on OPEB plan investment is assumed to be 6.10%. This was determined using a building block method in which expected future rates of return (expected returns, including OPEB plan investment expense and inflation) are developed for each major asset class. These expected future rates of return are then combined to produce the long-term expected rate of return by weighting them based on the target asset allocation percentage. The best estimates of arithmetic real rates of return for each major asset class included in the OPEB Plan's target asset allocation as of June 30, 2019 are summarized in the following table.

Asset Class	Target Allocation	L/T Expected ROR (including inflation)
U.S. All Cap Equity	33.00%	8.53%
Non-U.S. Developed Large Cap Equity Unhedged	14.00%	8.78%
U.S. Aggregate Fixed Income	29.00%	4.53%
U.S. Cash	24.00%	3.09%
Total	100.00%	6.10%

 The discount rate used when the OPEB plan investments are insufficient to pay for future benefit payments are selected from the range of indices as shown in the table below, where the range is given as the spread between the lowest and highest rate shown.

Yield as of	July 1, 2018	June 30, 2019
Bond Buyer Go 20-Bond Municipal Bond Index	3.87%	3.51%
S&P Municipal Bond 20-Year High Grade Rate Index	2.98%	2.79%
Fidelity 20-Year Go Municipal Bond Index	3.62%	3.13%
Bond Index Range	2.98% - 3.87%	2.79% - 3.51%

3. The final equivalent single discount rates used for this year's valuation are 6.90% as of July 1, 2018 and 5.90% as of June 30, 2019. This is based on the assumption that the City will fund the pay-go costs with no additional pre-funding.

Summary of Key Actuarial Assumptions

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

For a complete summary of actuarial methods and assumptions, refer to the GASB 74/75 actuarial valuation report for the fiscal year ending June 30, 2018.

Measurement Date For fiscal year ending June 30, 2019, a June 30, 2019 measurement date was used.

Actuarial Valuation Date

July 1, 2018 with results actuarially projected on a "no gain / no loss" basis to get to the June 30, 2019

measurement date. Liabilities as of July 1, 2018 are based on an actuarial valuation date of July 1, 2018.

Discount Rate 6.90% as of July 1, 2018 and 5.90% as of June 30, 2019 for accounting disclosure purposes

6.10% for funding disclosure purposes (in calculating the Actuarially Determined Contribution)

Refer to the Discussion of Discount Rates section for more information on selection of the discount rate.

Payroll Growth 2.00% per year

Inflation Rate 2.00% per year

Employer Funding Policy The City will fund pay-as-you-go costs into the OPEB Trust. No additional pre-funding is expected.

Health Care Trend Rates FYE Medical/Rx Dental/Vision

FIE	Wedical/ KX	Delitai/ Visioli
2020	8.5%	4.5%
2021	8.0%	4.0%
2022	7.5%	3.5%
2023	7.0%	3.0%
2024	6.5%	2.5%
2025	6.0%	2.5%
2026	5.5%	2.5%
2027	5.0%	2.5%
2028+	4.5%	2.5%

The initial trend rate was based on a combination of employer history, national trend surveys, and professional judgment.

The ultimate trend rate was selected based on historical medical CPI information.

Retiree Contributions

Retiree contributions that are a % of premium are assumed to increase according to health care trend rates. Flat dollar contributions are not expected to increase in the future.

Cost Method

Allocation of Actuarial Present Value of Future Benefits for services prior and after the Measurement Date was determined using Entry Age Normal Level % of Salary method where:

- service Cost for each individual participant, payable from date of employment to date of retirement, is sufficient to pay for the participant's benefit at retirement; and
- annual Service Cost is a constant percentage of the participant's salary that is assumed to increase according to the Payroll Growth.

Actuary's Notes

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Interim year valuation results have been projected from the prior year's valuation, with adjustments for actual premium decreases from 2018/19 to 2019/20. This caused a significant reduction in the City's liabilities.

The funding discount rate assumption has been updated from 7.65% as of July 1, 2018 to 6.10% as of June 30, 2019, based on total rate of return information provided by the City's investment advisor. Additionally, we have updated the accounting discount rate assumption based on the yield for 20-year-tax-exempt general obligation municipal bonds as of June 30, 2019 (measurement date). The blended discount rate is 5.90% as of June 30, 2019 and 6.90% as of July 1, 2018. Refer to the Discussion of Discount Rates section for more information on selection of the discount rate. Making these changes resulted in a significant increase in liabilities.

Premium Rates

All health plans are fully-insured and community-rated. Sample age-based monthly premium rates (per person) for the BCBS pre-65 medical/Rx and vision plans effective on April 1, 2018 and 2019, post-65 retiree Medicare Advantage premiums effective January 1, 2018 and 2019, and dental premiums effective April 1, 2018 and 2019 are as shown below.

	Eff. 4/1/2018		Eff. 4/1	/201	19	
Age	Medical/Rx	,	Vision	Medical/Rx	,	Vision
25	\$ 252.70	\$	4.07	\$ 244.08	\$	3.98
30	\$ 285.67	\$	4.59	\$ 275.93	\$	4.49
35	\$ 307.57	\$	4.94	\$ 297.08	\$	4.83
40	\$ 321.66	\$	5.18	\$ 310.69	\$	5.06
45	\$ 363.44	\$	5.85	\$ 351.05	\$	5.71
50	\$ 449.52	\$	7.24	\$ 434.19	\$	7.06
55	\$ 561.27	\$	9.03	\$ 542.14	\$	8.82
60	\$ 683.09	\$	10.99	\$ 659.80	\$	10.74
64	\$ 755.07	\$	12.15	\$ 729.33	\$	11.87
Plan	EE	-	E + Sp	EE	-	E + Sp
BCN Advantage (post-65 plan) ¹	\$ 383.74	\$	767.48	\$ 363.88	\$	727.76
Dental	\$ 55.52	\$	113.28	\$ 50.00	\$	104.00

¹ Includes premium for vision coverage. These rates are effective on January 1 of each year.

Appendix

City of Marine City Interim GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

PA 202 Uniform Assumption Disclosures

The information presented below is for the purposes of filing Form No. 5572 under PA 202 uniform assumption requirements. Per regulation, Form No. 5572 must be filed no later than six months after the end of the fiscal year. Governmental fund revenues are not shown below and should not be determined by the City. Refer to the Michigan Department of Treasury website for additional information.

Form 5572 Line	Description	City of Marine City
Line 28	Actuarial Value of Assets	\$ 208,813
Line 29	Actuarial Accrued Liability	\$ 4,581,261
Line 31	Actuarially Determined Contribution for FY 2018/19	\$ 317,778

Line 31 (Actuarially Determined Contribution) was calculated using level dollar amortization with a 7.00% discount rate. The amortization period is a closed, 30-year period with 30 years remaining for FY 2018/19.

Under PA 202 requirements, uniform assumption setting is mandated in reporting of liabilities, assets, and ADC. The following is a description of the PA 202 uniform assumption guidance and final assumption used for the City for purposes of calculating the figures above.

Assumption	Uniform Assumption Guidance	City Assumption
Investment Rate of Return	Maximum of 7.00%	7.00% as of July 1, 2018 and 6.10% as of June 30, 2019 (for funding/ADC purposes)
Discount Rate	 Blended discount rate calculated per GASB 74/75: Maximum of 7.0% where plan assets are sufficient to make projected benefit payments Maximum of 3.0% for periods where assets are insufficient to make projected benefit payments 	5.90% (for calculation of the OPEB liability as of June 30, 2019)
Salary Increase	Minimum of 3.50% or based on actuarial experience study within the past 5 years	Same as the GASB 74/75 valuation
Mortality Table	A version of RP-2014 or based on actuarial experience study within the past 5 year	Same as the GASB 74/75 valuation
Amortization Period	Maximum closed period of 30 years for Retiree Health Systems	For FY 2018/19, 30 years on a closed period basis
Asset Valuation	Market Value as reported on Financial Statements	Same as the GASB 74/75 valuation
Healthcare Inflation	Non-Medicare: 8.50% decreasing 0.25% per year to a 4.50% long-term rate Medicare: 7.00% decreasing 0.25% per year to a 4.50% long-term rate	Same as PA 202 uniform assumption