

Municipal Fire and Police Retirement System of Iowa

Financial Statements as of and for the
Years Ended June 30, 2018 and 2017,
Required Supplementary Information, and
Related Independent Auditor's Reports

MUNICIPAL FIRE AND POLICE RETIREMENT SYSTEM OF IOWA

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Independent Auditors Report

To the Board of Trustees
Municipal Fire and Police Retirement System of Iowa
Des Moines, Iowa

Report on the Financial Statements

We have audited the accompanying financial statements of the Municipal Fire and Police Retirement System of Iowa (MFPRSI), which comprise the statements of fiduciary net position as of June 30, 2018 and 2017, and the related statements of changes in fiduciary net position, for the years then ended, and the related notes to the financial statements.

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.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of 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 auditor's 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 entity'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 respective statements of fiduciary net position of the Municipal Fire and Police Retirement System of Iowa, as of June 30, 2018 and 2017, and the respective changes in fiduciary net position thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Notes 2 and 4 to the financial statements, total MFPRSI investments include investments valued at \$835.2 million (32.5% of total assets) as of June 30, 2018, whose fair values have been estimated by management in the absence of readily determinable fair values. Management's estimates are based on information provided by the fund managers or the general partners. Our opinion is not modified with respect to this matter.

Other Matters**Required Supplementary Information**

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the required supplementary information on pages 3-6 and 27-34 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.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October 8, 2018, on our consideration of the MFPRSI's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering MFPRSI's internal control over financial reporting and compliance.



Boise, Idaho
October 8, 2018

Management's Discussion and Analysis

The following discussion and analysis of the Municipal Fire and Police Retirement System of Iowa's (System) financial performance provides an overview of the System's financial activities for the fiscal years ended June 30, 2018 and 2017. Please read in conjunction with the basic financial statements, which follow this discussion. These statements represent the current condition from an accounting perspective, but do not reflect the System's actuarial status. Refer to the System's actuarial valuation for the System's funding status regarding long term benefit obligations.

FINANCIAL HIGHLIGHTS

- System assets exceeded its financial liabilities at the close of the fiscal years 2018 and 2017 by \$2,549,627,987 and \$2,436,896,111 (reported as plan net position restricted for pension benefits), respectively. Net position restricted for pension benefits is held in trust to meet future benefit payments.
- Additions for the year ended June 30, 2018 were \$285,328,950, which is comprised of contributions of \$102,135,319, net investment income of \$183,182,098, and other income of \$11,533. Additions for the year ended June 30, 2017 were \$359,850,135, which is comprised of contributions of \$100,036,185, net investment income of \$259,812,040, and other income of \$1,910.
- Benefit payments were \$169,075,775 and \$162,588,755 for the years ended June 30, 2018 and 2017, respectively, a 4.0% increase from year to year.

THE STATEMENT OF FIDUCIARY NET POSITION AND THE STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

This annual financial report consists of two financial statements; the Statement of Fiduciary Net Position and the Statement of Changes in Fiduciary Net Position. These financial statements report information about the System as a whole, and financial condition that should help answer the question: Is the System, as a whole, better off or worse off as a result of this fiscal year's experience? These financial statements include all assets and liabilities using the accrual basis of accounting. Under the accrual basis of accounting, all revenues and expenses are taken into account regardless of when cash is received or paid.

The Statement of Fiduciary Net Position present all of the System's assets and liabilities, with the difference between assets and liabilities reported as plan net position restricted for pension benefits. Over time, increases and decreases in plan net position restricted for pension benefits is one method of measuring whether the System's financial position is improving or deteriorating. The Statement of Changes in Fiduciary Net Position present the changes in plan net assets during the respective fiscal year.

FINANCIAL ANALYSIS

System assets as of June 30, 2018 and 2017 were approximately \$2.57 billion and \$2.46 billion, respectively, and were primarily comprised of investments, cash, receivables from brokers, and contributions due from employers. The \$107,949,144, or 4.4%, increase in assets from June 30, 2017 to June 30, 2018 was primarily due to the unrealized gains experienced in invested assets.

As discussed in Notes 2 and 4 to the financial statements, total System investments include investments valued at \$835.2 million (32.5% of total assets) and \$779.6 million (31.7% of total assets) as of June 30, 2018 and 2017, respectively, whose fair values have been estimated by management in the absence of readily determinable fair values. Management's estimates are based on information provided by the fund managers or the general partners.

Total liabilities as of June 30, 2018 and 2017 were \$18,395,197 and \$23,183,768, respectively, and were primarily comprised of obligations under benefits and refunds payable, as well as investment management expenses payable. The \$4,788,571, or 20.7%, decrease in liabilities from June 30, 2017 to June 30, 2018 was due to a decrease in payables to brokers for unsettled trades.

During the year ended June 30, 2018 plan net position restricted for pension benefits increased \$112,731,876, or 4.6%, from the previous fiscal year, primarily due to unrealized gains experienced in invested assets. This is in comparison to the previous fiscal year, when net position increased by \$194,349,719, or 8.7%, from the prior year.

Municipal Fire and Police Retirement System of Iowa
Condensed Statement of Fiduciary Net Position
(In Thousands of \$)

	2018	2017	2018/2017 Inc (Dec)	2016	2017/2016 Inc (Dec)
Assets:					
Cash	\$ 57,798	\$ 24,764	133.4%	\$ 7,692	221.9%
Investments	2,504,248	2,427,393	3.2%	2,250,515	7.9%
Receivables	5,651	7,563	-25.3%	4,327	74.8%
Other Assets	115	143	-19.6%	188	-23.9%
Total Assets	<u>\$ 2,567,812</u>	<u>\$ 2,459,863</u>	<u>4.4%</u>	<u>\$ 2,262,722</u>	<u>8.7%</u>
Pension related deferred outflows	<u>241</u>	<u>325</u>	<u>-25.8%</u>	<u>207</u>	<u>57.0%</u>
Liabilities:					
Benefits and refunds payable	14,543	16,185	-10.1%	16,781	-3.6%
Investment management expense payable	2,584	2,250	14.8%	2,152	4.6%
Administrative expenses payable	403	393	2.5%	402	-2.2%
Net Pension Liability attributed to IPERS	820	794	3.3%	633	25.4%
Payable to brokers for unsettled trades	46	3,562	-98.7%	268	1229.1%
Total Liabilities	<u>\$ 18,396</u>	<u>\$ 23,184</u>	<u>-20.7%</u>	<u>\$ 20,236</u>	<u>14.6%</u>
Pension related deferred inflows	<u>29</u>	<u>108</u>	<u>-73.1%</u>	<u>147</u>	<u>-26.5%</u>
Net position restricted for pension benefits	<u>\$ 2,549,628</u>	<u>\$ 2,436,896</u>	<u>4.6%</u>	<u>\$ 2,242,546</u>	<u>8.7%</u>

Municipal Fire and Police Retirement System of Iowa
Condensed Statement of Changes in Fiduciary Net Position
(In Thousands of \$)

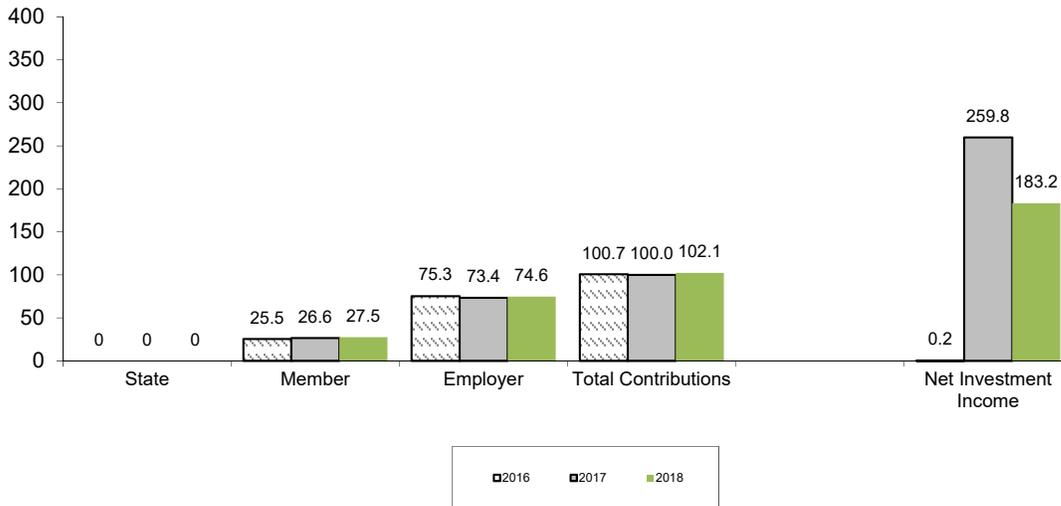
	2018	2017	2018/2017 Inc/(Dec)	2016	2017/2016 Inc/(Dec)
Additions:					
Contributions	\$ 102,135	\$ 100,036	2.1%	\$ 100,710	-0.7%
Net investment income	183,182	259,812	-29.5%	164	158322.0%
Other income	12	2	500.0%	2	0.0%
Total additions	<u>285,329</u>	<u>359,850</u>	<u>-20.7%</u>	<u>100,876</u>	<u>256.7%</u>
Deductions:					
Benefits and refund payments	170,664	163,572	4.3%	156,566	4.5%
Administrative expenses	1,933	1,928	0.3%	1,944	-0.8%
Total deductions	<u>172,597</u>	<u>165,500</u>	<u>4.3%</u>	<u>158,510</u>	<u>4.4%</u>
Net increase (decrease)	112,732	194,350	-42.0%	(57,634)	-437.2%
Plan net position restricted for pension benefits:					
Beginning of year	2,436,896	2,242,546	8.7%	2,300,180	-2.5%
End of year	<u>\$ 2,549,628</u>	<u>\$ 2,436,896</u>	<u>4.6%</u>	<u>\$ 2,242,546</u>	<u>8.7%</u>

REVENUES – ADDITIONS TO FIDUCIARY NET POSITION

Reserves needed to finance retirement benefits are accumulated through the collection of contributions and earnings on investments. Contributions and net investment income for the fiscal year 2018 totaled \$285,328,950.

Contributions increased from the previous year by \$2,099,134. This increase is primarily due to an increase in the number of active members for the years ended June 30, 2018 and 2017, respectively. Net investment income decreased from the previous year by \$76,629,942. This change is primarily due to a net depreciation in the fair value of investments.

Additions to Plan Net Assets (In Millions \$)

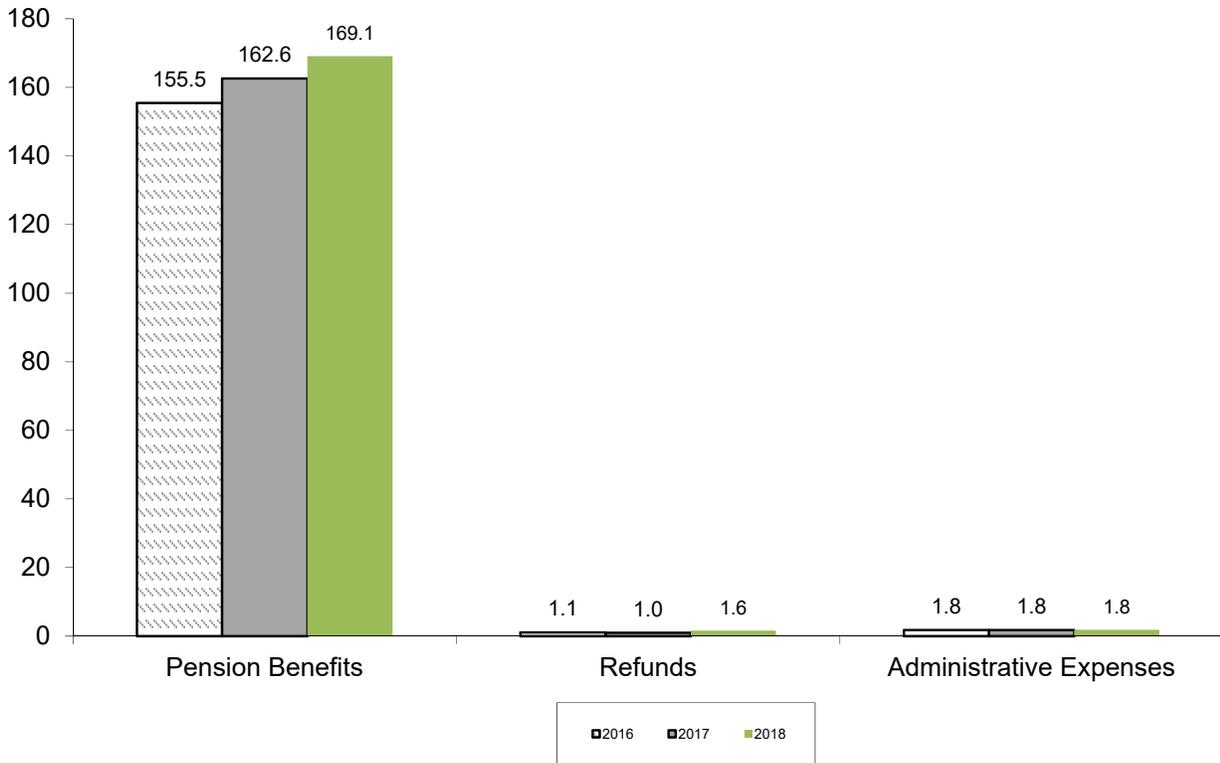


EXPENSES – DEDUCTIONS FROM FIDUCIARY NET POSITION

The principal expenses of the System include the payment of pension benefits to retired members and beneficiaries, refund of contributions to former members, and the cost of administering the System. Total deductions for the fiscal year 2018 were \$172,597,074, an increase of 4.3% over fiscal year 2017 deductions.

Pension benefit payments increased by \$6,487,020, or 4.0%, from the previous year. Refund of contributions increased by \$605,256, or 61.6%. These changes are primarily due to the annual escalator fund applied to benefit payments and the noted increase in number of applications for refunds in 2018.

Deductions from Plan Net Position (In Millions \$)



RETIREMENT SYSTEM AS A WHOLE

It is important to note the financial obligations established by the Iowa legislature in Iowa Code Chapter 411 are committed benefits, which are to be funded through the contributions made by the employers and the membership, in concert with the long-term return on investments. The “public policy” within Iowa has always been to meet the benefit commitments of the pension plans. The history of the plan benefits under Chapter 411 traces to 1934. The funding methods established by the legislature in the Iowa Code, whereby contributions are made from the individual employers and members, coupled with the “prudent person” concept for investment policy, provides the financial foundation for this public policy.

CONTACTING THE SYSTEM

This financial report is designed to provide the System’s Board of Trustees, membership, and cities a general overview of the System’s finances and to demonstrate accountability for assets. If you have any questions about this or need additional financial information, contact the System’s office, 7155 Lake Drive, Suite 201, West Des Moines, IA 50266.

MUNICIPAL FIRE AND POLICE RETIREMENT SYSTEM OF IOWA

**STATEMENT OF FIDUCIARY NET POSITION
AS OF JUNE 30, 2018 AND 2017**

	2018	2017
Assets:		
Cash	\$ 57,798,376	\$ 24,763,759
Investments, at fair value:		
U.S. government obligations	79,203,825	35,117,865
U.S. corporate fixed income	52,563,915	30,286,680
U.S. equity securities	461,079,763	451,698,916
Foreign equity securities	382,076,887	390,895,373
Commingled fixed income	62,205,236	194,995,096
Multi-strategy commingled fund	48,827,803	56,953,655
Short-term investments and currency positions	18,476,846	19,859,423
Real estate	269,472,057	279,113,610
Private equity	516,856,484	487,615,861
Fund of funds commingled investment	613,485,388	480,856,341
Total investments - at fair value	<u>2,504,248,204</u>	<u>2,427,392,820</u>
Receivables:		
Contributions	4,451,423	3,978,089
Investment income	45,717	41,719
Receivable from brokers for unsettled trades, net	1,153,782	3,543,162
Total receivables	<u>5,650,922</u>	<u>7,562,970</u>
Other assets	114,339	143,148
Total assets	<u>2,567,811,841</u>	<u>2,459,862,697</u>
Pension related deferred outflows	<u>240,777</u>	<u>325,323</u>
Liabilities:		
Benefits & refunds payable	14,542,877	16,184,765
Investment management expenses payable	2,583,622	2,249,603
Administrative expenses payable	402,949	393,485
Net pension liability attributed to IPERS	819,626	794,389
Payable to brokers for unsettled trades, net	46,123	3,561,526
Total liabilities	<u>18,395,197</u>	<u>23,183,768</u>
Pension related deferred inflows	<u>29,434</u>	<u>108,141</u>
Plan net position restricted for pension benefits	<u>\$ 2,549,627,987</u>	<u>\$2,436,896,111</u>

MUNICIPAL FIRE AND POLICE RETIREMENT SYSTEM OF IOWA

**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEARS ENDED JUNE 30, 2018 AND 2017**

	2018	2017
Additions:		
Contributions:		
Member	\$ 27,493,680	\$ 26,625,022
Employer	74,641,639	73,411,163
State appropriations	-	-
Total contributions	<u>102,135,319</u>	<u>100,036,185</u>
Investment income:		
Interest	5,489,957	2,923,848
Dividends	17,108,447	20,757,172
Net appreciation in fair value of investments	<u>180,336,503</u>	<u>254,088,496</u>
Net investment income from investment activity	<u>202,934,907</u>	<u>277,769,516</u>
Less investment expenses:		
Management fees and other	<u>19,752,809</u>	<u>17,957,476</u>
Net investment income	<u>183,182,098</u>	<u>259,812,040</u>
Other income	<u>11,533</u>	<u>1,910</u>
Total additions	<u>285,328,950</u>	<u>359,850,135</u>
Deductions:		
Benefit payments	169,075,775	162,588,755
Refund payments	1,588,087	982,831
Administrative expenses	1,820,546	1,806,317
Disability expenses	<u>112,666</u>	<u>122,513</u>
Total deductions	<u>172,597,074</u>	<u>165,500,416</u>
Net increase	112,731,876	194,349,719
Plan net position restricted for pension benefits:		
Net position - Beginning	<u>2,436,896,111</u>	<u>2,242,546,392</u>
Net position - Ending	<u><u>\$2,549,627,987</u></u>	<u><u>\$2,436,896,111</u></u>

MUNICIPAL FIRE AND POLICE RETIREMENT SYSTEM OF IOWA

NOTES TO FINANCIAL STATEMENTS AS OF AND FOR THE YEARS ENDED JUNE 30, 2018 AND 2017

1. PLAN DESCRIPTION

General — The Municipal Fire and Police Retirement System of Iowa (System) was created under Chapter 411.35 of the Code of Iowa to replace 87 separate fire and police retirement systems from 49 cities and 1 county in Iowa (Separate Systems). Effective January 1, 1992, the Separate Systems were terminated, and the respective entities were required to transfer assets to the System equal to their respective accrued liabilities (as measured by the System's actuary). Upon transfer of the assets, the System assumed all membership, benefits rights and financial obligations of the Separate Systems.

The System is the administrator of a multi-employer, cost sharing, defined benefit pension plan for the exclusive benefit of eligible employees of participating cities (substantially all full-time employees of the respective cities' fire and police departments), (the Plan). It is governed by a nine-member Board of Trustees (Board) who are appointed to the Board by police and fire associations and by the Iowa League of Cities. The eight voting members select a private citizen to serve as the ninth voting member. The Board is authorized by the state legislature to make investments, pay benefits, set contributions rates, hire staff and consultants and perform all necessary functions to carry out the provisions of the Code of Iowa. The System is separate and apart from state government and is not included in the state's financial statements.

At June 30, 2018, the System was comprised of 49 cities covering 4,003 active members; 367 terminated members entitled to benefits; and 4,107 retired firefighters, police officers, bailiffs, and eligible beneficiaries across Iowa.

Funding:

Member - Member contribution rates are set by state statute. In accordance with Iowa Code Chapter 411 as modified by act of the 1994 General Assembly, to establish compliance with the Federal Older Workers Benefit Protections Act, the contribution rate was 9.40% of earnable compensation for the years ended June 30, 2018 and 2017.

Employer - Employer contribution rates are based upon an actuarially determined normal contribution rate and set by state statute. The required actuarially determined contributions are calculated on the basis of the entry age normal method as adopted by the Board of Trustees as permitted under Chapter 411 of the Code of Iowa. The normal contribution rate is provided by state statute to be the actuarial liabilities of the plan less current plan assets, with such total divided by 1 percent of the actuarially determined present value of prospective future compensation of all members, further reduced by member contributions and state appropriations. Under the Code of Iowa the employer's contribution rate cannot be less than 17.00% of earnable compensation. The contribution rate was 25.68% and 25.92% for the years ended June 30, 2018 and 2017, respectively.

State Appropriations - State appropriations are approved by the state legislature and may further reduce the employer's contribution rate, but not below the minimum statutory contribution rate of 17.00% of earnable compensation. The State therefore is considered to be a nonemployer contributing entity in accordance with the provisions of the Governmental Accounting Standards Board Statement No. 67 – Financial Reporting for Pension Plans, (GASB 67). There were no State appropriations for the years ended June 30, 2018 and 2017.

Benefits Provided — Participating members are entitled to the benefit provisions in effect on the member's date of termination. The following is a summary of the System benefit provisions for the years ended June 30, 2018 and 2017:

Retirement - Members with 4 or more years of service are entitled to pension benefits beginning at age 55. Full service retirement benefits are granted to members with 22 years of service, while partial benefits are available to those members with 4 to 22 years of service based on the ratio of years completed to years required (22 years). Members with less than 4 years of service are entitled to a refund of their contribution only, with interest for the period of employment.

Benefits are calculated based upon the member's highest 3 years of compensation. The average of these 3 years becomes the member's average final compensation. The base benefit is 66 percent of the member's average final compensation. Additional benefits are available to members who perform more than 22 years of service (2 percent for each additional year of service, up to a maximum of 8 years). Survivor benefits are available to the beneficiary of a retired member according to the provisions of the benefit option chosen plus an additional benefit for each child. Survivor benefits are subject to a minimum benefit for those members who chose the basic benefit with a 50 percent surviving spouse benefit.

Disability and Death - Disability coverage is broken down into two types, accidental and ordinary. Accidental disability is defined as permanent disability incurred in the line of duty, with benefits equivalent to the greater of 60 percent of the member's average final compensation or the member's service retirement benefit calculation amount. Ordinary disability occurs outside the call of duty and pays benefits equivalent to the greater of 50 percent of the member's average final compensation, for those with 5 or more years of service, or the member's service retirement benefit calculation amount, and 25 percent of average final compensation for those with less than 5 years of service.

Death benefits are similar to disability benefits. Benefits for accidental death are 50 percent of the average final compensation of the member plus an additional amount for each child, or the provisions for ordinary death. Ordinary death benefits consist of a pension equal to 40 percent of the average final compensation of the member plus an additional amount for each child, or a lump-sum distribution to the designated beneficiary equal to 50 percent of the previous year's earnable compensation of the member or equal to the amount of the member's total contributions plus interest.

Benefits are increased (escalated) annually in accordance with Iowa Code Chapter 411.6 which states a standard formula for the increases.

Traumatic Personal Injury - The surviving spouse or dependents of an active member who dies due to a traumatic personal injury incurred in the line of duty receives a \$100,000 lump-sum payment.

Deferred Retirement Option Program (DROP) - Active members, at least 55 years of age, with 22 or more years of service have the option to participate in the DROP Program. The DROP is an arrangement whereby a member who is otherwise eligible to retire and commence benefits opts to continue to work. A member can elect a 3, 4, or 5 year DROP period. By electing to participate in DROP the member is signing a contract indicating the member will retire at the end of the selected DROP period. During the DROP period the member's retirement benefit is frozen and a DROP benefit is credited to a DROP account established for the member. Assuming the member completes the DROP period, the DROP benefit is equal to 52% of the member's retirement benefit at the member's earliest date eligible and 100% if the member delays enrollment for 24 months. At the member's actual date of retirement, the member's DROP account will be distributed to the member in the form of a lump sum or rollover to an eligible plan. The balance of the amounts held by the System pursuant to the DROP is \$14,063,000 as of June 30, 2018 and \$15,980,000 as of June 30, 2017.

Net Pension Liability of the System – The components of the net pension liability of the System at June 30, 2018 and 2017, were as follows:

	2018	2017
Total pension liability	\$ 3,145,031,474	\$ 3,023,371,171
Plan fiduciary net position	<u>(2,549,627,987)</u>	<u>(2,436,896,111)</u>
System's net pension liability	<u>\$ 595,403,487</u>	<u>\$ 586,475,060</u>
Plan fiduciary net position as a percentage of the total pension liability	81.07%	80.60%

Actuarial Assumptions – The total pension liability was determined by an actuarial valuation as of June 30, 2018 and 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.0 percent
Salary increases	3.75 to 15.11 percent including inflation
Investment rate of return	7.5 percent, net of investment expense

Mortality rates as of June 30, 2018 were based on RP 2014 Blue Collar Healthy Annuitant table with males set-forward zero years, females set-forward two years and disabled set-forward three years (male only rates), with generational projection of future mortality improvement with 50% of Scale BB beginning in 2017.

Mortality rates as of June 30, 2017 were based on RP 2000 Blue Collar Combined Healthy table with males set-back two years, females set-forward one year and disabled set-forward one year (male only rates), with five years projection of future mortality improvement with Scale BB.

The actuarial assumptions used in the June 30, 2018 and 2017 valuations were based on the results of an actuarial experience study for the period of July 1, 2007 to June 30, 2017.

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 pension plan 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 weighing the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of geometric real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2016 (see the discussion of the pension plan's investment policy) are summarized in the following table:

<u>Asset Class</u>	<u>Long-Term Expected Real Rate of Return</u>
Large Cap	5.5%
Small Cap	5.8%
International Large Cap	7.3%

Emerging Markets	9.0%
Emerging Market Debt	6.3%
Private Non-Core Real Estate	8.0%
Master Limited Partnerships	9.0%
Private Equity	9.0%
Core Plus Fixed Income	3.3%
Private Core Real Estate	6.0%
Tactical Asset Allocation	6.4%

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 System 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 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 of the System, calculated using the discount rate of 7.5 percent, as well as what the System’s net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.5%) or 1 percentage point higher (8.5%) than the current rate:

	<u>1% Decrease (6.5%)</u>	<u>Current Discount Rate (7.5%)</u>	<u>1% Increase (8.5%)</u>
System’s Net Pension Liability	\$993,410,396	\$595,403,487	\$265,867,144

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation — The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America.

The System prepared its financial statements using the accrual basis of accounting. It recognizes member and employer contributions as revenues in the month member earnings are paid. Benefits and refunds are recognized as expenses when payable. Expenses are recorded when the corresponding liabilities are incurred, regardless of when payment is made.

Use of Estimates — The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts in the financial statements. The System’s estimates are primarily related to the valuation of various investment instruments, including real estate, private equity, and the multi-strategy commingled fund, as well as the total pension liability. Actual results could differ from those estimates.

Investments — The System’s securities are reported at fair value. Where appropriate, the fair value includes estimated disposition costs. Certificates of deposit are recorded at amortized cost, which approximates fair value. Interest income is recognized when earned. Dividend income is recognized on the ex-dividend date. Gains or losses on stocks and bonds are recognized on an average cost basis calculated separately for each investment manager. Other gains and losses are recognized on an identified cost basis. Gains and losses on sales and exchanges are recognized on the trade date. The fair values of marketable securities held at June 30 are determined by using the closing price listed on national securities exchanges and quoted market prices are provided by independent pricing services. For commingled funds, the net asset value is determined and certified by the commingled fund manager. Investments in real estate, private equities, and the multi-strategy commingled fund which invest in both publicly and privately owned securities are valued based on estimates and assumptions of general partners, partnership valuation committees, or third party appraisal firms, in the absence of readily determined market values. Such valuations generally reflect cash flows, discounts for illiquidity and consider variables such as financial performance of investments, recent sales prices of investments, and other pertinent information.

Investment Policy — The pension plan’s policy in regard to the allocation of invested assets is established and may be amended by the Board of Trustees (Board) by a majority vote of its members. It is the policy of the Board of Trustees to pursue an investment strategy that reduces risk through prudent diversification of the portfolio across a broad selection of distinct asset classes. The pension plan’s investment policy discourages the use of cash equivalents, except for liquidity purposes, and aims to refrain from dramatically shifting asset class allocations over short time spans. The following was the Board’s adopted asset allocation policy as of June 30, 2018:

<u>Asset Class</u>	<u>Target Allocation</u>
Core investments	40%
Strategic investments	35%
Real assets	10%
Private markets	15%
Total	100%

Rate of Return – For the years ended June 30, 2018 and 2017, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 7.59% and 11.72%, respectively. The money-weighted rate of return, calculated arithmetically, expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Deferred Outflows/Inflows of Resources and Unavailable Revenue – In addition to assets, the statement of fiduciary net position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to a future period and thus, will not be recognized as an outflow of resources (expense/expenditure) until then. The System has only one item related to pensions which qualifies for reporting in this category. See note 6 for additional details.

In addition to liabilities, the statement of fiduciary net position will sometimes report a separate section for deferred inflow of resources. This separate financial statement element, deferred inflow of resources, represents an acquisition of net position that applies to future periods, so will not be recognized as an inflow of resources (revenue) until that time. The System has only one item related to pensions which qualifies for reporting in this category. See note 6 for additional details.

Pensions — For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Iowa Public Employees’ Retirement System (IPERS) and additions to / deductions from IPERS’ fiduciary net position have been determined on the same basis as they are reported by IPERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

3. CASH

For cash deposits, custodial credit risk is the risk that in the event of a bank failure, the System’s deposits may not be returned. The table below presents a summary of cash balances of the System at June 30, 2018 and 2017:

	<u>2018</u>	<u>2017</u>
Insured	\$ 250,000	\$ 250,000
Uninsured and uncollateralized	<u>58,425,988</u>	<u>25,387,539</u>
Bank balance — June 30	<u>\$ 58,675,988</u>	<u>\$ 25,637,539</u>

4. INVESTMENTS

Investment Policy — The investment authority, as prescribed by the Code of Iowa, is governed by the “prudent person rule.” This rule requires that an investment be made with the care, skill, prudence, and diligence, under the circumstances then prevailing, that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an entity of a like character with like aims. Within the “prudent person” framework, the Board has adopted investment guidelines for the System’s investment program.

The System is prohibited from holding direct investments in the Sudan, Iran, and companies that boycott Israel due to State statute.

The following investment vehicles are permitted by the System's investment policy and may be considered for the System's funds:

Stocks and Bonds (Domestic, International & Emerging Markets):

- Securities issued by and the obligations of or guaranteed by the United States of America or U.S. government sponsored enterprises or by the Dominion of Canada or any province thereof, financial futures and options;
- Bonds issued by the State of Iowa or its political subdivisions;
- Common stock, American Depositary Receipts, corporate bonds or other evidences of indebtedness issued under the laws of the Dominion of Canada or any province thereof;
- Common stock, bonds or other evidences of indebtedness issued under the laws of selected foreign countries or their political subdivisions;
- Debt instruments issued by multinational organizations, on behalf of selected nations or groups of nations, such as Brady Bonds, whether in U.S. dollars or foreign currencies;
- Mutual funds, commingled funds, or private equity which are, comprised of stocks, equity and or debt instruments, including those which hold positions in emerging markets, whether in U.S. dollars or foreign currencies;
- Derivative instruments, such as futures and options, can be utilized as an alternative to a stock or bond position, as specified.

Other Asset Classes — The currency positions of the System include the currency of a group of selected nations, which have well established and stable economic and political structures. Currency positions are only taken in countries or in multinational currencies (for examples, Euros) in which the System has determined to invest the System's assets. The currency assets of the System are represented within the individual portfolios of the investment managers, which have mandates, which include international bonds or stocks. The benchmark against which these managers run the portfolios shall include a zero percent hedged position to the U.S. dollar for the international portions of the mandate.

Derivative Instruments — Derivative instruments, such as futures and options, may be utilized in selected portfolios for the following purposes:

- 1) As an alternative to maintaining a selected asset position,
- 2) To maintain the duration of securities in a portfolio,
- 3) To gain exposure in a time of dollar strength to a foreign bond market with minimal exposure to the currency of the country,
- 4) To hedge or otherwise protect existing or anticipated portfolio positions,
- 5) To establish and maintain the currency positions for the currency overlay portfolio and for the individual currency activities of the individual portfolios, and
- 6) Not to speculate or leverage (gear-up) the portfolio.

Derivative instruments are generally defined as contracts whose value depends on (“derives” from) the value of an underlying asset, reference rate, or index. Derivative instruments include both of the following:

- a) “Over the counter” (OTC) derivatives: privately negotiated contracts provided directly by dealers to end-users; which include swaps, futures and options, based upon interest rates, currencies, equities, and commodities; and
- b) Standardized contracts sold on exchanges: futures and options.

Real Estate — The real estate positions of the System may include domestic or international real estate investments in individual properties or groups of properties, through one or more of the following: direct purchase or mortgage of individual properties, participation in a commingled fund (open-ended or closed-ended) or in a trust or a partnership, which has positions in one or more properties.

The real estate positions of the System may include investment in securitized real estate, via publicly traded or privately held Real Estate Investment Trusts (REITs).

Fund of Funds Commingled Investments — As of June 30, 2018 and 2017, the System was invested in fund of funds commingled investments, which can be broken down into the following asset classes:

	<u>2018</u>	<u>2017</u>
INVESTMENTS — At fair value:		
U.S. equity securities	\$ 206,728,819	\$ 185,356,750
Foreign equity securities	172,344,888	139,744,143
Fixed income	177,736,689	106,596,775
Alternative investments	32,539,528	31,348,243
Short-term investments and currency positions	<u>24,135,464</u>	<u>17,810,430</u>
Total fund of funds commingled investments	<u><u>\$ 613,485,388</u></u>	<u><u>\$ 480,856,341</u></u>

Investment Risk Disclosure: Credit Risk — The quality ratings of investments in fixed income securities as described by nationally recognized statistical rating organizations as of June 30, 2018 and 2017, are as follows:

	2018	
Quality Rating	Fair Value	Percentage of Portfolio
AAA	\$ 665,873	0.34 %
AA	124,921,010	64.40 %
A	13,989,650	7.21 %
BBB	35,614,246	18.36 %
BB	18,132,527	9.35 %
NR	<u>649,670</u>	<u>0.33 %</u>
Total fixed income securities	<u>\$ 193,972,976</u>	<u>100 %</u>

	2017	
Quality Rating	Fair Value	Percentage of Portfolio
AAA	\$ 1,030,424	0.40 %
AA	160,077,049	61.47 %
A	8,320,589	3.20 %
BBB	21,060,148	8.09 %
BB	68,141,466	26.17 %
B	726,812	0.28 %
CCC	<u>1,043,153</u>	<u>0.40 %</u>
Total fixed income securities	<u>\$ 260,399,641</u>	<u>100 %</u>

The System does not have a formal policy that limits the quality grade in which the System may invest.

Custodial Credit Risk — For an investment, 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 or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the System, and are held by either the counterparty or the counterparty's trust department or agent but not in the System's name.

Iowa Code 411.7 establishes the secretary of the Board as the custodian of the fund and provides for the System to select master custodian banks to provide custody of the System's assets. The System has arranged for Wells Fargo Bank to act as the master custodian bank. The master custodian bank may hold System property in the name of its nominee, bearer form, or in book entry form, so long as the custodian's records clearly indicate that such property is held as part of the System's account.

Concentration of Credit Risk — The System is guided by statute and policy in the selection of security investments. No investments in any one organization represent 5% or more of plan assets.

Interest Rate Risk — Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of the investment. The following table discloses the fair value and average duration of fixed income investments as of June 30, 2018.

	Fair Value	Duration
Investment Type:		
Short-term	\$ 4,016,275	0.0121
Fixed Income	131,767,740	4.7282
Commingled	<u>62,205,236</u>	<u>5.1206</u>
Total fair value	<u>\$ 197,989,251</u>	
Portfolio Modified Duration		<u>4.7558</u>

Duration is a measure of interest rate risk. The greater the duration of a bond, or portfolio of bonds, the greater its price volatility will be in response to a change in interest rates and vice-versa. Duration is the measure of a bond price's sensitivity to a 100-basis point change in interest rates. Duration of eight would mean that, given a 100-basis point change up/down in rates, a bond's price would move up/down by 8%.

Commitments — The System is committed, as of June 30, 2018, to invest approximately \$278,000,000 in certain private equity, real estate partnerships, and real estate commingled funds.

Fair Value Measurements – The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principals. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs. Investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy below.

In instances where inputs used to measure fair value fall into different levels in the above fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The System's assessment of the significance of particular inputs to these fair value measurements requires judgement and considers factors specific to each asset or liability.

Investments Measured at Fair Value on a Recurring Basis

	Fair Value Measurement Using			
	Balance at June 30, 2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level:				
Debt Securities				
U.S. Treasury securities	\$ 29,122,510	\$ 29,122,510	\$ -	\$ -
Mortgage-Related securities	45,962,944	-	45,962,944	-
Government-Related securities	4,118,371	-	4,118,371	-
Corporate securities	52,563,915	-	52,563,915	-
Total debt securities	<u>131,767,740</u>	<u>29,122,510</u>	<u>102,645,230</u>	<u>-</u>
Equity securities				
MLPs	104,099,614	104,099,614	-	-
Preferred Stock	1,355,000	1,355,000	-	-
Total equity securities	<u>105,454,614</u>	<u>105,454,614</u>	<u>-</u>	<u>-</u>
Total investments by fair value level	237,222,354	<u>\$ 134,577,124</u>	<u>\$ 102,645,230</u>	<u>\$ -</u>
Investments measured at the NAV:				
Domestic equity funds	347,641,687			
International equity funds	375,064,871			
Global equity funds	14,995,478			
Global bond funds	56,901,493			
Emerging debt funds	5,303,743			
Real estate funds	264,088,351			
Private equity funds	516,856,484			
Multi-strategy hedge funds	48,827,803			
Fund of funds commingled investments	613,485,388			
Real estate held as investment	<u>5,383,706</u>			
Total investments measured at the NAV	<u>2,248,549,004</u>			
Total investments measured at fair value	<u>\$ 2,485,771,358</u>			

Debt and equity securities classified as Level 1 are valued using prices quoted in active markets for those securities.

The fair value of Mortgage-Related Securities, Corporate Securities and Government-Related Securities at June 30, 2018 was determined primarily based on level 2 inputs. Wells Fargo estimates the fair value of these investments using other inputs such as interest rates and yield curves that are observable at commonly quoted intervals.

The fair value of Cash Collateral at June 30, 2018 was determined primarily based on level 3 inputs. Wells Fargo estimates the fair value of these investments using its own estimates using pricing models, discounted cash flow methodologies, or similar techniques taken into account the characteristics of the asset. As of June 30, 2018, balances of cash collateral was \$0.

Investments in Entities that Calculate Net Asset Value per Share

The System holds shares or interest in investment companies where the fair value of the investments are measured on a recurring basis using net asset value per share (or its equivalent) of the investment companies as a practical expedient.

At year end, the fair value, unfunded commitments, and redemption rules of those investments is as follows:

Investments Measured at the NAV (\$ in millions)

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Domestic equity funds	\$ 348		Daily	1-5 days
International equity funds	375		Daily, Monthly	1 week/15th
Global equity funds	15		Daily	2 days
Global bond funds	57		Daily	1 day
Emerging debt funds	5		Monthly	3 days
Real estate funds	264	\$ 47	N/A	N/A
Private equity funds	517	\$ 231	N/A	N/A
Multi-strategy hedge funds	49		Monthly	2 weeks
Fund of funds commingled investments	614		Daily	1 day
Real estate held as investment	5		N/A	N/A
Total investments measured at the NAV	<u>\$ 2,249</u>			

The system does not anticipate restrictions, other than those outlined in the table, on the ability to sell individual investments at the measurement date. Additionally, the system does not anticipate that NAV driven investments will become redeemable at valuations materially different from the corresponding NAV listed above. On average, distributions received through the liquidation of underlying investments/assets can occur over the span of 8-15 years. The System has no prescribed time frame to liquidate the investments.

The multi strategy hedge funds class invests in hedge funds that pursue multiple strategies to diversify risks and reduce volatility. The underlying portfolios hold both long and short positions in various asset classes and may also employ leverage. The investments of the underlying portfolios will likely include, but will not be limited to, common stocks, depository receipts, bank loans, bonds (including sovereign debt of emerging market countries), notes, commodities, currencies, forwards, futures, options and swap agreements.

5. DERIVATIVES

The System's investment managers may invest in derivative securities as permitted by their contracts. A derivative security is an investment whose payoff depends upon the value of an underlying asset such as bond and stock prices or a market index. All derivatives are considered investments. The fair values of all derivative financial instruments are reported in the Statements of Fiduciary Net Position as 'Short-term investments and currency positions'. Changes in the values of derivative financial instruments are reported in the Statements of Changes in Fiduciary Net Position as 'Net appreciation in fair value of investments'. Derivative financial instruments involve, to varying degrees, credit risk and market risk. At June 30, 2018 and 2017, the System had no derivative financial instruments.

Credit risk is the possibility that a loss may occur because a party to a transaction fails to perform according to terms. To limit credit risk, each investment manager screens potential counter-parties and establishes and maintains an approved list of acceptable firms which meet a high level of credit-worthiness.

Market risk is the possibility that a change in interest or currency rates will cause the value of a financial instrument to decrease or become more costly to settle. The market risk associated with derivatives, the prices of which are constantly fluctuating, is managed by imposing contractual requirements on the investment managers as to the types, amounts and degree of risk they may undertake. Investment managers' derivative activities are reviewed on a periodic basis by the System as well as the Board to monitor compliance with the contracts. The System does not purchase derivatives with borrowed funds and does not allow the leveraging of the portfolios.

The System's derivative investments may include foreign currency forward contracts, options, futures, and collateralized mortgage obligations. Derivative securities may also be used to improve yield, adjust the duration of the fixed income portfolio, or to hedge changes in interest rates.

6. IOWA PUBLIC EMPLOYEES PENSION SYSTEM (IPERS)

IPERS Plan Description – IPERS membership is mandatory for employees of MFPRSI. Employees of MFPRSI are provided with pensions through a cost-sharing multiple employer defined benefit pension plan administered by IPERS. IPERS issues a stand-alone financial report which is available to the public by mail at 7401 Register Drive P.O. Box 9117, Des Moines, Iowa 50306-9117 or at www.ipers.org.

IPERS benefits are established under Iowa Code chapter 97B and the administrative rules thereunder. Chapter 97B and the administrative rules are the official plan documents. The following brief description is provided for general informational purposes only. Refer to the plan documents for more information.

IPERS Pension Benefits

A Regular member may retire at normal retirement age and receive monthly benefits without an early-retirement reduction. Normal retirement age is age 65, anytime after reaching age 62 with 20 or more years of covered employment, or when the member's years of service plus the member's age at the last birthday equals or exceeds 88, whichever comes first. (These qualifications must be met on the member's first month of entitlement to benefits.) Members cannot begin receiving retirement benefits before age 55.

The formula used to calculate a Regular member's monthly IPERS benefit includes:

- A multiplier (based on years of service).
- The member's highest five-year average salary. (For members with service before June 30, 2012, the highest three-year average salary as of that date will be used if it is greater than the highest five-year average salary.)

If a member retires before normal retirement age, the member's monthly retirement benefit will be permanently reduced by an early-retirement reduction. The early-retirement reduction is calculated differently for service earned before and after July 1, 2012. For service earned before July 1, 2012, the reduction is 0.25 percent for each month that the member receives benefits before the member's earliest normal retirement age. For service earned starting July 1, 2012, the reduction is 0.50 percent for each month that the member receives benefits before age 65.

Generally, once a member selects a benefit option, a monthly benefit is calculated and remains the same for the rest of the member's lifetime. However, to combat the effects of inflation, retirees who began receiving benefits prior to July 1990 receive a guaranteed dividend with their regular November benefit payments.

IPERS Disability and Death Benefits

A vested member who is awarded federal Social Security disability or Railroad Retirement disability benefits is eligible to claim IPERS benefits regardless of age. Disability benefits are not reduced for early retirement. If a member dies before retirement, the member's beneficiary will receive a lifetime annuity or a lump-sum payment equal to the present actuarial value of the member's accrued benefit or calculated with a set formula, whichever is greater. When a member dies after retirement, death benefits depend on the benefit option the member selected at retirement.

IPERS Contributions

Effective July 1, 2012, as a result of a 2010 law change, the contribution rates are established by IPERS following the annual actuarial valuation, which applies IPERS' Contribution Rate Funding Policy and Actuarial Amortization Method. Statute limits the amount rates can increase or decrease each year to 1 percentage point.

IPERS Contribution Rate Funding Policy requires that the actuarial contribution rate be determined using the "entry age normal" actuarial cost method and the actuarial assumptions and methods approved by the IPERS Investment Board. The actuarial contribution rate covers normal cost plus the unfunded actuarial liability payment based on a 30-year amortization period. The payment to amortize the unfunded actuarial liability is determined as a level percentage of payroll, based on the Actuarial Amortization Method adopted by the Investment Board.

In fiscal year 2018, pursuant to the required rate, Regular members contributed 5.95 percent of pay and MFPRSI contributed 8.93 percent for a total rate of 14.88 percent.

MFPRSI's total contributions to IPERS for the year ended June 30, 2018 were \$79,670.

IPERS Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2018, the MFPRSI reported a liability of \$819,626 for its proportionate share of the IPERS net pension liability. The IPERS net pension liability was measured as of June 30, 2017, and the IPERS total pension liability used to calculate the IPERS net pension liability was determined by an actuarial valuation as of that date. The MFPRSI's proportion of the IPERS net pension liability was based on the MFPRSI's share of contributions to the pension plan relative to the contributions of all IPERS participating employers. At June 30, 2017, the MFPRSI's proportion was 0.012415 percent, which was a decrease from 0.012738, its proportion measured as of June 30, 2016.

For the year ended June 30, 2018, the MFPRSI recognized pension expense of \$110,746. At June 30, 2018, the MFPRSI reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between expected and actual experience	\$ 7,525	\$ 7,101
Changes of Assumptions	142,413	-
Net difference between projected and actual earnings on pension plan investments	-	8,560
Changes in proportion and differences between System contributions and proportionate share of contributions	11,169	13,773
System contributions subsequent to the measurement date of June 30, 2017	<u>79,670</u>	<u>-</u>
Total	<u>\$ 240,777</u>	<u>\$ 29,434</u>

\$79,670 reported as deferred outflows of resources related to pensions resulting from MFPRSI contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2018. Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

2019	\$ 17,806
2020	59,968
2021	33,979
2022	1,037
2023	8,741
Thereafter	10,142

There were no non-employer contributing entities at IPERS.

IPERS Actuarial assumptions. The total pension liability in the June 30, 2017 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Rate of inflation (effective June 30, 2017)	2.60 percent per annum
Rates of salary increase (effective June 30, 2017)	3.25 to 16.25 percent, average, including inflation. Rates vary by membership group.
Long-term investment rate of return (effective June 30, 2017)	7.00 percent, compounded annually, net of investment expense, including inflation.

The IPERS actuarial assumptions used in the June 30, 2017 valuation were based on the results of actuarial experience studies with dates corresponding to those listed above.

Mortality rates were based on the RP-2000 Generational Mortality Tables, with age setbacks and age set forwards as well as other adjustments based on different membership groups. Future mortality improvements are anticipated using Projection Scale AA. Different adjustments apply to pre-retirement, post-retirement, and post-disability mortality tables.

The long-term expected rate of return on plan assets is reviewed as part of regular experience studies, prepared every four years for the System. The Investment Board elected to accelerate the experience study of the economic assumptions by one year, performing the study in early 2017. That recent analysis of economic assumptions is outlined in a report dated March 24, 2017. Several factors are considered in evaluating the long-term rate of return assumption, including long-term historical data, estimates inherent in current market data, and an analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation), along with estimates of variability and correlations for each asset class, were developed by the IPERS's investment consultant. These ranges were combined to develop 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. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

<u>Asset Class</u>	<u>IPERS Target Allocation</u>	<u>IPERS Long-Term Expected Real Rate of Return</u>
Domestic equity	24%	6.25%
International equity	16	6.71
Core-plus fixed income	27	2.25
Public credit	3.5	3.46
Public real assets	7	3.27
Cash	1	-0.31
Private equity	11	11.15
Private real assets	7.5	4.18
Private credit	3	4.25
Total	<u>100%</u>	

IPERS - Discount Rate. The discount rate used to measure the total pension liability was 7.0 percent. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that contributions from MFPRSI will be made at contractually required rates, actuarially determined. 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 active and inactive employees. 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 MFPRSI's proportionate share of the IPERS net pension liability to changes in the discount rate. The following presents MFPRSI's proportionate share of the IPERS net pension liability calculated using the discount rate of 7.0 percent, as well as what MFPRSI's proportionate share of the IPERS net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.0 percent) or 1-percentage-point higher (8.0 percent) than the current rate.

	1% Decrease 6.0%	Current Discount Rate 7.0%	1% Increase 8.0%
MFPRSI's proportionate share of the IPERS net pension liability	\$ 1,350,416	\$ 819,626	\$ 373,662

Pension plan fiduciary net position. Detailed information about the pension plan's fiduciary net position is available in the separately issued IPERS financial report which is available on IPERS' website at www.ipers.org.

Payables to IPERS

At June 30, 2018, MFPRSI reported payables to the defined benefit pension plan of \$6,427 for legally required employer contributions and \$4,282 for legally required employee contributions which had been withheld from employee wages but not yet remitted to IPERS.

At June 30, 2017, MFPRSI reported payables to the defined benefit pension plan of \$0 for legally required employer contributions and \$0 for legally required employee contributions which had been withheld from employee wages but not yet remitted to IPERS.

At June 30, 2016, MFPRSI reported payables to the defined benefit pension plan of \$6,250 for legally required employer contributions and \$4,164 for legally required employee contributions which had been withheld from employee wages but not yet remitted to IPERS.

At June 30, 2015, MFPRSI reported payables to the defined benefit pension plan of \$6,094 for legally required employer contributions and \$4,060 for legally required employee contributions which had been withheld from employee wages but not yet remitted to IPERS.

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REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF CHANGES IN THE SYSTEM'S NET PENSION LIABILITY

Last 7 Fiscal Years

	2018	2017	2016
Total pension liability			
Service cost	\$ 56,128,110	\$ 53,423,772	\$ 51,366,130
Interest	224,678,250	213,069,288	205,836,959
Differences between expected and actual experience	(9,748,387)	12,891,275	7,643,609
Changes of assumptions	21,266,192	39,751,096	(10,467,574)
Benefit payments, including refunds	<u>(170,663,862)</u>	<u>(163,571,586)</u>	<u>(156,566,482)</u>
Net change in total pension liability	121,660,303	155,563,845	97,812,642
Total pension liability - beginning	<u>3,023,371,171</u>	<u>2,867,807,326</u>	<u>2,769,994,684</u>
Total pension liability - ending	<u><u>3,145,031,474</u></u>	<u><u>3,023,371,171</u></u>	<u><u>2,867,807,326</u></u>
Plan fiduciary net position			
Contributions - employer	74,641,639	73,411,163	75,254,727
Contributions - member	27,493,680	26,625,022	25,455,597
Net investment income	183,182,098	259,812,040	164,100
Benefit payments, including refunds	(170,663,862)	(163,571,586)	(156,566,482)
Administrative expense	(1,781,886)	(1,767,657)	(1,728,951)
Other	<u>(139,793)</u>	<u>(159,263)</u>	<u>(212,954)</u>
Net change in plan fiduciary net position	112,731,876	194,349,719	(57,633,963)
Plan fiduciary net position - beginning	<u>2,436,896,111</u>	<u>2,242,546,392</u>	<u>2,300,180,355</u>
Plan fiduciary net position - ending	<u><u>\$ 2,549,627,987</u></u>	<u><u>\$ 2,436,896,111</u></u>	<u><u>\$ 2,242,546,392</u></u>
System's net pension liability (asset) - ending	<u><u>\$ 595,403,487</u></u>	<u><u>\$ 586,475,060</u></u>	<u><u>\$ 625,260,934</u></u>

* GASB Statement No. 68 requires ten years of information to be presented in this table. However, until a full 10-year trend is compiled, MFPRSI will present information for those years for which information is available.

SCHEDULE OF CHANGES IN THE SYSTEM'S NET PENSION LIABILITY

Last 7 Fiscal Years

	2015	2014	2013	2012
Total pension liability				
Service cost	\$ 49,893,939	\$ 48,020,046	\$ 47,487,380	\$ 45,660,053
Interest	196,289,405	187,172,397	185,532,855	177,678,499
Differences between expected and actual experience	15,374,059	(1,248,941)	(22,020,082)	14,628,549
Changes of assumptions	17,508,411	32,616,664	(49,002,711)	-
Benefit payments, including refunds	<u>(150,026,306)</u>	<u>(143,833,568)</u>	<u>(137,617,880)</u>	<u>(132,611,997)</u>
Net change in total pension liability	129,039,508	122,726,598	24,379,562	105,355,104
Total pension liability - beginning	<u>2,640,955,176</u>	<u>2,518,228,578</u>	<u>2,493,849,016</u>	<u>2,388,493,912</u>
Total pension liability - ending	<u><u>2,769,994,684</u></u>	<u><u>2,640,955,176</u></u>	<u><u>2,518,228,578</u></u>	<u><u>2,493,849,016</u></u>
Plan fiduciary net position				
Contributions - employer	79,748,943	76,917,460	65,327,766	62,661,684
Contributions - member	24,622,310	24,054,541	23,358,844	23,419,864
Net investment income	69,833,569	358,680,682	229,592,075	4,057,940
Benefit payments, including refunds	(150,026,306)	(143,833,568)	(137,617,880)	(132,611,997)
Administrative expense	(1,680,944)	(1,553,740)	(1,523,477)	(1,606,072)
Other	<u>(774,140)</u>	<u>(75,070)</u>	<u>(99,223)</u>	<u>(98,573)</u>
Net change in plan fiduciary net position	21,723,432	314,190,305	179,038,105	(44,177,154)
Plan fiduciary net position - beginning	<u>2,278,456,923</u>	<u>1,964,266,618</u>	<u>1,785,228,513</u>	<u>1,829,405,667</u>
Plan fiduciary net position - ending	<u><u>\$ 2,300,180,355</u></u>	<u><u>\$ 2,278,456,923</u></u>	<u><u>\$ 1,964,266,618</u></u>	<u><u>\$ 1,785,228,513</u></u>
System's net pension liability (asset) - ending	<u><u>\$ 469,814,329</u></u>	<u><u>\$ 362,498,253</u></u>	<u><u>\$ 553,961,960</u></u>	<u><u>\$ 708,620,503</u></u>

* GASB Statement No. 68 requires ten years of information to be presented in this table. However, until a full 10-year trend is compiled, MFPRSI will present information for those years for which information is available.

SCHEDULE OF SYSTEM'S NET PENSION LIABILITY**Last 7 Fiscal Years**

	2018	2017	2016
Total pension liability	\$ 3,145,031,474	\$ 3,023,371,171	\$ 2,867,807,326
Plan fiduciary net position	<u>2,549,627,987</u>	<u>2,436,896,111</u>	<u>2,242,546,392</u>
System's net pension liability (asset)	<u>\$ 595,403,487</u>	<u>\$ 586,475,060</u>	<u>\$ 625,260,934</u>
Plan fiduciary net position as a percentage of the total pension liability	81.07%	80.60%	78.20%
Actuarial projected covered payroll	\$ 290,660,576	\$ 283,222,057	\$ 270,986,891
System's net pension liability (asset) as a percentage of covered payroll	204.84%	207.07%	230.73%

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SCHEDULE OF SYSTEM'S NET PENSION LIABILITY**Last 7 Fiscal Years**

	2015	2014	2013	2012
Total pension liability	\$ 2,769,994,684	\$ 2,640,955,176	\$ 2,518,228,578	\$ 2,493,849,016
Plan fiduciary net position	<u>2,300,180,355</u>	<u>2,278,456,923</u>	<u>1,964,266,618</u>	<u>1,785,228,513</u>
System's net pension liability (asset)	<u>\$ 469,814,329</u>	<u>\$ 362,498,253</u>	<u>\$ 553,961,960</u>	<u>\$ 708,620,503</u>
Plan fiduciary net position as a percentage of the total pension liability	83.04%	86.27%	78.00%	71.59%
Actuarial projected covered payroll	\$ 262,260,060	\$ 255,370,044	\$ 250,107,112	\$ 250,047,187
System's net pension liability (asset) as a percentage of covered payroll	179.14%	141.95%	221.49%	283.39%

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SCHEDULE OF SYSTEM'S CONTRIBUTIONS**Last 7 Fiscal Years**

	2018	2017	2016
Actuarially determined contribution	\$ 74,641,639	\$ 73,411,163	\$ 75,254,727
Contributions in relation to the actuarially determined contribution	<u>74,641,639</u>	<u>73,411,163</u>	<u>75,254,727</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Reported covered payroll	\$ 290,660,576	\$ 283,222,057	\$ 270,986,891
Contributions as a percentage of covered payroll	25.68%	25.92%	27.77%

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SCHEDULE OF SYSTEM'S CONTRIBUTIONS**Last 7 Fiscal Years**

	2015	2014	2013	2012
Actuarially determined contribution	\$ 79,748,943	\$ 76,917,460	\$ 65,327,766	\$ 61,911,684
Contributions in relation to the actuarially determined contribution	<u>79,748,943</u>	<u>76,917,460</u>	<u>65,327,766</u>	<u>61,911,684</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Reported covered payroll	\$ 262,260,060	\$ 255,370,044	\$ 250,107,112	\$ 250,047,187
Contributions as a percentage of covered payroll	30.41%	30.12%	26.12%	24.76%

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SCHEDULE OF INVESTMENT RETURNS**Last 10 Fiscal Years**

Fiscal Year	Annual money-weighted rate of return, net of investment expenses
2018	7.59%
2017	11.72%
2016	0.02%
2015	3.02%
2014	17.97%
2013	13.10%
2012	-0.27%
2011	23.34%
2010	11.48%
2009	-21.80%

**SCHEDULE OF MFPRSI PROPORTIONATE SHARE
OF THE NET PENSION LIABILITY**

Iowa Public Employees' Retirement System
Last 4 Fiscal Years

	2017	2016	2015	2014
MFPRSI's proportion of the net pension liability (asset)	0.012415%	0.012738%	0.012726%	0.012759%
MFPRSI's proportionate share of the net pension liability (asset)	\$ 819,626	\$ 794,389	\$ 632,688	\$ 516,371
MFPRSI's covered payroll	\$ 988,443	\$ 902,363	\$ 877,346	\$ 851,989
MFPRSI's proportionate share of the net pension liability (asset) as a percentage of its covered payroll	82.92%	88.03%	72.11%	60.61%
Plan fiduciary net position as a percentage of the total net pension liability	82.21%	81.82%	84.19%	56.84%

*The amounts presented for each fiscal year were determined as of June 30.

* GASB Statement No. 68 requires ten years of information to be presented in this table. However, until a full 10-year trend is compiled, MFPRSI will present information for those years for which information is available.

SCHEDULE OF MFPRSI'S CONTRIBUTIONS

Iowa Public Employees' Retirement System
Last 5 Fiscal Years

	2018	2017	2016	2015	2014
Actuarially determined contribution	\$ 79,670	\$ 88,268	\$ 80,581	\$ 78,347	\$ 76,083
Contributions in relation to the actuarially determined contribution	<u>(79,670)</u>	<u>(88,268)</u>	<u>(80,581)</u>	<u>(78,347)</u>	<u>(76,083)</u>
Contribution deficiency (excess)	<u>\$ -</u>				
Reported covered payroll	\$ 892,161	\$ 988,443	\$ 902,363	\$ 877,346	\$ 851,989
Contributions as a percentage of covered payroll	8.93%	8.93%	8.93%	8.93%	8.93%

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MUNICIPAL FIRE AND POLICE RETIREMENT SYSTEM OF IOWA

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

Methods and Assumptions used in calculations of Actuarially Determined Contributions. The actuarially determined contribution rates in the schedule of System's contributions are calculated as of July 1, two years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule:

Valuation date	July 1, 2018
Actuarial cost method	Entry age normal *
Amortization method	Level Dollar, Closed, Layered
Remaining amortization period	25 years
Asset valuation method	5 year smoothed market
Actuarial assumptions:	
Investment rate of return	7.50 percent
Projected salary increases	3.75 to 15.11 percent
Post-retirement mortality table:	
Ordinary	RP 2014 Blue Collar Healthy Annuitant table with males set-forward zero years, females set-forward two years, with generational projection of future mortality improvement with 50% of Scale BB beginning in 2017.
Disabled	RP 2014 Blue Collar Healthy Annuitant Mortality Table - Male, set-forward three years, with generational projection of future mortality improvement with 50% of Scale BB beginning in 2017.



Independent Auditor's Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

To the Board of Trustees
Municipal Fire and Police Retirement System of Iowa
Des Moines, Iowa

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Municipal Fire and Police Retirement System of Iowa (MFPRSI), as of and for the year ended June 30, 2018, and the related notes to the financial statements, and have issued our report thereon dated.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered MFPRSI's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of MFPRSI's internal control. Accordingly, we do not express an opinion on the effectiveness of the MFPRSI's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. *A material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. *A significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether MFPRSI's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

A handwritten signature in black ink that reads "Eide Bailly LLP". The signature is written in a cursive, flowing style.

Boise, Idaho
October 8, 2018