

March 2017

For **Y**our **I**nformation

Popular Annual Financial Report



MoDOT & Patrol Employees' Retirement System

*Unless otherwise specified, all data
contained in this document is as of
June 30, 2016 (end of fiscal year 2016).*



MoDOT & Patrol Employees' Retirement System

To Members and Stakeholders:

What is the MoDOT and Patrol Employees' Retirement System (MPERS) and why does it matter? It is the System that administers the defined benefit retirement program for covered employees of the Missouri Department of Transportation (MoDOT) and Missouri State Highway Patrol. It matters to its members because it will play a substantial role in their retirement security, especially for those that make a career out of their state employment. It matters to other stakeholders (employers, elected officials, taxpayers, etc.) because it is a significant workforce management tool intended to help our covered employers recruit and retain a talented workforce that will effectively serve the citizens of Missouri.

By now you may be asking "what is a defined benefit (DB) plan?" You may know it by a more common term, a pension. Here are a few of the basic characteristics of a DB plan:

- The benefit is based on a formula that takes into account the member's salary and years of service.
- The benefits are funded by the employer and may include employee contributions.
- Benefits are not based on an account value.
- Benefits are paid for life, meaning that members cannot outlive their retirement benefit.
- The employer bears the investment risk; market changes do not impact the member's benefit.
- The employers' goal is to fund the benefit over the working career of the member.

Pension plans like MPERS, are powerful employment tools. Our plans are no different. These plans were designed to recruit quality employees, attempt to retain them for a career (usually 25 to 30 years), then give them the opportunity to retire with dignity and allow for a new wave of employees to enter and refresh the workforce. Hopefully you will agree that those objectives are in the best interest of the stakeholders as well as the covered employees.

In contrast, defined contribution (DC) plans, like a 401(k), are very different. The common characteristics of a DC plan are:

- The benefit (account balance) is based on contributions (usually a combination of employee and employer) and investment earnings.
- Members have an account and must decide which investment option is best for them.
- The employee bears the investment risk; the account balance goes up and down depending on market performance.
- DC plans were designed to be an extra source of retirement income, not the only source.
- The State's Deferred Compensation Plan is an example of a DC plan and was designed to be a supplemental tax advantaged savings plan.

Both DB and DC plans should have a role in the future retirement security of our members. If not, members are at risk of not being fully prepared to retire or will face undesirable financial hardship in the latter years of their retirement. MPERS' purpose is to ensure members are fully informed about the DB plan they will enjoy as a retiree and to ensure the members understand the value of belonging to the plan.

This *For Your Information* (FYI) brochure has been prepared to provide you a reader-friendly summary of important financial details along with other important plan details that members and other stakeholders may find valuable. For additional information on the financial details of MPERS, refer to our Comprehensive Annual Financial Report available on our website.

Decisions made by multiple groups over the years regarding benefit increases, plan assumptions, contributions, and investment policy, coupled with market declines in the past decade, have resulted in a less than desirable funded status. While it is easy to be discouraged by the funded status of the System, the important thing to remember is that benefit payments are safe and secure. Furthermore, the funded status has improved considerably over the past 10 years.

The Board of Trustees has taken several necessary steps to address and improve the low funded status. The Board of Trustees has established a formal investment policy to clearly define the roles and responsibilities of the Board, staff and consultants, and to ensure that System assets are invested in a diversified portfolio following prudent investment standards. The Board of Trustees determines the broad asset allocation policies and return objectives of the Plan, and retains investment staff, consultants, a master custodian, and other advisors to implement and execute these policies.

It is important to keep in mind that pension plans are in the business of managing risk, not simply avoiding risk. The risk exposures in the investment portfolio enable the fund to earn an attractive return, which helps provide the promised benefits. Our goal in managing the investment portfolio is not to avoid risk altogether, but rather to manage risk in the best way possible to ensure benefit payments are secure and reduce the burden on the taxpayers. The asset allocation approved by the Board is designed to protect the fund against the uncertainty that remains in the global economy, and should perform well across various market environments, not just when the stock market rallies.

Members and other stakeholders should expect practical excellence from MPERS – great service, prudently managed investments, and safe and secure benefits to name a few. It took years for our funding status to get where it is and it will take time to recover. Rest assured the aggressive funding policies, noted herein, have us on the path to recovery.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Simon". The signature is fluid and cursive, with the first name "Scott" and last name "Simon" clearly distinguishable.

Scott Simon
Executive Director

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Mission Statement

To provide a basic level of financial security to plan participants by delivering quality benefits and exceptional customer service through professional plan administration and prudent management of System assets.

Vision Statement

To be the best retirement system we can be by making strategic investment decisions and implementing technological tools that streamline our processes and enhance customer service.

Core Values

- *Our members are our number one focus...we work for them.*
- *Our goal is to provide exceptional service always, no matter who is on the phone or sitting across from us.*
- *We strive to preserve, protect, and grow our assets.*
- *We are committed to the security and privacy of our members' information.*
- *We make decisions in the best interest of our members, based upon statutory guidance.*
- *We conduct business at a reasonable cost to the tax payers of Missouri.*

ABOUT MPERS

Creation of the System



The Highways and Transportation Employees' and Highway Patrol Retirement System (HTEHPRS) was established September 1, 1955 through the passage of House Bill 66. In 2004, the System was renamed the MoDOT and Highway Patrol Employees' Retirement System (MPERS).

On October 1, 1955 (one month after the creation of MPERS), the System accepted 109 retirements. Members of MPERS are comprised of eligible employees of the Missouri Department of Transportation (MoDOT), the Missouri State Highway Patrol (MSHP), and MPERS. MPERS administers the retirement, survivor, and disability benefits in accordance with Chapter 104 of the Revised Statutes of Missouri (RSMo). The retirement system operates as a 401(a) tax qualified "defined benefit plan." In a defined benefit plan, retirement benefits are based on a formula that is set by law. When the plan was created in 1955, employees and employers each paid contributions equal to 4% of the employee's first \$7,500 in salary each month to fund the system (and their retirement).

For the first 35 years of its existence, the retirement system was operated as a unit of the Missouri Highways and Transportation Commission. Highway staff were assigned on a part-time basis to carry out the System's business. In 1988, the first executive director position was established. As the membership and the assets of the System grew, it became clear that full-time staff were needed. Today, MPERS employees sixteen full-time staff.

Benefits are part of the compensation package used to recruit and retain employees who will provide high quality services to Missouri citizens. MPERS' retirement benefit, when combined with Social Security and personal savings, is designed to help career employees achieve a reasonable level of replacement income to support their financial needs during retirement.

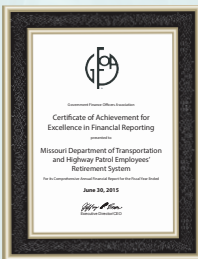


Key Plan Events

September 1, 1955	Highways and Transportation Employees' and Highway Patrol Retirement System (HTEHPRS) was created through the passage of Senate Bill 66. In 2004, the System was renamed the MoDOT and Highway Patrol Employees' Retirement System (MPERS).
October 1, 1955	System accepted 109 retirements. The System started with \$0 start-up funding - only the monthly contributions. No contributions were paid on the service earned prior to the creation of MPERS; however, benefits were calculated and paid using that service.
August 13, 1988	First Executive Director hired.
July 1, 2000	The Year 2000 Plan became effective.
August 9, 2002	MPERS moved to its current location at 1913 William Street.
January 1, 2011	The 2011 Tier of the Year 2000 Plan became effective.

Awards

Certificate of Achievement



Received award in:
2005 - 2015

Each year since 2005, the Government Finance Officers Association of the United States and Canada (GFOA) has awarded a Certificate of Achievement for Excellence in Financial Reporting to MPERS for its Comprehensive Annual Financial Report (CAFR). In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized CAFR. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year. We strive to publish a CAFR that continues to meet the Certificate of Achievement Program's requirements. Each year, we submit it to GFOA to determine its eligibility for another certificate.

PPCC Award Public Pension Standards Award



Received award in:
2004 - 2016

MPERS has also received the Public Pension Coordinating Council's Public Pension Standards Award each year since 2004. The award is given in recognition of meeting professional plan design and administration standards.

The Public Pension Coordinating Council (PPCC) is a confederation of the National Association of State Retirement Administrators (NASRA), the National Conference on Public Employee Retirement Systems (NCPERS), and the National Council on Teacher Retirement (NCTR).

Board of Trustees



Sue Cox
Board Chair
*MoDOT Retiree
Representative*



Major Kemp Shoun
Board Vice-Chair
*MSHP Employee
Representative*



John W. Briscoe
*Highways &
Transportation
Commissioner*



Colonel Sandra Karsten
*Superintendent
of the MSHP
Ex-Officio Member*



Patrick McKenna
*Director of MODOT
Ex-Officio Member*



Michael B. Pace
*Highways &
Transportation
Commissioner*



**Representative
Shawn Rhoads**
State Representative



Senator Dave Schatz
State Senator



Bill Seibert
*MSHP Retiree
Representative*



Gregg C. Smith
*Highways &
Transportation
Commissioner*



Todd Tyler
*MoDOT Employee
Representative*



ABOUT MPERS

Board of Trustee Structure

The System operates under the direction and control of an 11-member Board of Trustees. The Board consists of the following members:

Trustee	Appointed/Elected	Length of Term
3 Members of the Missouri Highways and Transportation Commission	Appointed by Members of the Commission	Until Commission Expires or Replacement Appointed
Director of the MoDOT	By Virtue of Position	While in Position of Director
Superintendent of the MSHP	By Virtue of Position	While in Position of Superintendent
1 Member of the Senate	Appointed by the President Pro Tem of the Senate	Until Replacement Appointed
1 Member of the House of Representatives	Appointed by the Speaker of the House	Until Replacement Appointed
1 Active MoDOT Employee	Elected by Active MoDOT Employees	4 years
1 Active MSHP Employee	Elected by Active MSHP Employees	4 years
1 Retired MoDOT Member	Elected by Retired MoDOT Members	4 years
1 Retired MSHP Member	Elected by Retired MSHP Members	4 years

Role of the Board

The MPERS Board of Trustees has certain responsibilities set forth in Missouri State law and also implied authority to take the steps that are necessary for its prudent oversight of the System. For the MPERS Board to meet its obligations under the law, every Trustee has a personal responsibility to uphold the highest fiduciary standards and actively contribute to the governance of MPERS.

The Board is responsible for all aspects of the retirement system's operations. The day-to-day management of MPERS is delegated to the Executive Director who is hired by the Board. The Executive Director acts as an advisor to the Board on all matters pertaining to the System and, with the approval of the Board, contracts for professional services and employs the remaining staff needed to operate the System.

MPERS is a creation of state law and through that law the Board has the ultimate fiduciary responsibility for the System and those covered by the System. Fiduciary duty is a legal relationship of trust between parties, where one party is acting for the benefit of another. Fiduciaries of pension funds have strict standards imposed upon them by law. The Board's primary fiduciary responsibilities are:

- The duty of loyalty
- The duty of prudence
- The duty to follow plan documents

In addition to administrative rules, the Board adopted "governance policies" that set forth the expectations the Board has for itself and formalize the way the Board conducts business. The policies are intended to help the Board meet its fiduciary responsibilities. The governance policies set forth the structure, manner, and process by which the Board exercises its authority and control.

ABOUT MPERS

Executive Team

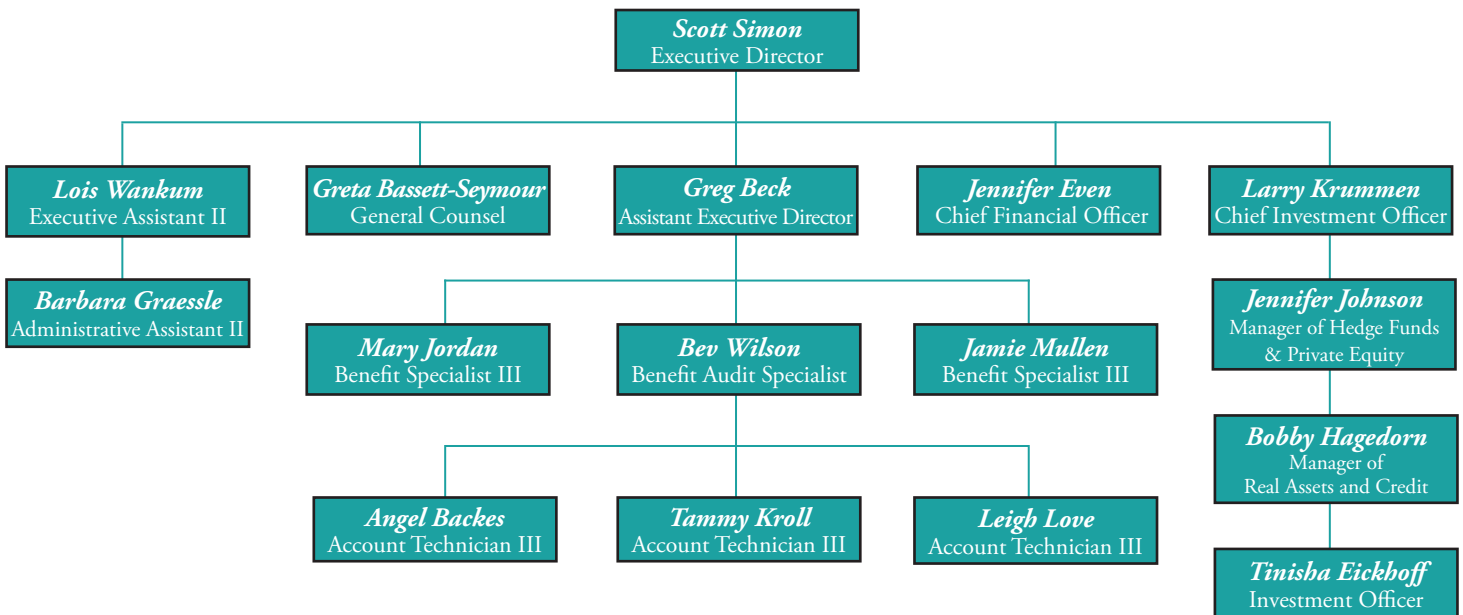


(L-R)
Greta Bassett-Seymour
 General Counsel
Larry Krummen
 Chief Investment Officer
Scott Simon
 Executive Director
Greg Beck
 Assistant Executive Director
Jennifer Even
 Chief Financial Officer



Key Staff Events

- September 1, 1955 Operated as a unit of the State Highways and Transportation Department. Highway staff were assigned on a part-time basis to carry out the System's business.
- August 13, 1988 First Executive Director position was established to administer the System in lieu of the Highways and Transportation Commission Secretary.
- October 1, 2001 Hired (transferred) 5 full-time employees to operate the plan.
- November 28, 2001 Hired the first Assistant Executive Director.
- December 1, 2003 Hired the first Chief Investment Officer (CIO).
- January 1, 2005 Hired the first General Counsel.
- February 1, 2006 Hired the first Senior Financial Officer.
- September 27, 2007 Hired the first Senior Investment Officer.



ABOUT MPERS

Administrative Expenses

The administrative expenses of the System reflect the cost of operating the Plan with the goal of providing a high-quality service experience to stakeholders and managing the risks associated with our work to prudent levels.

Personal Services:

Salary Expense	\$ 1,744,734
Employee Benefit Expense	1,357,290
Total Personal Services	<u>\$3,102,024</u>

Professional Services:

Actuarial Services	98,888
Audit Services	48,840
Disability Administrative Services	13,504
Legislative Consultant	30,000
Investment Special Consulting	11,486
Insurance Consultant	6,000
Other Consultant Fees	4,559
Fiduciary Insurance	76,618
IT Hosting and Support	309,669
Other	4,291
Total Professional Services	<u>\$ 603,855</u>

Miscellaneous:

Depreciation	360,639
Meetings/Travel/Education	105,663
Equipment/Supplies	51,275
Printing/Postage	34,534
Bank Service Charge	8,801
Building Expenses	46,917
Other	57,152
Total Miscellaneous	<u>\$ 664,981</u>

Total Administrative Expenses

\$4,370,860

Investment Expenses

The investment expenses reflect the cost of investing trust fund assets for the benefit of its stakeholders. The vast majority of investment expenses represent fixed management and performance-based fees associated with managing the Plan's assets. The Plan's yearly investment expenses will fluctuate based on the Plan's investment performance; during years of strong investment performance, investment expenses will be greater as a significant portion of our asset management has performance-based fee components. A smaller portion of the investment expenses are consultant and custody costs for the Plan's assets. Our investment policy includes a large allocation to alternative investments, which are typically higher in cost than traditional stocks and bonds. This allocation, and the corresponding cost, was a conscious decision by the Board to enhance the System's risk-return profile, with the goal of earning the highest return possible with the least amount of risk.

Investment Income Expenses:

Management and Performance Fees	\$22,226,522
Investment Custodial Fee	53,679
Performance Management	164,208
General Consultant (monitoring) Fee	318,871
Securities Lending Expenses	165,801
Other Investment Expenses	940,605
Total Investment Income Expenses	<u>\$23,869,686</u>

ABOUT MPERS

Overall, the financial position of MPERS weakened by \$17 million. This is primarily a result of lower than expected investment returns for FY2016. Even with this net decrease in value, the funded status of the plan improved by 2.6%.

Financial Statements report information about MPERS, using accounting methods similar to those used by private sector companies, by using the economic resources measurement focus and accrual basis of accounting. These statements provide both long-term and short-term information about the System's overall financial status.

Assets and Liabilities

(Summarized Comparative Statement of Fiduciary Net Position)

The Statement of Fiduciary Net Position includes all the System's assets and liabilities, with the difference between the two reported as net position.

	FY2016	FY2015
Assets:		
Cash and Receivables	\$ 20,195,007	\$ 23,606,579
Investments	1,982,820,836	1,991,396,397
Invested Securities Lending Collateral	51,560,512	80,780,418
Capital Assets	1,569,100	1,921,467
Other Assets	0	6,366
Total Assets	2,056,145,455	2,097,711,227
Liabilities:		
Accounts Payable	10,668,117	3,994,860
OPEB Obligation	680,169	643,809
Securities Lending Collateral	52,723,223	83,705,424
Total Liabilities	64,071,509	88,344,093
Net Position	\$1,992,073,946	\$2,009,367,134

Income and Expenses

(Statement of Changes in Fiduciary Net Position)

The Statement of Changes in Fiduciary Net Position accounts for all the current year's additions (income) and deductions (expenses), regardless of when cash is received or paid.

	FY2016	FY2015
Contributions	\$ 205,821,588	\$ 205,047,170
Net Investment Income	21,432,090	92,645,423
Other Income	5	148
Net Additions	227,253,683	297,692,741
Benefits	240,176,011	241,714,876
Administrative Expenses	4,370,860	4,066,944
Total Deductions	244,546,871	245,781,820
Net Increase (Decrease)	(17,293,188)	51,910,921
Net Position-Beginning	2,009,367,134	1,957,456,213
Net Position-Ending	\$1,992,073,946	\$2,009,367,134

MEMBERSHIP AND BENEFITS

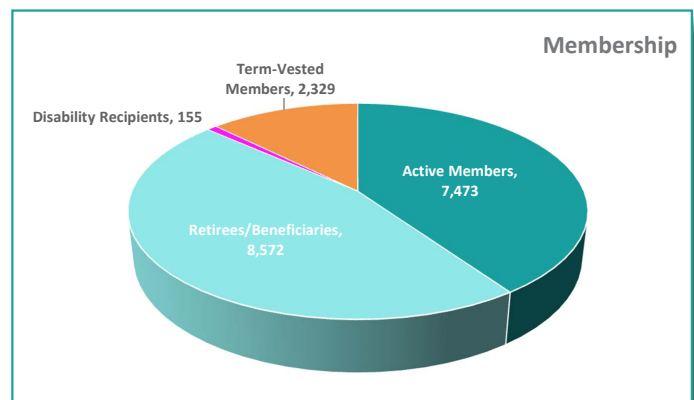
Membership Profile

MPERS' membership is comprised of eligible employees of the Missouri Department of Transportation (MoDOT), the Missouri State Highway Patrol (MSHP), and the MoDOT & Patrol Employees' Retirement System (MPERS).

	MoDOT and MPERS	Civilian Patrol	Uniformed Patrol	Total
Active Members				
Closed Plan	1,909	358	599	2,866
Year 2000 Plan	1,798	452	394	2,644
2011 Tier	1,368	339	256	1,963
Total Active Members	5,075	1,149	1,249	7,473
Retirees and Beneficiaries				
Closed Plan	3,553	472	905	4,930
Year 2000 Plan	3,111	527	4	3,642
2011 Tier (<i>10-year vesting</i>)	0	0	0	0
Total Regular Pensioners	6,664	999	909	8,572
Disability Recipients	133	15	7	155
Terminated-Vested Members	1,916	246	167	2,329
Grand Totals	13,788	2,409	2,332	18,529

Averages for Active Membership

	Closed Plan	Year 2000 Plan	2011 Tier
Average Age	50.1 years	43.2 years	35.2 years
Average Years of Service	22.7 years	10.7 years	1.8 years
Average Annual Salary	\$55,616	\$43,425	\$29,493



Averages for a New MPERS' FY2016 Retiree

Status Retired From	# of Retirees	Average Benefit	Average Service	Average FAP	Average Age
Normal retirement or disability status (members retiring directly from active employment)	220	\$2,392	24.6 yrs	\$4,190	57.0 yrs
Vested, but no longer working for state	80	\$614	12.9 yrs	\$2,860	58.4 yrs
Overall average	300	\$1,918	21.5 yrs	\$3,835	57.4 yrs

MEMBERSHIP AND BENEFITS

Retirement Plans

MPERS administers retirement, survivor, disability, and death benefits for members of the plan, in accordance with Chapter 104 of the Revised Statutes of Missouri (RSMo). The System was created by law and the benefit provisions administered by MPERS are defined by law. Legislation is required to make changes to the statutes.

To participate in MPERS, the employee must be working in a “benefit eligible” position for MoDOT, MSHP, or MPERS. A “benefit eligible” **position** is one **normally** requiring the performance of duties during at least 1,040 hours per year (basically half-time or greater). The employer determines if the **position** is benefit eligible.

Based on date of hire, members participate in one of the following plans:

1. Closed Plan (non-contributory)

The Closed Plan was the original retirement plan for eligible employees hired prior to July 1, 2000. At retirement, these members may elect to stay in the Closed Plan or retire under the Year 2000 Plan.

2. Year 2000 Plan (non-contributory)

Benefit eligible employees hired for the first time on or after July 1, 2000, but prior to January 1, 2011, are members of the Year 2000 Plan.

3. 2011 Tier (contributory)

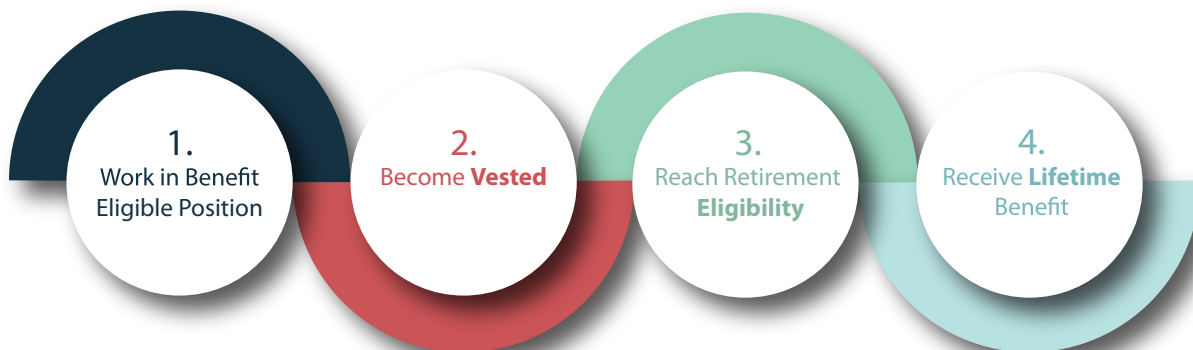
In 2010, a special legislative session was held to address pension reform. A contributory tier was added to the Year 2000 Plan for benefit eligible employees hired for the first time on or after January 1, 2011. Both the employee and the employer make monthly contributions to fund the retirement of 2011 Tier members.



MPERS at a Glance

Type of Plan.....	Defined Benefit
Reference in Missouri Statutes.....	Chapter 104
Internal Revenue Code	401(a)
Employers of Members	MoDOT, MSHP, and MPERS

Steps of a Defined Benefit Retirement Plan



MEMBERSHIP AND BENEFITS

Defined Benefit Plan

MPERS is a **defined benefit (DB) plan**. Members who meet the age and service requirements are guaranteed a lifetime retirement benefit based on a formula that is set by law. The Closed Plan and the Year 2000 Plan are non-contributory, which means the employer pays the contributions required to fund the member's retirement. However, in the 2011 Tier the member and the employer both pay monthly contributions to fund the member's retirement. The contributions paid to MPERS are professionally invested to reap the highest possible return within prudent risk parameters.

The base benefit formula is comprised of the following three components:

Final Average Pay (FAP) - The average of a member's highest 36 consecutive months of pay.

Credited Service - The member's years and full months of service.

Multiplier - The multiplier is a percentage that is set by law.

Plan	Multiplier
Closed Plan	1.6%
Year 2000 Plan	1.7%
2011 Tier	1.7%

Base Benefit Formula

$$\text{Final Average Pay} \times \text{Credited Service} \times \text{Multiplier} = \text{Monthly Base Benefit}$$

FY2016 Highlights

Here are just a few of the highlights for the most recently completed fiscal year. See our website for more details on changes, improvements or other details important to stakeholders.

- Funded status improved to 55.5% despite the lower investment return realized for the period.
- We celebrated our 60th Anniversary with the debut of our new website. The new website has a new and improved look and greater functionality for our members.
- Several security enhancements were applied to our website in order to provide greater protection of the sensitive information we manage. Password expiration, password strength indicator, and notice to members when something has changed are all improvements that reinforce our dedication to security.
- Implementation of our document retention program was completed. The policy resulted in a much improved organization of our records and stipulates disposal of documents as they realize their corresponding expiration date.
- MPERS disaster recovery plan was completed. The plan has positioned us to be better prepared for events that might render our facility inoperable for a given period and provides a game plan for such events that would allow us to address a disaster more effectively should one occur.

MEMBERSHIP AND BENEFITS

Summary of Benefit Provisions

Benefit	Closed Plan (9/1/1955 - 6/30/2000)	Year 2000 Plan (7/1/2000 - 12/31/2010)	2011 Tier (1/1/2011 - Present)
Type of Plan	Defined benefit (non-contributory)	Defined benefit (non-contributory)	Defined benefit (contributory)
Contributions	Employee - no cost Employer - per actuarial valuation	Employee - no cost Employer - per actuarial valuation	Employee - 4% Employer - per actuarial valuation
Vesting Requirement	5 years	5 years	10 years
Normal Retirement Eligibility	<ul style="list-style-type: none"> Age 65 with 5 years of service Age 60 with 15 years of service "Rule of 80" - age 48 with age and service equaling 80 or more 	<ul style="list-style-type: none"> Age 62 with 5 years of service "Rule of 80" - age 48 with age and service equaling 80 or more 	<ul style="list-style-type: none"> Age 67 with 10 years of service "Rule of 90" - age 55 with age and service equaling 90 or more
(Uniformed Patrol) Normal Retirement Eligibility	<ul style="list-style-type: none"> Age 55 with 5 years of service "Rule of 80" - age 48 with age and service equaling 80 or more Mandatory retirement at age 60 	<ul style="list-style-type: none"> "Rule of 80" - age 48 with age and service equaling 80 or more Mandatory retirement at age 60 	<ul style="list-style-type: none"> Age 55 with 10 years of service Mandatory retirement at age 60 (no minimum service)
Base Benefit Formula	Service x 1.6% x Final Average Pay	Service x 1.7% x Final Average Pay	Service x 1.7% x Final Average Pay
Temporary Benefit Formula (payable until age 62)	Not available	Service x .08% x Final Average Pay	Service x .08% x Final Average Pay
(Uniformed Patrol hired before 1/1/1995) Special Benefit	\$90 per month until age 65 (stops any month gainfully employed)	Not available	Not available
Early Retirement Eligibility (reduced benefit)	<ul style="list-style-type: none"> Age 55 with 10 years of service Reduced .006 for each month younger than normal retirement 	<ul style="list-style-type: none"> Age 57 with 5 years of service Reduced .005 for each month younger than normal retirement 	<ul style="list-style-type: none"> Age 62 with 10 years of service Reduced .005 for each month younger than normal retirement
Cost-of-Living Adjustment (COLA) (maximum annual COLA rate is 5%)	<p>Employed before 8/28/97:</p> <ul style="list-style-type: none"> Minimum annual rate is 4% until total increases equal 65% of initial benefit - then it's 80% of the increase in the CPI-U <p>Employed on or after 8/28/97:</p> <ul style="list-style-type: none"> 80% of the increase in the CPI-U 	<ul style="list-style-type: none"> 80% of the increase in the CPI-U 	<ul style="list-style-type: none"> 80% of the increase in the CPI-U
BackDROP (must work at least 2 years beyond date first eligible for normal retirement)	<ul style="list-style-type: none"> Available 	<ul style="list-style-type: none"> Available 	<ul style="list-style-type: none"> Not available

	Long-Term Disability	Work-Related Disability
Benefit Amount	<ul style="list-style-type: none"> 60% of pre-disability salary (reduced by deductible income) 	<p>Lesser of:</p> <ul style="list-style-type: none"> 70% of pre-disability salary (not offset by deductible income) 90% of pre-disability salary (offset by deductible income)
Benefit Waiting Period	<p>Later of:</p> <ul style="list-style-type: none"> When sick leave runs out Member disabled 180 days 	<p>Later of:</p> <ul style="list-style-type: none"> When sick leave runs out Member reaches maximum medical improvement under Workers' Comp

FUNDING THE SYSTEM

When the plan was created in 1955, employees and employers each paid contributions equal to 4% of the employee's first \$7,500 in salary each month to fund the system (and their retirement). During the 1976 Legislative Session, HB 1211 passed making the System non-contributory. All contributions were refunded to members, plus interest. From August 1976 to January 2011, the cost of the retirement plan has been funded solely by employer contributions and income on investments from those contributions. In 2010, legislation was passed, which resulted in the creation of the contributory 2011 Tier. Employees hired for the first time in a benefit eligible position on or after January 1, 2011 contribute 4% of their pay to MPERS to help fund their retirement benefits.

Each year, the MPERS Board of Trustees establishes a contribution rate for the next fiscal year. The contribution rate, which is set as a percentage of payroll, is calculated by the System's actuary. The contribution rate is designed to cover the System's benefit obligations and administrative costs for the coming fiscal year and into the future. The calculation of the contribution rate is based on a number of factors including the current level of benefits, the number of participants in the plan, current and future pay levels, the age and average life expectancy of members, expected earnings on investments, and the plan's unfunded liability.

FY2017 Employer Contribution Rates

(as a percentage of payroll)

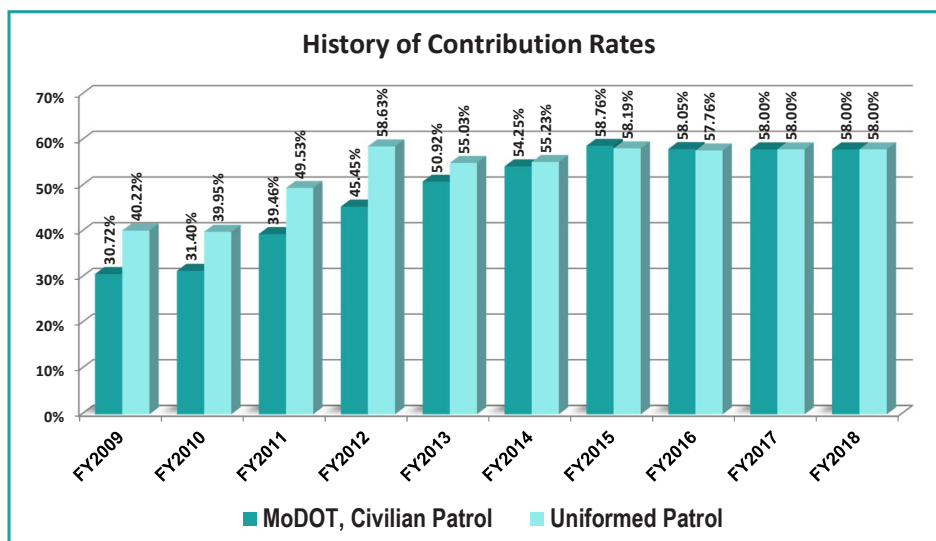
FY2018 Employer Contribution Rates

(as a percentage of payroll)

	MoDOT & Civilian Patrol	Uniformed Patrol
Normal Cost of Benefit	10.48%	16.60%
Catch Up Payment on the Unfunded Liabilities*	45.85%	39.73%
Administrative Costs	1.14%	1.14%
Subtotal	57.47%	57.47%
Disability Premium	.53%	.53%
Total Employer Contribution Rate	58.00%	58.00%

	MoDOT & Civilian Patrol	Uniformed Patrol
Normal Cost of Benefit	10.19%	16.36%
Catch Up Payment on the Unfunded Liabilities*	46.08%	39.91%
Administrative Costs	1.20%	1.20%
Subtotal	57.47%	57.47%
Disability Premium	.53%	.53%
Total Employer Contribution Rate	58.00%	58.00%

**Decisions made by multiple groups over the years regarding benefit increases, plan assumptions, contributions, and investment policy, coupled with market declines in the past decade have resulted in an unfunded liability. In September 2009, the Board of Trustees made a commitment to improve MPERS' funded status through a temporary funding policy (see page 18). The "Catch Up Payment on the Unfunded Liabilities" is just that - extra contributions, over a set period of time, to improve our funded status.*



FUNDING THE SYSTEM

If you follow the news regarding pension plans, you may have heard that some employers don't pay the full annual required contribution (ARC) to the pension plan, and that is why some systems are underfunded. That is **NOT** the case for MPERS. It is important to note that our employers (MoDOT, MSHP, and MPERS) pay the full recommended contributions each year.

Understanding How a Pension Plan is Funded

$$C + I = B + E$$

Contributions + **I**nterest Earnings = **B**enefits + **E**xpenses

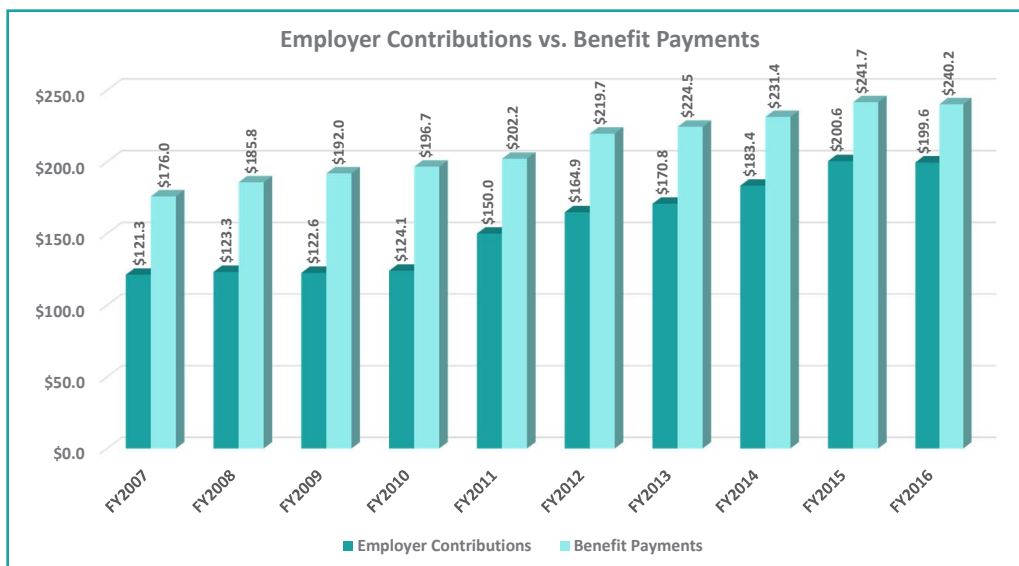
The funding objective of MPERS is to meet current and future benefit obligations of retirees and beneficiaries through contributions and investment earnings. Each year, our actuary conducts a valuation to analyze the financial soundness of the System and determine the contribution rate. The investment portfolio is constructed to generate a total return that, when added to employer contributions, is sufficient to meet benefit obligations.

Pension plans invest assets with a long-term perspective because pension costs are spread over the working careers of plan participants. While market uncertainty brings additional risk to the investment portfolio, it's important to keep in mind that pension plans are in the business of managing risk, not simply avoiding risk. The asset allocation approved by the Board of Trustees is designed to protect the fund against the uncertainty that remains in the global economy, and should perform well across various market environments, not just when the stock market rallies.



Key Contribution Rate Events

September 1, 1955	Employee and employer rate equal to 4% of employee's first \$7,500 of pay.
November 1, 1965	Raised to first \$10,000 of pay.
October 13, 1969	Raised to first \$15,000 of pay.
August 13, 1972	Employee and employer rate changed to 5.1% of pay (no salary limit).
August 13, 1976	Employee contribution eliminated - employee contributions and interest returned at retirement.
September 29, 1979	Contribution and interest returned to those who were still living and retired prior to 8/13/1976.
February 14, 1980	Contributions and interest returned to active members.
May 12, 1981	Contributions returned to vested members who left state employment prior to 9/1/1976.
January 1, 2011	Contributory 2011 Tier became effective for new hires - employee contribution rate is 4% of pay.



FUNDING THE SYSTEM

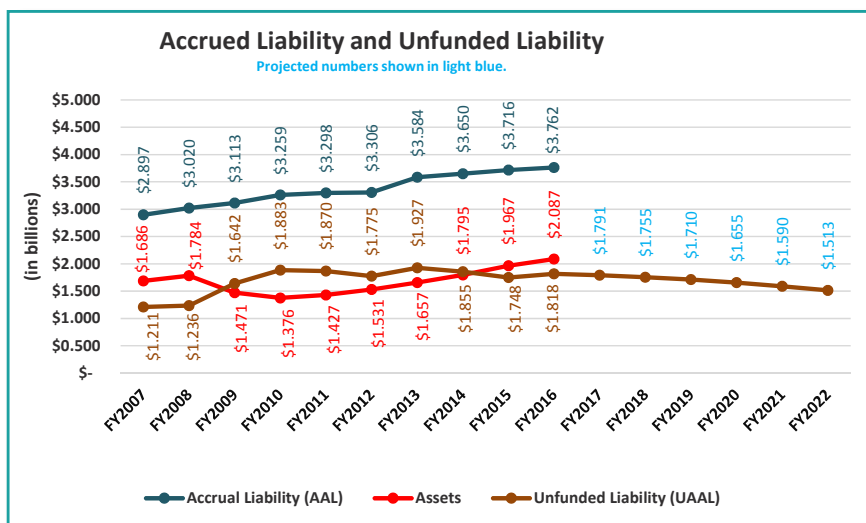
Accrued Liabilities

Total Actuarial Accrued Liability (AAL)	\$3,761,733,004
• <i>Value of future benefits.</i>	
• <i>Amount needed to pay monthly benefits to current members (actives, retirees, terminated-vested, beneficiaries, etc.) according to the benefit laws as written today.</i>	
Current Actuarial Value of MPERS' Assets	- <u>\$2,086,654,348</u>
Unfunded Actuarial Accrued Liability (UAAL)	\$1,675,078,656
• <i>Difference in the current assets of MPERS and amount needed to pay all future benefits.</i>	

Calculating MPERS' Funded Status

$\$2,086,654,348 \div \$3,761,733,004 = 55.5\%$

Of the \$3,761,733,004 needed to pay ALL future benefits, MPERS currently has \$2,086,654,348 in assets (cash and investments), which means that MPERS is 55.5% funded.



Key Funding Events

September 1, 1955	Employees began contributing 4% of their first \$7,500 salary. Employers contributed the same percentage.
October 1, 1955	System accepted 109 retirements.
August 13, 1976	Employee contributions were eliminated. Contributions and interest refunded upon retirement.
February 14, 1980	Contributions plus interest refunded to active members (total refund was approximately \$41 million).
September 2006	Board adopted a permanent funding policy.
September 2009	Board adopted a 15-year accelerated funding schedule for the retiree liability.
January 1, 2011	Employees hired for the first time will be members of the new contributory 2011 Tier of the Year 2000 Plan. The employee contribution is 4% of pay with interest paid annually.
September 25, 2014	Board established the Rate Stabilization Reserve Fund to further reinforce funding and protect against higher contribution rates in the future.

FUNDING THE SYSTEM

Joint Committee on Public Employee Retirement

The Joint Committee on Public Employee Retirement (JCPER) is a permanent pension review and oversight body that was created in 1983 to review and monitor the fiscal integrity of Missouri’s public employee retirement systems. The committee consists of six Senators appointed by the President Pro Tem of the Senate and six Representatives appointed by the Speaker of the House.

JCPER puts any retirement system on a “Watch List” when it is less than 70% funded. Since MPERS is 55.5% funded, we are on their watch list. However, you should be aware of the following:

- MPERS has an aggressive plan in place to address the underfunding and the plan **is working** - it takes time (see below). We did not become underfunded overnight and we cannot become fully funded overnight.
- MoDOT and the MSHP (our employers) have contributed **100%** of their actuarially required contributions and have **never** missed a contribution payment.

Permanent and Temporary Funding Policies

Each year, an actuary calculates the liability associated with the benefits, determines our funded status, and recommends the contribution rate needed to fund the system in accordance with the funding policies put in place by the Board of Trustees.

In an effort to address the System’s underfunding situation, in September 2006, the Board of Trustees adopted a permanent funding policy that was intended to improve MPERS’ funded status over time. The Unfunded Actuarial Accrued Liabilities (UAAL) are amortized using the following funding policy:

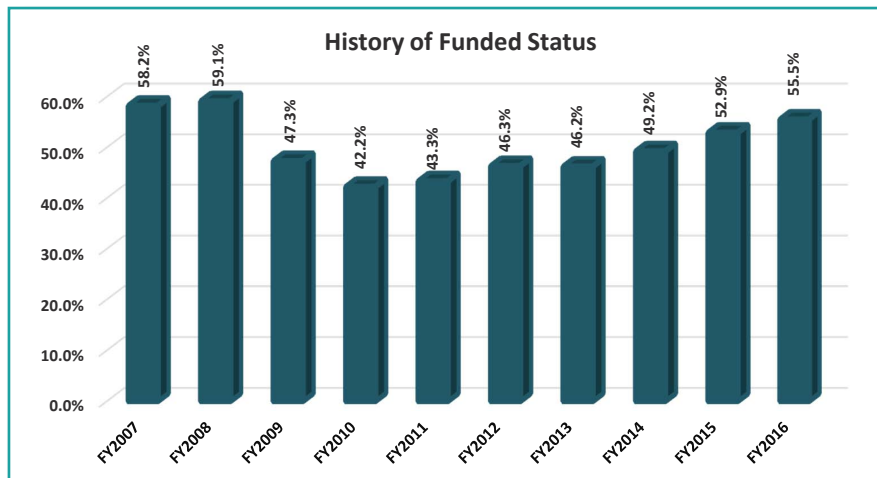
Permanent Policy: The total contribution will be based on normal cost plus a 29-year amortization of unfunded actuarial accrued liabilities. The amortization period started July 1, 2007. As of July 1, 2017, there will be 19 years remaining in the permanent policy amortization period.

Funding Policy	Remaining as of July 1, 2017
<i>Permanent Policy:</i> 29 years Started July 1, 2007	19 years
<i>Temporary Policy:</i> 15 years (retirees) Started July 1, 2010	8 years
<i>Temporary Policy:</i> 30 years (other) Started July 1, 2010	23 years

On September 17, 2009, after the market downturn, the Board of Trustees adopted the following temporary accelerated funding policy:

Temporary Accelerated Policy: The total contribution is based on normal cost plus a 15-year amortization period for unfunded retiree liabilities and a 30-year amortization period for other unfunded liabilities. Both amortization periods started July 1, 2010.

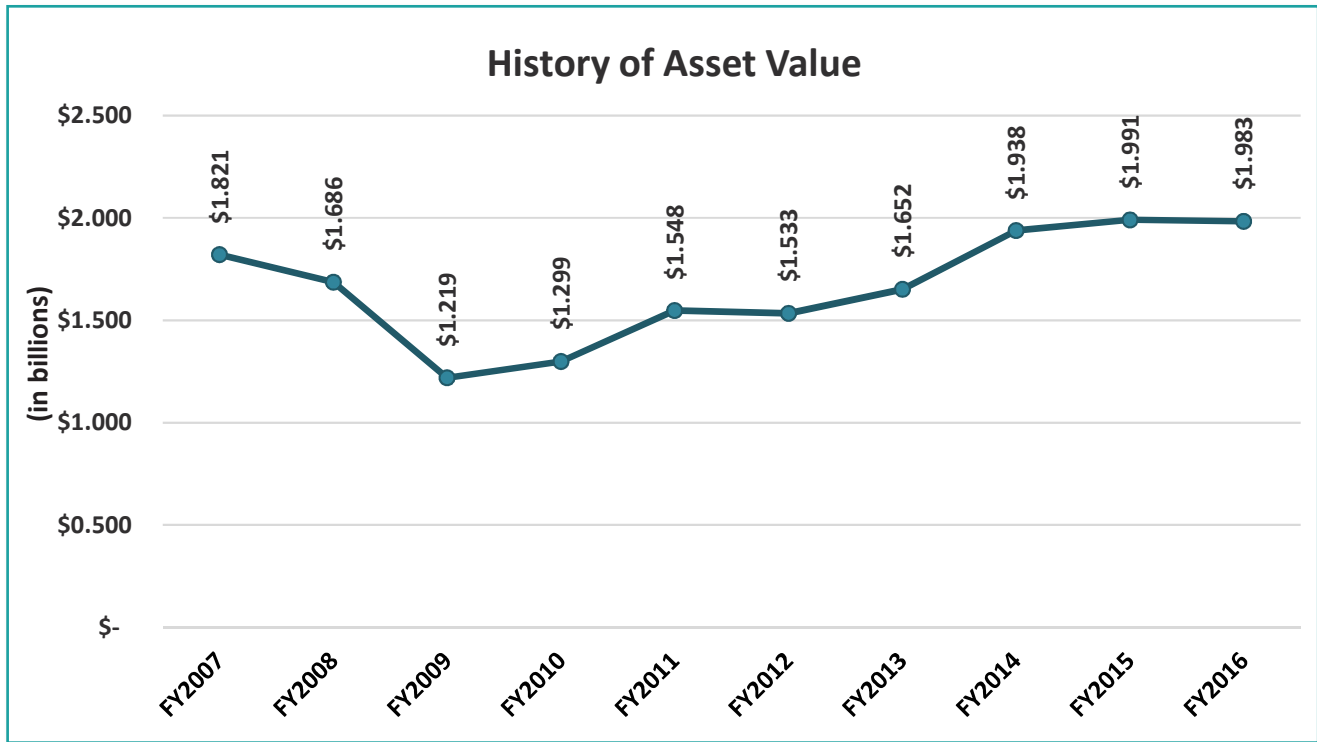
This temporary accelerated policy will remain in effect until such time as the retiree liability becomes 100% funded or the permanent policy produces a higher contribution rate.



INVESTMENTS

Asset Value

- For FY2016, MPERS had a 1.01% return on investments.
- As of June 30, 2016, the asset value is \$1.983 billion.



Key Investment Events

September 1, 1955	Retirement System created through the passage of Senate Bill 66. System's assets invested conservatively through United Missouri Bank (UMB).
October 1, 1997	Started to diversify investment managers by hiring 7 managers over the next 4 years in addition to UMB.
December 1, 2003	Hired the first Chief Investment Officer (CIO) of the retirement system.
2005 - 2006	Portfolio restructured to diversify and take advantage of opportunities in alternative asset classes such as real estate, private equity, and hedge funds.
September 27, 2007	Hired the first Senior Investment Officer to assist CIO with investment portfolio.
June 30, 2010	Board adopted further revisions to asset allocation to reduce risk in investment portfolio.
September 2011	Completed transition to revised asset allocation targets.

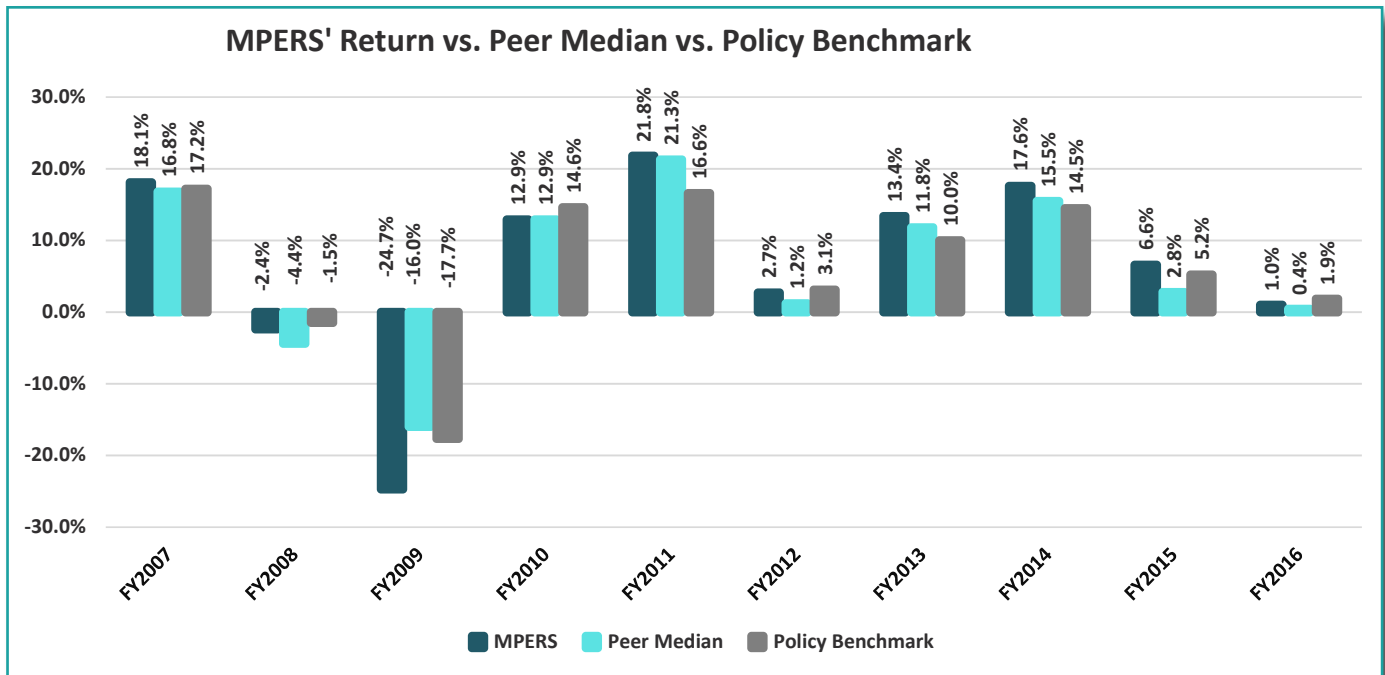
INVESTMENTS

Investment Performance

Asset Value: \$1.983 Billion

Funded Status: 55.5%

	FY2016	FY2015	FY2014	FY2013	FY2012
Asset Value	\$2.0 billion	\$2.0 billion	\$1.9 billion	\$1.7 billion	\$1.5 billion
1-Year Return	1.01%	6.62%	17.56%	13.42%	2.7%
3-Year Return	8.19%	12.45%	11.06%	12.36%	12.2%
5-Year Return	8.10%	12.21%	13.50%	3.82%	.8%
10-Year Return	5.77%	7.20%	7.62%	7.38%	6.5%



INVESTMENTS

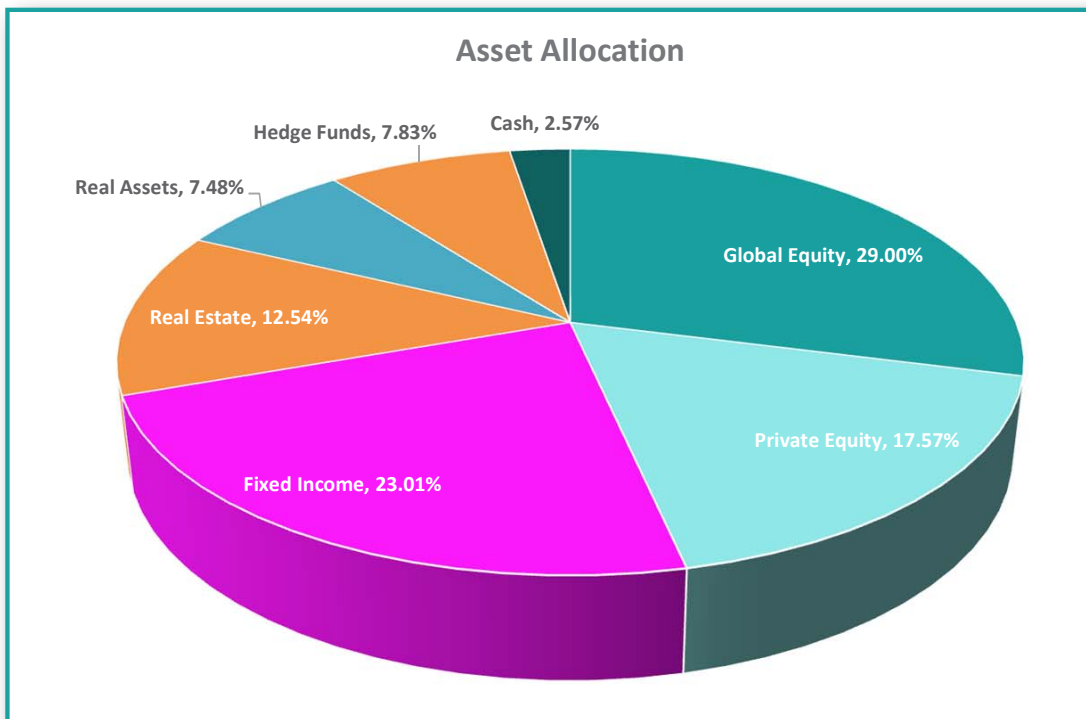
MPERS Investment Policy

The primary objective of MPERS is to provide active and retired employees with adequate retirement benefits. The investment portfolio is constructed to generate a total return that, when added to employer contributions, is sufficient to meet benefit obligations. Following prudent standards for preservation of capital, the goal is to achieve the highest possible rate of return consistent with the plan's tolerance for risk as determined by the Board of Trustees in its role as fiduciary.

Asset Allocation

During the course of FY2016, MPERS' Board of Trustees completed a review of the current asset allocation to ensure the strategies being utilized are appropriate relative to the System's return objectives and tolerance for risk. With the help of outside consultants, each and every facet of the asset allocation process was reviewed. As a result, the following asset allocation was approved to continue.

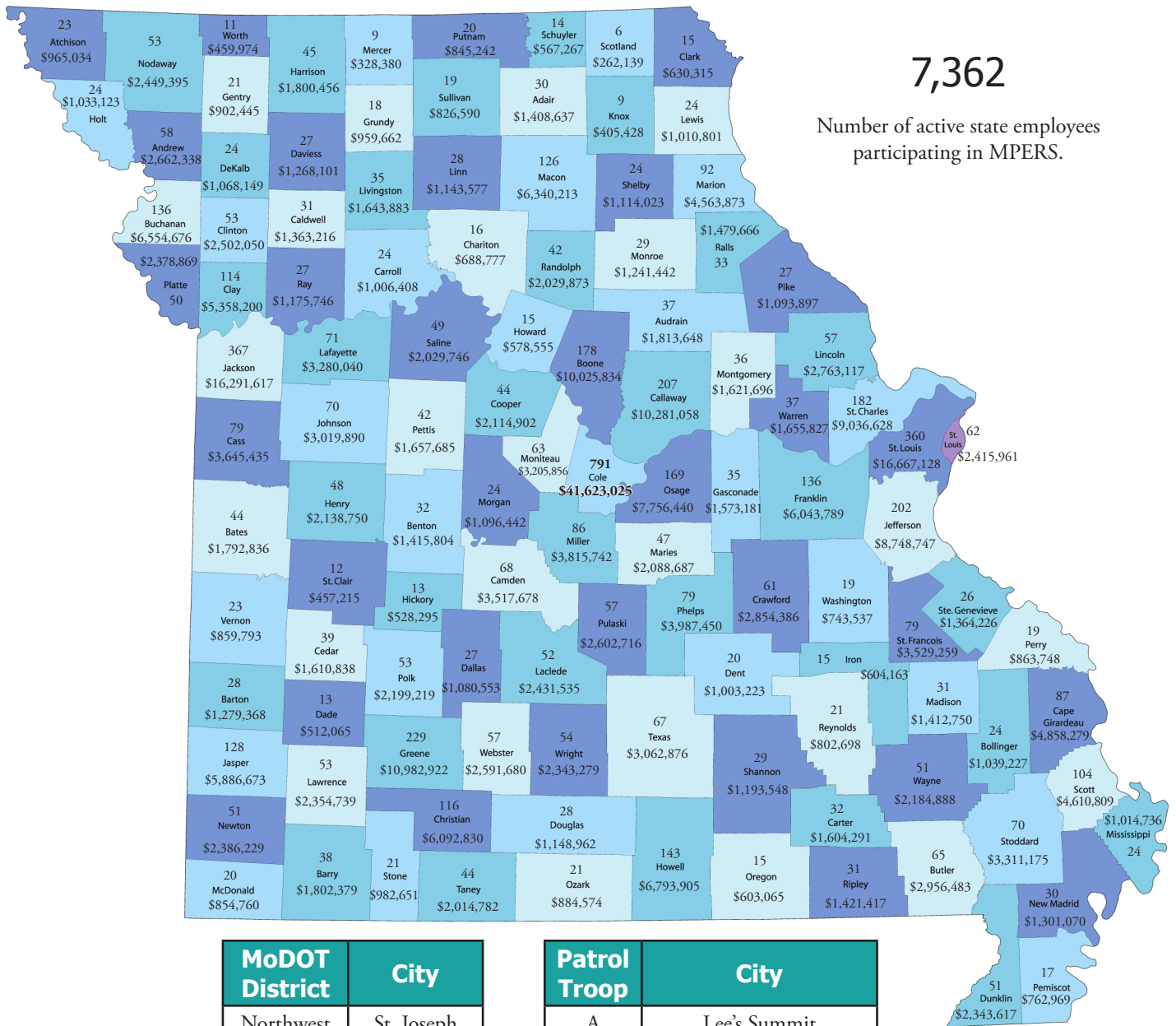
	Target Allocation	FY2016 Allocation	Fair Value of Assets
Global Equity	30.00%	29.00%	\$575,532,020
Private Equity	15.00%	17.57%	\$348,785,990
Fixed Income	25.00%	23.01%	\$456,656,835
Real Estate	10.00%	12.54%	\$248,984,725
Real Assets	5.00%	7.48%	\$148,461,085
Hedge Funds	15.00%	7.83%	\$155,481,104
Cash	0.00%	2.57%	\$ 51,087,298
Total Investments	100.00%	100.00%	\$1,984,989,057



ECONOMIC IMPACT FOR MISSOURI

Active Members in Missouri (June 30, 2016)

Map shows number of active members and total annual pay per county.



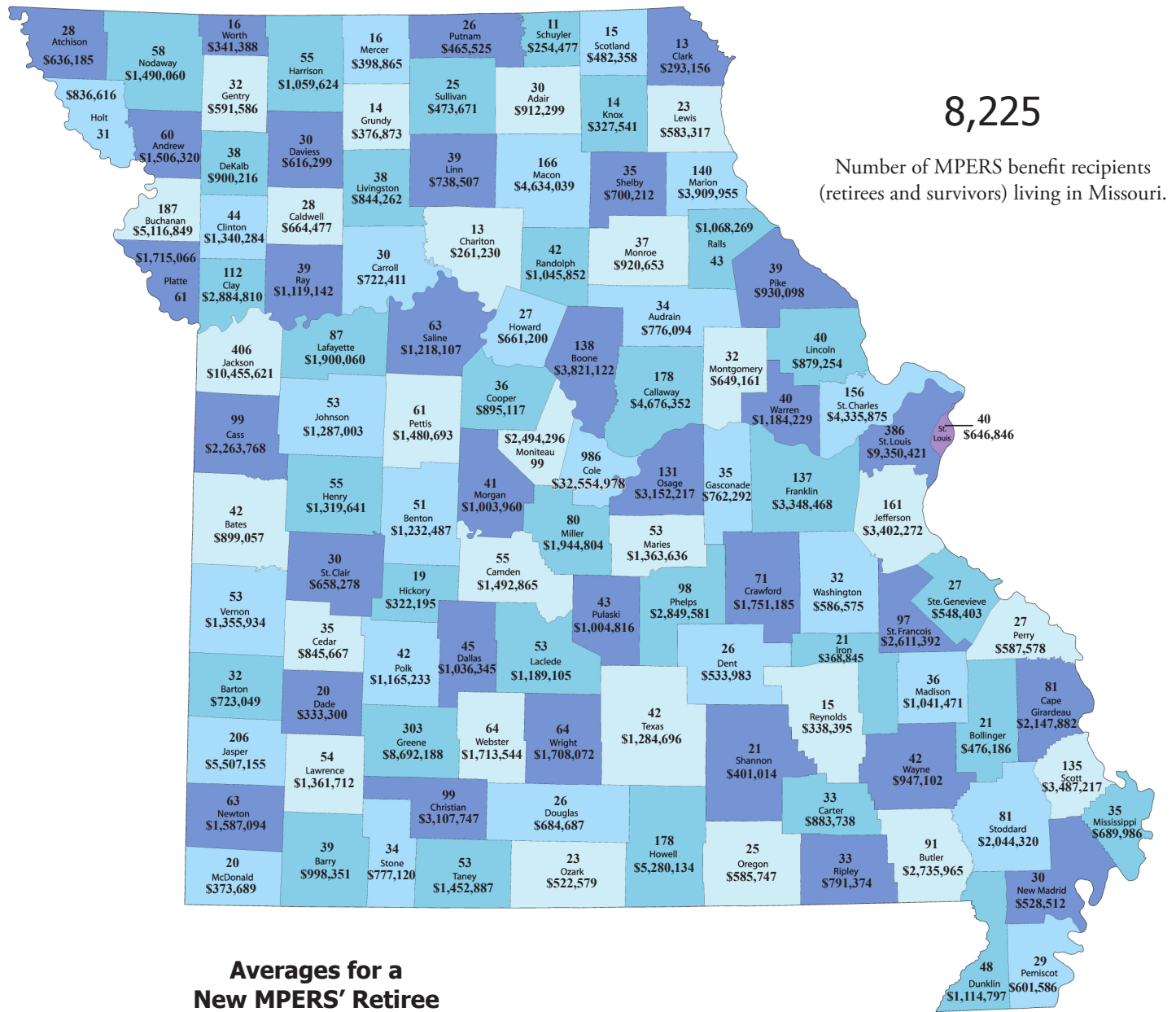
MoDOT District	City
Northwest	St. Joseph
Kansas City	Lee's Summit
Southwest	Springfield
Northeast	Hannibal
St. Louis	St. Louis
Southeast	Sikeston
Central	Jefferson City

Patrol Troop	City
A	Lee's Summit
B	Macon
C	Weldon Springs/St. Louis
D	Springfield
E	Poplar Bluff
F	Jefferson City
G	Willow Springs
H	St. Joseph
I	Rolla

ECONOMIC IMPACT FOR MISSOURI

Retirees and Survivors in Missouri (June 30, 2016)

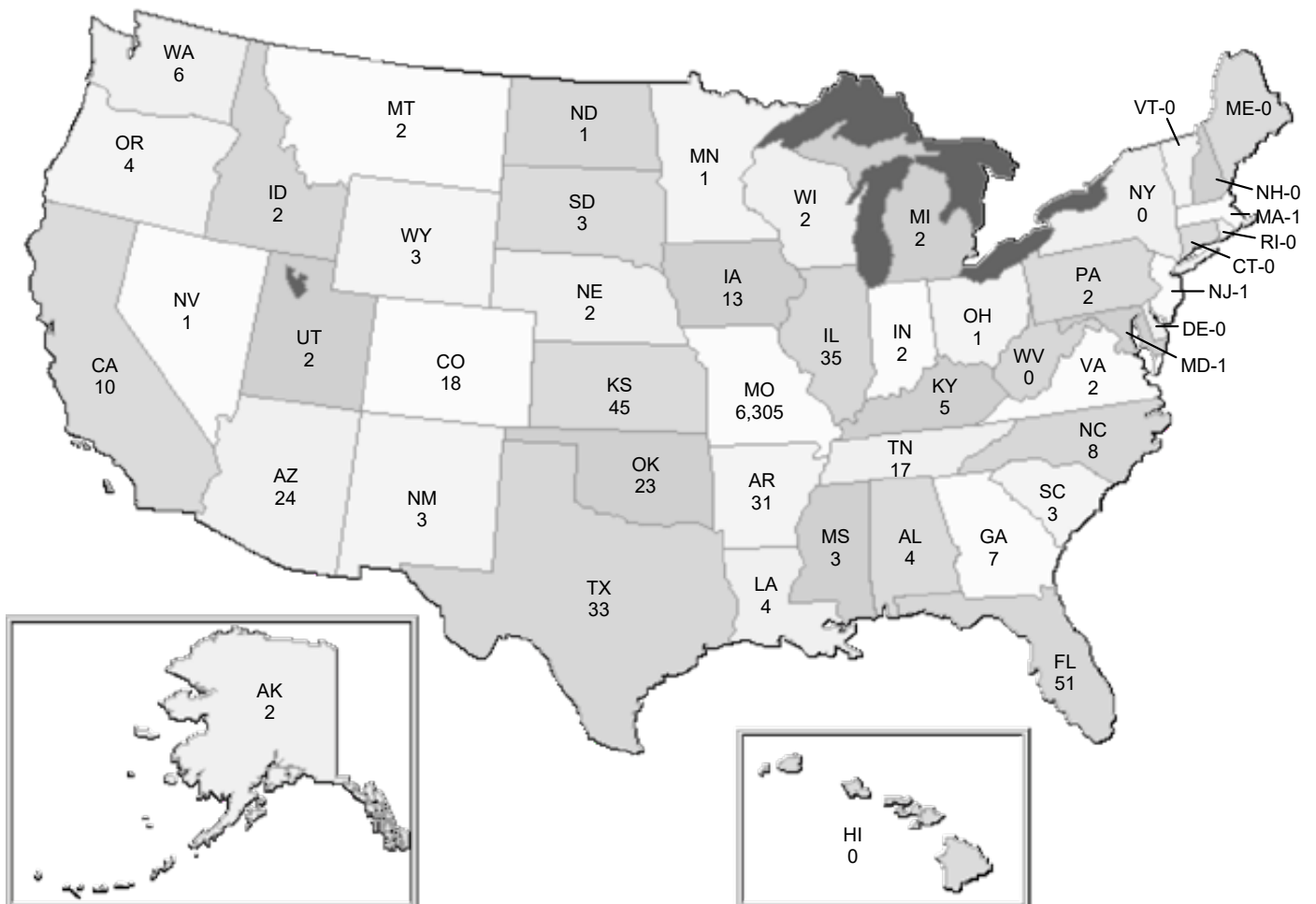
Map shows number of recipients (retirees and survivors) and total annual benefit payments per county.



In FY2016, MPERS paid out over \$227 million in benefits, of which, over **\$215 million** remained in Missouri.

LOCATION OF MPERS' RETIREES

State	Retirees	State	Retirees	State	Retirees	Country	Retirees
MO	6,305	WA	6	MI	2	Australia	1
FL	51	KY	5	MT	2	Bolivia	1
KS	45	AL	4	NE	2	Great Britain	1
IL	35	LA	4	PA	2	India	1
TX	33	OR	4	UT	2		
AR	31	MS	3	VA	2		
AZ	24	NM	3	MA	1		
OK	23	SC	3	MD	1		
CO	18	SD	3	MN	1		
TN	17	WI	3	ND	1		
IA	13	WY	3	NJ	1		
CA	10	AK	2	NV	1		
NC	8	ID	2	OH	1		
GA	7	IN	2				



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