MFPRSI ANNUAL REPORT 2019

A pension trust for municipal firefighters and police officers in the State of Iowa

MFPRSI MUNICIPAL FIRE & POLICE RETIREMENT SYTEM OF IOWA intentionally blank

Mission and Vision Statements

MFPRSI provides a comprehensive set of retirement and disability benefits to eligible local police officers and firefighters in a sound, sustainable, and efficient manner in accordance with the requirements of the program's governing statute.

Comprehensive
Retirement and disability benefits will be adequate in order to attract and retain top quality police officers and firefighters, and provide for them and their families when they are no longer working or able to do so. Retirement and disability benefits should be competitive with comparable police and fire systems.

Efficient
The retirement system and the investment portfolio will be managed in a timely, professional, cost effective, and customer-oriented manner. Top quality management services will be obtained for a cost that is mid-range for comparable systems. The investment portfolio should provide net returns in the top quartile for similarly-sized plans. On a risk-adjusted basis, the portfolio's returns should be no less than the median for public plans.

Sound
Retirement benefits will be stable and secure and the funding policy will be based upon fiduciary principles, appropriate risk management policies, and independent governance. Funding should be based upon actuarially determined contribution rates and intergenerational equity, and a disciplined, accountable, and transparent funding policy. Investment practices should be cognizant of unexpected volatility.

Sustainable
The retirement system shall be economically and politically durable. Economically, the retirement system should sustain progress toward 100 percent funded status while maintaining employer contributions on a consistent basis at 30 percent or less of covered payroll. Significant year-to-year variability in funding requirements should be avoided for both members and cities. Once a fully-funded status is achieved, benefit or contribution changes should take into consideration necessary buffers against inevitable financial market downturns.

2019 MFPRSI Highlights

Membership

4,086 active members[1]

4,522 inactive members[1]

Investing

$2.6 billion, market value of portfolio[3]

5.5% fiscal year return[3]

Funding

81.0% funded ratio*[1]

*Based on the ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability

2019 MFPRSI

Contributions

$28.5 million, members[2]

$78.8 million, employers[2]

$0 state[2]

Distributions

$177 million, benefits paid[2]

$1.4 million, refund of contributions paid[2]

Actuarial

$2.6 billion, actuarial value of assets[1]

$620 million, unfunded actuarial accrued liability[1]

$3.3 billion, total pension liability[1]

Information provided by:
1 - SilverStone Group
2 - Eide Bailly LLP
3 - Marquette Associates

HIGHLIGHTS

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CHAIRPERSON'S ANNUAL LETTER

MARTY POTTEBAUM
BOARD CHAIR

Dear Members and City Officials,

In 1995, I had the good fortune to be chosen to participate on the board of MFPRSI as a Trustee. I was as honored to be selected then, as I am now, to serve as its Chairperson. Throughout my time on this board, I have seen the system grow from a small portfolio of under $600 million in assets in 1995, to over $2.6 billion this year. I have experienced 16 years when we surpassed our annual 7.5 percent rate of return goal, and nine years when we did not. Unfortunately, this year was one of the nine where we narrowly missed our goal. However, as I look back over the lifespan of the system, I am happy to report that from January 1992 through June 30, 2019, the retirement system's investment portfolio has met its goal, earning an annualized return of 7.7 percent.

As stewards and fiduciaries of this retirement system, we understand that investment markets are cyclical and subject to volatility over shorter-term periods, such as any given single year. This forces markets to go up and down, sometimes unpredictably. The good news is that MFPRSI leadership is aware of this, have studied it, and have a plan to move forward.

As part of our long-term planning, we constructed a formal funding strategy in 2013 to act as our map and direct our course over the long term. We have incorporated multiple policies to serve as guides, including our five-year smoothing policy.

The mechanics of the smoothing policy work like this: Our actuary, as part of a valuation calculations, determines an actuarial value of assets. This amount smooths in gains and losses of the annual investment return relative to our assumed rate of return of 7.5 percent. Returns for the previous five consecutive years are averaged together so that at the end of every five-year period, the entire gain or loss is recognized in the computation of the actuarial value of assets. This methodology minimizes the impact of yearly volatility and assists the employing cities with their budgeting processes.

In addition, in order to sustain a sound and beneficial retirement system, we have made multiple changes to our actuarial calculations to best match our experience and industry practice. Among those changes is switching to the entry age normal actuarial cost method, an industry standard practice, to determine our normal cost of benefits as a percentage of active member payroll. We also calculate our unfunded accrued liability (UAL) over a period of 25 years at the end of which, the UAL will be completely paid off.

We embarked on an extensive asset/liability study with our investment consultant that will help establish an asset allocation to maximize returns over the next five years while taking on an acceptable level of risk. Last year, we conducted a deep-dive review of our actuarial assumptions and made changes to seven different assumptions in order to better match with the actual experience of the retirement system.

These are four steps we have taken to guide us along the path to a sustainable, sound, and efficient retirement system designed for the next 25 years and beyond.

My experience with MFPRSI has shown me the importance of planning and being strategic. Any year can produce bumps in the road but if you have a sound road map and diligent partners, those bumps can be minimized over the long term. A healthy and sustainable system benefits not just our membership and employers, but all of Iowa. Keeping it that way is our commitment to you.

LIKE BEING PART OF A FAMILY

CHIEF DEB KREBILL
CITY OF MARION
FIRE DEPARTMENT

Deb Krebill wanted to be a farmer. Having grown up on a farm near Donnellson, Iowa, she wanted to follow in her father's footsteps raising corn, beans, wheat, hogs and cattle.

"Back then though, girls weren't really farmers," Krebill said.

What she didn't know at the time was that she would be blazing a trail for women in another career.

After spending a year studying music in college, Krebill knew she wanted something more exciting. More interesting. She changed paths and got a degree in criminal justice with the goal of becoming a police officer. After three years in the law enforcement field, she could tell she still hadn't found what she was looking for.

She decided to take a paramedics class where she met Maureen Boots. Boots was the class instructor and the first female member of the Marion fire department.

"Maureen came to me after class one night and said the fire department was hiring and encouraged me to apply," Krebill said. "When I told her I didn't know anything about firefighting, she told me they needed paramedics and they would train me to do the rest."

Krebill got the job and it didn't take her long to realize she had found her calling.

Boots had opened the door for her as the only other female in the fire department.

"The guys that were on the department accepted me with open arms," said Krebill.

"That meant so much to me. It was a welcoming and warm atmosphere and I felt like I was part of the family right away."

Krebill has enjoyed a 28-year career with the Marion fire department. For the past five years, she has been chief – the second female chief in Iowa and, as of 2018, one of only 50 career female fire chiefs in approximately 26,000 departments across the country.

She remembers her first training fire, not as scary, but as beautiful.

“I’ll never forget, I was all hyped up, the adrenaline was flowing as we went up the stairs into the house,” she said. “My instructor was behind me and when we opened the door, it looked just like the movies as the fire was rolling across the ceiling. It stopped me in my tracks and I had to look at it a couple of seconds before I hit it and put it out. I knew then I was going to love this job.”

The medical side of the job also appealed to her a great deal.

“Caring for people is something I’ve always wanted to do,” Krebill said. “You see people on their worst days and being able to sit and provide comfort and care meant a lot to me.”

She loved the job but knew there was more she could do.

“While I was fighting fires and responding to medical calls, I realized that no matter how good we were, we couldn’t save everything and that something was already being destroyed or someone was already hurt by the time we got there,” she said.

That was when she decided to make prevention a key focus in her career.

“I talked to everyone from kids to seniors about fire prevention and injury prevention. I truly believe we have saved more lives through prevention than we have responding after the fact,” Krebill said.

“All the guys know that prevention is my passion. We joke about it because they like to fight fires and they have a chief who doesn’t want to have any fires at all,” she said.

When she joined the department in 1991, she not only had no ambition to be the chief, she thought it was impossible because she was female. As the years passed, however, she found that being in leadership positions came naturally to her.

CHIEF KREBILL AFTER A TRAINING.

She became president of the union, a shift captain, took the fire marshal position, entered the Fire Prevention Bureau and became an inspector, public education coordinator and a fire investigator.

"I had all these things on my resume, so in 2012, when the assistant chief position came open, I went for it," Krebill said. "And then two years later, the chief's position became available and I was selected."

She believes that firefighting is an excellent career for anyone, and for women in particular.

"You work 24 hours on and then you're off for 48," she said. "That means you work 10, 24-hour days per month which gives you more free time. Plus, women are nurturing and with 82% of our calls in Marion being medical calls, a nurturing responder is important."

According to Krebill, another great benefit of being a firefighter is MFPRSI.

"MFPRSI is one of the best things about this job," she said.

"I tell all the people that are coming on that they have to think about retirement, even if they're young. And in my opinion, MFPRSI provides the best retirement of any plan in any other job," she continued.

CHIEF KREBILL TALKING WITH A REPORTER.

"Firefighters and police officers risk their lives every day for their community and I think this is just a great benefit."

She points out that MFPRSI has always been stable, easy to work with and an easy plan to understand.

"It's a strong organization and I have no worries," Krebill said. "All of the past retirees I've worked with are really happy with MFPRSI and it's so great to see. We are very blessed with MFPRSI."

As a combination department – 38 career firefighters and 25 volunteers – there are some women who volunteer but Krebill is still the only female career firefighter in Marion. She hopes to recruit more women to the department in the future.

"It's a very rewarding career with many opportunities," Krebill said. "You never know where your path may lead."

DIVERGENT PATHS LEAD IN ONE DIRECTION

What do a firefighter, landscaper, nuclear response officer, professional mixed martial arts fighter, law enforcement officer and a security guard have in common?

Justin James.

At one point in his life, James was all these things, and often, two or more at the same time.

CHIEF JUSTIN JAMES
CITY OF COUNCIL BLUFFS
FIRE DEPARTMENT

"Growing up, I wanted to be a pilot," James said. He went to college at the University of Nebraska at Omaha to study aviation administration and made it to officer candidate school with the Marine Corps.

"Before my junior year in college, I realized this probably wasn't going to be the path for me and I was a little lost," he said.

He started working security at a casino when a co-worker suggested he apply to the fire department. He took the test and made the civil service list but still his future seemed unclear.

His next stop was Fort Calhoun nuclear power facility where he was a nuclear response officer.

"I was a security officer and a firefighter so that was my first exposure to the fire service," said James. "I sort of fell in love with it from there."

He applied and was hired to the Council Bluffs fire department in 1999 and he has been there ever since.

But there's more to the story.

"I went through firefighter training, worked a couple of different shifts and got promoted to engineer," said James. He liked what he was doing but felt like there might be something else for him.

"Some friends I knew were training in martial arts," he said. "I had wrestled since I was four years old and I had always been a pretty scrappy kid, so I started training too."

JAMES IN THE OCTAGON.

He fought his first professional fight in 2000, a pankration tournament in Kansas City.

"To be honest, I didn't really know what I was getting myself into, but I went down there and ended up winning their national tournament," James said.

At the time, mixed martial arts was just beginning to enter the mainstream. James, still a career firefighter, kept training and fought professionally for 10 years. He got a professional contract with Ultimate Fighting Championship (UFC) and fought in places like Hawaii, Denver, Chicago and Las Vegas.

"I fought at Mandalay Bay in Las Vegas in front of 18,000 people," James said. "It was a jaw dropping experience. I was basically a rock star for a week."

He eventually realized that if he wanted to continue to fight professionally, he would have to quit his job at the fire department.

"I was working a normal shift, 10 days a month, so I had a ton of time to train," James said. "But I knew I didn't want to leave."

He asked his chief for a leave of absence that would allow him to try out for Ultimate Fighter, a television show on Spike TV, and complete the remaining fights on his contract. He ended up not being selected for the show, so he came back to Council Bluffs and began to focus more seriously on his firefighting career.

But not before he got married and began a landscaping business. Oh, and he was also union president for five years.

James seized many opportunities that were presented to him but eventually, all those paths led him back to the fire department.

James became a captain and moved to a 40-hour position in the fire marshal's office.

"The chief basically had to force me to take the position but when I got there, I found a part I really liked," James said.

He asked the chief to send him to the law enforcement academy where he graduated in 2009. He became an investigator on cases that involved fires or explosives and criminal cases involving arson or drugs. He added to his role by managing the Weapons of Mass Destruction (WMD)/Hazmat team. He applied for the assistant chief position thinking he would transition to fire marshal.

But the chief had other plans.

“(The chief) brought me back to the fire station and put me out on the line managing the shift,” said James. “I was a bit baffled at the time but looking back on it, he saw an opportunity for me that I didn’t see.”

The opportunity was the experience to manage people which helped prepare James for when he became chief in 2014.

Part of being the chief means recruiting people to become firefighters and making the position attractive.

“I always want to know what is important to my employees,” James said. “When I was union president, I learned pretty early on that the pension system is really important. It’s one of the things that kept me here for sure.”

James described MFPRSI as being close to perfection.

“Whoever designed it was really smart. The way the system is set up is really sound,” he said.

Other opportunities come knocking. No one knows that better than James.

“But the pension is really what holds them in place,” he said. “It’s the job too but knowing the pension will be there is vital.”

James has had some amazing experiences in his lifetime but being a firefighter was his constant.

“The fire service is such a neat job,” he said. “The people we meet, interact with and get to help, it just gets ingrained in you. You keep coming back for more. I think I’d find another job boring.”

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Introduction

Retirement System Overview
Accomplishments
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Retirement System Overview

MFPRSI was created by the Iowa General Assembly in 1990 to establish a statewide retirement system for fire and police personnel covered by the provisions of Iowa Code Chapter 411. Upon its establishment, MFPRSI consolidated 87 local fire and police retirement systems formerly administered by 49 of Iowa's largest cities. The retirement system initiated its formal operations on January 1, 1992, to administer the retirement benefits for fire and police personnel in Iowa's participating cities.

The mission of MFPRSI is to provide a comprehensive set of retirement and disability benefits to eligible local police officers and firefighters in a sound, sustainable, and efficient manner in accordance with the requirements of the program's governing statute. The programs of the retirement system include the payment of pension benefits for service retirement, ordinary disability retirement, accidental disability retirement, survivors of deceased members (e.g., spouse and dependent benefits), and the refund of contribution upon withdrawal by a terminated member.

In its effort to accomplish its goals, MFPRSI administers a contributory defined benefit plan for firefighters and police officers as established in Iowa Code Chapter 411. The benefits available through the retirement system are based on a formula using service years, the average of the highest three years of earned wages as a member, and a multiplier based on years of membership service.

In addition to service retirement benefits, MFPRSI offers a comprehensive disability program that includes establishing standards for entrance physical examinations, guidelines for ongoing fitness and wellness, and post-disability retirement compliance requirements.

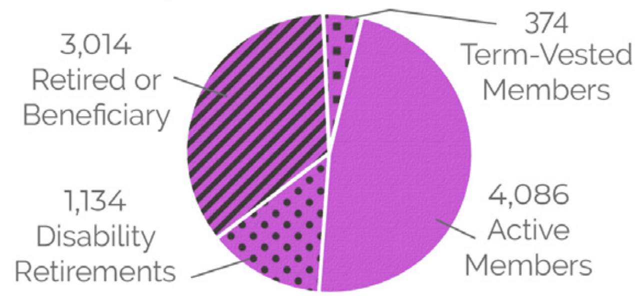
Permanent full-time firefighters and police officers in the participating cities are granted membership by Iowa Code Chapter 411. Participants are vested upon attaining four years of membership service. Vested status may also be achieved by actively earning service credit at age 55 or older.

The Board of Trustees ("Board") represents the police officer and firefighter memberships, cities, and citizens of Iowa, while the Iowa General Assembly provides the retirement system with direction and oversight. Iowa Code also includes specific authorization to administer each of the following: actuarial services, medical board, legal services, and organization and staff. The individuals comprising the administrative staff are available to assist members, city officials, and interested parties with any questions or concerns about the retirement program.

Membership

MFPRSI had 8,608 members at the end of fiscal year 2019, with 4,086 active members employed by the 49 participating cities. Of the remainder, 1,134 receive benefits due to disability, 3,014 are either retired or a beneficiary, and 374 are terminated-vested members. MFPRSI made over 55,000 accurate and timely benefit payments over the course of the fiscal year. Approximately 99 percent of those payments were made via electronic funds transfer.

Membership Breakdown



During the year active members received annual statements summarizing their contributions as well as two newsletters highlighting news, statistics, and announcements. On its website, www.mfprsi.org, MFPRSI also provides its membership with a comprehensive member handbook which details the various benefit structures that are available.

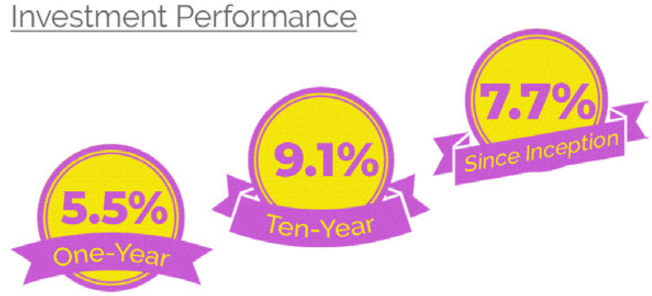
Investments

Member benefits are made available through employee contributions, employer contributions, and investment earnings. Of those three sources, the investment portfolio provides the greatest percentage of income. MFPRSI manages an investment portfolio that is well diversified with a long-term investment horizon. The portfolio is designed to capture positive investment returns in public equity, fixed income, real assets, and private markets when the markets are up, while minimizing losses during negative investment periods.

The fund is monitored by a staff of investment officers at MFPRSI under the direction of the executive director who acts as the chief investment officer. Investment recommendations are made by the executive director; deputy director; Marquette Associates ("Marquette"), MFPRSI's investment consultant; and, investment officers. In turn, the Board uses the information provided by those parties to make final decisions on asset allocation. On an annual basis (and more frequently as necessary) the Board reviews and revises the investment policy.

MFPRSI's investment portfolio returned 5.5 percent in fiscal year 2019. The ten-year return for the period ending June 30, 2019, was 9.1 percent. The long-term target rate of return, as determined by the Board, is 7.5 percent. The target rate is adopted by the Board as the assumed rate of return the investment portfolio can return while taking an acceptable amount of risk. The investment portfolio's performance since inception in 1992 is 7.7 percent.

Investment Performance



Accomplishments

Over the course of fiscal year 2019 (July 1, 2018, to June 30, 2019), MFPRSI engaged in a number of activities pertaining to both the retirement system's active and retired memberships, as well as the financial management of the assets of the plan. The projects described below were intended to either enhance the services provided to membership and cities or further the performance opportunities for the investment portfolio.

Administration

The Board analyzed its vendor relationship with SilverStone Group ("SilverStone"), its actuarial services provider. The result was a three-year contract with the company.

Also, the Board reviewed its vendor relationship with Wixted & Company ("Wixted"), its communications consultant. After a presentation from the firm and a discussion by the Board, the contract was renewed for three additional years, effective January 1, 2019.

The Board worked with the administration and its lobbyists to educate state lawmakers about potential effects of proposed legislation.

MFPRSI's staff worked with Wixted to improve the retirement system's messaging to its stakeholders. This effort included several projects ranging from producing a brochure describing service retirement to interviewing individual members for feature stories in MFPRSI's newsletter, *MFPRSI Update*.

The administration took steps to implement online access for its members. The project is considered a long-term goal and continues into the next fiscal year.

Terry Slattery, executive director, and Dan Cassady, deputy director, gave presentations to interested stakeholder groups on multiple occasions throughout the year. The presentations provided insight into how the retirement system is operated, offered performance updates on the investment portfolio, and, provided education concerning the retirement system's benefit structure.

The Board submitted its biennial *Financial Evaluation Report* to the Iowa General Assembly. The report provides a high-level overview of the retirement system's structure and responsibilities as delineated by Iowa Code Chapter 411. The report includes actuarial and investment return data, as well as a timeline of major legislative changes made to the plan since its inception in 1992.

Financial and Investments

As a result of the acquisition of its investment consultant, Summit Strategies Group ("Summit") by a competing firm, the Board sent requests for proposals ("RFPs") to 17 top investment consulting firms throughout the United States. As part of an extensive review process the Board interviewed representatives from three finalist firms and ultimately selected Marquette Associates ("Marquette"), located in Chicago, Illinois, as its investment consultant. The relationship with Summit was terminated.

Marquette provided the Board with an outline for transition of investment consulting duties. The firm conducted interviews with every investment manager in the retirement system's portfolio.

Marquette initiated a review into the retirement system's asset/liability allocation. The goal of the review is to determine if the expected risk/return scenario of the overall investment portfolio could be improved through exposure to additional asset classes and reductions to existing positions. The asset/liability study remains an ongoing area of focus into the next fiscal year.

Earlier in the fiscal year, prior to termination, Summit provided educational workshops to the Board on specific investment concepts related to the investment portfolio and investment markets. Summit reviewed optimal methods of measuring short and long-term risk as part of the Board's mission to provide net investment returns in the top quartile for similarly sized plans that also are no less than the median of all public retirement plans on a risk-adjusted basis.

A $30 million commitment was made to Equus Investment Partnership Fund XI with Equus Capital Partners. This is the second limited partnership real estate agreement the retirement system has made with this firm. In 2016, MFPRSI committed to Equus Investment Partnership Fund X.

The Board committed $30 million to Contrarian Capital Management, LLC, in its Distressed Real Estate Debt Fund IV. This is the third overall investment MFPRSI has made with Contrarian Capital Management, LLC.

The Board also committed $140 million to the retirement system's private equity portfolio. The amount was split into two allotments, with $115 million dedicated to Siguler Guff & Company's Small Buyout Opportunities Fund IV within the Siguler Guff Hawkeye Opportunities Fund and $25 million to Top Tier Venture Velocity Fund III. MFPRSI has made multiple commitments to Siguler Guff in the past and this is the second commitment to Top Tier's Venture funds series.

Marquette provided an educational presentation regarding infrastructure investments.

Investment officers traveled to investment firms managing assets on behalf of the retirement system. They met with professionals responsible for managing its investment portfolios and conducted reviews of the firm's compliance and accounting procedures.

The Board and staff conducted in-person reviews with the investment firms managing MFPRSI's assets. In addition to the written reports provided by the firms, the staff engaged in regularly scheduled conference call reviews with each investment firm.

Benefit Plan

The Board and SilverStone discussed the appropriateness of its current mortality table in its actuarial calculations. The Board determined that the current table is indeed appropriate and no changes were made.

MFPRSI continued the administration of the deferred retirement option plan (DROP). Participation in DROP fell slightly from 49 percent last year to 48 percent this year.

As part of its ongoing educational seminars, the Board reviewed its fiduciary standards and how mental injuries should be considered within the disability program with the assistance of its legal counsel, BrownWinick.

MFPRSI continued its application of the Federal Pension Protection Act of 2006. This act established a $3,000 income tax exclusion for eligible retired public safety officers who elect to use a portion of their distributions from an eligible retirement plan to directly pay for qualified health insurance premiums. The utilization of this program among eligible retirees has expanded significantly over the past several years.

Board Re-Elections and Chair Elections

In April 2019, Marty Pottebaum, chair, was reappointed by the Iowa State Police Association and Bob Fagen's term was renewed by the Iowa League of Cities." Each will serve a four-year term on the Board. The average tenure for the nine voting trustees stands at 12 years as of June 30, 2019.

Marty Pottebaum was re-elected Board Chairperson and Mary Bilden was re-elected Board Vice Chairperson.

Board of Trustees

The activities of MFPRSI are under the direction of its Board which has nine voting members and four non-voting, legislative representatives. The voting coalition of the Board is comprised of four representatives of the active and retired fire and police memberships, four representatives of the cities, and one private citizen.

Individuals are appointed to four-year terms by the fire and police associations and by the Iowa League of Cities. The eight voting members select a private citizen to serve as the ninth voting member.

Non-voting members are chosen by the leadership of the Iowa Senate and Iowa House of Representatives and serve two-year terms.

Voting Members

Marty Pottebaum
Chair
Retired Police Officer
Sioux City

Mary Bilden

Citizen
Boone

P. Kay Cmelik

City Representative
Grinnell

Bob Fagen

City Representative
Des Moines

June Anne Gaeta

Active Firefighter
Muscatine

Frank Guihan

Retired Firefighter
Burlington

Eric Hartman

Active Police Officer
Des Moines

Duane Pitcher

City Representative
Ames

Michelle Weidner

City Representative
Waterloo

Non-Voting Members

Waylon Brown

Senator
Senate District 26

Jackie Smith

Senator
Senate District 7

Mary Ann Hanusa

Representative
House District 16

Scott Ourth

Representative
House District 26

Staff

The day-to-day management of MFPRSI is delegated to an executive director who is appointed by the Board and serves at its discretion. The executive director, deputy director, and administrative staff are responsible for the administration of the retirement system.

Staff Responsibilities

The executive director and deputy director act as advisors to the Board on all issues relevant to MFPRSI, establish contracts for professional services, and employ the remaining staff needed to maintain the retirement system. The executive administrator develops research information, acts as the human resources director, and maintains contracts with external vendors.

The senior pension officers administer payrolls, and establish and maintain the membership records of the retirement system. Additionally, they communicate with members regarding benefit and membership status.

The accounting/investment officers perform accounting, auditing, and control functions of the retirement system. They also provide analysis for the investment portfolio. The investment/communications officer creates visual/print materials and provides analysis for the investment portfolio.

Terry Slattery

Executive Director

Dan Cassady

Deputy Director

BriAnna Nystrom

Executive Administrator

James Bybee

Accountant / Investment Officer

Angie Conner

Senior Pension Officer

Kathy Fraise

Senior Pension Officer

Jill Hagge

Senior Pension Officer

Cody Jans

Investment / Communications Officer

Blake Jeffrey

Accountant / Investment Officer

Financial_Statements

Independent Auditor's Report

Management's Discussion and Analysis

Statement of Fiduciary Net Position

Statement of Changes in Fiduciary Net Position

Notes to Financial Statements

Independent Auditor's Report

CPAs & BUSINESS ADVISORS

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, 2019 and 2018, 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, 2019 and 2018, 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 $840.1 million (31.9% of total assets) as of June 30, 2019, 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 30-35 and 59-66 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 3, 2019, 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.

Management's Discussion and Analysis

The following discussion and analysis of the Municipal Fire and Police Retirement System of Iowa's (MFPRSI or retirement system) financial performance provides an overview of the retirement system's financial activities for the fiscal years ended June 30, 2019 and 2018. 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 MFPRSI's actuarial status. Refer to MFPRSI's actuarial valuation for its funding status regarding long-term benefit obligations.

Financial Highlights

- Retirement system assets exceeded its financial liabilities at the close of the fiscal years 2019 and 2018 by $2,613,125,249 and $2,549,627,987 (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, 2019, were $243,961,377, which is comprised of contributions of $107,238,646, net investment income of $136,635,233, and other income of $87,498. 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.

- Benefit payments were $177,077,100 and $169,075,775 for the years ended June 30, 2019, and 2018, respectively, a 4.7% 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 financial condition of the retirement system, as a whole, and should help answer the question: Is MFPRSI, 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 presents all of MFPRSI'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 retirement system's financial position is improving or deteriorating. The Statement of Changes in Fiduciary Net Position presents the changes in plan net assets during the respective fiscal year.

Financial Analysis

MFPRSI's assets as of June 30, 2019, and 2018 were approximately $2.63 billion and $2.57 billion, respectively, and were primarily comprised of investments, cash, receivables from brokers, and contributions due from employers. The $65,666,589, or 2.6%, increase in assets from June 30, 2018, to June 30, 2019, was primarily due to the unrealized gains experienced in invested assets and contributions.

As discussed in Notes 2 and 4 to the financial statements, total retirement system investments include investments valued at $840.1 million (31.9% of total assets) and $835.2 million (32.5% of total assets) as of June 30, 2019, and 2018, 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, 2019, and 2018 were $20,478,179 and $18,395,197, respectively, and were primarily comprised of obligations under benefits and refunds payable, as well as investment management expenses payable. The $2,082,982, or 11.3%, increase in liabilities from June 30, 2018, to June 30, 2019, was due to an increase in payables to brokers for unsettled trades and benefits payable.

During the year ended June 30, 2019, plan net position restricted for pension benefits increased $63,497,262, or 2.5%, from the previous fiscal year, primarily due to unrealized gains experienced in invested assets and contributions. This is in comparison to the previous fiscal year, when net position increased by $112,731,876, or 4.6%, from the prior year.

Condensed Statement of Fiduciary Net Position (In Thousands of $)

Assets:	2019	2018	2019/2018 Inc/(Dec)	2017	2018/2017 Inc/(Dec)
Cash	$280	$57,798	-99.5%	$24,764	133.4%
Investments	2,626,183	2,504,248	4.9%	2,427,393	3.2%
Receivables	6,901	5,651	22.1%	7,563	-25.3%
Other Assets	114	115	-0.9%	143	-19.6%
Total Assets	$2,633,478	$2,567,812	2.6%	$2,459,863	4.4%
Pension Related Deferred Outflows	198	241	-17.8%	325	-25.8%
Liabilities:					
Benefits and Refunds Payable	$15,609	$14,543	7.3%	$16,185	-10.1%
Investment Management Expenses Payable	2,025	2,584	-21.6%	2,250	14.8%
Administrative Expenses Payable	419	403	4.0%	393	2.5%
Net Pension Liability Attributed to IPERS	751	820	-8.4%	794	3.3%
Payable to Brokers for Unsettled Trades	1,674	46	3539.1%	3,562	-98.7%
Total Liabilities	$20,478	$18,396	11.3%	$23,184	-20.7%
Pension Related Deferred Inflows	73	29	151.7%	108	-73.1%
Net Position Restricted for Pension Benefits	$2,613,125	$2,549,628	2.5%	$2,436,896	4.6%

Condensed Statement of Changes in Fiduciary Net Position (In Thousands of $)

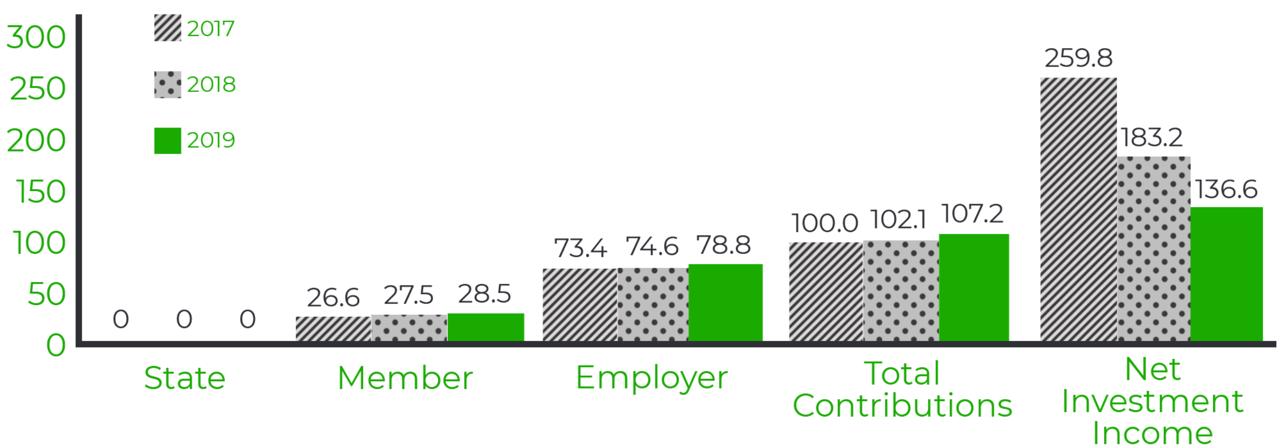
Additions:	2019	2018	2019/2018 Inc/(Dec)	2017	2018/2017 Inc/(Dec)
Contributions	$107,239	$102,135	5.0%	$100,036	2.1%
Net Investment Income	136,635	183,182	-25.4%	259,812	-29.5%
Other Income	87	12	625.0%	2	500.0%
Total Additions	243,961	285,329	-14.5%	359,850	-20.7%
Deductions:					
Benefits and Refunds Payments	178,458	170,664	4.6%	163,572	4.3%
Administrative Expenses	2,006	1,933	3.8%	1,928	0.3%
Total Deductions	180,464	172,597	4.6%	165,500	4.3%
Net Increase	63,497	112,732	-43.7%	194,350	-42.0%
Plan Net Position Restricted for Pension Benefits:					
Beginning of Year	2,549,628	2,436,896	4.6%	2,242,546	8.7%
End of Year	$2,613,125	$2,549,628	2.5%	$2,436,896	4.6%

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 2019 totaled $243,961,377.

Contributions increased from the previous year by $5,103,327. This increase is primarily due to an increase in the number of active members and an increase in the employer contribution rate. Net investment income decreased from the previous year by $46,546,865. This change is primarily due to a lower return on invested assets.

Additions to Plan Net Assets (In Millions $)

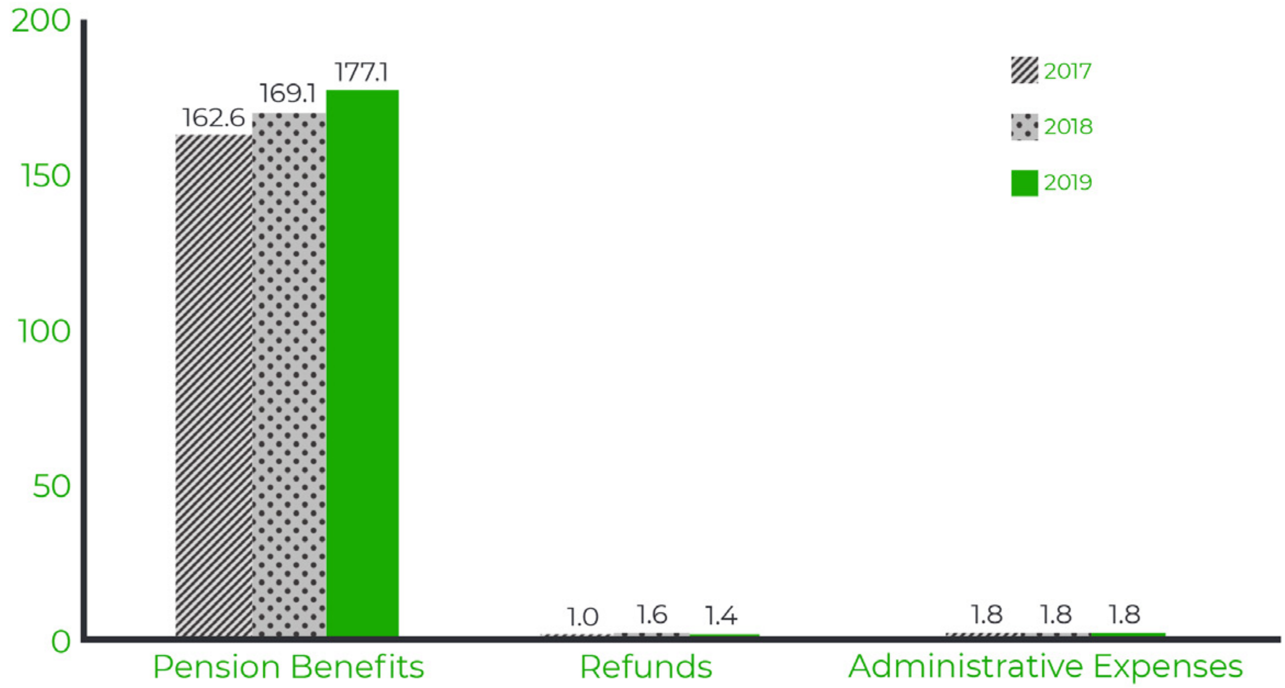


Expenses – Deductions From Fiduciary Net Position

MFPRSI's principal expenses include the payment of pension benefits to retired members and beneficiaries, refund of contributions to former members, and the cost of administering the retirement system. Total deductions for the fiscal year 2019 were $180,464,115, an increase of 4.6% over fiscal year 2018 deductions.

Pension benefit payments increased by $8,001,325, or 4.7%, from the previous year. Refund of contributions decreased by $207,568, or 13.1%. These changes are primarily due to the annual escalator fund applied to benefit payments and a decrease in number of applications for refunds in 2019.

Deductions from Plan Net Position (In Millions $)



The 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 MFPRSI

This financial report is designed to provide MFPRSI's Board of Trustees, membership, and cities a general overview of the retirement system's finances and to demonstrate accountability for assets. Questions and additional financial information can be found by contacting MFPRSI's office in writing at 7155 Lake Drive, Suite 201, West Des Moines, IA 50266.

Statement of Fiduciary Net Position
As of June 30, 2019 and 2018

	2019	2018
Assets:		
Cash	$279,711	$57,798,376
Investments, at fair value:		
U.S. government obligations	72,903,384	79,203,825
U.S. corporate fixed income	69,432,607	52,563,915
U.S. equity securities	471,394,215	461,079,763
Foreign equity securities	397,534,033	382,076,887
Commingled fixed income	62,293,383	62,205,236
Multi-strategy commingled fund	48,308,077	48,827,803
Short-term investments and currency positions	76,012,736	18,476,846
Real estate	281,287,673	269,472,057
Private equity	510,544,521	516,856,484
Fund of funds commingled investments	636,472,789	613,485,388
Total investments - at fair value	2,626,183,418	2,504,248,204
Receivables:		
Contributions	3,946,947	4,451,423
Investment income	123,792	45,717
Receivable from brokers for unsettled trades, net	2,830,229	1,153,782
Total receivables	6,900,968	5,650,922
Other assets	114,333	114,339
Total assets	2,633,478,430	2,567,811,841
Pension related deferred outflows	197,996	240,777
Liabilities:		
Benefits & refunds payable	15,608,723	14,542,877
Investment management expenses payable	2,025,432	2,583,622
Administrative expenses payable	418,877	402,949
Net pension liability attributed to IPERS	751,182	819,626
Payable to brokers for unsettled trades, net	1,673,965	46,123
Total liabilities	20,478,179	18,395,197
Pension related deferred inflows	72,998	29,434
Plan net position restricted for pension benefits	$2,613,125,249	$2,549,627,987

See notes to financial statements.

Statement of Changes in Fiduciary Net Position
As of June 30, 2019 and 2018

	2019	2018
Additions:		
Contributions:		
Member	$28,472,627	$27,493,680
Employer	78,766,019	74,641,639
State appropriations	-	-
Total contributions	107,238,646	102,135,319
Investment income:		
Interest	7,013,554	5,489,957
Dividends	18,843,070	17,108,447
Net appreciation in fair value of investments	128,734,834	180,336,503
Net investment income from investment activity	154,591,458	202,934,907
Less investment expenses:		
Management fees and other	17,956,225	19,752,809
Net investment income	136,635,233	183,182,098
Other income:	87,498	11,533
Total additions	243,961,377	285,328,950
Deductions:		
Benefits payments	177,077,100	169,075,775
Refund payments	1,380,519	1,588,087
Administrative expenses	1,806,950	1,820,546
Disability expenses	199,546	112,666
Total deductions	180,464,115	172,597,074
Net increase	63,497,262	112,731,876
Plan net position restricted for pension benefits:		
Net position - Beginning	2,549,627,987	2,436,896,111
Net position - Ending	$2,613,125,249	$2,549,627,987

See notes to financial statements.

Notes to Financial Statements As Of And For The Years Ended June 30, 2019 and 2018

1. Plan Description

General

MFPRSI was created under Chapter 411.35 of the Code of Iowa to replace 87 separate fire and police retirement systems from 49 cities and one county in Iowa (a collection of "separate systems"). Effective January 1, 1992, the separate systems were terminated, and the respective entities were required to transfer assets to MFPRSI equal to their respective accrued liabilities (as measured by MFPRSI's actuary). Upon transfer of the assets, MFPRSI assumed all membership, benefits rights, and financial obligations of the separate systems.

MFPRSI 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). It is governed by a nine-member Board of Trustees (Board) who are appointed 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. MFPRSI is separate and apart from state government and is not included in the state's financial statements.

At June 30, 2019, MFPRSI was comprised of 49 cities covering 4,086 active members; 374 terminated members entitled to benefits; and 4,148 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, 2019, and 2018.

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 one 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 26.02% and 25.68% for the years ended June 30, 2019, and 2018, 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, 2019, and 2018.

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 MFPRSI's benefit provisions for the years ended June 30, 2019, and 2018:

Retirement - Members with four 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 four to 22 years of service based on the ratio of years completed to years required (22 years). Members with less than four 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 three years of compensation. The average of these three 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 (two percent for each additional year of service, up to a maximum of eight 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 five 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 five 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 Deferred Retirement Option Program (DROP). DROP is an arrangement whereby a member who is otherwise eligible to retire and commence benefits opts to continue working. A member can elect a three-, four-, or five-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 retirement system pursuant to the DROP is $15,522,000 as of June 30, 2019, and $14,063,000 as of June 30, 2018.

Net Pension Liability of the Retirement System – The components of MFPRSI's net pension liability at June 30, 2019, and 2018 were as follows:

	2019	2018
Total pension liability	$3,269,051,818	$3,145,031,474
Plan fiduciary net position	(2,613,125,249)	(2,549,627,987)
MFPRSI's net pension liability	$655,926,569	$595,403,487
Plan fiduciary net position as a percentage of the total pension liability	79.94%	81.07%

Actuarial Assumptions – The total pension liability was determined by an actuarial valuation as of June 30, 2019 and 2018, 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, 2019, and 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.

The actuarial assumptions used in the June 30, 2019, and 2018 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:

Asset Class	Long-Term Expected Real Rate of Return
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 city employer 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 MFPRSI's net pension liability calculated using the discount rate of 7.5 percent, as well as what the retirement system's net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.5%) or one percentage point higher (8.5%) than the current rate:

	1% Decrease (6.5%)	Current Discount Rate (7.5%)	1% Increase (8.5%)
MFPRSI's Net Pension Liability	$1,067,963,461	$655,926,569	$314,679,674

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. MFPRSI 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. MFPRSI'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

MFPRSI'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 by a majority vote of its members. It is the policy of the Board 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, 2019:

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

Rate of Return

For the years ended June 30, 2019, and 2018, the annual money-weighted rate of return on pension plan investments net of pension plan investment expense was 5.32% and 7.59%, 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 therefore will not be recognized as an outflow of resources (expense/expenditure) until then. MFPRSI 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. MFPRSI 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, MFPRSI's deposits may not be returned. The table below presents a summary of cash balances of the retirement system at June 30, 2019 and 2018:

	2019	2018
Insured	$250,000	$250,000
Uninsured and uncollateralized	55,184,959	58,425,988
Bank balance - June 30	$55,434,959	$58,675,988
Less:		
Pending Bank Transactions	876,613	877,612
Included Short Term Investments	54,278,635	-
Cash - Statement of Fiduciary Net Position	$279,711	$57,798,376

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 retirement system's investment program.

Due to state statute, MFPRSI is prohibited from holding direct investments in the Sudan, Iran, and companies that boycott Israel.

The following investment vehicles are permitted by MFPRSI's investment policy and may be considered for the retirement 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 depository 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

MFPRSI's currency positions 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 example, euros) in which MFPRSI has determined to invest its assets. MFPRSI's currency assets are represented within the individual portfolios of the investment managers, which have mandates, and may include international bonds or stocks. The benchmark against which these managers compare their portfolios includes 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 (i.e., "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. This includes 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 retirement 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.

MFPRSI's real estate positions 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, 2019 and 2018, MFPRSI was invested in fund of funds commingled investments, which can be broken down into the following asset classes:

	2019	2018
INVESTMENTS - At fair value:		
U.S. equity securities	$220,423,005	$206,728,819
Foreign equity securities	152,060,564	172,344,888
Fixed income	229,215,126	177,736,689
Alternative investments	24,840,357	32,539,528
Short-Term investments and currency positions	9,933,737	24,135,464
Total fund of funds commingled investments	$636,472,789	$613,485,388

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, 2019 and 2018 are as follows:

2019

Quality Rating	Fair Value	Percentage of Portfolio
AA	$119,487,647	58.39%
A	22,562,996	11.03%
BBB	44,481,803	21.74%
BB	18,096,928	8.84%
Total Fixed Income Securities	$204,629,374	100.00%

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	649,670	0.33%
Total Fixed Income Securities	$193,972,976	100.00%

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

Custodial Credit Risk

For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, MFPRSI 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 retirement system, and are held by either the counterparty or the counterparty's trust department or agent but not in MFPRSI's name.

Iowa Code 411.7 establishes the secretary of the Board as the custodian of the fund and provides for MFPRSI to select master custodian banks to provide custody of its assets. MFPRSI has arranged for Wells Fargo Bank to act as the master custodian bank. The master custodian bank may hold MFPRSI's 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 retirement system's account.

Concentration of Credit Risk

MFPRSI is guided by statute and policy in the selection of security investments. No investments in any one organization represent five percent 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, 2019.

	Fair Value	Duration
Investment type:		
Short-term	$6,280,670	0.0003
Fixed income	142,335,991	4.4277
Commingled	62,293,383	5.7181
Total fair value	$210,910,044	
Portfolio modified duration		4.6770

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. A duration of 8 would mean that, given a 100-basis point change up/down in rates, a bond's price would move up/down by 8%.

Commitments

MFPRSI is committed, as of June 30, 2019, to invest approximately $395,000,000 in certain private equity, real estate partnerships, and real estate commingled funds.

Fair Value Measurements

MFPRSI categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. 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. MFPRSI's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability.

Investments Measured at Fair Value on a Recurring Basis

Investments by fair value level:	Balance at June 30, 2019	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Debt Securities:				
U.S. Treasury securities	$14,920,149	$14,920,149	$-	$-
Mortgage-Related securities	54,428,796	-	54,428,796	-
Government-Related securities	3,554,439	-	3,554,439	-
Corporate securities	69,432,607	-	69,432,607	-
Total debt securities	142,335,991	14,920,149	127,415,842	-
Equity securities:				
MLPs	103,167,252	103,167,252	-	-
Preferred Stock	1,379,500	1,379,500	-	-
Total equity securities	104,546,752	104,546,752	-	-
Total investments by fair value level	246,882,743	$119,466,901	$127,415,842	$-
Investments measured at the NAV:				
Domestic equity funds	348,829,545			
International equity funds	385,234,687			
Global equity funds	30,317,264			
Global bond funds	62,293,383			
Real estate funds	275,878,165			
Private equity funds	510,544,521			
Multi-strategy commingled funds	48,308,077			
Fund of funds commingled investments	636,472,789			
Real estate held as investment	5,409,508			
Total investments measured at the NAV	2,303,287,939			
Total investments measured at fair value	$2,550,170,682			

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, 2019, 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, 2019, 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 taking into account the characteristics of the asset.

Investments in Entities that Calculate Net Asset Value per Share

MFPRSI 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	$349		Daily	1-5 Days
International equity funds	385		Daily, Monthly	1 week/15th
Global equity funds	30		Daily	2 Days
Global bond funds	62		Daily	1 Day
Emerging debt funds	0		Monthly	3 Days
Real estate funds	276	$85	N/A	N/A
Private equity funds	511	$310	N/A	N/A
Multi-strategy hedge funds	48		Monthly	2 Weeks
Fund of funds commingled investments	637		Daily	1 Day
Real estate held as investment	5		N/A	N/A
Total investments measured at the NAV	$2,303			

MFPRSI does not anticipate restrictions, other than those outlined in the table, on the ability to sell individual investments at the measurement date. Additionally, the retirement 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. MFPRSI 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

MFPRSI'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 Statement of Fiduciary Net Position as 'Short-term investments and currency positions.' Changes in the values of derivative financial instruments are reported in the Statement 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, 2019, and 2018, the retirement 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 MFPRSI as well as the Board to monitor compliance with the contracts. The retirement system does not purchase derivatives with borrowed funds and does not allow the leveraging of the portfolios.

MFPRSI'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. Pensions are provided to employees of MFPRSI 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 and 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

As a result of a 2010 law change effective July 1, 2012, 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 one 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 IPERS' Investment Board.

In fiscal year 2019, pursuant to the required rate, Regular members contributed 6.29 percent of pay and MFPRSI contributed 9.44 percent for a total rate of 15.73 percent.

MFPRSI's total contributions to IPERS for the years ended June 30, 2019 and 2018, were $86,294 and $79,670, respectively.

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

At June 30, 2019, MFPRSI reported a liability of $751,182 for its proportionate share of the IPERS net pension liability. The IPERS net pension liability was measured as of June 30, 2018, 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, 2018, the MFPRSI's proportion was 0.0118703 percent, which was a decrease from 0.0123044, its proportion measured as of June 30, 2017.

For the year ended June 30, 2019, MFPRSI recognized pension expense of $104,195. At June 30, 2019, MFPRSI reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$4,119	$16,978
Changes of Assumptions	107,161	-
Net difference between projected and actual earnings on pension plan investments	-	20,641
Changes in proportion and differences between MFPRSI contributions and proportionate share of contributions	422	35,379
MFPRSI contributions subsequent to the measurement date of June 30, 2018	86,294	-
Total	$197,996	$72,998

Deferred outflows of resources related to pensions resulting from MFPRSI contributions of $86,294 reported subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2019. Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

2020	$42,708
2021	17,842
2022	(13,658)
2023	(6,197)
2024	(1,991)
Thereafter	-

There were no non-employer contributing entities at IPERS.

IPERS Actuarial assumptions – The total pension liability in the June 30, 2018 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 increases (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.

IPERS' actuarial assumptions used in the June 30, 2018, valuation were based on the results of actuarial experience studies with dates corresponding to those listed above.

Mortality rates were based on the RP-2014 Employee and Healthy Annuitant Tables with MP-2017 generational adjustments.

The actuarial assumptions used in the June 30, 2018 valuation are based on the results of the most recent actuarial experience studies. An experience study of IPERS's demographic assumptions was presented to the IPERS Investment Board in June 2018. This study included information on mortality, retirement, disability, and termination rates, as well as salary trends, for the period of July 1, 2013 to June 30, 2017. At the IPERS Investment Board's direction, the experience study of IPERS's economic assumptions, including the long-term rate of return, was accelerated one year resulting in a full review of the economic assumptions in early 2017. The findings of the experience study on economic assumptions, along with the resulting recommendations, are included in the report dated March 24, 2017.

Several factors are considered in evaluating the actuarial assumed investment return including long-term historical data, estimates inherent in current market data, along with estimates of variability and correlations for each asset class, and in analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation) were developed by IPERS's investment consultant. These ranges were combined to develop the actuarial assumed investment return by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation. The actuarial assumed investment return reflects the anticipated returns on current and future plan assets, and provides a discount rate to determine the present value of future benefit payments.

The estimates of arithmetic real rates of return for each major asset class included in IPERS' target asset allocation as of June 30, 2018 are shown in the following table.

Asset Class	IPERS Target Allocation	IPERS Long-Term Expected Real Rate of Return
Domestic equity	22%	6.01%
International equity	15	6.48
Global smart beta equity	3	6.23
Core-plus fixed income	27	1.97
Public credit	3.5	3.93
Public real assets	7	2.91
Cash	1	-0.25
Private equity	11	10.81
Private real assets	7.4	4.14
Private credit	3	3.11
Total	100%	

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 one-percentage-point lower (6.0 percent) or one-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	$1,274,906	$751,182	$311,855

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, 2019, 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, 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.

Required Supplementary Information

Schedule of Changes in MFPRSI's Net Pension Liability
Last 8 Fiscal Years (continued on next page)

	2019	2018	2017	2016
Total pension liability				
Service cost	$53,017,674	$56,128,110	$53,423,772	$51,366,130
Interest	233,282,508	224,678,250	213,069,288	205,836,959
Changes in benefit terms	-	-	-	-
Difference between expected and actual experience	16,177,781	(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	(178,457,619)	(170,663,862)	(163,571,586)	(156,566,482)
Net change in total pension liability	124,020,344	121,660,303	155,563,845	97,812,642
Total pension liability - beginning	3,145,031,474	3,023,371,171	2,867,807,326	2,769,994,684
Total pension liability - ending	3,269,051,818	3,145,031,474	3,023,371,171	2,867,807,326
Plan fiduciary net position				
Contributions - employer	78,766,019	74,641,639	73,411,163	75,254,727
Contributions - member	28,472,627	27,493,680	26,625,022	25,455,597
Net investment income	136,635,233	183,182,098	259,812,040	164,100
Benefit payments, including refunds	(178,457,619)	(170,663,862)	(163,571,586)	(156,566,482)
Administrative expense	(1,797,284)	(1,781,886)	(1,767,657)	(1,728,951)
Other	(121,714)	(139,793)	(159,263)	(212,954)
Net change in plan fiduciary net position	63,497,262	112,731,876	194,349,719	(57,633,963)
Plan fiduciary net position - beginning	2,549,627,987	2,436,896,111	2,242,546,392	2,300,180,355
Plan fiduciary net position - ending	$2,613,125,249	$2,549,627,987	$2,436,896,111	$2,242,546,392
MFPRSI's net pension liability - ending	$655,926,569	$595,403,487	$586,475,060	$625,260,934

* 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 MFPRSI's Net Pension Liability
Last 8 Fiscal Years (continuation from previous page)

	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
Changes in benefit terms	-	-	-	-
Difference 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	(150,026,306)	(143,833,568)	(137,617,880)	(132,611,997)
Net change in total pension liability	129,039,508	122,726,598	24,379,562	105,355,104
Total pension liability - beginning	2,640,955,176	2,518,228,578	2,493,849,016	2,388,493,912
Total pension liability - ending	2,769,994,684	2,640,955,176	2,518,228,578	2,493,849,016
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	(774,140)	(75,070)	(99,223)	(98,573)
Net change in plan fiduciary net position	21,723,432	314,190,305	179,038,105	(44,177,154)
Plan fiduciary net position - beginning	2,278,456,923	1,964,266,618	1,785,228,513	1,829,405,667
Plan fiduciary net position - ending	$2,300,180,355	$2,278,456,923	$1,964,266,618	$1,785,228,513
MFPRSI's net pension liability - ending	$469,814,329	$362,498,253	$553,961,960	$708,620,503

* 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 Net Pension Liability
Last 8 Fiscal Years (continued on the table below)

	2019	2018	2017	2016
Total pension liability	$3,269,051,818	$3,145,031,474	$3,023,371,171	$2,867,807,326
Plan fiduciary net position	2,613,125,249	2,549,627,987	2,436,896,111	2,242,546,392
MFPRSI's net pension liability	$655,926,569	$595,403,487	$586,475,060	$625,260,934
Plan fiduciary net position as a percentage of the total pension liability	79.94%	81.07%	80.60%	78.20%
Actuarial projected covered payroll	$302,713,506	$290,660,576	$283,222,057	$270,986,891
MFPRSI's net pension liability as a percentage of covered payroll	216.68%	204.84%	207.07%	230.73%

* 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 Net Pension Liability
Last 8 Fiscal Years (continuation of table above)

	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	2,300,180,355	2,278,456,923	1,964,266,618	1,785,228,513
MFPRSI's net pension liability	$469,814,329	$362,498,253	$553,961,960	$708,620,503
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
MFPRSI's net pension liability as a percentage of covered payroll	179.14%	141.95%	221.49%	283.39%

* 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
Last 8 Fiscal Years (continued on table below)

	2019	2018	2017	2016
Actuarially determined contribution	$78,766,019	$74,641,639	$73,411,163	$75,254,727
Contributions in relation to the actuarially determined contribution	78,766,019	74,641,639	73,411,163	75,254,727
Contribution deficiency (excess)	$-	$-	$-	$-
Reported covered payroll	$302,713,506	$290,660,576	$283,222,057	$270,986,891
Contributions as a percentage of covered payroll	26.02%	25.68%	25.92%	27.77%

* 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
Last 8 Fiscal Years (continuation of table above)

	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	79,748,943	76,917,460	65,327,766	61,911,684
Contribution deficiency (excess)	$-	$-	$-	$-
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%

* 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 Investment Returns
Last 10 Fiscal Years

Fiscal Year	Annual money-weighted rate of return, net of investment expenses	Fiscal Year	Annual money-weighted rate of return, net of investment expenses
2019	5.32%	2014	17.97%
2018	7.59%	2013	13.10%
2017	11.72%	2012	-0.27%
2016	0.02%	2011	23.34%
2015	3.02%	2010	11.48%

Schedule of MFPRSI Proportionate Share of the Net Pension Liability

Iowa Public Employees' Retirement System
Last 5 Fiscal Years

	2018	2017	2016	2015	2014
MFPRSI's proportion of the net pension liability (asset)	0.011874%	0.012415%	0.012738%	0.012726%	0.012759%
MFPRSI's proportionate share of the net pension liability (asset)	$751,182	$819,626	$794,389	$632,688	$516,371
MFPRSI's covered payroll	$892,161	$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	84.20%	82.92%	88.03%	72.11%	60.61%
Plan fiduciary net position as a percentage of the total net pension liability	83.62%	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 6 Fiscal Years

	2019	2018	2017	2016	2015	2014
Actuarially determined contribution	$86,727	$79,670	$88,268	$80,581	$78,347	$76,083
Contributions in relation to the actuarially determined contribution	(86,727)	(79,670)	(88,268)	(80,581)	(78,347)	(76,083)
Contribution deficiency (excess)	$-	$-	$-	$-	$-	$-
Reported covered payroll	$918,718	$892,161	$988,443	$902,363	$877,346	$851,989
Contribution as a percentage of covered payroll	9.44%	8.93%	8.93%	8.93%	8.93%	8.93%

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

Notes to Required Supplementary Information

Methods and Assumptions used in calculations of Actuarially Determined Contributions. The actuarially determined contribution rates in the schedule of MFPRSI'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, 2019
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.

Actuary

Actuarial Valuation's Purpose
Cities' Recommended Contribution Rate
Contribution Rate History
Actuarial Report Highlights

Actuarial Valuation's Purpose

Provided by SilverStone Group

The actuarial data in this section was determined by MFPRSI's actuarial services provider, SilverStone Group ("SilverStone"). The information in this section presents a portion of the annual actuarial valuation, which was determined in accordance with Iowa Code Chapter 411. The complete actuarial valuation report as of July 1, 2019, can be accessed on the retirement system's website, www.mfprsi.org.

The costs developed and presented in this section are based on asset values as of June 30, 2019, member census data as of July 1, 2019, and current retirement system provisions, all of which were supplied by MFPRSI.

The purposes of the actuarial valuation are the following:

1. To determine the normal contribution rate that is payable by the cities under Chapter 411 of the Code of Iowa;
2. To determine the funded status of the retirement system; and
3. To provide information relating to the disclosure requirements of the Governmental Accounting Standards Board (GASB) Statement No. 67 – Financial Reporting for Defined Benefit Pension Plans (an amendment of GASB Statement No. 25).

All costs and liabilities were determined in accordance with generally accepted actuarial principles and procedures and are based on the actuarial assumptions and methods prescribed by the Board in accordance with Iowa Code Section 411.5.10-11. The information supplied in this section is accurate and the assumptions are reasonably related to both MFPRSI's experience and its reasonable expectations under the retirement system in the opinion of SilverStone.

Cities' Recommended Contribution Rate

The cities' contribution rate is established by Iowa Code Chapter 411. The rate specified for employees is set by the statute, currently at 9.40 percent of earnable compensation. The rate for employers is adopted each year by the Board following the completion of the annual actuarial valuation. The required contribution rate as reported by MFPRSI's actuary is developed in the chart below and is effective July 1, 2020.

Contribution Rate Formula
Effective July 1, 2020

Preliminary total contribution	
1. Annual normal cost	$55,133,707
2. Estimated member contributions	29,698,115
3. Unfunded actuarial accrued liability amortization payment	54,519,817
4. Total (cities + state) contributions = [(1) - (2) + (3)]	79,955,409
Cities' contribution	
5. Preliminary total contribution = (4)	79,955,409
6. Estimated state contribution	0
7. Preliminary cities' contribution = (5) - (6)	79,955,409
8. Covered payroll	315,937,395
9. Cities' contribution as a percent of payroll = (7) / (8)	25.31%

The minimum required contribution rate for cities is 17.00%.

The cities' contribution equals $79,963,755, the greater of step 9 or 17.00% (the minimum required contribution rate for cities) multiplied by step 8.

Starting with the normal contribution rate approved in 2018 of 24.41 percent and ending with the normal contribution rate approved in 2019 of 25.31 percent, explanations for the year-over-year changes are discussed below.

Year-over-year changes to the participating cities' contribution rate

July 1, 2018, normal contribution rate effective July 1, 2019	24.41%
Increase in contribution rate due to lower state contribution	0.00%
Plan experience more favorable than assumed	-0.35%
Investment experience less favorable than assumed	1.25%
Changes in MFPRSI's provisions	0.00%
Change in actuarial cost method	0.00%
Changes in actuarial assumptions	0.00%
Preliminary normal contribution rate	25.31%
Increase to meet minimum required contribution rate of 17.00%	0.00%
July 1, 2019, normal contribution rate effective July 1, 2020	25.31%

Increase in contribution rate due to lower state contribution 0.00%

The contribution provided by the State of Iowa remained unchanged at $0 in 2019.

Plan Experience More Favorable Than Assumed -0.35%

Several factors played a role in MFPRSI's experience being more favorable than what was assumed. These factors include salary increases being less than assumed, more new members joined covered payrolls at lower levels of pay, and the actual rates of disability retirements, service retirements, deaths, and withdrawals did not exactly match the expected rates for each of these population changes.

Investment Experience Less Favorable Than Assumed 1.25%

The actuarial value of assets realized a return of 5.65 percent compared to the assumed investment return of 7.50 percent. This had the effect of increasing the cities' contribution rate by 1.25 percent.

Changes in MFPRSI's provisions 0.00%

There were no changes in MFPRSI's benefit provisions from the prior year valuation.

Changes in Actuarial Assumptions 0.00%

In accordance with Iowa State Code Section 411.5.10-11, the Board of Trustees prescribes the actuarial assumptions used in this report. Per the Code Section, SilverStone conducts a formal investigation, or experience study, of the primary assumptions every five years. The most recent investigation was completed for the 10-year period ending June 30, 2017.

There were no changes in actuarial assumptions from the prior year valuation.

Changes in actuarial methods 0.00%

All actuarial cost methods remain unchanged from the prior year valuation.

Contribution Rate History

Contribution Rate 1993* - 2021

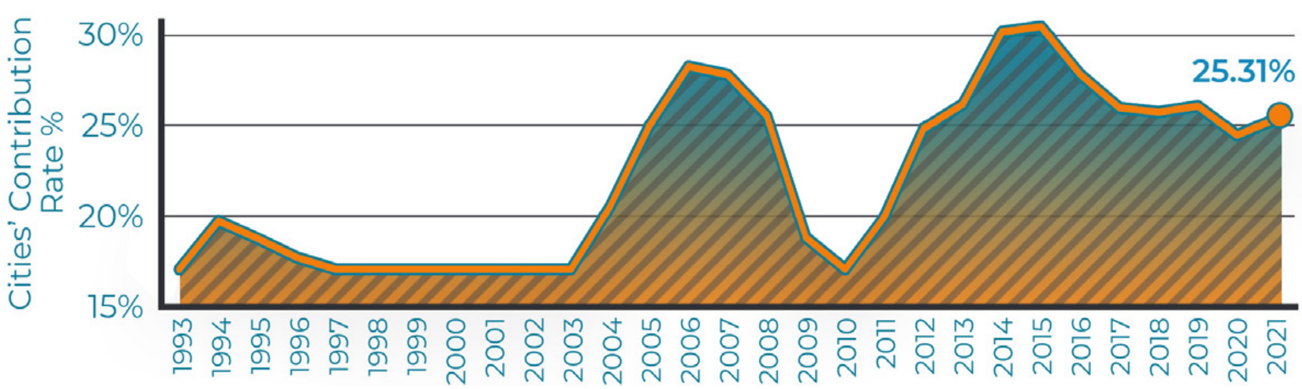
Fiscal year	Rate	Fiscal year	Rate
1993*	17.00%	2008	25.48%
1994	19.66%	2009	18.75%
1995	18.71%	2010#	17.00%
1996	17.66%	2011	19.90%
1997#	17.00%	2012	24.76%
1998#	17.00%	2013	26.12%
1999#	17.00%	2014	30.12%
2000#	17.00%	2015	30.41%
2001#	17.00%	2016	27.77%
2002#	17.00%	2017	25.92%
2003#	17.00%	2018	25.68%
2004	20.48%	2019	26.02%
2005	24.92%	2020	24.41%
2006	28.21%	2021	25.31%
2007	27.75%		

*MFPRSI's first fiscal year operated January 1, 1992, to June 30, 1993. In all subsequent years the fiscal year began July 1.

#Rate certified at 17.00%, the minimum as required by statute.

MFPRSI's fiscal year runs July 1 to June 30. The fiscal year name coincides with the year as of June 30 (i.e., "fiscal year 2021" covers July 1, 2020, to June 30, 2021).

Contribution Rate History - Fiscal Years Beginning July 1.



Actuarial Report Highlights

As of July 1,	2019	2018	2017
Cities' recommended contribution	$79,963,755	$73,820,798	$77,081,123
Normal contribution rate	25.31%	24.41%	26.02%
Plan assets			
Market value	$2,613,125,249	$2,549,627,987	$2,436,896,111
Actuarial value	$2,649,186,492	$2,578,863,993	$2,461,161,417
Prior year investment return			
Market value	5.44%	7.63%	11.75%
Actuarial value	5.65%	7.75%	8.37%
Actuarial accrued liability	$3,269,051,818	$3,145,031,474	$3,023,371,171
Funded ratio*	81.04%	82.00%	81.40%
Annual participating payroll	$315,937,395	$302,420,313	$296,237,982
Annual normal cost	$55,133,707	$53,017,674	$56,128,110
Percent of payroll	17.45%	17.53%	18.95%
Annual pension benefits			
Service retirement	$95,066,664	$91,350,744	$87,272,844
Disabled retirement	$50,710,716	$48,742,116	$47,563,392
Vested retirement	$7,771,656	$7,194,492	$6,677,184
Beneficiaries	$21,062,616	$20,299,872	$19,008,288
Total	$174,611,652	$167,587,224	$160,521,708
Number of members			
Active	4,086	4,003	3,968
Disabled	1,134	1,130	1,136
Retirees and beneficiaries	3,014	2,977	2,909
Vested terminated	374	367	356
Total	8,608	8,477	8,369

*Based on the ratio of the Actuarial Value of Assets to Actuarial Accrued Liability.

Actuarial Value of Assets - Year Ending June 30, 2019

1. Actuarial value of assets at July 1, 2018					$2,578,863,993
2. Contributions for 2018 plan year (members, cities, and state)					107,238,646
3. Benefit distributions and refunds for 2018 plan year					(178,457,619)
4. Non-investment expenses					
a. Administrative expenses					(1,797,284)
b. Disability expenses					(199,546)
c. Other expenses					(9,666)
d. Total					(2,006,496)
5. Expected return on market value of assets for year at 7.5%					188,525,786
6. Asset gains/(losses) for prior five plan years					
	(I) Asset gain or (loss)	Years recognized	Years remaining	(II) Recognition percentage	(I) x (II) Recognized amount
a. 2018	$(51,803,053)	1	4	20.000%	(10,360,611)
b. 2017	3,020,970	2	3	20.000	604,194
c. 2016	94,033,500	3	2	20.000	18,806,700
d. 2015	(170,219,375)	4	1	20.000	(34,043,875)
e. 2014	(99,921,132)	5	0	20.000	(19,984,226)
f. Total					(44,977,818)
7. Asset gains/(losses) to be recognized = (6f)					(44,977,818)
8. Actuarial value of assets at July 1, 2019 = (1) + (2) + (3) + (4d) + (5) + (7)					2,649,186,492
9. Market value of assets at July 1, 2019					2,613,125,249
10. Ratio of actuarial value to market value at July 1, 2019 = (8) / (9)					101.38%

Unfunded Actuarial Accrued Liability

As of July 1,	2019	2018
1. Actuarial accrued liability before changes		
a. Active members		
Service retirements/DROP	$1,112,858,671	$1,067,066,625
Ordinary disability	22,258,099	22,226,869
Accidental disability	113,998,932	143,914,112
Ordinary death	3,084,442	5,639,698
Accidental death	5,986,459	3,780,805
Withdrawal	36,703,000	21,266,361
Total active	1,294,889,603	1,263,894,470
b. Inactive members		
Members receiving benefits	1,929,129,169	1,817,397,840
Deferred vested terminations	44,591,271	42,020,495
Refund of member contributions due	441,775	452,477
Total inactive	1,974,162,215	1,859,870,812
c. Total actuarial accrued liability	3,269,051,818	3,123,765,282
2. Actuarial value of plan assets	2,649,186,492	2,578,863,993
3. Unfunded actuarial accrued liability before changes = [Excess of (1) over (2)]	619,865,326	544,901,289
4. Change in unfunded actuarial accrued liability		
a. Change in MFPRSI's provisions	0	0
b. Change in actuarial assumptions	0	21,266,192
5. Unfunded actuarial accrued liability after changes	619,865,326	566,167,481

The unfunded actuarial accrued liability is the amount the actuarial accrued liability exceeds the actuarial value of plan assets determined as of the actuarial valuation date. The unfunded actuarial accrued liability is reduced during a year when retirement system funding exceeds the annual normal cost and interest accrued on the prior year unfunded accrued liability.

The unfunded actuarial accrued liability is also reduced (increased) when the investment return on MFPRSI's assets exceeds (is less than) the assumed investment return.

The actuarial accrued liability is increased if there are amendments that revise benefits payable from MFPRSI. The actuarial accrued liability may be increased or decreased as the result of retirement system experience or if there are changes in the actuarial assumptions used to determine annual contributions

Unfunded Accrued Liability Payments

Amortization base	Date established	Source of base
$657,280,700	July 1, 2013	Initial unfunded
(101,748,328)	July 1, 2014	Actuarial gain
32,616,664	July 1, 2014	Assumption change
(64,447,420)	July 1, 2015	Actuarial gain
17,508,411	July 1, 2015	Assumption change
21,275,521	July 1, 2016	Actuarial loss
(10,467,574)	July 1, 2016	Assumption change
(7,154,241)	July 1, 2017	Actuarial gain
39,751,096	July 1, 2017	Assumption change
(15,920,159)	July 1, 2018	Actuarial gain
21,266,192	July 1, 2018	Assumption change
63,348,299	July 1, 2019	Actuarial loss

Charge Bases

Initial amortization base	Initial term - years	Remaining term on valuation date	Amortization payment
$657,280,700	25	19	$54,851,250
32,616,664	25	20	2,721,919
17,508,411	25	21	1,461,108
21,275,521	25	22	1,775,480
39,751,096	25	23	3,317,300
21,266,192	25	24	1,774,702
63,348,299	25	25	5,286,529
		Total	71,188,288

Credit Bases

Initial amortization base	Initial term - years	Remaining term on valuation date	Amortization payment
$101,748,328	25	20	$8,491,080
64,447,420	25	21	5,378,253
10,467,521	25	22	873,538
7,154,241	25	23	597,034
15,920,159	25	24	1,328,566
		Total	16,668,471
		Net Amortization Payment	$54,519,817

One of the components included to determine the recommended contribution is the unfunded accrued liability payment. The unfunded accrued liability payment is an annual amount that will amortize over 25 years on a closed, layered level dollar basis:

- The initial unfunded accrued liability was established as of July 1, 2013.
- An increase in unfunded accrued liability may occur if MFPRSI's benefits are improved through amendments.
- An increase or decrease in the unfunded accrued liability is associated with a change in actuarial assumptions.
- An increase or decrease in the unfunded accrued liability resulting from actuarial gains or losses due to MFPRSI's experience more or less favorable than expected.

Change in Actuarial Present Value of Accrued Benefits

The change in actuarial present value of accrued benefits due to various factors, including benefits accumulated, the passage of time, benefits paid, changes in assumptions, and changes in MFPRSI's provisions, is displayed below.

Actuarial present value of accrued benefits on July 1, 2018	$2,893,815,905
Change in present value of accrued benefits from July 1, 2018, to July 1, 2019, due to:	
Additional benefits accumulated	$84,674,270
Interest due to passage of time	210,465,014
Benefits paid	(178,457,619)
Change in assumptions	0
Change in MFPRSI provisions	0
Actuarial present value of accrued benefits on July 1, 2019	3,010,497,570

Actuarial Present Value of Accrued Benefits

As of July 1,	2019	2018
1. Present value of vested accrued benefits		
a. Present value of vested accrued benefits for active members	$999,633,561	$954,040,512
a. Present value of benefits for terminated members	45,033,046	42,214,760
c. Present value of benefits for service retirees, beneficiaries, and disabled retirees	1,929,129,169	1,862,532,799
Total	2,973,795,776	2,858,788,071
2. Present value of accrued non-vested benefits	36,701,794	35,027,834
3. Present value of all accrued benefits = (1) + (2)	3,010,497,570	2,893,815,905
4. Market value of assets	2,613,125,249	2,549,627,987
5. Ratio of market value of assets to the present value of all accrued benefits = (4) / (3)	86.80%	88.11%
6. Ratio of market value of assets to the present value of vested accrued benefits = (4) / (1)	87.87%	89.19%

Actuarial Gain / (Loss)

Expected unfunded actuarial accrued liability	
1. Expected actuarial accrued liability	
Actuarial accrued liability on July 1, 2018	$3,145,031,474
Normal cost	53,017,674
Benefit distributions	(178,457,619)
Interest on above at 7.50% to June 30, 2019	233,282,508
Total	3,252,874,037
2. Expected assets	
Actuarial value of assets on July 1, 2018	2,578,863,993
Contributions	107,238,646
Benefit distributions and non-investment expenses	(180,464,115)
Interest on above at 7.50% to June 30, 2019	191,718,486
Total	2,696,357,010
3. Expected unfunded actuarial accrued liability on June 30, 2019 = (1) - (2)	556,517,027
Actual unfunded actuarial accrued liability	
1. Actuarial accrued liability before changes	3,269,051,818
2. Actuarial value of assets	2,649,186,492
3. Actual unfunded actuarial accrued liability on July 1, 2019	619,865,326
Actuarial gain or (loss)	
1. Expected unfunded actuarial accrued liability	556,517,027
2. Actual unfunded actuarial accrued liability	619,865,326
3. Actuarial gain or (loss) for 2019 fiscal year	(63,348,299)

INVESTMENTS

INVESTMENT CONSULTANT'S REPORT

PERFORMANCE

OVERVIEW

Investment Consultant's Report

Provided by David H. Smith, CFA, Managing Director and Doug Oest, CAIA, Managing Partner Marquette Associates

MarquetteAssociates

As of June 30, 2019, MFPRSI's portfolio totaled $2.62 billion and earned a 5.5% investment return, net of fees, for the fiscal year. At the end of June, the United States officially entered its longest period of expansion, breaking the previous record of 120 months set during the period from March 1991 to March 2001. Against a backdrop of on-going trade tension, geopolitical uncertainty, and evolving interest rate policy, however, global equity markets produced only modest results for the period between July 1, 2018 and June 30, 2019. Global stocks, as measured by the Morgan Stanley Capital International ("MSCI") World Index returned 6.31%.

David H. Smith, CFA
Managing Director
Marquette Associates

Unemployment remained low at 3.7% and inflation, at 1.8% year-over-year, is near the Federal Reserve's ("Fed") long-term target of 2%. Despite high employment levels and low inflation, there are increasing concerns about a global economic slowdown. Low interest rates and corporate tax reform policies that supported the post-Global Financial Crisis recovery are fading while credit is tightening, wages are increasing, and earnings are softening.

Doug Oest, CAIA
Managing Partner
Marquette Associates

In 2018, the S&P 500 index declined 4.4%, marking the first negative calendar year since 2008. Despite the decline, the market hit many milestones, most notably becoming the longest bull market ever in August 2018 and reaching a then record high of 2,930 in September. Following a correction in December, U.S. equity markets rebounded sharply during the first six months of 2019. The S&P 500 index returned 18.5% year-to-date through June 30, 2019 thanks to strong economic fundamentals and expected Fed stimulus.

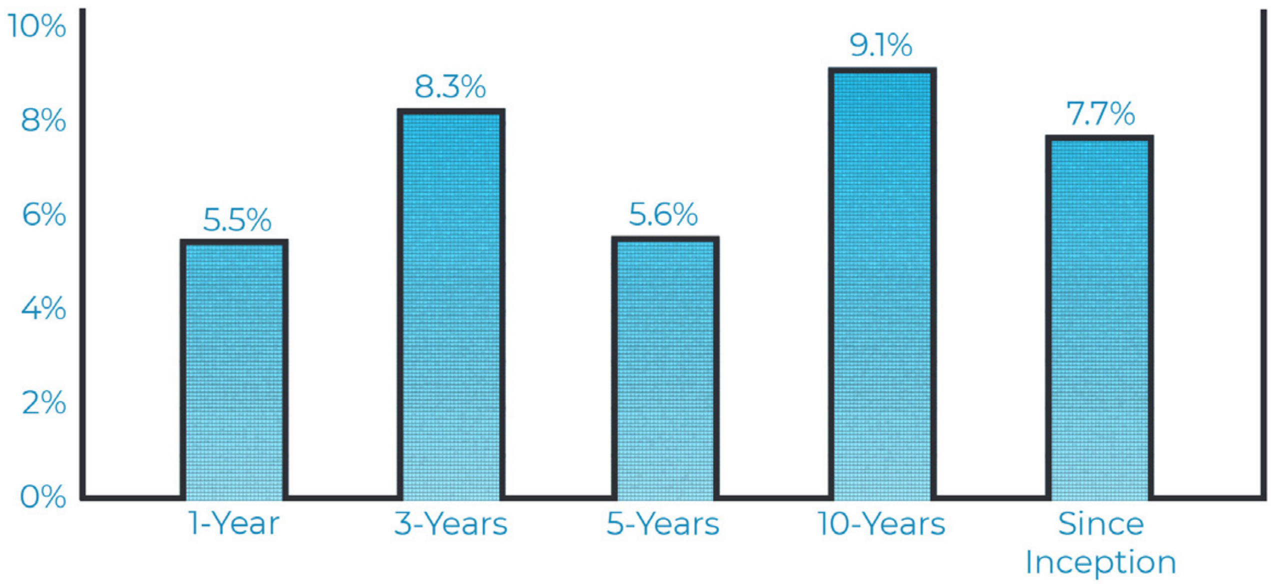
Non-U.S. equity disappointed relative to U.S. equity. The MSCI All-Country World ex-U.S. ("ACWI ex-U.S.") returned only 1.1% over the trailing twelve months for the period ending June 30, 2019. Major macro-risk factors hung over global equity markets throughout 2018. The ongoing Brexit negotiation saga kept uncertainty levels high throughout Europe and trade war rhetoric between China and the United States continued to fuel stock market volatility.

In fixed income markets, credit and government bonds pulled in opposite directions as equity markets sold off and then rallied. In general, owing to the gradual decline in rates along the U.S. Treasury yield curve as the bond markets adopted a pessimistic outlook, bond prices have risen, thereby driving positive returns for both credit and government bonds during the first six months of 2019. Following four interest rate hikes in 2018, the Fed is poised to cut rates up to three times during the second half of 2019. The 10-year yield curve fell from 2.66% at the start of the year to 2.00% on June 30. This large and unexpected drop in rates propelled fixed income markets and the Bloomberg Barclays U.S. Aggregate Bond Index returned 6.1% over the period from July 1, 2018 to June 30, 2019.

In this environment, a hypothetical portfolio of 60 percent global stocks and 40 percent domestic bonds (i.e., a "60/40" allocation) would have earned a 7.3% return for the year, outperforming MFPRSI's investment return by 1.8% percent. During this period of interest rate volatility and geopolitical uncertainty, U.S. equities and U.S. fixed income were the clear winners.

MFPRSI's investment portfolio is significantly more diversified than a traditional 60/40 allocation. Lower allocations to public U.S. equity and U.S. fixed income relative to the total fund benchmark were a drag on fiscal year performance. MFPRSI's core investments and strategic investments returned 4.1% and 4.0% during the fiscal year. By contrast, the retirement system's real asset and private equity composite returned 7.2% and 8.7% respectively over the same time period. The MFPRSI portfolio is well diversified across multiple asset classes to protect against market volatility. The portfolio offers compelling yield and is well-positioned for asset growth over the long term.

Performance as of June 30, 2019



Inception date is January 1, 1992. It is important to note that historical performance is not a guarantee of future performance of the portfolio due to the cyclical nature of markets and the individual components thereof.

Overview

In order to maximize the important role that investment returns play in the funded status of MFPRSI's investment portfolio, the Board has adopted its *Investment Policy & Objectives* as its investment guidelines. This document is designed to provide the framework necessary to guide the investment portfolio toward the retirement system's ongoing requirements of the benefit plan. The complete *Investment Policy & Objectives* is available on MFPRSI's website, www.mfprsi.org.

MFPRSI's overall investment performance goal is to exceed an annualized actuarial assumed rate of return of 7.5 percent over a long-term time horizon. The actuarial assumed rate of return is the rate of return which will meet or exceed the benefits and administrative funding requirements of the retirement system. While the investment portfolio will exceed or fall short of that goal in shorter time periods, it is designed to withstand all market environments and out-pace the actuarial assumed rate of return over the long term.

MFPRSI's investments are managed by professional investment management firms who have full discretion to direct the investment and reinvestment of the assets in their respective accounts in accordance with MFPRSI's investment policies, applicable to federal and state statutes and regulations, and the executed and detailed investment management agreements.

The net investment market values reported in this section differ from those shown in the Financial Statements and Actuary sections of this report. The values used in this section are the appropriate industry standard basis for investment return calculations.

Asset Allocation and Diversification

Asset allocation is a process designed to construct an optimal long-term mix that achieves a specific set of investment objectives. The Board's *Investment Policy & Objectives* establishes the retirement system's asset allocation policy to meet those objectives. The asset allocation policy is adopted to provide diversification of assets in order to maximize returns within appropriate levels of market and economic risks.

MFPRSI pursues diversification in the investment portfolio by varying its investment style. The success of any individual investment style tends to be cyclical, and diversification is one tool to help reduce overexposure to any one asset class. For example, growth equities may outperform value equities over several consecutive time periods and then revert over several consecutive time periods. Diversification beneficially limits exposure to each asset class during time periods when they are out of favor with investors.

Ultimately, investment markets are cyclical and no single investment style or asset class will perpetually outperform over the long term. Investment styles come in and out of fashion and using this logic, MFPRSI diversifies its investment portfolio in order to minimize risk.

Performance at the total investment fund level, therefore, avoids dependency on any one style of investment.

Overall, diversification of assets within the investment portfolio enhances the potential to achieve MFPRSI's long-term goal of meeting a 7.5 percent annualized actuarial assumed rate of return.

Risk

Investing in any asset involves the possibility that the asset's actual return will differentiate from its expected return. Investment risk can be defined as the potential occurrence of a loss relative to the expected return on investment.

Risk is a vital element when determining the forecast of an investment. Typically, most investors shy away from risk as no investor wants to lose money on an investment. This is prudent behavior to avoid losing money. However, the rule of thumb towards risk is that the higher the risk, the better the return.

MFPRSI and Marquette carefully consider investment risk when implementing its investment strategy. The investment portfolio is tasked with achieving a long-term 7.5 percent actuarially assumed rate of return. In order to do so, the investment portfolio must take on risk.

Simply investing in low-risk or no-risk assets (e.g., short-term certificates of deposit whose one-year interest rates are typically below 3 percent) would make it difficult for the investment portfolio to achieve its 7.5 percent benchmark. Therefore, a moderate amount of risk must be accepted in order to surpass the actuarial assumed rate of return.

One common tool to measure risk is standard deviation which, in the retirement system's case, is the average amount an investment's returns differ from the mean of its returns. The lower the standard deviation, the closer an investment's actual returns tend to be to its average returns; meanwhile, the higher the standard deviation, the further its actual returns tend to be from its average returns.

In its measurement using data as of 12/31/2018, Marquette reported the retirement system's standard deviation for its investment portfolio at 10.01 percent. This is the level of uncertainty the retirement system accepts in order to achieve its actuarial assumed rate of return. This is a relatively low-risk expectation given the task of building an investment portfolio is to provide annual returns of 7.5 percent.

MFPRSI and Marquette regularly review the investment portfolio's level of risk and will make changes as necessary to mitigate the investment portfolio's risk profile. This is done as part of the Board's commitment to being a sound retirement system.

Allocation Terminology

The retirement system's investment portfolio is separated into four main categories:

1. *Core Investments* are comprised of a diversified mix of global public equity and debt portfolios. The aggregate Core Investments' allocation and underlying investment manager makeup are determined by the Board, with the intention of out-performing a specified composite index on both an absolute and risk-adjusted basis and over a full-market cycle.

2. *Strategic Investments* are comprised of multi-asset investment managers that invest in global securities, including but not limited to: public debt, public equity, real assets, private market investments, currencies, derivatives, and cash. The intent of the Strategic Investments portfolio is to outperform a specified composite index on both an absolute and risk-adjusted basis over a full-market cycle. Individual managers in the Strategic Investments portfolio are granted the flexibility to tactically adjust their underlying asset allocations to take advantage of market opportunities they believe will benefit the retirement system.

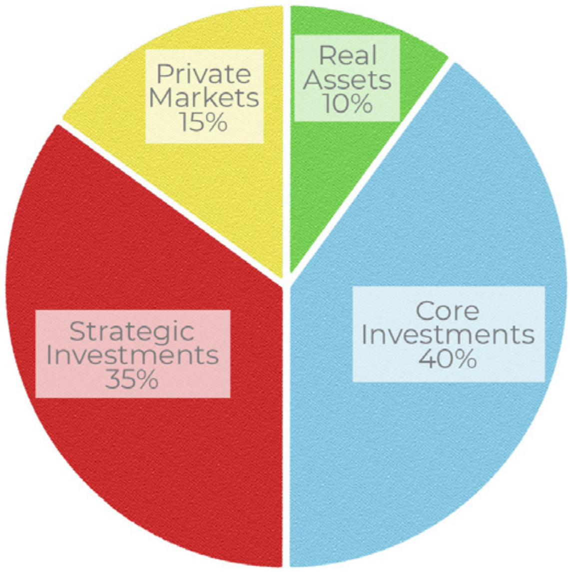
The indices for Core and Strategic Investments are determined and regularly reviewed by the Board in an attempt to meet or exceed MFPRSI's actuarial assumed rate of return over time.

3. *Private Markets* refer to various investment managers who invest in private market opportunities, including but not limited to: venture, buyout, opportunistic, secondary market, debt-related, and direct investment. These opportunities will consist of investing in private companies that do not offer equity and fixed income securities on public markets.

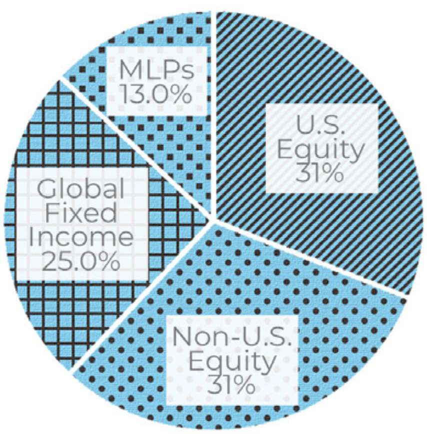
4. *Real Assets* consist primarily of real estate and may also include, but is not limited to other real assets, such as infrastructure, commodities, or energy-related investments. Real assets may be domestic or international, and may be either liquid, marketable, private market, or debt-related investments.

Total Fund Allocation

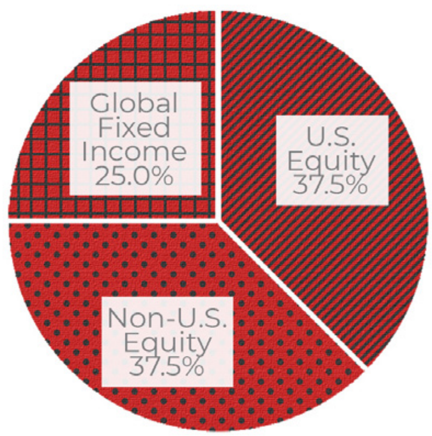
Asset Class	Portfolio Target Percentage
Core Investments[1]	40%
Strategic Investments[2]	35%
Private Markets	15%
Real Assets	10%
Total	100%



[1]Core Investments Asset Class	Portfolio Target Percentage
U.S. Equity	31.0%
Non-U.S. Equity	31.0%
Global Fixed Income	25.0%
MLPs	13.0%
Total	100.0%



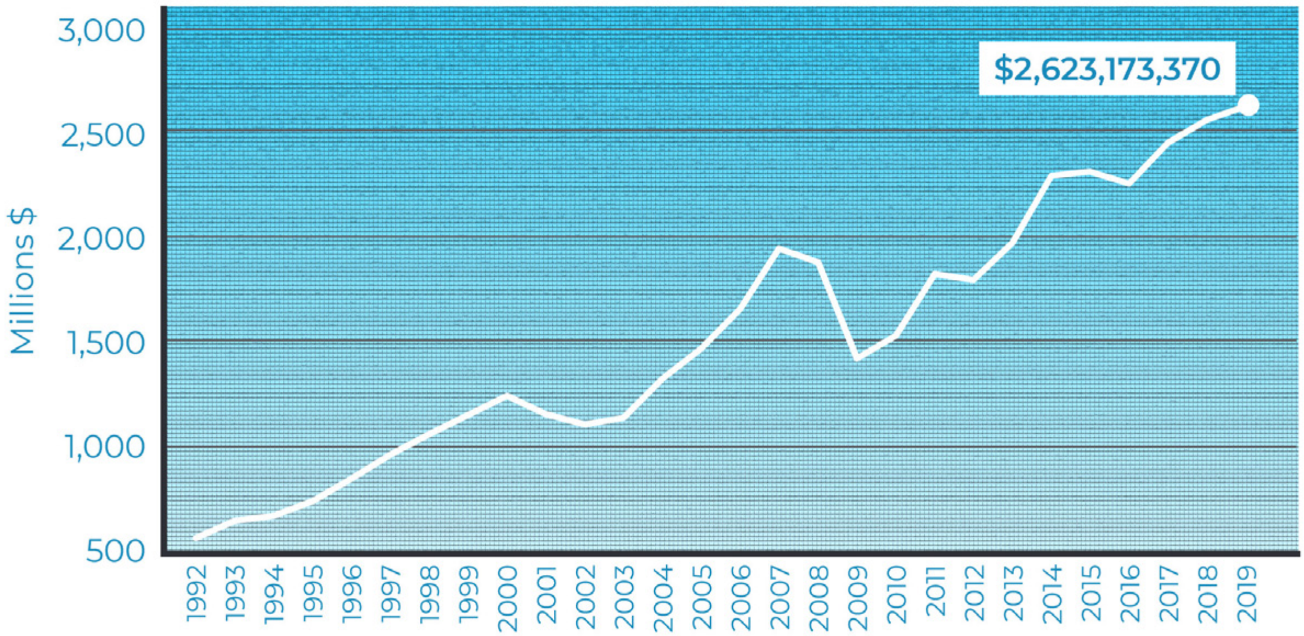
[2]Strategic Investments Asset Class	Portfolio Target Percentage
U.S. Equity	37.5%
Non-U.S. Equity	37.5%
Global Fixed Income	25.0%
Total	100.0%



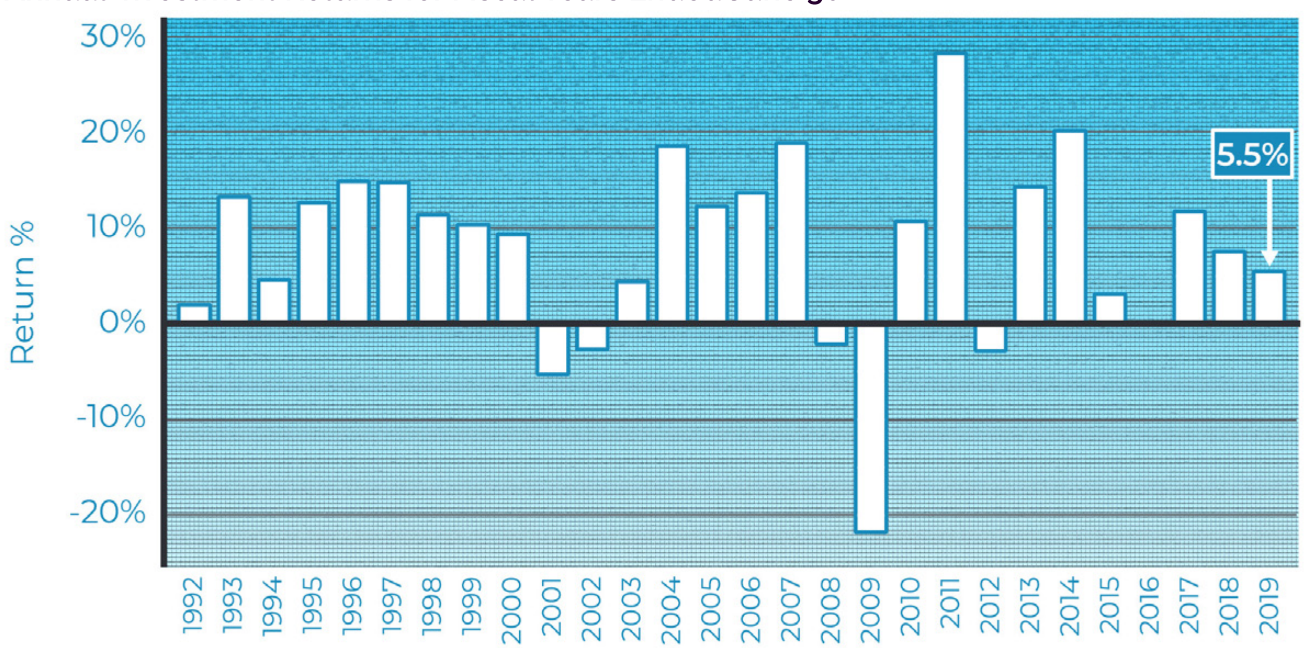
Caveats:

1. In the absence of suitable opportunities within a specific market, the funds shall be directed to the other components within the debt or equity category. Due to the fluctuation of market values, positioning within ±5% of the target shall constitute compliance with the policy.
2. A review of the allocation policy shall occur periodically to allow the Board of Trustees to consider the effect of any changes in market conditions or of the expectations for the retirement system.

Growth of Net Investment Portfolio Assets for Fiscal Years Ended June 30



Annual Investment Returns for Fiscal Years Ended June 30



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BENEFITS

Description of Plan

Optional Forms of Retirement

DROP - Deferred Retirement Option Plan

Membership Data

Description of Plan

Benefit formulas are established by Iowa Code Chapter 411, and revisions to the benefit program can only be instituted by the Iowa General Assembly. The Board and staff are required to administer retirement benefits in compliance with the statutory provisions. Questions concerning an individual's eligibility should be directed to the administration.

Retirement Age

To qualify for a full service retirement, the member must be age 55 or older with a minimum of 22 years of service at termination of employment. The other forms of benefits, with the exception of vested retirement and the deferred retirement option program (DROP), do not have specific age or length of service requirements. Retirement under the ordinary disability or accidental disability programs of MFPRSI are available to members who become permanently disabled (while there are no age or length of service requirements, "permanently disabled" is defined as a duration of one year or longer) while employed as a firefighter or police officer.

Benefit Amounts

Current benefit amounts are based upon a percentage of the member's average monthly earnable compensation. The average monthly earnable compensation is calculated by adding the member's earnable compensation for the highest three years of service and dividing it by 36. The percentage multiplier varies by type of retirement and the length of the member's service. For service retirements, the benefit percentage is 66 percent with 22 years of service and 82 percent with 30 years of service.

Refund of Contributions

Since July 1, 1990, members who terminate service, other than by death or disability, may withdraw their contributions in total from their date of hire through their termination date. If a member withdraws contributions, the member waives any claim to benefits for the period of membership for which the withdrawal is made.

Members who terminate service also have the option to rollover the eligible portion of their refund to another qualified retirement plan or to an individual retirement account (IRA). Such rollovers must be approved in advance by MFPRSI. The contributions being withdrawn are credited with an annualized simple interest rate determined by the Board, currently set at 5 percent.

Vesting

When a member earns at least 4 years of credited service or reaches age 55 while performing membership service, the member becomes vested in the retirement system. Once vested, the member is entitled to a vested or a full service retirement.

Optional Forms of Retirement

Members retiring through a service or vested service retirement have the opportunity to select either the “basic benefit” as provided by Chapter 411, or one of six optional forms of benefits. The basic benefit is a lifetime benefit based on the member’s average monthly compensation and number of years of service. Each option is actuarially adjusted and based on the basic benefit.

1. **Basic Benefit**

   The member’s spouse is entitled to 50 percent of the gross benefit at the time of member’s passing, but not less than 20 percent of the average earnable compensation of the active membership as reported by the actuary.

   Please visit www.mfprsi.org for more information about the basic benefit.

The optional forms of benefits below are calculated using actuarial tables which consider the age of the member at retirement, the age of the member’s beneficiary, and the assumed life expectancy of both. The beneficiary receives this amount for his or her lifetime.

2. **Joint & 75 Percent Survivor Annuity**

   The designated beneficiary receives 75 percent of the gross amount of the member’s retirement at the time of the member’s passing. If the beneficiary passes before the member, then the benefits end upon the member’s passing.

3. **Joint & 75 Percent Survivor Annuity with Pop-Up**

   The designated beneficiary receives 75 percent of the gross amount of the member’s retirement at the time of the member’s passing. Should the beneficiary pass before the member, the benefit will increase to the amount of the basic benefit and no survivor benefit is payable following the member’s passing.

4. **Joint & 100 Percent Survivor Annuity**

   The designated beneficiary receives 100 percent of the gross amount of the member’s retirement at the time of the member’s passing. If the beneficiary passes before the member, then the benefits end upon the member’s passing.

5. **Joint & 100 Percent Survivor Annuity with Pop-Up**

   The designated beneficiary receives 100 percent of the gross amount of the member's retirement at the time of the member's passing. Should the beneficiary pass before the member, the benefit will increase to the amount of the basic benefit and no survivor benefit is payable following the member's passing.

6. **Single-Life Annuity with Designated Lump Sum**

   The designated beneficiary receives a one-time, lump-sum payment upon the passing of the member. If the beneficiary passes prior to the member, the lump sum is paid to the member's estate.

7. **Straight-Life Annuity**

   Following the member's passing, no further benefits are payable.

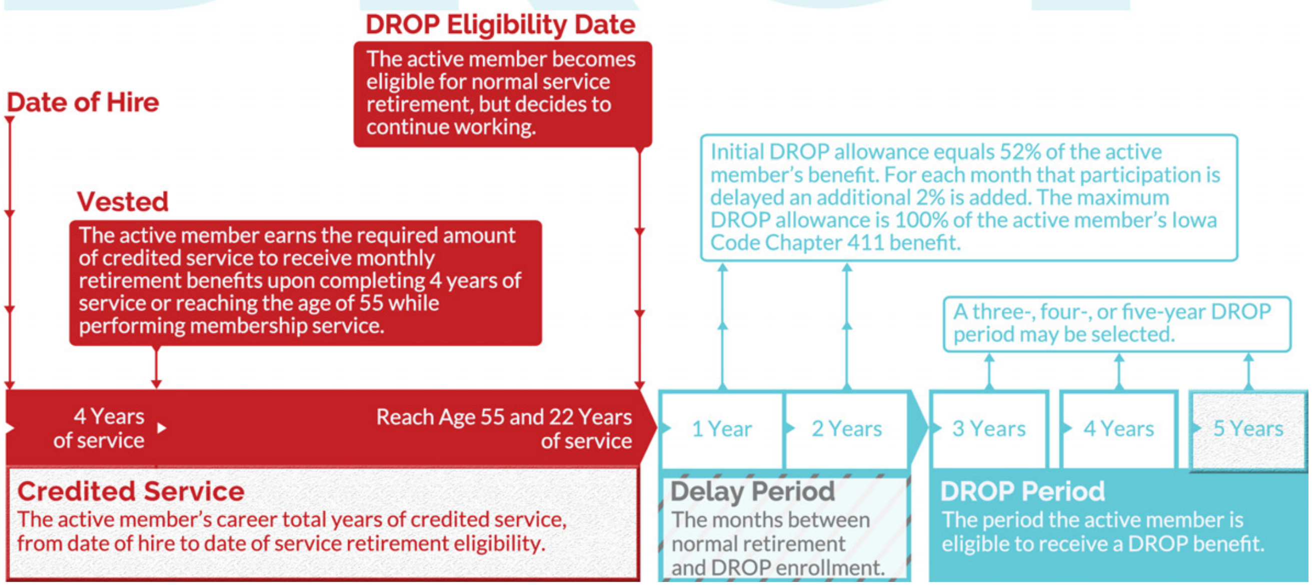
DROP - Deferred Retirement Option Plan

Active members, at least 55 years old with 22 or more years of service, have the option to participate in DROP (Deferred Retirement Option Plan). This program is an arrangement for members who are otherwise eligible to retire and begin benefits, but continue working. Members can elect a three-, four-, or five-year DROP period. Members will sign a contract indicating they will retire at the end of the selected DROP period by electing to participate in the program.

During the member's DROP period the member's retirement benefit is frozen and a DROP benefit is credited to an account established for the member. The DROP benefit is equal to 52 percent of the member's retirement benefit at the member's earliest date eligible and 100 percent if the member delays enrollment for 24 months. At the member's actual date of retirement, the member's DROP account will be distributed in the form of a lump sum or rolled over to an eligible plan.

DROP Timeline

The graphic below provides a general timeline of a member's career and participation in DROP. Following the member's DROP eligibility date, which is the date the member would normally be qualified to retire yet they have decided to continue working, completing two additional full years before officially enrolling in the plan earns the member 100 percent of their Chapter 411 benefit. Upon completion of the DROP period (three, four, or five years) and termination of employment, the member will receive their benefit accrued through the DROP plan in the form of a one-time, lump-sum payout.



Membership Data

Retirement System Membership Profile

	As of July 1, 2019	Year Over Year Increase/ (Decrease)
Active members		
Number	4,086	83
Average age (in years)	40.8	(0.2)
Average past service (in years)	13.5	(0.2)
Average annual compensation	$77,322	$1,774
Non-active members in pay status		
Number	4,148	41
Average age (excluding children)	70.0	0.1
Average annual benefit	$42,095	$1,290
Non-active members with deferred benefits		
Number*	374	7
Average age	43.8	0.2
Average annual benefit	$18,238	$482

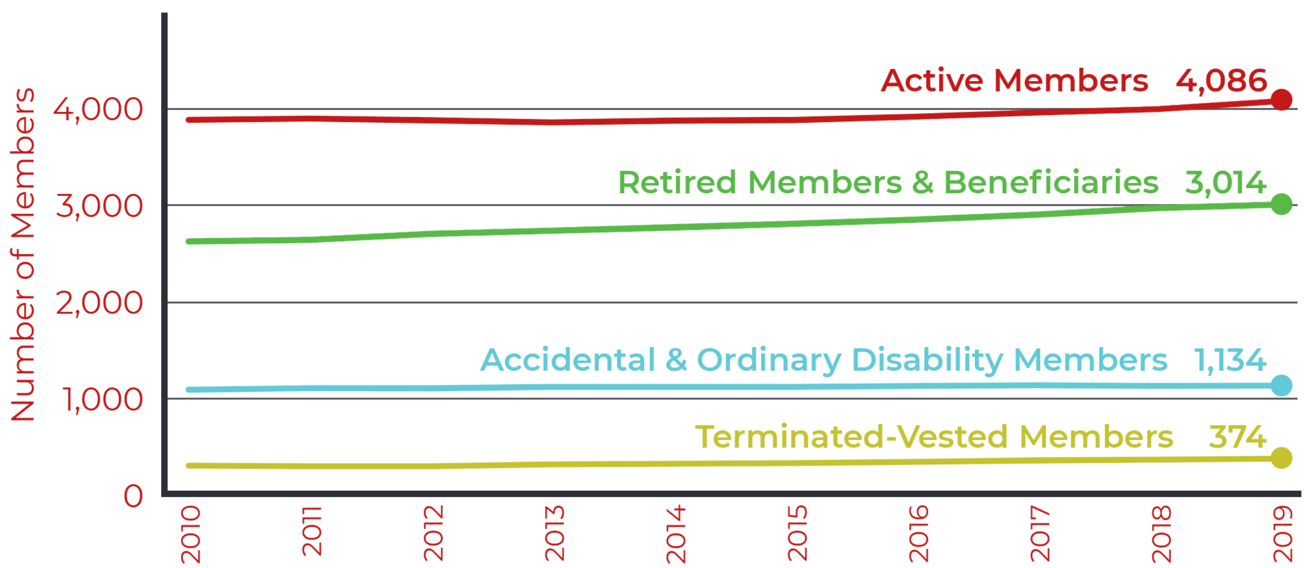
*Excludes 60 terminated non-vested members in 2019 and 56 terminated non-vested members in 2018 who had not received a refund of contributions as of the end of the fiscal year.

Participating Cities

- Ames
- Ankeny
- Bettendorf
- Boone
- Burlington
- Camanche
- Carroll*
- Cedar Falls
- Cedar Rapids
- Centerville
- Charles City
- Clinton
- Clive*
- Council Bluffs
- Creston
- Davenport
- Decorah
- Des Moines
- DeWitt*
- Dubuque
- Estherville*
- Evansdale*
- Fairfield
- Fort Dodge
- Fort Madison
- Grinnell
- Indianola*
- Iowa City
- Keokuk
- Knoxville*
- Le Mars*
- Maquoketa*
- Marion
- Marshalltown
- Mason City
- Muscatine
- Newton
- Oelwein
- Oskaloosa
- Ottumwa
- Pella*
- Sioux City
- Spencer
- Storm Lake
- Urbandale
- Waterloo
- Waverly*
- Webster City
- West Des Moines

*Police department only.

Membership by Type - Last 10 Fiscal Years ended June 30



Benefits by Type

Service Benefits

Age	Number	Total Annual Benefit	Average Annual Benefit
55 - 59	131	$8,445,480	$64,469
60 - 64	297	19,536,624	65,780
65 - 69	394	23,975,868	60,852
70 - 74	347	20,237,820	58,322
75 - 79	239	12,050,676	50,421
80 - 84	140	6,052,248	43,230
Over 84	126	4,767,948	37,841
Total	1,674	$95,066,664	$56,790

Accidental Disability Benefits

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	12	$506,880	$42,240
40 - 49	75	3,189,432	42,526
50 - 59	151	7,219,992	47,815
60 - 69	324	16,056,228	49,556
70 - 79	270	11,855,088	43,908
Over 80	106	4,213,392	39,749
Total	938	$43,041,012	$45,886

Ordinary Disability Benefits

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	12	$333,960	$27,830
40 - 49	26	912,672	35,103
50 - 59	42	1,696,704	40,398
60 - 69	58	2,533,116	43,674
70 - 79	44	1,736,328	39,462
Over 80	14	456,924	32,637
Total	196	7,669,704	$39,131

BENEFITS

Beneficiary (Spouse) Benefits

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 50	25	$740,808	$29,632
50 - 59	46	1,202,892	26,150
60 - 69	161	4,265,268	26,492
70 - 79	260	6,287,352	24,182
Over 80	390	8,217,684	21,071
Total	882	$20,714,004	$23,485

Beneficiary (Children) Benefits

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 12	10	$50,316	$5,032
12 - 17	17	99,060	5,827
18 and Over	28	199,236	7,116
Total	55	$348,612	$6,338

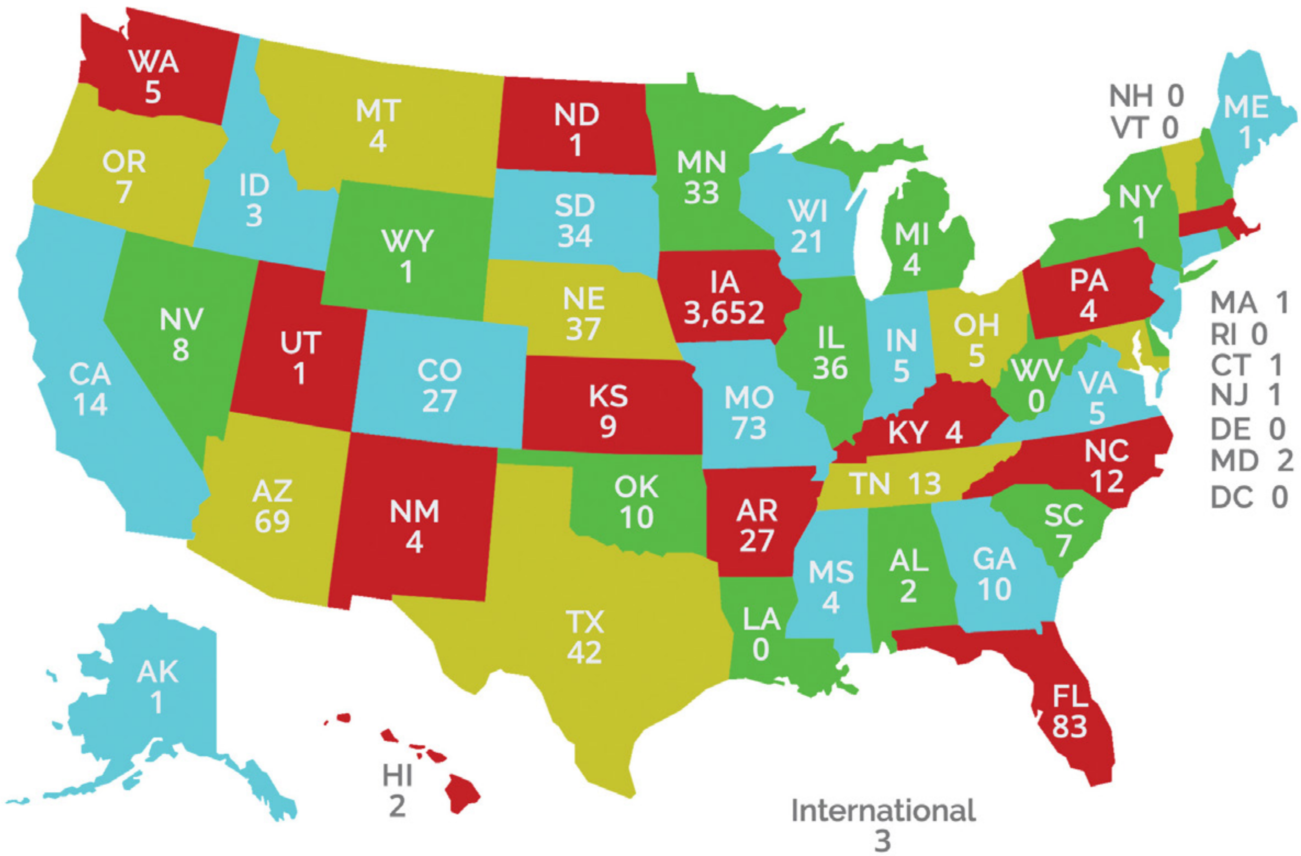
Vested Benefits

Age	Number	Total Annual Benefit	Average Annual Benefit
55 - 59	96	$2,243,568	$23,371
60 - 69	195	3,955,320	20,284
70 - 79	83	1,329,492	16,018
80 and Over	29	243,276	8,389
Total	403	$7,771,656	$19,285

Terminated-Vested Benefits

Age	Number	Total Annual Benefit	Average Annual Benefit
Under 40	123	$1,523,616	$12,387
40 - 49	147	2,925,228	19,900
50 and Over	104	2,372,124	22,809
Total	374	$6,820,968	$18,238

Number of Benefit Payments by State



The map above illustrates the number of benefit payments made to members with mailing addresses residing in the individual states and internationally as of June 30, 2019. Approximately 99% of all monthly benefit payments are done via ACH.

Terminology

Active members - Members of MFPRSI with wages reported for the last quarter of each fiscal year.

Non-active members - Members of MFPRSI who are retired from service as a firefighter or police officer from a participating city and receiving benefit payments as of the final month of each fiscal year.

Retired members and beneficiaries - Members of the retirement system who were paid benefits in the final month of each fiscal year.

Accidental disability and ordinary disability - Members who either received an accidental disability payment or an ordinary disability payment, respectively.

Terminated (or "term") vested - Former members of MFPRSI who have left the retirement system after achieving vested status (i.e., four years of employment as a firefighter or police officer with a participating city employer), but before reaching eligibility for a service retirement as of the final month of each fiscal year.

The preparation of this report and financial statements were the result of the combined efforts of the retirement system's staff under the direction of the executive director and deputy director.

MFPRSI's annual report for fiscal year 2019 was prepared by MFPRSI staff using data gathered from various sources including MFPRSI's actuarial services provider, SilverStone Group, investment consultant, Marquette Associates, and communications consultant, Wixted & Co. The stories on pages 12-17 were written by Jill Johnson, communications advisor with Wixted & Co. The photograph on page 16 was taken from www.sherdog.com.

The firm of Eide Bailly, LLP, conducted an audit for the period ending June 30, 2019. A copy of the audit report has been provided to each of the employing cities and is viewable at www.mfprsi.org. The report is also available at MFPRSI's office in West Des Moines, Iowa.

This report is intended to provide reliable information as a basis for management decisions, legal compliance, and stewardship of the retirement system's assets. The Board and staff appreciate the efforts extended by city officials as well as the support given to MFPRSI by the active and retired memberships and city representatives.

Design/Production/Writing - Cody Jans
Printing - Universal Printing Services