

CITY OF BATTLE CREEK, MICHIGAN
POLICE AND FIRE RETIREMENT SYSTEM

Year Ended
June 30, 2018

Financial
Statements and
Supplementary
Information

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CITY OF BATTLE CREEK, MICHIGAN POLICE AND FIRE RETIREMENT SYSTEM

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INDEPENDENT AUDITORS' REPORT

December 26, 2018

To the Retirement Board
City of Battle Creek, Michigan
Police and Fire Retirement System
Battle Creek, Michigan

Report on the Financial Statements

We have audited the accompanying statement of fiduciary net position of the *City of Battle Creek, Michigan Police and Fire Retirement System* (the "System") as of June 30, 2018, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Independent Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the City of Battle Creek, Michigan Police and Fire Retirement System, as of June 30, 2018, and the related statement of changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the schedules of pension information listed in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

A handwritten signature in black ink that reads "Lehmann Johnson LLC". The signature is written in a cursive, flowing style.

BASIC FINANCIAL STATEMENTS

**CITY OF BATTLE CREEK, MICHIGAN
POLICE AND FIRE RETIREMENT SYSTEM**

Statement of Fiduciary Net Position

June 30, 2018

Assets

Cash and cash equivalents		\$ 5,041,013
Investments:		
Fixed income:		
Corporate bonds	28,544,654	
Foreign bonds	2,855,732	
Municipal bonds	766,247	
U.S. government securities	26,957,991	
Equity-indexed institutional funds	30,684,089	
Domestic equities	28,980,512	
Foreign equities	3,364,886	
American depository receipts	16,272,335	
Real estate trusts	716,616	
Total investments	<u>139,143,062</u>	
Interest receivable		392,265
Pension contributions receivable		<u>132,424</u>
Total assets		144,708,764
Liabilities		
Obligation for impaired investment of securities lending collateral		<u>120,303</u>
Net position restricted for pension benefits		\$ <u><u>144,588,461</u></u>

The accompanying notes are an integral part of these financial statements.

**CITY OF BATTLE CREEK, MICHIGAN
POLICE AND FIRE RETIREMENT SYSTEM**

Statement of Changes in Fiduciary Net Position

For the Year Ended June 30, 2018

Additions

Investment income:

From investing activities:

Net appreciation in fair value of investments	\$ 7,806,720
Investment earnings and dividends	2,793,846
Less investment expenses	(502,942)
Net income from investing activities	<u>10,097,624</u>

From securities lending activities:

Gross earnings	81,347
Borrower rebates	(1,988)
Securities lending fees	24,988
Net income from securities lending activities	<u>104,347</u>

Total net investment income	<u>10,201,971</u>
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Contributions:

Employer	5,180,487
Employee	1,478,257
Total contributions	<u>6,658,744</u>

Total additions	<u>16,860,715</u>
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Deductions

Pension benefit payments	10,066,683
Medical insurance premiums	500,000
Administrative expenses	214,905
	<u>10,781,588</u>

Total deductions	<u>10,781,588</u>
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Net change to net position	6,079,127
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Net position, beginning of year	<u>138,509,334</u>
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Net position, end of year	<u><u>\$ 144,588,461</u></u>
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The accompanying notes are an integral part of these financial statements.

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NOTES TO FINANCIAL STATEMENTS

CITY OF BATTLE CREEK, MICHIGAN

POLICE AND FIRE RETIREMENT SYSTEM

Notes to Financial Statements

1. PLAN DESCRIPTION

Plan administration. The City of Battle Creek, Michigan Police and Fire Retirement System (the "System") is a single-employer defined benefit contributory pension plan which provides retirement, disability and death benefits to, and contributes toward postemployment healthcare benefits for, plan members and their beneficiaries in accordance with the City of Battle Creek's (the "City") pension ordinance. The System covers all police and fire employees of the City of Battle Creek. Plan benefit provisions were established and may be amended under the authority of City Ordinances. Contribution requirements were established and may be amended subject to collective bargaining agreements and approval by the Retirement Board and City of Battle Creek City Commission. The financial statements of the System are included as a pension trust fund in the City's financial statements.

The System is administered by the Board of Trustees of the City of Battle Creek, Michigan Police and Fire Retirement System. The five-member board is either elected or appointed in accordance with Public Act 345 of 1937 ("the Act"). Two members are appointed by the City Commission upon completing an application to serve. One member is an active member of the retirement system and elected by a majority vote of the active members of the police department. One member is an active member of the retirement system and elected by a majority vote of the active members of the fire department. The treasurer of the City is a member per the Act. All terms are four years.

Plan membership. System membership consisted of the following at June 30, 2017, the date of the latest actuarial valuation:

Retirees and beneficiaries currently receiving benefits	249
Terminated employees entitled to but not yet receiving benefits	9
Vested and non-vested active participants	188
Total	446

Benefits provided. The System provides retirement, disability, and death benefits. Retirement benefits for police and fire members are generally calculated as 3.00% of the member's final three or five-year average salary (depending on the group) times the member's years of service up to a maximum of 25 years, plus an additional 1.00% of final average compensation times the number of years of service in excess of 25 years. Retirement benefits cannot exceed 80% of final average compensation. Members with 25 years of service or who are age 60 are eligible to retire and receive benefits.

Contributions. Plan members are required to contribute between 8.25% and 11.72% of their annual covered salary to the System for pension benefits, depending on bargaining unit. The City contributes such additional amounts as necessary, based on actuarial determinations, to provide assets sufficient to pay for member benefits. The City's pension contribution for the year ended June 30, 2018 represented 36.82% of the annual covered payroll.

**CITY OF BATTLE CREEK, MICHIGAN
POLICE AND FIRE RETIREMENT SYSTEM**

Notes to Financial Statements

Deferred Retirement Option Program (DROP). In lieu of retiring and receiving a monthly benefit, an eligible participant may elect to participate in the DROP by making an irrevocable election to terminate employment with the City and retire upon ceasing participation in the DROP. The DROP election must specify the future retirement date which must be within the maximum time period permitted (typically 3 to 5 years, based on bargaining unit and hire date). Upon entry in the DROP, the participant ceases to accrue years of service in the defined benefit pension plan. The participant remains an employee of the City for all other purposes, but the retirement benefit payment is calculated and payments commence into a separate, restricted account. These monthly payments, along with interest earnings thereon, are not distributed to the participant until employment has terminated. DROP activity is summarized as follows as of June 30:

Year Ended June 30,	Beginning Balance	Credits	Interest	Distributions	Ending Balance
2018	\$ 21,903	\$ 298,190	\$ 3,894	\$ 37,462	\$ 286,525

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting

The System’s financial statements are prepared on the accrual basis of accounting. Member contributions are recognized in the period in which they are due. The City’s contributions are recognized when due and the employer has made a formal commitment to provide them. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

Valuation of Investments and Income Recognition

The System’s investments are stated at fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Mortgages, if any, are valued on the basis of future principal and interest payments, and are discounted at prevailing interest rates for similar instruments. The fair value of real estate investments, if any, is based on independent appraisals. Investments that do not have established market values are reported at fair value as determined by the custodian, with the assistance of a valuation service.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make significant estimates and assumptions that could affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Administration

Administrative costs are financed through the System’s investment earnings.

CITY OF BATTLE CREEK, MICHIGAN

POLICE AND FIRE RETIREMENT SYSTEM

Notes to Financial Statements

3. DEPOSITS, INVESTMENTS AND SECURITIES LENDING

Deposits

The System does not maintain any checking or other demand/time deposit accounts. Amounts reported as cash and cash equivalents in the statement of plan net position is composed entirely of short-term investments in money market accounts.

Investments

The Michigan Public Employees Retirement Systems' Investment Act, Public Act 314 of 1965, as amended, authorizes the System to invest in stocks, government and corporate securities, mortgages, real estate, and various other investment instruments, subject to certain limitations. The Retirement Board has the responsibility and authority to oversee the investment portfolio. Various professional investment managers are contracted to assist in managing the System's assets. All investment decisions are subject to Michigan law and the investment policy established by the Retirement Board.

Investment Allocation Policy. The System's policy in regard to the allocation of invested assets is established and may be amended by its Board of Trustees. Based on a long-term time horizon and the Board's risk tolerance, performance expectations and asset class (and subclass) preferences, the strategic asset allocation is 50/50 split between fixed income and equity investments with no more than 20% allowed in alternative assets classes such as hedges, private equity funds, real estate, commodities and structured notes.

Investment Holdings. The System's investments are held in a bank-administered trust fund. Following is a summary of the System's investments (at fair value as determined by quoted market price) as of June 30, 2018:

Fixed income:	
Corporate bonds	\$ 28,544,654
Foreign bonds	2,855,732
Municipal bonds	766,247
U.S. government securities	26,957,991
	<u>59,124,624</u>
Equity-indexed institutional funds	30,684,089
Domestic equities:	
Not on securities loan	23,595,792
On securities loan	5,384,720
Foreign equities	3,364,886
American depository receipts	16,272,335
Real estate investment trusts	716,616
	<u>716,616</u>
Total investments	<u>\$ 139,143,062</u>

In addition to the above, the System has short-term investments of \$5,041,013 as of June 30, 2018 held entirely in money market accounts and reported as cash and cash equivalents.

**CITY OF BATTLE CREEK, MICHIGAN
POLICE AND FIRE RETIREMENT SYSTEM**

Notes to Financial Statements

Custodial Credit Risk. For investments, custodial credit risk is the risk that, in the event of the failure of the counterparty, the System will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The System's investment policy requires that investment securities be held in trust by a third-party institution in the System's name. As such, although uninsured and unregistered, the System's investments are not exposed to custodial credit risk since the securities are held by the counterparty's trust department in the System's name.

Short-term investments in money market accounts are not subject to custodial credit risk.

Credit Risk. The System's investment policy provides that its investments in fixed income securities be limited to those rated BB or better by a nationally recognized statistical rating organization. As of June 30, 2018, the System's investments in securities of U.S. agencies were not rated by Standard & Poor's. The System's investments in corporate bonds, foreign bonds, municipal bonds, and U.S. Government securities were rated by Standard & Poor's as follows:

AAA	\$ 2,347,661
AA	2,396,869
A	6,378,394
BBB	10,665,458
BB	196,792
Not rated	<u>37,139,450</u>
	<u>\$ 59,124,624</u>

Concentration of Credit Risk. The System's investments are not exposed to concentration of credit risk relative to a single issuer (i.e. company or government agency) inasmuch as no holdings equal or exceed 5% or more of total investments. The System's investment policy requires that the securities of any one company or government agency should not exceed 10% of the total fund and no more than 25% of the total fund should be invested in any one industry.

Interest Rate Risk. As of June 30, 2018, maturities of the System's debt securities (none of which were callable) were as follows:

	Investment Maturities (fair value by years)				
	Fair Value	Less Than 1	1-5	6-10	More Than 10
Corporate bonds	\$ 28,544,654	\$ 1,105,886	\$ 8,912,575	\$ 7,801,487	\$ 10,724,706
Foreign bonds	2,855,732	158,624	1,145,767	961,371	589,970
Municipal bonds	766,247	-	-	-	766,247
U.S. government securities	26,957,991	144,122	5,956,459	4,721,238	16,136,172
Total debt securities	<u>\$ 59,124,624</u>	<u>\$ 1,408,632</u>	<u>\$ 16,014,801</u>	<u>\$ 13,484,096</u>	<u>\$ 28,217,095</u>

The System's investment policy does not place limits on the maximum maturity for any single fixed income security or the weighted average for the portfolio maturity or a particular segment thereof. At June 30, 2018, the actual weighted average maturity was 14.3 years.

CITY OF BATTLE CREEK, MICHIGAN

POLICE AND FIRE RETIREMENT SYSTEM

Notes to Financial Statements

Foreign Currency Risk. Foreign currency risk is the risk that significant fluctuations in exchange rates may adversely affect the fair value of an investment. The System has various investment holdings in international equities of \$3,364,886, foreign bonds of \$2,855,732 and American depository receipts of \$16,272,335; these holdings are primarily in common and preferred stocks of Canadian (dollars) and European (euros) companies along with various other global companies. The System does not have any policies regarding foreign currency risk.

Rate of return. For the year ended June 30, 2018, the annual money-weighted rate of return on plan investments, net of investment expenses, was 6.89%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Securities Lending. A contract approved by the System's Board permits the System to lend its securities to broker-dealers and banks (borrowers) for collateral that will be returned for the same securities in the future. The System's custodial bank manages the securities lending program and receives cash as collateral. The collateral securities cannot be pledged or sold by the System unless the borrower defaults. Collateral cash is initially pledged at 100% of the fair value of the securities lent, and may not fall below 100% during the term of the loan. There are no restrictions on the amount of securities that can be loaned. Securities on loan at year-end are classified in the preceding schedule of custodial credit risk according to the category for the collateral received on the securities lent.

At year-end, the System has no credit risk exposure to borrowers as the amounts the System owes the borrowers exceed the amounts the borrowers owe the System. The contract with the System's custodian requires it to indemnify the System if the borrowers fail to return the securities (and if the collateral is inadequate to replace the securities lent) or fail to pay the System for income distributions by the securities' issuers while the securities are on loan.

Also at year-end, through a cash collateral investing program provided by the custodial bank, the System has an obligation to repay \$120,303 of cash collateral that was invested in a Sigma Finance Medium Term Note, which is impaired. Any current or future recoveries from Sigma Finance are not expected.

Fair Value Measurements. The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs - other than quoted prices - included within Level 1 that are observable for the asset or liability, either directly or indirectly. Finally, Level 3 inputs are unobservable and are based on estimates and assumptions. These levels are determined by the System's investment manager. These are determined at the fund level based on a review of the investment's class, structure, and what kind of securities are held in funds. The investment manager will request the information from the fund manager if necessary.

CITY OF BATTLE CREEK, MICHIGAN

POLICE AND FIRE RETIREMENT SYSTEM

Notes to Financial Statements

The System had the following recurring fair value measurements as of June 30, 2018:

	Level 1	Level 2	Level 3	Total
Fixed income:				
Corporate bonds	\$ 594,721	\$ 27,949,933	\$ -	\$ 28,544,654
Foreign bonds	-	2,855,732	-	2,855,732
Municipal bonds	-	766,247	-	766,247
U.S. government securities	-	26,957,991	-	26,957,991
Equity-indexed institutional funds	30,684,089	-	-	30,684,089
Domestic equities	28,980,512	-	-	28,980,512
Foreign equities	3,364,886	-	-	3,364,886
American depositary receipts	16,272,335	-	-	16,272,335
Real estate trusts	716,616	-	-	716,616
	<u>\$ 80,613,159</u>	<u>\$ 58,529,903</u>	<u>\$ -</u>	<u>\$ 139,143,062</u>

4. RISK MANAGEMENT

The System is exposed to various risks of loss related to torts, errors and omissions. The System participates in the City of Battle Creek's risk management program for all of these exposures. The City's risk management program is primarily a self-insured program with reinsurance for amounts in excess of aggregate loss limits. The City estimates the liability for unpaid claims (including claims incurred but not reported) and allocates the cost to all appropriate entities and funds. There is no further exposure to the System that would require a liability to be recorded in the financial statements.

5. NET PENSION LIABILITY OF THE CITY

The components of the net pension liability of the City at June 30, 2018, are as follows:

Total pension liability	\$ 192,038,450
Plan fiduciary net position	(144,588,461)
City's net pension liability	<u>\$ 47,449,989</u>

Plan fiduciary net position as a percentage of the total pension liability	75.29%
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Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of June 30, 2017 (and rolled forward to June 30, 2018), using the following actuarial assumptions, applied to all periods included in the measurement:

Wage inflation	4.00%
Salary increases	4.50 to 16.00%, including inflation
Investment rate of return	6.50%
Retirement age	Age and service-based tables of rates that are specific to the type of eligibility condition. Last updated for the 2009 valuation.

RP-2014 Standard Mortality Tables projected to 2019 using the MP-2014 mortality improvement scale.

**CITY OF BATTLE CREEK, MICHIGAN
POLICE AND FIRE RETIREMENT SYSTEM**

Notes to Financial Statements

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period July 1, 2009 to June 30, 2014.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation) are developed for each major asset class. These ranges 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, 2018 (see the discussion of the System's investment allocation policy) are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return	Expected Money-Weighted Rate of Return
U.S. treasuries	0.00%	0.75%	0.00%
U.S. agencies	42.00%	0.75%	0.32%
Domestic corporate securities	32.00%	4.50%	1.44%
Domestic equities	9.00%	4.75%	0.44%
American depository receipts	3.00%	0.00%	0.01%
International equities	14.00%	4.75%	0.68%
Real estate investment trusts	0.00%	0.75%	0.00%
	<u>100.00%</u>		
Inflation			2.25%
Administrative expenses netted above			<u>1.36%</u>
Investment rate of return			<u><u>6.50%</u></u>

Discount rate. A single discount rate of 6.50% was used to measure the total pension liability. This was a decrease from the single discount rate of 6.75% used in the prior valuation. This single discount rate was based on an expected rate of return on the plan investments of 6.50% and a municipal bond rate of 3.62%. The projection of cash flows used to determine the single discount rate assumed that plan member contributions will be made at the current contribution rate and that City 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 was applied to all periods of projected benefit payments to determine the total pension liability.

**CITY OF BATTLE CREEK, MICHIGAN
POLICE AND FIRE RETIREMENT SYSTEM**

Notes to Financial Statements

Sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the City, calculated using the discount rate of 6.50%, as well as what the City's 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 (6.50%)	1% Increase (7.50%)
City's net pension liability	\$ 71,274,883	\$ 47,449,989	\$ 27,623,304



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REQUIRED SUPPLEMENTARY INFORMATION

**CITY OF BATTLE CREEK, MICHIGAN
POLICE AND FIRE RETIREMENT SYSTEM**

Required Supplementary Information

Schedule of Changes in the City's Net Pension Liability and Related Ratios

	Fiscal Year Ended June 30,				
	2018	2017	2016	2015	2014
Total pension liability					
Service cost	\$ 4,070,388	\$ 3,637,644	\$ 3,649,198	\$ 3,460,667	\$ 3,152,919
Interest on total pension liability	11,718,436	11,630,004	11,317,045	10,533,430	10,227,546
Benefit changes	1,505,727	1,062,436	704,651	2,043,014	-
Difference between expected actual experience	1,955,535	(5,040,576)	(119,463)	-	-
Assumption changes	6,224,926	-	4,988,871	4,476,291	-
Benefit payments	(10,015,645)	(10,375,906)	(9,444,578)	(9,381,779)	(8,947,330)
Net change in total pension liability	15,459,367	913,602	11,095,724	11,131,623	4,433,135
Total pension liability, beginning of year	176,579,083	175,665,481	164,569,757	153,438,134	149,004,999
Total pension liability, end of year	192,038,450	176,579,083	175,665,481	164,569,757	153,438,134
Plan fiduciary net position					
Employer contributions	5,180,487	4,746,323	4,664,957	4,612,446	4,316,203
Employee contributions	1,478,257	1,215,059	1,077,632	1,076,523	984,463
Pension plan net investment income	10,201,971	11,593,876	2,617,277	4,868,622	17,087,045
Benefit payments and refunds	(10,066,683)	(10,375,906)	(9,444,578)	(9,381,779)	(8,947,330)
Pension plan administrative expense	(214,905)	(219,010)	(216,729)	(181,572)	(213,462)
Medical insurance premiums	(500,000)	(500,000)	(500,000)	(1,040,952)	(356,758)
Net change in plan fiduciary net position	6,079,127	6,460,342	(1,801,441)	(46,712)	12,870,161
Plan fiduciary net position, beginning of year	138,509,334	132,048,992	133,850,433	133,897,145	121,026,984
Plan fiduciary net position, end of year	144,588,461	138,509,334	132,048,992	133,850,433	133,897,145
Net pension liability	\$ 47,449,989	\$ 38,069,749	\$ 43,616,489	\$ 30,719,324	\$ 19,540,989
Plan fiduciary net position as a percentage of total pension liability	75.29%	78.44%	75.17%	81.33%	87.26%
Covered payroll	\$ 14,718,606	\$ 14,043,138	\$ 14,069,533	\$ 13,495,955	\$ 11,700,630
Net pension liability as a percentage of covered payroll	322.38%	271.09%	310.01%	227.62%	167.01%

Notes:

GASB 67 was implemented in fiscal year 2014. This schedule is being built prospectively. Ultimately, 10 years of data will be presented.

Assumption changes for 2018 include a decrease in the wage inflation, decrease in salary increases and decrease in the investment rate of return.

Assumption Changes 2015: Changes include a decrease in wage inflation, decrease in projected salary increases, and the mortality tables were updated to RP-2014.

Assumption Changes 2016: Changes include an increase in wage inflation, increase in projected salary increases, and decrease in the investment rate of return.

**CITY OF BATTLE CREEK, MICHIGAN
POLICE AND FIRE RETIREMENT SYSTEM**

Required Supplementary Information

Schedule of City Contributions

Fiscal Year Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as Percentage of Covered Payroll
2014	\$ 4,316,203	\$ 4,316,203	\$ -	\$11,700,630	36.89%
2015	4,612,446	4,612,446	-	13,495,955	34.18%
2016	4,664,957	4,664,957	-	14,069,533	33.16%
2017	4,746,323	4,746,323	-	14,043,138	33.80%
2018	5,180,487	5,180,487	-	14,718,606	35.20%

Notes to Schedule of Contributions

Valuation date June 30, 2017

Notes Actuarially determined contribution amounts are calculated as of June 30 of each year, which is 12 months prior to the beginning of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry-age normal
Amortization method	Level percentage-of-payroll
Remaining amortization period	Closed 30 years for benefit improvements and assumption changes Closed 27 years for all other liabilities
Asset valuation method	5-year smoothed market, with 20% corridor
Inflation	4.00%
Salary increases	4.50%-16.00%, including inflation
Investment rate of return	6.50%
Retirement age	Age and service-based tables of rates that are specific to the type of eligibility condition. Last updated for the 2009 valuation.
Mortality rates	RP-2014 Standard Mortality Tables projected to 2019 using the MP-2014 mortality improvement scale.

Other information None

CITY OF BATTLE CREEK, MICHIGAN
POLICE AND FIRE RETIREMENT SYSTEM

Required Supplementary Information

Schedule of Investment Returns

Fiscal Year Ending June 30,	Annual Return ⁽¹⁾
2014	14.01%
2015	3.44%
2016	15.82%
2017	9.02%
2018	6.89%

⁽¹⁾ Annual money-weighted rate of return, net of investment expenses

Note: GASB 67 was implemented in fiscal year 2014. This schedule is being built prospectively. Ultimately, 10 years of data will be presented.