

# MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM AUDIT REPORT

JAN. 1, 2014 - DEC. 31, 2018



**PUBLIC EMPLOYEE RETIREMENT ADMINISTRATION COMMISSION**  
COMMONWEALTH OF MASSACHUSETTS



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# PERAC

COMMONWEALTH OF MASSACHUSETTS | PUBLIC EMPLOYEE RETIREMENT ADMINISTRATION COMMISSION

PHILIP Y. BROWN, ESQ., *Chairman*

JOHN W. PARSONS, ESQ., *Executive Director*

Auditor SUZANNE M. BUMP | KATHLEEN M. FALLON | KATE FITZPATRICK | JAMES M. MACHADO | ROBERT B. McCARTHY | JENNIFER F. SULLIVAN

May 6, 2020

The Public Employee Retirement Administration Commission (PERAC) has completed a review of the audits of the Massachusetts Housing Finance Agency Employees' Retirement System conducted by the firm of CliftonLarsonAllen LLP, (CLA). CLA conducted these audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits in *Government Auditing Standards*, issued by the Comptroller General of the United States. The audits covered the period from January 1, 2014 to December 31, 2018.

We conducted an inspection of the work papers prepared by CLA. We determined that the audits were conducted in a competent professional manner and the work papers demonstrated that audit tests and procedures were performed in sufficient detail to allow us to accept the final audit reports as issued.

We identified specific differences between these financial audits designed to provide an opinion on financial statements and our compliance audits in accordance with the accounting and management standards established by PERAC in regulation 840 CMR 25.00 and in compliance with the provisions specified in PERAC Memo # 18/2019.

Accordingly, we supplemented the field work conducted in the audits by CLA with certain limited procedures designed to provide additional assurance that the accounting and management standards established by PERAC were adhered to and complied with. The specific objectives of our review were to determine: 1) that the Board is exercising appropriate fiduciary oversight, 2) that cash balances are accurately stated, 3) that investment manager contracts were procured in compliance with the provisions of Section 23B of Chapter 32, and management fees paid were in accordance with the executed contract, 4) that travel expenses were properly documented and accounted for, 5) that retirement contributions are accurately deducted, 6) that retirement allowances were correctly calculated, 7) that required member documentation is maintained.

To achieve these objectives, we inspected certain records of the Massachusetts Housing Finance Agency Employees' Retirement Board in the above areas. Specifically, we reviewed the minutes of the Board meetings for compliance with fiduciary oversight, verified cash balances, and tested a sample of travel expenses for Board approvals, supporting documentation and proper accounting. We reviewed procurement files for contracts awarded to investment managers and confirmed that all required documents were maintained. We also calculated the management fees due per the contract and compared these amounts to the fees invoiced by the manager. We tested the payroll records of a sample of active members to confirm that the correct percentage of regular compensation is being deducted, including the additional two percent over \$30,000. We tested a sample of members who retired during our audit period to verify that their retirement allowance was calculated in accordance with the statute. We also reviewed a sample of member files for accuracy and completeness.



In our opinion, the financial records are being maintained and the management functions are being performed in conformity with the standards established by PERAC.

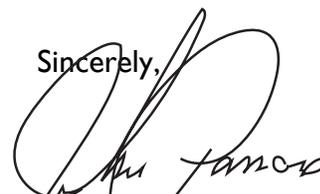
We commend the Massachusetts Housing Finance Agency Employees' Retirement Board for the exemplary operation of the system.

It should be noted that the financial statements included in this audit report were based on the work performed by CLA and the tests conducted for the periods referenced in their opinion. These audits were not performed by employees or representatives of PERAC. It should also be noted that the opinions expressed in these audit reports were based on the laws and regulations in effect at the time.

The financial statements and footnotes presented in this report were limited to the express results as of and for the years ended December 31, 2018, December 31, 2017, December 31, 2016, December 31, 2015 and December 31, 2014.

In closing, I wish to acknowledge the work of CLA, who conducted these examinations, PERAC examiner, George Nsia, who conducted limited procedures to supplement the field work, and express my appreciation to the Retirement Board and staff for their courtesy and cooperation.

Sincerely,



John W. Parsons, Esq.  
Executive Director

## SUPPLEMENTARY INFORMATION

### SCHEDULE OF ALLOCATION OF INVESTMENTS OWNED

(percentages by category)

AS OF DECEMBER 31, 2018		
	MARKET VALUE	PERCENTAGE OF TOTAL ASSETS
Cash	\$4,899,929	3.4%
Fixed Income Securities	20,147,491	13.8%
Pooled Domestic Equity Funds	42,666,490	29.2%
Pooled Global Equity Funds	16,496,467	11.3%
Pooled Domestic Fixed Income Funds	17,671,507	12.1%
Pooled International Fixed Income Funds	7,647,241	5.2%
Pooled Alternative Investment Funds	20,099,371	13.7%
Pooled Real Estate Funds	<u>16,593,558</u>	<u>11.3%</u>
<b>Grand Total</b>	<b><u>\$146,222,056</u></b>	<b><u>100.0%</u></b>

For the year ending December 31, 2018, the rate of return for the investments of the Massachusetts Housing Finance Agency Employees' Finance Agency Employees' Retirement System was -3.14%. For the five-year period ending December 31, 2018, the rate of return for the investments of the Massachusetts Housing Finance Agency Employees' Finance Agency Employees' Retirement System averaged 4.58%. For the 34-year period ending December 31, 2018, since PERAC began evaluating the returns of the retirement systems, the rate of return on the investments of the Massachusetts Housing Finance Agency Employees' Finance Agency Employees' Retirement System was 7.26%.

The composite rate of return for all retirement systems for the year ending December 31, 2018 was -2.25%. For the five-year period ending December 31, 2018, the composite rate of return for the investments of all retirement systems averaged 6.22%. For the 34-year period ending December 31, 2018, since PERAC began evaluating the returns of the retirement systems, the composite rate of return on the investments of all retirement systems averaged 9.00%.

## SUPPLEMENTARY INFORMATION (Continued)

### ADMINISTRATION OF THE SYSTEM

The System is administered by a five-person Board of Retirement consisting of the Massachusetts Housing Finance Agency Treasurer who shall be a member ex-officio, a second member appointed by the governing authority, a third and fourth member who shall be elected by the members in or retired from the service of such system, and a fifth member appointed by the other four board members.

Ex-officio Member:	Andris Sillins, Chairman		
Appointed Member:	Ping Yin Chai	Term Expires	3/14/2023
Elected Member:	Antonio Torres	Term Expires:	6/20/2021
Elected Member:	Michael Fitzmaurice	Term Expires:	12/10/2022
Appointed Member:	Paul T. Hynes, Esq.	Term Expires:	12/31/2020

The Board members are required to meet at least once a month. The Board must keep a record of all of its proceedings. The Board must annually submit to the appropriate authority an estimate of the expenses of administration and cost of operation of the system. The board must annually file a financial statement of condition for the system with the Executive Director of PERAC.

The investment of the system's funds is the responsibility of the Board. All retirement allowances must be approved by the Retirement Board. The PERAC Actuary performs verification prior to payment, unless the system has obtained a waiver for superannuation calculations allowing them to bypass this requirement. All expenses incurred by the System must be approved by a majority vote of the Board. Payments shall be made only upon vouchers signed by two persons designated by the Board.

Retirement board members and employees are bonded by an authorized agent representing a company licensed to do business in Massachusetts. Fidelity insurance is the only required policy coverage under Ch. 32 §21 and §23 as well as 840 CMR 17.01. The policy is designed to cover specific intentional acts such as theft, fraud or embezzlement and also specify who commits such acts, most commonly employees of the system. This coverage reimburses the system for the losses it suffers as a result of its employees' actions. It does not insure the employees for their illegal acts. Statutorily required coverage is provided by the current fidelity insurance policy to a limit of \$1,000,000 with a \$10,000 deductible issued through Travelers Casualty and Surety Company. The system also has Fiduciary coverage to a limit of \$50,000,000 under a blanket policy issued through the Massachusetts Association of Contributory Retirement Systems.

### BOARD REGULATIONS

The Massachusetts Housing Finance Agency Employees' Retirement Board has adopted Supplemental Regulations which are available on the PERAC website at <https://www.mass.gov/mass-housing-finance-agency-retirement-board-regulations> .

## SUPPLEMENTARY INFORMATION (Continued)

### ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2019.

The actuarial liability for active members was	\$109,255,076
The actuarial liability for retired and inactive members was	87,204,929
The total actuarial liability was	\$196,460,005
System assets as of that date were (market value)	<u>146,119,148</u>
The unfunded actuarial liability was	<u>\$50,340,857</u>
The ratio of system's assets to total actuarial liability was	74.4%
As of that date the total covered employee payroll was	\$33,018,170

The normal cost for employees on that date was 9.2% of payroll

The normal cost for the employer including administrative expenses was 3.7% of payroll

The principal actuarial assumptions used in the valuation are as follows:

Investment Return: 7.25% per annum  
 Rate of Salary Increase: Varies by service, 3.75% ultimate rate

### SCHEDULE OF FUNDING PROGRESS AS OF JANUARY 1, 2019 (Dollars in \$000's)

Actuarial Valuation Date	Actuarial Value of Assets ( a )	Actuarial Accrued Liability ( b )	Unfunded AAL (UAAL) ( b-a )	Funded Ratio ( a/b )	Covered Payroll ( c )	UAAL as a % of Cov. Payroll ( ( b-a )/c )
1/1/2019	\$146,119	\$196,460	\$50,341	74.4%	\$33,018	152.5%
1/1/2017	\$128,397	\$167,145	\$38,749	76.8%	\$32,022	121.0%
1/1/2015	\$113,875	\$144,536	\$30,661	78.8%	\$31,240	98.1%
1/1/2013	\$94,976	\$119,096	\$24,120	79.7%	\$28,044	86.0%
1/1/2011	\$79,406	\$102,618	\$23,213	77.4%	\$29,744	78.0%
1/1/2009	\$53,530	\$82,086	\$28,556	65.2%	\$28,475	100.3%

## SUPPLEMENTARY INFORMATION (Continued)

### MEMBERSHIP EXHIBIT

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Retirement in Past Years</b>										
Superannuation	1	4	10	9	8	7	10	14	4	14
Ordinary Disability	0	0	0	0	0	0	0	0	0	0
Accidental Disability	0	0	0	0	0	0	0	0	0	0
<b>Total Retirements</b>	1	4	10	9	8	7	10	14	4	14
Total Retirees, Beneficiaries and Survivors	96	98	108	116	122	132	139	151	153	164
Total Active Members	357	354	329	328	326	337	342	342	346	324
<b>Pension Payments</b>										
Superannuation	\$2,010,784	\$1,955,747	\$2,265,808	\$2,799,956	\$3,049,615	\$3,484,702	\$3,759,118	\$4,176,167	\$4,766,031	\$5,113,673
Survivor/Beneficiary Payments	124,195	126,218	130,569	130,663	144,361	173,353	170,883	173,345	192,275	199,809
Ordinary Disability	0	0	0	0	0	0	0	0	0	0
Accidental Disability	72,518	73,238	73,958	74,708	75,458	76,268	77,048	77,828	82,605	180,415
Other	<u>41,119</u>	<u>44,540</u>	<u>48,541</u>	<u>50,301</u>	<u>48,657</u>	<u>45,413</u>	<u>61,031</u>	<u>63,201</u>	<u>85,533</u>	<u>98,500</u>
<b>Total Payments for Year</b>	<u>\$2,248,616</u>	<u>\$2,199,743</u>	<u>\$2,518,876</u>	<u>\$3,055,628</u>	<u>\$3,318,091</u>	<u>\$3,779,736</u>	<u>\$4,068,079</u>	<u>\$4,490,541</u>	<u>\$5,126,443</u>	<u>\$5,592,396</u>

**MASSACHUSETTS HOUSING FINANCE AGENCY  
EMPLOYEES' RETIREMENT SYSTEM**

**FINANCIAL STATEMENTS AND  
REQUIRED SUPPLEMENTARY INFORMATION**

**YEAR ENDED DECEMBER 31, 2018**



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CONSULTING

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
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## INDEPENDENT AUDITORS' REPORT

Honorable Retirement Board  
Massachusetts Housing Finance Agency Employees' Retirement System  
Boston, Massachusetts

### **Report on the Financial Statements**

We have audited the accompanying financial statements of the Massachusetts Housing Finance Agency Employees' Retirement System (the System), as of and for the year ended December 31, 2018, and the related notes to the financial statements, as listed in the table of contents.

### ***Management's Responsibility for the Financial Statements***

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

### ***Auditors' Responsibility***

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America 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 from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the 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.



(1)

**Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the System as of December 31, 2018, and the respective change in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

**Other Matters**

*Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis (located on pages 3 through 6), schedule of changes in employer net pension liability and related ratios, schedule of employer contributions and schedule of investment returns (located on pages 20 and 21) be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the 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 financial statements, and other knowledge we obtained during our audit of the 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 August 1, 2019 on our consideration of the System'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 solely 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 the effectiveness of the System's 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 the System's internal control over financial reporting and compliance.



**CliftonLarsonAllen LLP**

Boston, Massachusetts  
August 1, 2019

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2018**

As management of the Massachusetts Housing Finance Agency Employees' Retirement System (System), we offer readers of these financial statements this narrative overview and analysis of the System's financial activities for the year ended December 31, 2018.

The management's discussion and analysis (MD&A) is presented in the following sections:

1. Financial Highlights
2. Overview of the Financial Statements
3. Financial Statement Analysis

Please refer to the audited *Financial Statements* when reading the MD&A.

***Financial Highlights***

The System's funding objective is to meet long-term benefit obligations through contributions and investment income. As of January 1, 2017, the latest actuarial valuation, the funded ratio was 77.0% based on the actuarial value of assets at that date. As of December 31, 2018, the plan fiduciary net position was 80.5% of the total pension liability.

The System's net position decreased by \$3,161,253, or 2.12%, when compared to the prior year's net position. Net position is the residual of the System's assets in excess of the System's liabilities as of the statement date. The System's assets are restricted to meet future benefit payments.

***Overview of the Financial Statements***

The financial statements are comprised of a Statement of Fiduciary Net Position, Statement of Changes in Fiduciary Net Position, Notes to Financial Statements and Required Supplementary Information.

The **statement of fiduciary net position** presents information on the System's assets and liabilities and the resulting net position restricted for pensions. This is calculated using the following formula: Assets – Liabilities = Net Position restricted for pensions. This statement reflects the System's investments at fair value, as well as cash, receivables and other assets and liabilities. The Statement of Fiduciary Net Position reports the financial position of the System at December 31, 2018. Over time, the increase or decrease in net position serves as a useful indicator of the System's financial health.

The **statement of changes in fiduciary net position** presents information showing how the System's net position changed during the year ended December 31, 2018. It reflects contributions by its individual members and participating employer along with deductions for retirement benefits, refunds, withdrawals, and administrative expenses. Investment income during the period is also presented showing income from investing activities.

The **notes to financial statements** provide additional information that is essential for the reader to gain a full understanding of the data provided in the financial statements.

The **required supplementary information** includes a schedule of changes in employer net pension liability and related ratios, a schedule of employer contributions and a schedule of investment returns.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2018**

***Financial Statement Analysis***

The System's total assets as of December 31, 2018 were \$146,421,319 and were comprised of cash and cash equivalents, investments, accrued interest and dividends, and receivables.

Total liabilities as of December 31, 2018 were \$302,171 and represent amounts owed for accounts payable and to MassHousing for reimbursement of the System's payroll, payroll related costs, rent and other operating costs for the period July 1, 2018 through December 31, 2018.

The following tables present current and prior year data on the System's financial statements.

**Fiduciary Net Position**

As noted earlier, net position may serve over time as a useful indicator of a government's financial position. The System's net position was \$146,119,148 at the close of the year and is summarized as follows:

	<u>2018</u>	<u>2017</u>
<b>Assets</b>		
Cash and cash equivalents	\$ 4,899,929	\$ 5,334,533
Investments	141,322,126	143,904,896
Other assets	<u>199,264</u>	<u>248,854</u>
Total assets	<u>146,421,319</u>	<u>149,488,283</u>
<b>Liabilities</b>		
Accounts Payable	131,764	64,667
Due to MassHousing	<u>170,407</u>	<u>143,215</u>
Total liabilities	<u>302,171</u>	<u>207,882</u>
<b>Net Position</b>		
Restricted for pensions	<u>\$ 146,119,148</u>	<u>\$ 149,280,401</u>

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2018**

Changes in Fiduciary Net Position

For the year ended December 31, 2018, the System's total fiduciary net position decreased by \$3,161,253. In the prior year, fiduciary net position increased by \$20,883,822. These amounts are summarized as follows:

	<u>2018</u>	<u>2017</u>
<b>Additions</b>		
<i>Contributions:</i>		
Employer	\$ 6,526,674	\$ 6,490,693
Plan members	3,483,261	3,477,064
Reimbursements and transfers from other systems	877,442	679,639
<i>Net investment income:</i>		
Net realized and unrealized gains/(losses)	(6,294,889)	17,324,225
Interest and dividends	1,809,328	1,754,545
Less investment expense	<u>(1,059,690)</u>	<u>(941,612)</u>
Total additions	<u>5,342,126</u>	<u>28,784,554</u>
<b>Deductions</b>		
Retirement benefits and refunds	7,599,740	7,085,018
Reimbursements and transfers to other systems	459,556	440,388
Administration	<u>444,083</u>	<u>375,326</u>
Total deductions	<u>8,503,379</u>	<u>7,900,732</u>
Change in plan net position	(3,161,253)	20,883,822
Plan net position - beginning of year	<u>149,280,401</u>	<u>128,396,579</u>
Plan net position - end of year	<u>\$ 146,119,148</u>	<u>\$ 149,280,401</u>

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2018**

**Additions to Fiduciary Net Position**

The amount needed to finance benefits is accumulated through the collection of employer and employee contributions, earnings on investments and reimbursements and transfers from other systems. These additions resulted in an increase to net position totaling \$5,342,126. Employer contributions and plan member contributions increased by approximately \$36,000 and \$6,000, respectively, in 2018 while reimbursements and transfers from other systems increased by approximately \$198,000 when compared to the prior year. The employer contribution increased as a result of the annual actuarially determined contribution to meet the System's funding schedule. The System had net investment losses of approximately \$5,545,000 in 2018 due to market conditions; compared to approximately \$18,137,000 of net investment income in 2017.

**Deductions from Fiduciary Net Position**

The primary deductions of the System include the payment of pension benefits to participants and beneficiaries, refunds of contributions, and the costs of administering the System. Total deductions to net position totaled \$8,503,379 during the current year versus \$7,900,732 in the previous year. The payment of pension benefits increased by \$514,722 or 7.26%, over the previous year. The increase in these expenses resulted from an increase in benefit payments to newer retirees with higher average compensation.

**Requests for Information**

This financial report is designed to provide the Board, our membership, taxpayers, investors, and creditors with a general overview of the System's financial results and to demonstrate the System's accountability for the funding it receives. If you have any questions about this report or need additional financial information, contact the Executive Secretary at One Beacon Street, 6<sup>th</sup> floor, Boston, Massachusetts 02108.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
STATEMENT OF FIDUCIARY NET POSITION  
DECEMBER 31, 2018**

<b>Assets</b>	
Cash and Cash Equivalents	\$ 4,899,929
Investments:	
Fixed Income	20,147,491
Pooled Equities	66,810,199
Pooled Fixed Income	17,671,507
Real Estate	16,593,558
Private Equity	20,099,371
Total Investments	<u>141,322,126</u>
Accrued Interest and Dividends	132,106
Receivables:	
Members Make Up and Redeposits	<u>67,158</u>
Total Assets	<u>146,421,319</u>
<b>Liabilities</b>	
Accounts Payable	131,764
Due to MassHousing	<u>170,407</u>
Total Liabilities	<u>302,171</u>
<b>Fiduciary Net Position</b>	
Restricted for Pensions	<u><u>\$ 146,119,148</u></u>

See accompanying Notes to Financial Statements.

(7)

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
YEAR ENDED DECEMBER 31, 2018**

<b>Additions:</b>	
Contributions	
Employer	\$ 6,526,674
Plan members	3,483,261
Reimbursements and transfers from other systems	<u>877,442</u>
Total contributions	10,887,377
Investment income	
Net appreciation in fair value of investments	(6,294,889)
Interest	1,809,328
Less: investment fees	<u>(1,059,690)</u>
Net investment income	<u>(5,545,251)</u>
Total additions	5,342,126
<b>Deductions:</b>	
Retirement benefits and refunds	7,599,740
Reimbursements and transfers to other systems	459,556
Administration	<u>444,083</u>
Total deductions	<u>8,503,379</u>
Change in plan net position	(3,161,253)
Plan net position restricted for pensions:	
Beginning of year	<u>149,280,401</u>
<b>End of year</b>	<u><u>\$ 146,119,148</u></u>

See accompanying Notes to Financial Statements.

(8)

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2018**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**General**

The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The Governmental Accounting Standards Board (GASB) is the standard-setting body for establishing governmental accounting and financial reporting principles. The significant accounting policies are described herein.

**Reporting Entity**

The Massachusetts Housing Finance Agency Employees' Retirement System (System) was established to provide retirement benefits to MassHousing employees and their beneficiaries. The System is governed by a five-member board comprised of MassHousing's Treasurer (ex-officio), two members elected by the System's participants, one member appointed by MassHousing's Board and one member appointed by the System's Board members.

**Measurement Focus and Basis of Accounting**

The System's financial statements are presented using the flow of economic resources measurement focus and use the accrual basis of accounting.

**Cash and Investments**

Cash and cash equivalents are considered to be cash on hand, demand deposits and short-term investments with an original maturity of three months or less from the date of acquisition.

Investments are reported at fair value. Fair value is based on quotations from a national securities exchange except for pooled funds, private equity and real estate investments, for which fair values are estimated as detailed below.

**Pooled Funds**

The fair value of shares in managed investment pools is based on unit value reported by the funds.

**Private Equity and Real Estate**

The fair values of these types of investments have been determined by the third party investment managers using the Net Asset Value (NAV) per share (or its equivalent) on the System's ownership interest in partner's capital.

**Basis of Investment Transactions**

Purchases and sales of investments are recorded on the trade date. Transactions remaining unsettled as of year-end are recorded as payables for securities purchased and as a receivable for securities sold.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2018**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Due to MassHousing**

MassHousing pays the System's employees' weekly payroll. In addition, MassHousing charges the System for payroll related benefits, rent and other operating expenses. At December 31, 2018, \$170,407 is owed to MassHousing for these costs.

**Revenue Recognition**

Contributions are recognized as additions in the period when they become due pursuant to formal commitments, statutory or contractual requirements. Investment income is recognized when earned.

**Benefits and Refunds**

Benefits and refunds are recognized as deductions when incurred.

**Administrative Expenses**

Administrative expenses are financed by investment income.

**Use of Estimates**

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Fair values of real estate funds and private equity investments have been estimated in the absence of readily available market values, and these estimates may be materially different than values that would have been used had a ready market existed.

**NOTE 2 PLAN DESCRIPTION**

**General**

The System is a single employer public employee retirement system established by MassHousing on June 12, 1974, under Massachusetts General Laws (MGL), Chapter 32, and is regulated by the Massachusetts Public Employee Retirement Administration Commission (PERAC). The System is a defined benefit pension plan that covers eligible employees of MassHousing.

Membership in the System is mandatory immediately upon the commencement of employment for all permanent full-time employees working at least 18 ¾ hours weekly. The System has one classification of members (general).

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2018**

**NOTE 2 PLAN DESCRIPTION (CONTINUED)**

Membership in the System was as follows at December 31, 2018:

Active Members	324
Inactive Members	52
Retirees and Beneficiaries Currently Receiving Benefits	164
Total	540

**Significant Plan Provisions and Requirements**

Pursuant to MGL, Chapter 32, the System provides retirement, disability, and death benefits to plan members and their beneficiaries up to a maximum of 80% of a member's final three-year or five-year average salary. In addition to compensation, benefits are based upon a member's age and length of creditable service.

Members of the System become vested after 10 years of creditable service. Normal retirement occurs at age 65 or age 67 (if hired on or after April 2, 2012).

For employees hired prior to April 2, 2012, the annual amount of the retirement allowance is based on the member's final three-year average salary multiplied by (1) the number of years and full months of creditable service at the time of retirement and (2) a percentage based on age at retirement in accordance with a schedule provided by state law. Assuming normal retirement at age 65, this percentage is 2.5%, which is reduced for individuals who retire prior to age 65 to reflect the longer pay out period. A member's final three-year average salary is defined as the greater of the highest consecutive three-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last three years of creditable service prior to retirement.

For employees hired on or after April 2, 2012, the annual amount of the retirement allowance is based on the member's final five-year average salary multiplied by (1) the number of years and full months of creditable service at the time of retirement and (2) a percentage based on age at retirement in accordance with a schedule provided by state law. Assuming normal retirement at age 67, this percentage is 2.5%. A member's final five-year average salary is defined as the greater of the highest consecutive five-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last five years of creditable service prior to retirement.

Employees may elect early retirement after 20 years of service or at any time after attaining age 55 or age 60 with 10 years of eligible service. Plan members who become permanently and totally disabled may be eligible to receive a disability retirement allowance. The amount of benefits to be received depends on several factors, including the member's age, compensation, veteran status, years of service, and whether or not the disability is work-related. In addition, certain death benefits exist for beneficiaries of employees who die in active service.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2018**

**NOTE 2 PLAN DESCRIPTION (CONTINUED)**

**Significant Plan Provisions and Requirements (Continued)**

Pursuant to MGL, Chapter 32, Section 3(8)(c), for members leaving the System's employment to work for other Massachusetts governmental units, the System transfers their accumulated account balances and creditable service to the retirement system of their new employer. Other such retirement systems are in turn required to make comparable transfers to the System for employees coming to work for a participating employer. Liability for the service transfer is not calculated until the member's actual retirement date. Per statute, the actuary considers length of service as well as acceptance of military service credit and salary cap provisions (if applicable) in calculating the liability.

**NOTE 3 DEPOSITS AND INVESTMENTS**

Deposits and investments made by the System are governed by Chapter 32 of the MGL. The System has the ability to invest in equity securities, corporate bonds, real estate, and other specified investments in accordance with state laws and regulations.

The Board has the authority for establishing and amending investment policy decisions. Based on the investment objectives and constraints of the System, and based on an annual review of the asset allocation and asset classes, the Board will specify a long-term target allocation for each class of permissible assets. These targets will be expressed as a percentage of the total portfolio, and will have ranges surrounding them, allowing for the portfolio to maintain policy through market fluctuations.

The long-term target allocations are intended as strategic goals. Thus, it is permissible for the overall System's asset allocation to deviate from the long-term target, as would likely occur during manager transitions, asset class restructurings, and other temporary changes in the System. Surplus cash flows are utilized to maintain the asset management structure. Should these cash flows not be sufficient to reallocate the plan according to policy, the transfer of assets may occur between managers. At least annually, the Board reevaluates the portfolio weightings by asset class and adjustments are made accordingly. The following identifies the asset allocation policy as of December 31, 2018:

Asset Class	Target	Range
Pooled Domestic Equity	25%	20-30%
Public Foreign Equity (Large Dev.)	7%	6-14%
Public Foreign Equity (Small Dev.)	3%	6-14%
Public Emerging Market Equity	10%	6-14%
Investment Grade Bonds	10%	6-14%
High Yield Bonds	6%	3-9%
TIPS	6%	4-8%
Emerging Market Debt	5%	3-7%
Real Estate	10%	7-13%
Private Equity	10%	6-14%
Natural Resources and Commodities	3%	1-5%
Core Infrastructure	5%	0-8%

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2018**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Rate of Return**

For the year ended December 31, 2018, the annual money-weighted rate of return on investments, net of investment expense, was -1.11%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

**Deposits - Custodial Credit Risk**

Custodial credit risk for deposits is the risk that, in the event of a bank failure, the System's deposits may not be recovered. The System's policy for custodial credit risk of deposits is to rely on FDIC insurance coverage. As of December 31, 2018, the System was not exposed to custodial credit risk. The carrying value of the System's deposits at December 31, 2018 totaled \$73,769.

**Investments Summary**

The System's investments at December 31, 2018 are presented below. All investments are presented by investment type, with debt securities presented by maturity (using segmented-time distribution).

Investment Type	Total Amount	Investment Maturities (in Years)			
		Less Than 1	1 - 5	6 - 10	More Than 10
<u>Debt Securities:</u>					
U.S. Treasuries	\$ 5,730,357	\$ 775,614	\$ 1,599,879	\$ 1,160,894	\$ 2,193,970
U.S. Agencies	5,981,790	259,707	639,928	384,720	4,697,435
Corporate Bonds	8,435,344	296,711	3,465,668	2,180,698	2,492,267
Money Market Mutual Funds	4,825,048	4,825,048	-	-	-
Pooled Fixed Income	17,671,507	17,671,507	-	-	-
Total Debt Securities	42,644,046	\$ 23,828,587	\$ 5,705,475	\$ 3,726,312	\$ 9,383,672
<u>Other Investments:</u>					
Pooled Equities	66,810,199				
Real Estate	16,593,558				
Private Equity	20,099,371				
Total Other Investments	103,503,128				
Total Investments	\$ 146,147,174				

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2018**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Investments – Interest Rate Risk of Debt Securities**

Interest rate risk for debt securities is the risk that changes in interest rates of debt securities will adversely affect the fair value of an investment. The System's policy for interest rate risk of debt securities is to use diversification to minimize the exposure to interest rate risks in the aggregate investment portfolio.

**Investments – Custodial Credit Risk**

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty, the System will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The System does not have a policy for custodial credit risk of investments. As of December 31, 2018, the System was not exposed to custodial credit risk.

**Investments – Credit Risk of Debt Securities**

Credit risk for debt securities is the risk that an issuer or other counterparty to a debt security will not fulfill its obligations. The System's policy for credit risk of debt securities is to use diversification to minimize the exposure to credit risks in the aggregate investment portfolio. As of December 31, 2018, the credit quality ratings of the System's debt securities, excluding exempt U.S. Treasuries of \$5,730,357, are as follows:

Quality Ratings*	Investment Type				
	Total Amount	U.S. Agencies	Corporate Bonds	Money Market Mutual Funds	Pooled Fixed Income
AAA	\$ 1,013,832	\$ 176,112	\$ 837,720	\$ -	\$ -
AA+	1,256,907	1,178,770	78,137	-	-
AA	400,759	-	400,759	-	-
AA-	557,143	103,387	453,756	-	-
A+	443,347	-	443,347	-	-
A	829,433	131,605	697,828	-	-
A-	892,152	-	892,152	-	-
BBB+	1,364,137	-	1,364,137	-	-
BBB	1,275,956	138,623	1,137,333	-	-
BBB-	848,485	-	848,485	-	-
Unrated	28,031,538	4,253,293	1,281,690	4,825,048	17,671,507
Total	<u>\$ 36,913,689</u>	<u>\$ 5,981,790</u>	<u>\$ 8,435,344</u>	<u>\$ 4,825,048</u>	<u>\$ 17,671,507</u>

\* Per the rating scale of Standard and Poor's (a nationally recognized statistical rating organization).

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2018**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Deposits and Investments – Foreign Currency Risk**

Foreign currency risk is the risk that fluctuations in exchange rates will adversely affect the fair value of an investment or a deposit. The System's policy for foreign currency risk is to diversify the foreign countries and currencies within its international investment portfolio. As of December 31, 2018, the System had indirect exposure to foreign currency risk for certain equity investments in the amount of approximately \$23,371,000.

**Investments – Concentration of Credit Risk**

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. The System's policy for concentration of credit risk is to use extensive diversification to minimize exposure to company and industry specific risks in the aggregate investment portfolio. As of December 31, 2018, the System was not exposed to concentration of credit risk.

**Investments – Fair Value**

The System 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. The System has the following recurring fair value measurements as of December 31, 2018:

Investment Type	Total Amount	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b><u>Debt Securities</u></b>				
U.S. Treasuries	\$ 5,730,357	\$ 5,730,357	\$ -	\$ -
U.S. Agencies	5,981,790	5,981,790	-	-
Corporate Bonds	8,435,344	-	8,435,344	-
Money Market Mutual Funds	4,825,048	4,825,048	-	-
Pooled Fixed Income Securities	17,671,507	-	17,671,507	-
Total Debt Securities	42,644,046	16,537,195	26,106,851	-
<b><u>Equity Securities</u></b>				
Equity Mutual Funds	66,810,199	-	66,810,199	-
Total Investments measured at Fair Value	109,454,245	\$ 16,537,195	\$ 92,917,050	\$ -
<b><u>Investments measured at the Net Asset Value (NAV)</u></b>				
Private Equity	20,099,371			
Real Estate	16,593,558			
Total investments measured at NAV	36,692,929			
Total Investments measured at Fair Value	<u>\$ 146,147,174</u>			

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2018**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Investments – Fair Value (Continued)**

The valuation methods for investments measured at the net asset value (NAV) per share or its equivalent are presented on the following table:

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Private Equity (1)	\$ 20,099,371	16,436,377	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>
Real Estate (2)	16,593,558	175,227	N/A <sup>(2)</sup>	N/A <sup>(2)</sup>
Total Investments measured at NAV	<u>\$ 36,692,929</u>			

(1) *Private equity* - This investment type includes investments in 14 private equity funds that invest primarily in private domestic and international companies of diversified industries. The fair value measurements of this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. Approximately 19% of the funds can be redeemed quarterly. The remaining 81% of the investments can never be redeemed from the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. For the investments in funds that cannot be redeemed, it is expected approximately 8% of the underlying assets of the funds will be liquidated over the next 1 to 5 years, and the remaining investments will be liquidated over the next 5 to 12 years.

(2) *Real estate* - This investment type includes investments in five funds that invest in real estate. The fair value measurements of this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. Approximately 90% of the funds can be redeemed quarterly. The remaining 10% of the investments can never be redeemed from the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. For the investments in funds that cannot be redeemed, it is expected that the underlying assets of the funds will be liquidated over the next 5 to 10 years.

**NOTE 4 FUNDING POLICY**

Plan members are required to contribute to the System at rates ranging from 5% to 9% of annual compensation, depending on their employment date. Members hired after December 31, 1978 must contribute an additional 2% of regular compensation in excess of \$30,000. These deductions earn interest at a rate determined by PERAC that vest based upon years of service. MassHousing is required to pay into the System 100% of the actuarially determined contribution. For the year ended December 31, 2018, employer contributions totaled \$6,526,674 and plan member contributions totaled \$3,483,261.

Cost-of-living adjustments (COLA) must be granted by the Board and are the responsibility of the System. COLA cannot exceed 3% of the first \$13,000 in benefits, unless the System elects to increase the maximum base retirement allowance in multiples of \$1,000.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2018**

**NOTE 5 NET PENSION LIABILITY**

The components of the net pension liability of the System at December 31, 2018, were as follows:

Total Pension Liability	\$ 181,427,012
Plan Fiduciary Net Position	<u>(146,119,148)</u>
Net Pension Liability	<u>\$ 35,307,864</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	<u>80.5%</u>

**Actuarial Methods and Assumptions**

The total pension liability was determined by performing update procedures to roll the liability forward from the January 1, 2017, actuarial valuation to the December 31, 2018 measurement date. The following actuarial methods and assumptions apply to all periods included in the measurement:

Methods:

Actuarial Cost Method	Entry Age Normal
Asset Valuation Method	Fair Value

Assumptions:

Inflation	3.00%
Salary Increases	5.0% grading down to 3.75% after 10 years of service.
Investment Rate of Return	7.5% per year net of investment expenses.
Cost of Living Adjustment	3% of the first \$13,000 of retirement income granted annually.
Mortality	RP-2014 Healthy White Collar Mortability table projected generationally from the year 2006 using MP-2016 (sex-distinct). Disabled mortality is the healthy retiree table set forward two years. Death is assumed to be due to the same cause as the disability 40% of the time.
Retirement Rates	Ages 50-70
Overall Disability	75% ordinary disability; 25% accidental disability.

The actuarial assumptions used in the January 1, 2017 valuation were based on the results of the PERAC local experience study for the period 1995 through 2000 and was published in 2002.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2018**

**NOTE 5 NET PENSION LIABILITY (CONTINUED)**

**Actuarial Methods and Assumptions (Continued)**

The long-term expected real rate of return reflects the expected rate of return on plan assets minus the expected rate of inflation. The long-term real rate of return removes the effect of inflation on the return amounts. It is a long-term assumption and is meant to reflect a best estimate of future experience, based on the expected asset allocation. Best estimates of geometric rates of return for each major asset class included in the System's target asset allocation as of December 31, 2018 are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return (%)
Pooled Domestic Equity	5.4
Public Foreign Equity (Large Dev.)	5.8
Public Foreign Equity (Small Dev.)	5.0
Public Emerging Market Equity	7.6
Investment Grade Bonds	1.3
High Yield Bonds	3.8
TIPS	1.0
Emerging Market Debt	2.6
Real Estate	4.3
Private Equity	7.3
Natural Resources and Commodities	6.2
Core Infrastructure	3.8

**Discount Rate**

The discount rate used to measure the total pension liability was 7.50%. 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 MassHousing's contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

**Sensitivity of the Net Pension Liability to Changes in the Discount Rate**

The following presents the net pension liability of MassHousing calculated using the discount rate of 7.50%, as well as what MassHousing's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability	\$ 51,326,427	\$ 35,307,864	\$ 23,512,318

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2018**

**NOTE 6 LEGALLY REQUIRED RESERVE ACCOUNTS**

The balance in the System's legally required reserves as of December 31, 2018 are as follows:

Description	Amount	Purpose
Annuity Savings Fund	\$ 39,647,787	Active Members' Contribution Balance
Annuity Reserve Fund	10,592,720	Retired Members' Contribution Account
Pension Reserve Fund	13,406,829	Amounts Appropriated to Fund Future Retirement
Pension Fund	82,471,812	Remaining Net Position
Total	<u>\$ 146,119,148</u>	

All reserve accounts are funded at levels required by state law.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
REQUIRED SUPPLEMENTARY INFORMATION  
YEAR ENDED DECEMBER 31, 2018**

**Schedule of Changes in Employer Net Pension Liability and Related Ratios (1)**

	2018	2017	2016	2015	2014
<u>Total Pension Liability (In Thousands)</u>					
Service Cost	\$ 3,566	\$ 3,437	\$ 3,247	\$ 3,129	\$ 2,695
Interest	12,908	11,895	11,623	10,444	9,984
Differences Between Expected and Actual Experience	-	(3,670)	-	(265)	-
Changes of Assumptions	-	8,772	-	7,362	-
Benefit Payments, Including Refunds of Member Contributions	(7,182)	(6,920)	(5,958)	(5,161)	(5,134)
Net Change in Total Pension Liability	9,292	13,514	8,912	15,509	7,545
Total Pension Liability - Beginning	172,135	158,621	149,709	134,200	126,655
Total Pension Liability - Ending (a)	<u>\$ 181,427</u>	<u>\$ 172,135</u>	<u>\$ 158,621</u>	<u>\$ 149,709</u>	<u>\$ 134,200</u>
<u>Plan Fiduciary Net Position (In Thousands)</u>					
Contributions - Employer	\$ 6,527	\$ 6,491	\$ 6,093	\$ 6,065	\$ 3,946
Contributions - Member	3,483	3,477	3,274	3,219	3,176
Net Investment Income	(5,545)	18,137	11,084	(3,354)	4,042
Benefit Payments, Including Refunds of Member Contributions	(7,600)	(7,085)	(5,994)	(5,479)	(5,351)
Reimbursements and Transfers from Other Systems, Net	418	239	36	319	538
Administrative Expense	(444)	(375)	(377)	(364)	(347)
Net Change in Plan Fiduciary Net Position	(3,161)	20,884	14,116	406	6,004
Plan Fiduciary Net Position - Beginning	149,281	128,397	114,281	113,875	107,871
Plan Fiduciary Net Position - Ending (b)	<u>\$ 146,120</u>	<u>\$ 149,281</u>	<u>\$ 128,397</u>	<u>\$ 114,281</u>	<u>\$ 113,875</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 35,307</u>	<u>\$ 22,854</u>	<u>\$ 30,224</u>	<u>\$ 35,428</u>	<u>\$ 20,325</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	80.5%	86.7%	80.9%	76.3%	84.9%
Covered Payroll	\$ 34,506	\$ 33,250	\$ 33,641	\$ 32,430	\$ 28,044
Net Pension Liability as a Percentage of Covered Payroll	102.3%	68.7%	89.8%	109.2%	72.5%

(1) Data is being accumulated annually to present 10 years of the reported information.

See Independent Auditors' Report.

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
REQUIRED SUPPLEMENTARY INFORMATION  
YEAR ENDED DECEMBER 31, 2018**

**Schedule of Employer Contributions  
(In Thousands)**

	2018	2017	2016	2015	2014
Actuarially Determined Contribution	\$ 6,527	\$ 6,491	\$ 6,093	\$ 6,065	\$ 3,946
Contributions in Relation to the Actuarially Determined Contribution	<u>6,527</u>	<u>6,491</u>	<u>6,093</u>	<u>6,065</u>	<u>3,946</u>
Contribution Deficiency (Excess)	<u>\$ -</u>				
Covered Payroll	\$ 34,506	\$ 33,250	\$ 33,641	\$ 32,430	\$ 28,044
Contributions as a Percentage of Covered Payroll	18.9%	19.5%	18.1%	18.7%	14.07%

	2013	2012	2011	2010	2009
Actuarially Determined Contribution	\$ 3,927	\$ 3,169	\$ 3,156	\$ 3,322	\$ 3,297
Contributions in Relation to the Actuarially Determined Contribution	<u>3,927</u>	<u>3,169</u>	<u>3,156</u>	<u>3,322</u>	<u>3,297</u>
Contribution Deficiency (Excess)	<u>\$ -</u>				
Covered Payroll	\$ 28,044	\$ 29,800	\$ 29,800	\$ 28,475	\$ 28,475
Contributions as a Percentage of Covered Payroll	14.00%	10.63%	10.59%	11.67%	11.58%

**Schedule of Investment Returns (1)**

	2018	2017	2016	2015	2014
Annual Money-Weighted Rate of Return, Net of Investment Expense	-1.11%	18.16%	9.64%	-4.04%	3.48%

(1) Data is being accumulated annually to present 10 years of the reported information.

See Independent Auditors' Report.

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO REQUIRED SUPPLEMENTARY INFORMATION  
DECEMBER 31, 2018**

**NOTE 1 ACTUARIALLY DETERMINED CONTRIBUTION – METHODS AND ASSUMPTIONS**

The following actuarial methods and assumptions apply to the 2018 actuarially determined contributions:

Methods:

Actuarial Cost Method	Entry Age Normal
Asset Valuation Method	Fair Value

Assumptions:

Inflation	3.00%
Salary Increases	5.0% grading down to 3.75% after 10 years of service.
Investment Rate of Return	7.5% per year net of investment expenses.
Cost of Living Adjustment	3% of the first \$13,000 of retirement income granted annually.
Mortality	RP-2014 Healthy White Collar Mortability table projected generationally from the year 2006 using MP-2016 (sex-distinct). Disabled mortality is the healthy retiree table set forward two years. Death is assumed to be due to the same cause as the disability 40% of the time.
Retirement Rates	Ages 50-70
Overall Disability	75% ordinary disability; 25% accidental disability.

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**MASSACHUSETTS HOUSING FINANCE AGENCY  
EMPLOYEES' RETIREMENT SYSTEM**

**FINANCIAL STATEMENTS AND  
REQUIRED SUPPLEMENTARY INFORMATION**

**YEAR ENDED DECEMBER 31, 2017**



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## INDEPENDENT AUDITORS' REPORT

Honorable Retirement Board  
Massachusetts Housing Finance Agency Employees' Retirement System  
Boston, Massachusetts

### **Report on the Financial Statements**

We have audited the accompanying financial statements of the Massachusetts Housing Finance Agency Employees' Retirement System (the System), as of and for the year ended December 31, 2017, and the related notes to the financial statements, as listed in the table of contents.

### ***Management's Responsibility for the Financial Statements***

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

### ***Auditors' Responsibility***

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America 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 from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the 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.



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**Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the net position of the System as of December 31, 2017, and the respective change in net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

**Other Matters**

*Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis (located on pages 3 through 6), schedule of changes in employer net pension liability and related ratios, schedule of employer contributions and schedule of investment returns (located on pages 20 and 21) be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the 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 financial statements, and other knowledge we obtained during our audit of the 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 August 28, 2018 on our consideration of the System'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 solely 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 the effectiveness of the System's 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 the System's internal control over financial reporting and compliance.



**CliftonLarsonAllen LLP**

Boston, Massachusetts  
August 28, 2018

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2017**

As management of the Massachusetts Housing Finance Agency Employees' Retirement System (System), we offer readers of these financial statements this narrative overview and analysis of the System's financial activities for the year ended December 31, 2017.

The management's discussion and analysis (MD&A) is presented in the following sections:

1. Financial Highlights
2. Overview of the Financial Statements
3. Financial Statement Analysis

Please refer to the audited *Financial Statements* when reading the MD&A.

***Financial Highlights***

The System's funding objective is to meet long-term benefit obligations through contributions and investment income. As of January 1, 2017, the latest actuarial valuation, the funded ratio was 77.0% based on the actuarial value of assets at that date. As of December 31, 2017, the plan fiduciary net position was 86.7% of the total pension liability.

The System's net position increased by \$20,883,822, or 16.27%, when compared to the prior year's net position. Net position is the residual of the System's assets in excess of the System's liabilities as of the statement date. The System's assets are restricted to meet future benefit payments.

***Overview of the Financial Statements***

The financial statements are comprised of a Statement of Fiduciary Net Position, Statement of Changes in Fiduciary Net Position, Notes to Financial Statements and Required Supplementary Information.

The **statement of fiduciary net position** presents information on the System's assets and liabilities and the resulting net position restricted for pensions. This is calculated using the following formula: Assets – Liabilities = Net Position restricted for pensions. This statement reflects the System's investments at fair value, as well as cash, receivables and other assets and liabilities. The Statement of Fiduciary Net Position reports the financial position of the System at December 31, 2017. Over time, the increase or decrease in net position serves as a useful indicator of the System's financial health.

The **statement of changes in fiduciary net position** presents information showing how the System's net position changed during the year ended December 31, 2017. It reflects contributions by its individual members and participating employer along with deductions for retirement benefits, refunds, withdrawals, and administrative expenses. Investment income during the period is also presented showing income from investing activities.

The **notes to financial statements** provide additional information that is essential for the reader to gain a full understanding of the data provided in the financial statements.

The **required supplementary information** includes a schedule of changes in employer net pension liability and related ratios, a schedule of employer contributions and a schedule of investment returns.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2017**

***Financial Statement Analysis***

The System's total assets as of December 31, 2017 were \$149,488,283 and were comprised of cash and cash equivalents, investments, accrued interest and dividends, and receivables.

Total liabilities as of December 31, 2017 were \$207,882 and represent amounts owed for accounts payable and to MassHousing for reimbursement of the System's payroll, payroll related costs, rent and other operating costs for the period July 1, 2017 through December 31, 2017.

The following tables present current and prior year data on the System's financial statements.

**Fiduciary Net Position**

As noted earlier, net position may serve over time as a useful indicator of a government's financial position. The System's net position was \$149,280,401 at the close of the year and is summarized as follows:

	<u>2017</u>	<u>2016</u>
<b>Assets</b>		
Cash and cash equivalents	\$ 5,334,533	\$ 607,019
Investments	143,904,896	127,684,545
Other assets	<u>248,854</u>	<u>307,748</u>
Total assets	<u>149,488,283</u>	<u>128,599,312</u>
<b>Liabilities</b>		
Accounts payable and payable for securities purchased	64,667	61,053
Due to MassHousing	<u>143,215</u>	<u>141,680</u>
Total liabilities	<u>207,882</u>	<u>202,733</u>
<b>Net Position</b>		
Restricted for pensions	<u>\$ 149,280,401</u>	<u>\$ 128,396,579</u>

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2017**

Changes in Fiduciary Net Position

For the year ended December 31, 2017, the System's total fiduciary net position increased by \$20,883,822. In the prior year, fiduciary net position increased by \$14,115,336. These amounts are summarized as follows:

	<u>2017</u>	<u>2016</u>
<b>Additions</b>		
<i>Contributions:</i>		
Employer	\$ 6,490,693	\$ 6,092,564
Plan members	3,477,064	3,273,801
Reimbursements and transfers from other systems	679,639	447,475
<i>Net investment income:</i>		
Net realized and unrealized gains/(losses)	17,324,225	10,588,302
Interest and dividends	1,754,545	1,525,517
Less investment expense	<u>(941,612)</u>	<u>(1,029,334)</u>
Total additions	<u>28,784,554</u>	<u>20,898,325</u>
<b>Deductions</b>		
Retirement benefits and refunds	7,085,018	5,993,731
Reimbursements and transfers to other systems	440,388	411,820
Administration	<u>375,326</u>	<u>377,438</u>
Total deductions	<u>7,900,732</u>	<u>6,782,989</u>
Change in plan net position	20,883,822	14,115,336
Plan net position - beginning of year	<u>128,396,579</u>	<u>114,281,243</u>
Plan net position - end of year	<u>\$ 149,280,401</u>	<u>\$ 128,396,579</u>

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2017**

**Additions to Fiduciary Net Position**

The amount needed to finance benefits is accumulated through the collection of employer and employee contributions, earnings on investments and reimbursements and transfers from other systems. These additions resulted in an increase to net position totaling \$28,784,554. Employer contributions and plan member contributions increased by approximately \$398,000 and \$203,000, respectively, in 2018 while reimbursements and transfers from other systems increased by approximately \$232,000 when compared to the prior year. The employer contribution increased as a result of the annual actuarially determined contribution to meet the System's funding schedule. The System had net investment income of approximately \$18,137,000 in 2018 due to market conditions; compared to approximately \$11,084,000 in 2017.

**Deductions from Fiduciary Net Position**

The primary deductions of the System include the payment of pension benefits to participants and beneficiaries, refunds of contributions, and the costs of administering the System. Total deductions to net position totaled \$7,900,732 during the current year versus \$6,782,989 in the previous year. The payment of pension benefits increased by \$1,091,287 or 18.2%, over the previous year. The increase in these expenses resulted from an increase in benefit payments to newer retirees with higher average compensation.

**Requests for Information**

This financial report is designed to provide the Board, our membership, taxpayers, investors, and creditors with a general overview of the System's financial results and to demonstrate the System's accountability for the funding it receives. If you have any questions about this report or need additional financial information, contact the Executive Secretary at One Beacon Street, 6<sup>th</sup> floor, Boston, Massachusetts 02108.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
STATEMENT OF FIDUCIARY NET POSITION  
DECEMBER 31, 2017**

<b>Assets</b>	
Cash and Cash Equivalents	\$ 5,334,533
Investments:	
Fixed Income	19,894,343
Pooled Equities	78,811,871
Pooled Fixed Income	17,111,273
Real Estate	15,099,204
Private Equity	12,988,205
Total Investments	<u>143,904,896</u>
Accrued Interest and Dividends	127,577
Receivables:	
Members Make Up and Redeposits	48,682
Securities Sold	<u>72,595</u>
Total Assets	<u>149,488,283</u>
<b>Liabilities</b>	
Accounts Payable	64,667
Due to MassHousing	<u>143,215</u>
Total Liabilities	<u>207,882</u>
<b>Fiduciary Net Position</b>	
Restricted for Pensions	<u>\$ 149,280,401</u>

See accompanying Notes to Financial Statements.

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
YEAR ENDED DECEMBER 31, 2017**

<b>Additions:</b>	
Contributions	
Employer	\$ 6,490,693
Plan members	3,477,064
Reimbursements and transfers from other systems	<u>679,639</u>
Total contributions	10,647,396
Investment income	
Net appreciation in fair value of investments	17,324,225
Interest	1,754,545
Less: investment fees	<u>(941,612)</u>
Net investment income	<u>18,137,158</u>
Total additions	28,784,554
<b>Deductions:</b>	
Retirement benefits and refunds	7,085,018
Reimbursements and transfers to other systems	440,388
Administration	<u>375,326</u>
Total deductions	<u>7,900,732</u>
Change in plan net position	20,883,822
Plan net position restricted for pensions:	
Beginning of year	<u>128,396,579</u>
<b>End of year</b>	<u><u>\$ 149,280,401</u></u>

See accompanying Notes to Financial Statements.

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2017**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**General**

The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The Governmental Accounting Standards Board (GASB) is the standard-setting body for establishing governmental accounting and financial reporting principles. The significant accounting policies are described herein.

**Reporting Entity**

The Massachusetts Housing Finance Agency Employees' Retirement System (System) was established to provide retirement benefits to MassHousing employees and their beneficiaries. The System is governed by a five-member board comprised of MassHousing's Treasurer (ex-officio), two members elected by the System's participants, one member appointed by MassHousing's Board and one member appointed by the System's Board members.

**Measurement Focus and Basis of Accounting**

The System's financial statements are presented using the flow of economic resources measurement focus and use the accrual basis of accounting.

**Cash and Investments**

Cash and cash equivalents are considered to be cash on hand, demand deposits and short-term investments with an original maturity of three months or less from the date of acquisition.

Investments are reported at fair value. Fair value is based on quotations from a national securities exchange except for pooled funds, private equity and real estate investments, for which fair values are estimated as detailed below.

**Pooled Funds**

The fair value of shares in managed investment pools is based on unit value reported by the funds.

**Private Equity and Real Estate**

The fair values of these types of investments have been determined by the third party investment managers using the Net Asset Value (NAV) per share (or its equivalent) on the System's ownership interest in partner's capital.

**Basis of Investment Transactions**

Purchases and sales of investments are recorded on the trade date. Transactions remaining unsettled as of year-end are recorded as payables for securities purchased and as a receivable for securities sold.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2017**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Due to MassHousing**

MassHousing pays the System's employees' weekly payroll. In addition, MassHousing charges the System for payroll related benefits, rent and other operating expenses. At December 31, 2017, \$143,215 is owed to MassHousing for these costs.

**Revenue Recognition**

Contributions are recognized as additions in the period when they become due pursuant to formal commitments, statutory or contractual requirements. Investment income is recognized when earned.

**Benefits and Refunds**

Benefits and refunds are recognized as deductions when incurred.

**Administrative Expenses**

Administrative expenses are financed by investment income.

**Use of Estimates**

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Fair values of real estate funds and private equity investments have been estimated in the absence of readily available market values, and these estimates may be materially different than values that would have been used had a ready market existed.

**NOTE 2 PLAN DESCRIPTION**

**General**

The System is a single employer public employee retirement system established by MassHousing on June 12, 1974, under Massachusetts General Laws (MGL), Chapter 32, and is regulated by the Massachusetts Public Employee Retirement Administration Commission (PERAC). The System is a defined benefit pension plan that covers eligible employees of MassHousing.

Membership in the System is mandatory immediately upon the commencement of employment for all permanent full-time employees working at least 18 ¾ hours weekly. The System has one classification of members (general).

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2017**

**NOTE 2 PLAN DESCRIPTION (CONTINUED)**

Membership in the System was as follows at December 31, 2017:

Active Members	346
Inactive Members	50
Retirees and Beneficiaries Currently Receiving Benefits	153
Total	549

**Significant Plan Provisions and Requirements**

Pursuant to MGL, Chapter 32, the System provides retirement, disability, and death benefits to plan members and their beneficiaries up to a maximum of 80% of a member's final three-year or five-year average salary. In addition to compensation, benefits are based upon a member's age and length of creditable service.

Members of the System become vested after 10 years of creditable service. Normal retirement occurs at age 65 or age 67 (if hired on or after April 2, 2012).

For employees hired prior to April 2, 2012, the annual amount of the retirement allowance is based on the member's final three-year average salary multiplied by (1) the number of years and full months of creditable service at the time of retirement and (2) a percentage based on age at retirement in accordance with a schedule provided by state law. Assuming normal retirement at age 65, this percentage is 2.5%, which is reduced for individuals who retire prior to age 65 to reflect the longer pay out period. A member's final three-year average salary is defined as the greater of the highest consecutive three-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last three years of creditable service prior to retirement.

For employees hired on or after April 2, 2012, the annual amount of the retirement allowance is based on the member's final five-year average salary multiplied by (1) the number of years and full months of creditable service at the time of retirement and (2) a percentage based on age at retirement in accordance with a schedule provided by state law. Assuming normal retirement at age 67, this percentage is 2.5%. A member's final five-year average salary is defined as the greater of the highest consecutive five-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last five years of creditable service prior to retirement.

Employees may elect early retirement after 20 years of service or at any time after attaining age 55 or age 60 with 10 years of eligible service. Plan members who become permanently and totally disabled may be eligible to receive a disability retirement allowance. The amount of benefits to be received depends on several factors, including the member's age, compensation, veteran status, years of service and whether or not the disability is work-related. In addition, certain death benefits exist for beneficiaries of employees who die in active service.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2017**

**NOTE 2 PLAN DESCRIPTION (CONTINUED)**

Pursuant to MGL, Chapter 32, Section 3(8)(c), for members leaving the System's employment to work for other Massachusetts governmental units, the System transfers their accumulated account balances and creditable service to the retirement system of their new employer. Other such retirement systems are in turn required to make comparable transfers to the System for employees coming to work for a participating employer. Liability for the service transfer is not calculated until the member's actual retirement date. Per statute, the actuary considers length of service as well as acceptance of military service credit and salary cap provisions (if applicable) in calculating the liability.

**NOTE 3 DEPOSITS AND INVESTMENTS**

Deposits and investments made by the System are governed by Chapter 32 of the MGL. The System has the ability to invest in equity securities, corporate bonds, real estate and other specified investments in accordance with state laws and regulations.

The Board has the authority for establishing and amending investment policy decisions. Based on the investment objectives and constraints of the System, and based on an annual review of the asset allocation and asset classes, the Board will specify a long-term target allocation for each class of permissible assets. These targets will be expressed as a percentage of the total portfolio, and will have ranges surrounding them, allowing for the portfolio to maintain policy through market fluctuations.

The long-term target allocations are intended as strategic goals. Thus, it is permissible for the overall System's asset allocation to deviate from the long-term target, as would likely occur during manager transitions, asset class restructurings, and other temporary changes in the System. Surplus cash flows are utilized to maintain the asset management structure. Should these cash flows not be sufficient to reallocate the plan according to policy, the transfer of assets may occur between managers. At least annually, the Board reevaluates the portfolio weightings by asset class and adjustments are made accordingly. The following identifies the asset allocation policy as of December 31, 2017:

Asset Class	Target	Range
Pooled Domestic Equity	25%	20-30%
Public Foreign Equity (Large Dev.)	7%	6-14%
Public Foreign Equity (Small Dev.)	3%	6-14%
Public Emerging Market Equity	10%	6-14%
Investment Grade Bonds	10%	6-14%
High Yield Bonds	6%	3-9%
TIPS	6%	4-8%
Emerging Market Debt	5%	3-7%
Real Estate	10%	7-13%
Private Equity	10%	6-14%
Natural Resources and Commodities	3%	1-5%
Core Infrastructure	5%	0-8%

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2017**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Rate of Return**

For the year ended December 31, 2017, the annual money-weighted rate of return on investments, net of investment expense, was 18.16%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

**Deposits - Custodial Credit Risk**

Custodial credit risk for deposits is the risk that, in the event of a bank failure, the System's deposits may not be recovered. The System's policy for custodial credit risk of deposits is to rely on FDIC insurance coverage. As of December 31, 2017, the System was not exposed to custodial credit risk. The carrying value of the System's deposits at December 31, 2017 totaled \$202,696.

**Investments Summary**

The System's investments at December 31, 2017 are presented below. All investments are presented by investment type, with debt securities presented by maturity (using segmented-time distribution).

Investment Type	Total Amount	Investment Maturities (in Years)			
		Less Than 1	1 - 5	6 - 10	More Than 10
<b><u>Debt Securities:</u></b>					
U.S. Treasuries	\$ 3,881,883	\$ 117,734	\$ 898,365	\$ 705,769	\$ 2,160,015
U.S. Agencies	7,257,059	507,341	906,824	586,788	5,256,106
Corporate Bonds	8,755,401	773,640	2,727,532	3,678,594	1,575,635
Money Market Mutual Funds	5,207,883	5,207,883	-	-	-
Pooled Fixed Income	17,111,273	17,111,273	-	-	-
Total Debt Securities	<u>42,213,499</u>	<u>\$ 23,717,871</u>	<u>\$ 4,532,721</u>	<u>\$ 4,971,151</u>	<u>\$ 8,991,756</u>
<b><u>Other Investments:</u></b>					
Pooled Equities	78,811,871				
Real Estate	15,099,204				
Private Equity	12,988,205				
Total Other Investments	<u>106,899,280</u>				
Total Investments	<u>\$ 149,112,779</u>				

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2017**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Investments – Interest Rate Risk of Debt Securities**

Interest rate risk for debt securities is the risk that changes in interest rates of debt securities will adversely affect the fair value of an investment. The System's policy for interest rate risk of debt securities is to use diversification to minimize the exposure to interest rate risks in the aggregate investment portfolio.

**Investments – Custodial Credit Risk**

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty, the System will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The System does not have a policy for custodial credit risk of investments. As of December 31, 2017, the System was not exposed to custodial credit risk.

**Investments – Credit Risk of Debt Securities**

Credit risk for debt securities is the risk that an issuer or other counterparty to a debt security will not fulfill its obligations. The System's policy for credit risk of debt securities is to use diversification to minimize the exposure to credit risks in the aggregate investment portfolio. As of December 31, 2017, the credit quality ratings of the System's debt securities are as follows:

Quality Ratings*	Investment Type				
	Total Amount	U.S. Agencies	Corporate Bonds	Money Market Mutual Funds	Pooled Fixed Income
AAA	\$ 1,605,810	\$ 583,884	\$ 1,021,926	\$ -	\$ -
AA+	1,820,767	1,736,247	84,520	-	-
AA	150,708	-	150,708	-	-
AA-	871,132	109,171	761,961	-	-
A+	462,177	137,146	325,031	-	-
A	1,169,201	135,259	1,033,942	-	-
A-	1,433,287	-	1,433,287	-	-
BBB+	1,704,774	-	1,704,774	-	-
BBB	918,779	189,428	729,351	-	-
Unrated	27,702,876	4,365,924	1,017,796	5,207,883	17,111,273
Total	<u>\$ 38,331,616</u>	<u>\$ 7,257,059</u>	<u>\$ 8,755,401</u>	<u>\$ 5,207,883</u>	<u>\$ 17,111,273</u>

\* Per the rating scale of Standard and Poor's (a nationally recognized statistical rating organization).

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2017**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Deposits and Investments – Foreign Currency Risk**

Foreign currency risk is the risk that fluctuations in exchange rates will adversely affect the fair value of an investment or a deposit. The System's policy for foreign currency risk is to diversify the foreign countries and currencies within its international investment portfolio. As of December 31, 2017, the System had indirect exposure to foreign currency risk for certain equity investments in the amount of approximately \$33,016,000.

**Investments – Concentration of Credit Risk**

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. The System's policy for concentration of credit risk is to use extensive diversification to minimize exposure to company and industry specific risks in the aggregate investment portfolio. As of December 31, 2017, the System was not exposed to concentration of credit risk.

**Investments – Fair Value**

The System 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. The System has the following recurring fair value measurements as of December 31, 2017:

Investment Type	Total Amount	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b><u>Debt Securities</u></b>				
U.S. Treasuries	\$ 3,881,883	\$ 3,881,883	\$ -	\$ -
U.S. Agencies	7,257,059	7,257,059	-	-
Corporate Bonds	8,755,401	-	8,755,401	-
Money Market Mutual Funds	5,207,883	5,207,883	-	-
Pooled Fixed Income Securities	17,111,273	-	17,111,273	-
<b><u>Equity Securities</u></b>				
Equity Mutual Funds	78,811,871	-	78,811,871	-
Total Investments measured at Fair Value	121,025,370	\$ 16,346,825	\$ 104,678,545	\$ -
<b><u>Investments measured at the Net Asset Value (NAV)</u></b>				
Private Equity	12,988,205			
Real Estate	15,099,204			
Total investments measured at NAV	28,087,409			
Total Investments measured at Fair Value	\$ 149,112,779			

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2017**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

The valuation methods for investments measured at the net asset value (NAV) per share or its equivalent are presented on the following table:

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Private Equity (1)	\$ 12,988,205	14,670,721	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>
Real Estate (2)	15,099,204	164,773	N/A <sup>(2)</sup>	N/A <sup>(2)</sup>
Total Investments measured at NAV	<u>\$ 28,087,409</u>			

(1) *Private equity* - This investment type includes investments in 14 private equity funds that invest primarily in private domestic and international companies of diversified industries. The fair value measurements of this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. Approximately 35 percent of the funds can be redeemed quarterly. The remaining 65 percent of the investments can never be redeemed from the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. For the investments in funds that cannot be redeemed, it is expected approximately 10 percent of the underlying assets of the funds will be liquidated over the next 1 to 5 years, with the remaining investments over the next 6 to 10 years.

(2) *Real estate* - This investment type includes investments in 5 funds that invest in real estate. The fair value measurements of this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. Approximately 71 percent of the funds can be redeemed quarterly. The remaining 29 percent of the investments can never be redeemed from the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. For the investments in funds that cannot be redeemed, it is expected that less than one percent of underlying assets of the funds will be liquidated over the next 1 to 5 years, with the remaining investments being liquidated over the next 6 to 10 years.

**NOTE 4 FUNDING POLICY**

Plan members are required to contribute to the System at rates ranging from 5% to 9% of annual compensation, depending on their employment date. Members hired after December 31, 1978 must contribute an additional 2% of regular compensation in excess of \$30,000. These deductions earn interest at a rate determined by PERAC that vest based upon years of service. MassHousing is required to pay into the System 100% of the actuarially determined contribution. For the year ended December 31, 2017, employer contributions totaled \$6,490,693 and plan member contributions totaled \$3,477,064.

Cost-of-living adjustments (COLA) must be granted by the Board and are the responsibility of the System. COLA cannot exceed 3% of the first \$13,000 in benefits, unless the System elects to increase the maximum base retirement allowance in multiples of \$1,000.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2017**

**NOTE 5 NET PENSION LIABILITY**

The components of the net pension liability of the System at December 31, 2017, were as follows:

Total Pension Liability	\$ 172,134,417
Plan Fiduciary Net Position	<u>(149,280,401)</u>
Net Pension Liability	<u>\$ 22,854,016</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	<u>86.7%</u>

**Actuarial Methods and Assumptions**

The total pension liability was determined by performing update procedures to roll the liability forward from the January 1, 2017, actuarial valuation to the December 31, 2017 measurement date. The following actuarial methods and assumptions apply to all periods included in the measurement:

Methods:

Actuarial Cost Method	Entry Age Normal
Asset Valuation Method	Fair Value

Assumptions:

Inflation	3.00%
Salary Increases	5.0% grading down to 3.75% after 10 years of service
Investment Rate of Return	7.5% per year net of investment expenses
Cost of Living Adjustment	3% of the first \$13,000 of retirement income granted annually
Mortality	RP-2014 Healthy White Collar Mortability table projected generationally from the year 2006 using MP-2016 (sex-distinct). Disabled mortality is the healthy retiree table set forward 2 years. Death is assumed to be due to the same cause as the disability 40% of the time.
Retirement Rates	Ages 50-70
Overall Disability	75% ordinary disability; 25% accidental disability

The actuarial assumptions used in the January 1, 2017 valuation were based on the results of the PERAC local experience study for the period 1995 through 2000 and was published in 2002.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2017**

**NOTE 5 NET PENSION LIABILITY (CONTINUED)**

The long-term expected real rate of return reflects the expected rate of return on plan assets minus the expected rate of inflation. The long-term real rate of return removes the effect of inflation on the return amounts. It is a long-term assumption and is meant to reflect a best estimate of future experience, based on the expected asset allocation. Best estimates of geometric rates of return for each major asset class included in the System's target asset allocation as of December 31, 2017 are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return (%)
Pooled Domestic Equity	4.5
Public Foreign Equity (Large Dev.)	4.3
Public Foreign Equity (Small Dev.)	3.5
Public Emerging Market Equity	6.5
Investment Grade Bonds	0.9
High Yield Bonds	2.6
TIPS	0.6
Emerging Market Debt	2.4
Real Estate	3.9
Private Equity	6.4
Natural Resources and Commodities	4.4
Core Infrastructure	3.8

**Discount Rate**

The discount rate used to measure the total pension liability was 7.50%. 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 MassHousing's contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

**Sensitivity of the Net Pension Liability to Changes in the Discount Rate**

The following presents the net pension liability of MassHousing calculated using the discount rate of 7.50%, as well as what MassHousing's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability	\$ 38,619,522	\$ 22,854,016	\$ 11,077,420

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2017**

**NOTE 6 LEGALLY REQUIRED RESERVE ACCOUNTS**

The balance in the System's legally required reserves as of December 31, 2017 are as follows:

Description	Amount	Purpose
Annuity Savings Fund	\$ 39,086,077	Active Members' Contribution Balance
Annuity Reserve Fund	9,400,150	Retired Members' Contribution Account
Pension Reserve Fund	11,980,682	Amounts Appropriated to Fund Future Retirement
Pension Fund	88,813,492	Remaining Net Position
Total	<u>\$ 149,280,401</u>	

All reserve accounts are funded at levels required by state law.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
REQUIRED SUPPLEMENTARY INFORMATION  
YEAR ENDED DECEMBER 31, 2017**

**Schedule of Changes in Employer Net Pension Liability and Related Ratios (1)**

	2017	2016	2015	2014
<u>Total Pension Liability (In Thousands)</u>				
Service Cost	\$ 3,437	\$ 3,247	\$ 3,129	\$ 2,695
Interest	11,895	11,623	10,444	9,984
Differences Between Expected and Actual Experience	(3,670)	-	(265)	-
Changes of Assumptions	8,772	-	7,362	-
Benefit Payments, Including Refunds of Member Contributions	(6,920)	(5,958)	(5,161)	(5,134)
Net Change in Total Pension Liability	13,514	8,912	15,509	7,545
Total Pension Liability - Beginning	158,621	149,709	134,200	126,655
Total Pension Liability - Ending (a)	<u>\$ 172,135</u>	<u>\$ 158,621</u>	<u>\$ 149,709</u>	<u>\$ 134,200</u>
<u>Plan Fiduciary Net Position (In Thousands)</u>				
Contributions - Employer	\$ 6,491	\$ 6,093	\$ 6,065	\$ 3,946
Contributions - Member	3,477	3,274	3,219	3,176
Net Investment Income	18,137	11,084	(3,354)	4,042
Benefit Payments, Including Refunds of Member Contributions	(7,085)	(5,994)	(5,479)	(5,351)
Reimbursements and Transfers from Other Systems, Net	239	36	319	538
Administrative Expense	(375)	(377)	(364)	(347)
Net Change in Plan Fiduciary Net Position	20,884	14,116	406	6,004
Plan Fiduciary Net Position - Beginning	128,397	114,281	113,875	107,871
Plan Fiduciary Net Position - Ending (b)	<u>\$ 149,281</u>	<u>\$ 128,397</u>	<u>\$ 114,281</u>	<u>\$ 113,875</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 22,854</u>	<u>\$ 30,224</u>	<u>\$ 35,428</u>	<u>\$ 20,325</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	86.7%	80.9%	76.3%	84.9%
Covered Payroll	\$ 33,250	\$ 33,641	\$ 32,430	\$ 28,044
Net Pension Liability as a Percentage of Covered Payroll	68.7%	89.8%	109.2%	72.5%

(1) Data is being accumulated annually to present 10 years of the reported information.

*See accompanying independent auditors' report.*

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
REQUIRED SUPPLEMENTARY INFORMATION  
YEAR ENDED DECEMBER 31, 2017**

**Schedule of Employer Contributions  
(In Thousands)**

	2017	2016	2015	2014	2013
Actuarially Determined Contribution	\$ 6,491	\$ 6,093	\$ 6,065	\$ 3,946	\$ 3,927
Contributions in Relation to the Actuarially Determined Contribution	<u>6,491</u>	<u>6,093</u>	<u>6,065</u>	<u>3,946</u>	<u>3,927</u>
Contribution Deficiency (Excess)	<u>\$ -</u>				
Covered Payroll	\$ 33,250	\$ 33,641	\$ 32,430	\$ 28,044	\$ 28,044
Contributions as a Percentage of Covered Payroll	19.5%	18.1%	18.7%	14.07%	14.00%

(continued)

	2012	2011	2010	2009	2008
Actuarially Determined Contribution	\$ 3,169	\$ 3,156	\$ 3,322	\$ 3,297	\$ 1,632
Contributions in Relation to the Actuarially Determined Contribution	<u>3,169</u>	<u>3,156</u>	<u>3,322</u>	<u>3,297</u>	<u>1,632</u>
Contribution Deficiency (Excess)	<u>\$ -</u>				
Covered Payroll	\$ 29,800	\$ 29,800	\$ 28,475	\$ 28,475	\$ 25,600
Contributions as a Percentage of Covered Payroll	10.63%	10.59%	11.67%	11.58%	6.38%

(concluded)

**Schedule of Investment Returns (1)**

	2017	2016	2015	2014
Annual Money-Weighted Rate of Return, Net of Investment Expense	18.16%	9.64%	-4.04%	3.48%

(1) Data is being accumulated annually to present 10 years of the reported information.

*See accompanying independent auditors' report.*

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
 NOTES TO REQUIRED SUPPLEMENTARY INFORMATION  
 YEAR ENDED DECEMBER 31, 2017**

**NOTE 1 ACTUARIALLY DETERMINED CONTRIBUTION – METHODS AND ASSUMPTIONS**

The following actuarial methods and assumptions apply to the 2017 actuarially determined contributions:

Methods:

Actuarial Cost Method	Entry Age Normal
Asset Valuation Method	Fair Value

Assumptions:

Inflation	3.00%
Salary Increases	5.0% grading down to 3.75% after 10 years of service
Investment Rate of Return	7.5% per year net of investment expenses
Cost of Living Adjustment	3% of the first \$13,000 of retirement income granted annually
Mortality	RP-2014 Healthy White Collar Mortability table projected generationally from the year 2006 using MP-2016 (sex-distinct). Disabled mortality is the healthy retiree table set forward 2 years. Death is assumed to be due to the same cause as the disability 40% of the time.
Retirement Rates	Ages 50-70
Overall Disability	75% ordinary disability; 25% accidental disability

**MASSACHUSETTS HOUSING FINANCE AGENCY  
EMPLOYEES' RETIREMENT SYSTEM**

**FINANCIAL STATEMENTS AND  
REQUIRED SUPPLEMENTARY INFORMATION**

**YEAR ENDED DECEMBER 31, 2016**



**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
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## INDEPENDENT AUDITORS' REPORT

Honorable Retirement Board  
Massachusetts Housing Finance Agency Employees' Retirement System  
Boston, Massachusetts

### **Report on the Financial Statements**

We have audited the accompanying financial statements of the Massachusetts Housing Finance Agency Employees' Retirement System (the System), as of and for the year ended December 31, 2016, and the related notes to the financial statements, as listed in the table of contents.

### ***Management's Responsibility for the Financial Statements***

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

### ***Auditors' Responsibility***

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America 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 from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the 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.



(1)

**Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the net position of the System as of December 31, 2016, and the respective change in net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

**Emphasis of Matter**

As discussed in Note 1 to the financial statements, the System implemented Governmental Accounting Standards Board Statement No. 72, *Fair Value Measurement and Application*. 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 (located on pages 3 through 6), schedule of changes in employer net pension liability and related ratios, schedule of employer contributions and schedule of investment returns (located on pages 20 and 21) be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the 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 financial statements, and other knowledge we obtained during our audit of the 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 September 6, 2017 on our consideration of the System'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 solely 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 the effectiveness of the System's 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 the System's internal control over financial reporting and compliance.



**CliftonLarsonAllen LLP**

Boston, Massachusetts  
September 6, 2017

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2016**

As management of the Massachusetts Housing Finance Agency Employees' Retirement System (System), we offer readers of these financial statements this narrative overview and analysis of the System's financial activities for the year ended December 31, 2016.

The management's discussion and analysis (MD&A) is presented in the following sections:

1. Financial Highlights
2. Overview of the Financial Statements
3. Financial Statement Analysis

Please refer to the audited *Financial Statements* when reading the MD&A.

***Financial Highlights***

The System's funding objective is to meet long-term benefit obligations through contributions and investment income. As of January 1, 2017, the latest actuarial valuation, the funded ratio was 77.0% based on the actuarial value of assets at that date. As of December 31, 2016, the plan fiduciary net position was 80.9% of the total pension liability.

The System's net position increased by \$14,115,336, or 12.4%, when compared to the prior year's net position. Net position is the residual of the System's assets in excess of the System's liabilities as of the statement date. The System's assets are restricted to meet future benefit payments.

***Overview of the Financial Statements***

The financial statements are comprised of a Statement of Fiduciary Net Position, Statement of Changes in Fiduciary Net Position, Notes to Financial Statements and Required Supplementary Information.

The **statement of fiduciary net position** presents information on the System's assets and liabilities and the resulting net position restricted for pensions. This is calculated using the following formula: Assets – Liabilities = Net Position restricted for pensions. This statement reflects the System's investments at fair value, as well as cash, receivables and other assets and liabilities. The Statement of Fiduciary Net Position reports the financial position of the System at December 31, 2016. Over time, the increase or decrease in net position serves as a useful indicator of the System's financial health.

The **statement of changes in fiduciary net position** presents information showing how the System's net position changed during the year ended December 31, 2016. It reflects contributions by its individual members and participating employer along with deductions for retirement benefits, refunds, withdrawals, and administrative expenses. Investment income during the period is also presented showing income from investing activities.

The **notes to financial statements** provide additional information that is essential for the reader to gain a full understanding of the data provided in the financial statements.

The **required supplementary information** includes a schedule of changes in employer net pension liability and related ratios, a schedule of employer contributions and a schedule of investment returns.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2016**

***Financial Statement Analysis***

The System's total assets as of December 31, 2016 were \$128,599,312 and were comprised of cash and cash equivalents, investments, accrued interest and dividends, receivables, and prepaid expenses.

Total liabilities as of December 31, 2016 were \$202,733 and represent amounts owed for accounts payable and payables for securities purchased and to MassHousing for reimbursement of the System's payroll, payroll related costs, rent and other operating costs for the period July 1, 2016 through December 31, 2016.

The following tables present current and prior year data on the System's financial statements.

**Fiduciary Net Position**

As noted earlier, net position may serve over time as a useful indicator of a government's financial position. The System's net position was \$128,396,579 at the close of the year and is summarized as follows:

	2016	2015
<b>Assets</b>		
Cash and cash equivalents	\$ 607,019	\$ 554,607
Investments	127,684,545	113,732,581
Other assets	307,748	188,059
Total assets	128,599,312	114,475,247
<b>Liabilities</b>		
Accounts payable and payable for securities purchased	61,053	46,924
Due to MassHousing	141,680	147,080
Total liabilities	202,733	194,004
<b>Net Position</b>		
Restricted for pensions	\$ 128,396,579	\$ 114,281,243

(4)

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2016**

Changes in Fiduciary Net Position

For the year ended December 31, 2016, the System's total fiduciary net position increased by \$14,115,336. In the prior year, fiduciary net position increased by \$406,004. These amounts are summarized as follows:

	<u>2016</u>	<u>2015</u>
<b>Additions</b>		
<i>Contributions:</i>		
Employer	\$ 6,092,564	\$ 6,064,900
Plan members	3,273,801	3,219,256
Reimbursements and transfers from other systems	447,475	553,557
<i>Net investment income:</i>		
Net realized and unrealized gains/(losses)	10,588,302	(3,873,872)
Interest and dividends	1,525,517	1,460,841
Less investment expense	<u>(1,029,334)</u>	<u>(940,819)</u>
<b>Total additions</b>	<u>20,898,325</u>	<u>6,483,863</u>
<b>Deductions</b>		
Retirement benefits and refunds	5,993,731	5,479,399
Reimbursements and transfers to other systems	411,820	234,706
Administration	<u>377,438</u>	<u>363,754</u>
<b>Total deductions</b>	<u>6,782,989</u>	<u>6,077,859</u>
<b>Change in plan net position</b>	14,115,336	406,004
<b>Plan net position - beginning of year</b>	<u>114,281,243</u>	<u>113,875,239</u>
<b>Plan net position - end of year</b>	<u>\$ 128,396,579</u>	<u>\$ 114,281,243</u>

**Additions to Fiduciary Net Position**

The amount needed to finance benefits is accumulated through the collection of employer and employee contributions, earnings on investments and reimbursements and transfers from other systems. These additions resulted in an increase to net position totaling \$20,898,325. Employer contributions and plan member contributions increased by approximately \$28,000 and \$55,000, respectively, in 2016 while reimbursements and transfers from other systems decreased by approximately \$106,000 when compared to the prior year. The employer contribution increased as a result of the annual actuarially determined contribution to meet the System's funding schedule. The System had net investment income of approximately \$11,084,000 in 2016 due to market conditions; compared to a loss of approximately \$3,354,000 in 2015.

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2016**

**Deductions from Fiduciary Net Position**

The primary deductions of the System include the payment of pension benefits to participants and beneficiaries, refunds of contributions, and the costs of administering the System. Total deductions to net position totaled \$6,782,989 during the current year versus \$6,077,859 in the previous year. The payment of pension benefits increased by \$514,332, or 9.4%, over the previous year. The increase in these expenses resulted from an increase in benefit payments to newer retirees with higher average compensation.

**Requests for Information**

This financial report is designed to provide the Board, our membership, taxpayers, investors, and creditors with a general overview of the System's financial results and to demonstrate the System's accountability for the funding it receives. If you have any questions about this report or need additional financial information, contact the Executive Secretary at One Beacon Street, 6<sup>th</sup> floor, Boston, Massachusetts 02108.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM**  
**STATEMENT OF FIDUCIARY NET POSITION**  
**DECEMBER 31, 2016**

<b>Assets</b>	
Cash and Cash Equivalents	\$ 607,019
Investments:	
Fixed Income	17,111,317
Pooled Equities	66,785,151
Pooled Fixed Income	16,788,892
Real Estate	9,720,790
Private Equity	17,278,395
Total Investments	<u>127,684,545</u>
Accrued Interest and Dividends	96,175
Receivables:	
Members Make Up and Redeposits	51,136
Securities Sold	145,036
Prepaid Expenses	<u>15,400</u>
Total Assets	<u>128,599,311</u>
<b>Liabilities</b>	
Accounts Payable	49,121
Payable for Securities Purchased	11,931
Due to MassHousing	<u>141,680</u>
Total Liabilities	<u>202,732</u>
<b>Fiduciary Net Position</b>	
Restricted for Pensions	<u><u>\$ 128,396,579</u></u>

See accompanying Notes to Financial Statements.

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
YEAR ENDED DECEMBER 31, 2016**

<b>Additions:</b>	
Contributions	
Employer	\$ 6,092,564
Plan members	3,273,801
Reimbursements and transfers from other systems	<u>447,475</u>
Total contributions	9,813,840
Investment income	
Net appreciation in fair value of investments	10,588,302
Interest	1,525,517
Less: investment fees	<u>(1,029,334)</u>
Total investment income	<u>11,084,485</u>
Total additions	20,898,325
<b>Deductions:</b>	
Retirement benefits and refunds	5,993,731
Reimbursements and transfers to other systems	411,820
Administration	<u>377,438</u>
Total deductions	<u>6,782,989</u>
Change in plan net position	14,115,336
Plan net position restricted for pensions:	
Beginning of year	<u>114,281,243</u>
<b>End of year</b>	<u><u>\$ 128,396,579</u></u>

See accompanying Notes to Financial Statements.

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**General**

The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The Governmental Accounting Standards Board (GASB) is the standard-setting body for establishing governmental accounting and financial reporting principles. The significant accounting policies are described herein.

**Reporting Entity**

The Massachusetts Housing Finance Agency Employees' Retirement System (System) was established to provide retirement benefits to MassHousing employees and their beneficiaries. The System is governed by a five-member board comprised of MassHousing's Treasurer (ex-officio), two members elected by the System's participants, one member appointed by MassHousing's Board and one member appointed by the System's Board members.

**Measurement Focus and Basis of Accounting**

The System's financial statements are presented using the flow of economic resources measurement focus and use the accrual basis of accounting.

**Cash and Investments**

Cash and cash equivalents are considered to be cash on hand, demand deposits and short-term investments with an original maturity of three months or less from the date of acquisition.

Investments are reported at fair value. Fair value is based on quotations from a national securities exchange except for pooled funds, private equity and real estate investments, for which fair values are estimated as detailed below.

**Pooled Funds**

The fair value of shares in managed investment pools is based on unit value reported by the funds.

**Private Equity and Real Estate**

The fair values of these types of investments have been determined by the third party investment managers using the Net Asset Value (NAV) per share (or its equivalent) on the System's ownership interest in partner's capital.

**Basis of Investment Transactions**

Purchases and sales of investments are recorded on the trade date. Transactions remaining unsettled as of year-end are recorded as payables for securities purchased and as a receivable for securities sold.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Due to MassHousing**

MassHousing pays the System's employees' weekly payroll. In addition, MassHousing charges the System for payroll related benefits, rent and other operating expenses. At December 31, 2016, \$141,680 is owed to MassHousing for these costs.

**Revenue Recognition**

Contributions are recognized as additions in the period when they become due pursuant to formal commitments, statutory or contractual requirements. Investment income is recognized when earned.

**Benefits and Refunds**

Benefits and refunds are recognized as deductions when incurred.

**Administrative Expenses**

Administrative expenses are financed by investment income.

**Implementation of GASB Pronouncements**

During 2016, the System implemented GASB Statement No. 72, *Fair Value Measurement and Application*, which provides guidance for applying fair value to certain investments and disclosures related to all fair value measurements. The implementation of this pronouncement did not impact the System's beginning net position.

**Use of Estimates**

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Fair values of real estate funds and private equity investments have been estimated in the absence of readily available market values, and these estimates may be materially different than values that would have been used had a ready market existed.

**NOTE 2 PLAN DESCRIPTION**

**General**

The System is a single employer public employee retirement system established by MassHousing on June 12, 1974, under Massachusetts General Laws (MGL), Chapter 32, and is regulated by the Massachusetts Public Employee Retirement Administration Commission (PERAC). The System is a defined benefit pension plan that covers eligible employees of MassHousing.

Membership in the System is mandatory immediately upon the commencement of employment for all permanent full-time employees working at least 18 <sup>3</sup>/<sub>4</sub> hours weekly. The System has one classification of members (general).

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 2 PLAN DESCRIPTION (CONTINUED)**

Membership in the System was as follows at December 31, 2016:

Active Members	342
Inactive Members	55
Retirees and Beneficiaries Currently Receiving Benefits	151
Total	548

**Significant Plan Provisions and Requirements**

Pursuant to MGL, Chapter 32, the System provides retirement, disability, and death benefits to plan members and their beneficiaries up to a maximum of 80% of a member's final three-year or five-year average salary. In addition to compensation, benefits are based upon a member's age and length of creditable service.

Members of the System become vested after 10 years of creditable service. Normal retirement occurs at age 65 or age 67 (if hired on or after April 2, 2012).

For employees hired prior to April 2, 2012, the annual amount of the retirement allowance is based on the member's final three-year average salary multiplied by (1) the number of years and full months of creditable service at the time of retirement and (2) a percentage based on age at retirement in accordance with a schedule provided by state law. Assuming normal retirement at age 65, this percentage is 2.5%, which is reduced for individuals who retire prior to age 65 to reflect the longer pay out period. A member's final three-year average salary is defined as the greater of the highest consecutive three-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last three years of creditable service prior to retirement.

For employees hired on or after April 2, 2012, the annual amount of the retirement allowance is based on the member's final five-year average salary multiplied by (1) the number of years and full months of creditable service at the time of retirement and (2) a percentage based on age at retirement in accordance with a schedule provided by state law. Assuming normal retirement at age 67, this percentage is 2.5%. A member's final five-year average salary is defined as the greater of the highest consecutive five-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last five years of creditable service prior to retirement.

Employees may elect early retirement after 20 years of service or at any time after attaining age 55 or age 60 with 10 years of eligible service. Plan members who become permanently and totally disabled may be eligible to receive a disability retirement allowance. The amount of benefits to be received depends on several factors, including the member's age, compensation, veteran status, years of service and whether or not the disability is work-related. In addition, certain death benefits exist for beneficiaries of employees who die in active service.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 2 PLAN DESCRIPTION (CONTINUED)**

Pursuant to MGL, Chapter 32, Section 3(8)(c), for members leaving the System's employment to work for other Massachusetts governmental units, the System transfers their accumulated account balances and creditable service to the retirement system of their new employer. Other such retirement systems are in turn required to make comparable transfers to the System for employees coming to work for a participating employer. Liability for the service transfer is not calculated until the member's actual retirement date. Per statute, the actuary considers length of service as well as acceptance of military service credit and salary cap provisions (if applicable) in calculating the liability.

**NOTE 3 DEPOSITS AND INVESTMENTS**

Deposits and investments made by the System are governed by Chapter 32 of the MGL. The System has the ability to invest in equity securities, corporate bonds, real estate and other specified investments in accordance with state laws and regulations.

The Board has the authority for establishing and amending investment policy decisions. Based on the investment objectives and constraints of the System, and based on an annual review of the asset allocation and asset classes, the Board will specify a long-term target allocation for each class of permissible assets. These targets will be expressed as a percentage of the total portfolio, and will have ranges surrounding them, allowing for the portfolio to maintain policy through market fluctuations.

The long-term target allocations are intended as strategic goals. Thus, it is permissible for the overall System's asset allocation to deviate from the long-term target, as would likely occur during manager transitions, asset class restructurings, and other temporary changes in the System. Surplus cash flows are utilized to maintain the asset management structure. Should these cash flows not be sufficient to reallocate the plan according to policy, the transfer of assets may occur between managers. At least annually, the Board reevaluates the portfolio weightings by asset class and adjustments are made accordingly. The following identifies the asset allocation policy as of December 31, 2016:

Asset Class	Target	Range
Pooled Domestic Equity	25%	20-30%
Public Foreign Equity (Large Dev.)	7%	6-14%
Public Foreign Equity (Small Dev.)	3%	6-14%
Public Emerging Market Equity	10%	6-14%
Investment Grade Bonds	15%	12-18%
High Yield Bonds	6%	3-9%
TIPS	6%	4-8%
Emerging Market Debt	5%	3-7%
Real Estate	10%	7-13%
Private Equity	8%	5-11%
Natural Resources and Commodities	5%	3-7%

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**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Rate of Return**

For the year ended December 31, 2016, the annual money-weighted rate of return on investments, net of investment expense, was 9.64%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

**Deposits - Custodial Credit Risk**

Custodial credit risk for deposits is the risk that, in the event of a bank failure, the System's deposits may not be recovered. The System's policy for custodial credit risk of deposits is to rely on FDIC insurance coverage. As of December 31, 2016, the System was not exposed to custodial credit risk.

**Investments Summary**

The System's investments at December 31, 2016 are presented below. All investments are presented by investment type, with debt securities presented by maturity (using segmented-time distribution).

Investment Type	Total Amount	Investment Maturities (in Years)			
		Less Than 1	1 - 5	6 - 10	More Than 10
<u>Debt Securities:</u>					
U.S. Treasuries	\$ 2,596,805	\$ 552,540	\$ 719,439	\$ 285,887	\$ 1,038,939
U.S. Agencies	6,547,954	-	1,195,429	349,012	5,003,513
Corporate Bonds	7,966,558	264,381	3,518,148	2,863,039	1,320,990
Money Market Mutual Funds	494,694	494,694	-	-	-
Pooled Fixed Income	16,788,892	16,788,892	-	-	-
Total Debt Securities	<u>34,394,903</u>	<u>\$ 18,100,507</u>	<u>\$ 5,433,016</u>	<u>\$ 3,497,938</u>	<u>\$ 7,363,442</u>
<u>Other Investments:</u>					
Pooled Equities	66,785,151				
Real Estate	9,720,790				
Private Equity	17,278,395				
Total Other Investments	<u>93,784,336</u>				
Total Investments	<u>\$ 128,179,239</u>				

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Investments – Interest Rate Risk of Debt Securities**

Interest rate risk for debt securities is the risk that changes in interest rates of debt securities will adversely affect the fair value of an investment. The System's policy for interest rate risk of debt securities is to use diversification to minimize the exposure to interest rate risks in the aggregate investment portfolio.

**Investments – Custodial Credit Risk**

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty, the System will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The System does not have a policy for custodial credit risk of investments. As of December 31, 2016, the System was not exposed to custodial credit risk.

**Investments – Credit Risk of Debt Securities**

Credit risk for debt securities is the risk that an issuer or other counterparty to a debt security will not fulfill its obligations. The System's policy for credit risk of debt securities is to use diversification to minimize the exposure to credit risks in the aggregate investment portfolio. As of December 31, 2016, the credit quality ratings of the System's debt securities are as follows:

Quality Ratings*	Investment Type				
	Total Amount	U.S. Agencies	Corporate Bonds	Money Market Mutual Funds	Pooled Fixed Income
AAA	\$ 1,251,387	\$ -	\$ 1,251,387	\$ -	\$ -
AA+	1,696,175	1,468,232	227,943	-	-
AA	47,918	-	47,918	-	-
AA-	678,873	-	678,873	-	-
A+	339,484	-	339,484	-	-
A	1,383,680	-	1,383,680	-	-
A-	1,452,940	-	1,452,940	-	-
BBB+	1,648,583	-	1,648,583	-	-
BBB	898,682	-	898,682	-	-
Unrated	22,400,376	5,079,722	37,068	494,694	16,788,892
Total	<u>\$ 31,798,098</u>	<u>\$ 6,547,954</u>	<u>\$ 7,966,558</u>	<u>\$ 494,694</u>	<u>\$ 16,788,892</u>

\* Per the rating scale of Standard and Poor's (a nationally recognized statistical rating organization).

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Deposits and Investments – Foreign Currency Risk**

Foreign currency risk is the risk that fluctuations in exchange rates will adversely affect the fair value of an investment or a deposit. The System's policy for foreign currency risk is to diversify the foreign countries and currencies within its international investment portfolio. As of December 31, 2016, the System had indirect exposure to foreign currency risk for certain equity investments in the amount of approximately \$23,774,000.

**Investments – Concentration of Credit Risk**

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. The System's policy for concentration of credit risk is to use extensive diversification to minimize exposure to company and industry specific risks in the aggregate investment portfolio. As of December 31, 2016, the System was not exposed to concentration of credit risk.

**Investments – Fair Value**

The System 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. The System has the following recurring fair value measurements as of December 31, 2016:

Investment Type	Total Amount	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b><u>Debt Securities</u></b>				
U.S. Treasuries	\$ 2,596,805	\$ 2,596,805	\$ -	\$ -
U.S. Agencies	6,547,954	6,547,954	-	-
Corporate Bonds	7,966,558	-	7,966,558	-
Money Market Mutual Funds	494,694	494,694	-	-
Pooled Fixed Income Securities	16,788,892	-	16,788,892	-
<b><u>Equity Securities</u></b>				
Equity Mutual Funds	66,785,151	-	66,785,151	-
Total Investments measured at Fair Value	101,180,054	\$ 9,639,453	\$ 91,540,601	\$ -
<b><u>Investments measured at the Net Asset Value (NAV)</u></b>				
Private Equity	17,278,395			
Real Estate	9,720,790			
Total investments measured at NAV	26,999,185			
Total Investments measured at Fair Value	\$ 128,179,239			

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 3 DEPOSITS AND INVESTMENTS (CONTINUED)**

The valuation methods for investments measured at the net asset value (NAV) per share or its equivalent are presented on the following table:

	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice Period
Private Equity (1)	\$ 17,278,395	18,619,022	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>
Real Estate (2)	9,720,790	175,227	N/A <sup>(2)</sup>	N/A <sup>(2)</sup>
Total Investments measured at NAV	<u>\$ 26,999,185</u>			

(1) *Private equity* - This investment type includes investments in 14 private equity funds that invest primarily in private domestic and international companies of diversified industries. The fair value measurements of this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. Approximately 39 percent of the funds can be redeemed quarterly. The remaining 61 percent of the investments can never be redeemed from the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. For the investments in funds that cannot be redeemed, it is expected approximately 14 percent of the underlying assets of the funds will be liquidated over the next 1 to 5 years, with the remaining investments over the next 6 to 10 years.

(2) *Real estate* - This investment type includes investments in 4 funds that invest in real estate. The fair value measurements of this type have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. Approximately 53 percent of the funds can be redeemed quarterly. The remaining 47 percent of the investments can never be redeemed from the funds. Distributions from each fund will be received as the underlying investments of the funds are liquidated. For the investments in funds that cannot be redeemed, it is expected that less than one percent of underlying assets of the funds will be liquidated over the next 1 to 5 years, with the remaining investments being liquidated over the next 6 to 10 years.

**NOTE 4 FUNDING POLICY**

Plan members are required to contribute to the System at rates ranging from 5% to 9% of annual compensation, depending on their employment date. Members hired after December 31, 1978 must contribute an additional 2% of regular compensation in excess of \$30,000. These deductions earn interest at a rate determined by PERAC that vest based upon years of service. MassHousing is required to pay into the System 100% of the actuarially determined contribution. For the year ended December 31, 2016, employer contributions totaled \$6,092,564 and plan member contributions totaled \$3,273,801.

Cost-of-living adjustments (COLA) must be granted by the Board and are the responsibility of the System. COLA cannot exceed 3% of the first \$13,000 in benefits, unless the System elects to increase the maximum base retirement allowance in multiples of \$1,000.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 5 NET PENSION LIABILITY**

The components of the net pension liability of the System at December 31, 2016, were as follows:

Total Pension Liability	\$ 158,620,314
Plan Fiduciary Net Position	<u>(128,396,579)</u>
Net Pension Liability	<u>\$ 30,223,735</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	<u>80.9%</u>

**Actuarial Methods and Assumptions**

The total pension liability was determined by performing update procedures to roll the liability forward from the January 1, 2015, actuarial valuation to the December 31, 2016 measurement date. The following actuarial methods and assumptions apply to all periods included in the measurement:

Methods:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Closed - Approximate level percent of payroll
Remaining Amortization Period	7 years for the fresh start base
Asset Valuation Method	Market Value of Assets (adjusted by accounts payable and receivable)

Assumptions:

Inflation	3.00%
Salary Increases	5.0% per year grading down to 3.5% per year after 8 years of service
Investment Rate of Return	7.75% per year
Cost of Living Adjustment	3% of the first \$13,000 of retirement income granted annually
Mortality	RP-2000 table projected with scale BB and Generational Mortality. For members retired under an accidental disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality is the healthy retiree table ages set forward 2 years.
Retirement Rates	Ages 55 -70
Overall Disability	75% ordinary disability; 25% accidental disability

The actuarial assumptions used in the January 1, 2015 valuation were based on the results of an actuarial experience study for the period January 1, 2014 through December 31, 2014.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 5 NET PENSION LIABILITY (CONTINUED)**

The long-term expected real rate of return reflects the expected rate of return on plan assets minus the expected rate of inflation. Note that the discount rate includes the effect of inflation. The long-term real rate of return removes the effect of inflation on the return amounts. It is a long-term assumption and is meant to reflect a best estimate of future experience, based on the expected asset allocation. Best estimates of rates of return for each major asset class included in the System's target asset allocation as of December 31, 2016 are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return (%)
Pooled Domestic Equity	4.9
Public Foreign Equity (Large Dev.)	4.7
Public Foreign Equity (Small Dev.)	3.9
Public Emerging Market Equity	7.2
Investment Grade Bonds	0.9
High Yield Bonds	3.4
TIPS	0.9
Emerging Market Debt	3.3
Real Estate	4.3
Private Equity	7.0
Natural Resources and Commodities	4.4

**Discount Rate**

The discount rate used to measure the total pension liability was 7.75%. 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 MassHousing's contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

**Sensitivity of the Net Pension Liability to Changes in the Discount Rate**

The following presents the net pension liability of MassHousing calculated using the discount rate of 7.75%, as well as what MassHousing's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.75%) or 1-percentage-point higher (8.75%) than the current rate:

	1% Decrease (6.75%)	Current Discount Rate (7.75%)	1% Increase (8.75%)
Net Pension Liability	\$ 45,473,237	\$ 30,223,735	\$ 18,339,526

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 6 LEGALLY REQUIRED RESERVE ACCOUNTS**

The balance in the System's legally required reserves as of December 31, 2016 are as follows:

Description	Amount	Purpose
Annuity Savings Fund	\$ 37,844,003	Active Members' Contribution Balance
Annuity Reserve Fund	9,065,452	Retired Members' Contribution Account
Pension Reserve Fund	10,168,822	Amounts Appropriated to Fund Future Retirement
Pension Fund	71,318,302	Remaining Net Position
Total	<u>\$ 128,396,579</u>	

All reserve accounts are funded at levels required by state law.

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
REQUIRED SUPPLEMENTARY INFORMATION  
YEAR ENDED DECEMBER 31, 2016**

**Schedule of Changes in Employer Net Pension Liability and Related Ratios (1)**

	2016	2015	2014
<u>Total Pension Liability (In Thousands)</u>			
Service Cost	\$ 3,247	\$ 3,129	\$ 2,695
Interest	11,623	10,444	9,984
Differences Between Expected and Actual Experience	-	(265)	-
Changes of Assumptions	-	7,362	-
Benefit Payments, Including Refunds of Member Contributions	<u>(5,958)</u>	<u>(5,161)</u>	<u>(5,134)</u>
Net Change in Total Pension Liability	8,912	15,509	7,545
Total Pension Liability - Beginning	<u>149,709</u>	<u>134,200</u>	<u>126,655</u>
Total Pension Liability - Ending (a)	<u>\$ 158,621</u>	<u>\$ 149,709</u>	<u>\$ 134,200</u>
<u>Plan Fiduciary Net Position (In Thousands)</u>			
Contributions - Employer	\$ 6,093	\$ 6,065	\$ 3,946
Contributions - Member	3,274	3,219	3,176
Net Investment Income	11,084	(3,354)	4,042
Benefit Payments, Including Refunds of Member Contributions	(5,994)	(5,479)	(5,351)
Reimbursements and Transfers from Other Systems, Net	36	319	538
Administrative Expense	<u>(377)</u>	<u>(364)</u>	<u>(347)</u>
Net Change in Plan Fiduciary Net Position	14,116	406	6,004
Plan Fiduciary Net Position - Beginning	<u>114,281</u>	<u>113,875</u>	<u>107,871</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 128,397</u>	<u>\$ 114,281</u>	<u>\$ 113,875</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 30,224</u>	<u>\$ 35,428</u>	<u>\$ 20,325</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	80.9%	76.3%	84.9%
Covered-Employee Payroll	\$ 33,641	\$ 32,430	\$ 28,044
Net Pension Liability as a Percentage of Covered-Employee Payroll	89.8%	109.2%	72.5%

(1) Data is being accumulated annually to present 10 years of the reported information.

*See accompanying independent auditors' report.*

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
REQUIRED SUPPLEMENTARY INFORMATION  
YEAR ENDED DECEMBER 31, 2016**

**Schedule of Employer Contributions  
(In Thousands)**

	2016	2015	2014	2013	2012
Actuarially Determined Contribution	\$ 6,093	\$ 6,065	\$ 3,946	\$ 3,927	\$ 3,169
Contributions in Relation to the Actuarially Determined Contribution	<u>6,093</u>	<u>6,065</u>	<u>3,946</u>	<u>3,927</u>	<u>3,169</u>
Contribution Deficiency (Excess)	<u>\$ -</u>				
Covered-Employee Payroll	\$ 33,641	\$ 32,430	\$ 28,044	\$ 28,044	\$ 29,800
Contributions as a Percentage of Covered-Employee Payroll	18.1%	18.7%	14.07%	14.00%	10.63%
					(continued)
	2011	2010	2009	2008	2007
Actuarially Determined Contribution	\$ 3,156	\$ 3,322	\$ 3,297	\$ 1,632	\$ 1,883
Contributions in Relation to the Actuarially Determined Contribution	<u>3,156</u>	<u>3,322</u>	<u>3,297</u>	<u>1,632</u>	<u>1,883</u>
Contribution Deficiency (Excess)	<u>\$ -</u>				
Covered-Employee Payroll	\$ 29,800	\$ 28,475	\$ 28,475	\$ 25,600	\$ 25,600
Contributions as a Percentage of Covered-Employee Payroll	10.59%	11.67%	11.58%	6.38%	7.36%
					(concluded)

**Schedule of Investment Returns (1)**

	2016	2015	2014
Annual Money-Weighted Rate of Return, Net of Investment Expense	9.64%	-4.04%	3.48%

(1) Data is being accumulated annually to present 10 years of the reported information.

*See accompanying independent auditors' report.*

**MASSACHUSETTS HOUSING FINANCE AGENCY EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO REQUIRED SUPPLEMENTARY INFORMATION  
YEAR ENDED DECEMBER 31, 2016**

**NOTE 1 ACTUARIALLY DETERMINED CONTRIBUTION – METHODS AND ASSUMPTIONS**

The following actuarial methods and assumptions apply to the 2016 actuarially determined contributions:

Methods:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Closed - Approximate level percent of payroll
Remaining Amortization Period	7 years for the fresh start base
Asset Valuation Method	Market Value of Assets (adjusted by accounts payable and receivable)

Assumptions:

Inflation	3.00%
Salary Increases	5.0% per year grading down to 3.5% per year after 8 years of service
Investment Rate of Return	7.75% per year
Cost of Living Adjustment	3% of the first \$13,000 of retirement income granted annually
Mortality	RP-2000 table projected with scale BB and Generational Mortality. For members retired under an accidental disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality is the healthy retiree table ages set forward 2 years.
Retirement Rates	Ages 55 -70
Overall Disability	75% ordinary disability; 25% accidental disability

MASSACHUSETTS HOUSING FINANCE AGENCY  
EMPLOYEES' RETIREMENT SYSTEM

FINANCIAL STATEMENTS AND  
REQUIRED SUPPLEMENTARY INFORMATION

YEAR ENDED DECEMBER 31, 2015



MASSACHUSETTS HOUSING FINANCE AGENCY  
EMPLOYEES' RETIREMENT SYSTEM

FINANCIAL STATEMENTS AND  
REQUIRED SUPPLEMENTARY INFORMATION

YEAR ENDED DECEMBER 31, 2015

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## Independent Auditors' Report

To the Honorable Retirement Board  
Massachusetts Housing Finance Agency Employees' Retirement System  
Boston, Massachusetts 02108

### Report on the Financial Statements

We have audited the accompanying financial statements of the Massachusetts Housing Finance Agency Employees' Retirement System (the System), as of and for the year ended December 31, 2015, and the related notes to the financial statements, as listed in the table of contents.

#### *Management's Responsibility for the Financial Statements*

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

#### *Auditors' Responsibility*

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America 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 from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the 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.



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***Opinion***

In our opinion, the financial statements referred to above present fairly, in all material respects, the net position of the System as of December 31, 2015, and the respective change in net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

***Other Matters***

*Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis (located on pages 3 through 6), schedule of changes in employer net pension liability and related ratios, schedule of employer contributions and schedule of investment returns (located on pages 18 and 19) be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the 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 financial statements, and other knowledge we obtained during our audit of the 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 August 18, 2016 on our consideration of the System'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 the System's internal control over financial reporting and compliance.

*CliftonLarsonAllen LLP*

Boston, Massachusetts  
August 18, 2016

MHFA EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
DECEMBER 31, 2015

As management of the Massachusetts Housing Finance Agency Employees' Retirement System (System), we offer readers of these financial statements this narrative overview and analysis of the System's financial activities for the year ended December 31, 2015.

The management's discussion and analysis (MD&A) is presented in the following sections:

1. Financial Highlights
2. Overview of the Financial Statements
3. Financial Statement Analysis

Please refer to the audited *Financial Statements* when reading the MD&A.

*Financial Highlights*

The System's funding objective is to meet long-term benefit obligations through contributions and investment income. As of January 1, 2015, the latest actuarial valuation, the funded ratio was 79% based on the actuarial value of assets at that date. As of December 31, 2015, the plan fiduciary net position was 78.8% of the total pension liability.

The System's net position increased by \$406,004, or .36%, when compared to the prior year's net position. Net position is the residual of the System's assets in excess of the System's liabilities as of the statement date. The System's assets are restricted to meet future benefit payments.

*Overview of the Financial Statements*

The financial statements are comprised of a Statement of Fiduciary Net Position, Statement of Changes in Fiduciary Net Position, Notes to Financial Statements and Required Supplementary Information.

The **statement of fiduciary net position** presents information on the System's assets and liabilities and the resulting net position restricted for pensions. This is calculated using the following formula: Assets - Liabilities = Net Position restricted for pensions. This statement reflects the System's investments at fair value, as well as cash, receivables and other assets and liabilities. The Statement of Fiduciary Net Position reports the financial position of the System at December 31, 2015. Over time, the increase or decrease in net position serves as a useful indicator of the System's financial health.

The **statement of changes in fiduciary net position** presents information showing how the System's net position changed during the year ended December 31, 2015. It reflects contributions by its individual members and participating employer along with deductions for retirement benefits, refunds, withdrawals, and administrative expenses. Investment income during the period is also presented showing income from investing activities.

The **notes to financial statements** provide additional information that is essential for the reader to gain a full understanding of the data provided in the financial statements.

The **required supplementary information** includes a schedule of changes in employer net pension liability and related ratios, a schedule of employer contributions and a schedule of investment returns.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
DECEMBER 31, 2015

*Financial Statement Analysis*

The System's total assets as of December 31, 2015 were \$114,475,247 and were comprised of cash and cash equivalents, investments, accrued interest and dividends, and receivables.

Total liabilities as of December 31, 2015 were \$194,004 and represent amounts owed for accounts payable and accrued expenses and to MassHousing for reimbursement of the System's payroll, payroll related costs, rent and other operating costs for the period July 1, 2015 through December 31, 2015.

The following tables present current and prior year data on the System's financial statements.

Fiduciary Net Position

As noted earlier, net position may serve over time as a useful indicator of a government's financial position. The System's net position was \$114,281,243 at the close of the year and is summarized as follows:

	2015	2014
<b>Assets</b>		
Cash and cash equivalents.....	\$ 554,607	\$ 941,802
Investments.....	113,732,581	107,058,916
Receivables, accrued interest and dividends.....	188,059	6,064,088
<b>Total assets.....</b>	<b>114,475,247</b>	<b>114,064,806</b>
<b>Liabilities</b>		
Accounts payable and accrued expenses.....	46,924	49,187
Due to MassHousing.....	147,080	140,380
<b>Total liabilities.....</b>	<b>194,004</b>	<b>189,567</b>
<b>Net Position</b>		
Restricted for pensions.....	\$ 114,281,243	\$ 113,875,239

MHFA EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
DECEMBER 31, 2015

Changes in Fiduciary Net Position

For the year ended December 31, 2015, the System's total fiduciary net position increased by \$406,004. In the prior year, fiduciary net position increased by \$6,003,754. These amounts are summarized as follows:

	<u>2015</u>	<u>2014</u>
<b>Additions</b>		
<i>Contributions:</i>		
Employer.....	\$ 6,064,900	\$ 3,945,695
Plan members.....	3,219,256	3,176,102
Reimbursements and transfers from other systems.....	553,557	687,396
<i>Net investment income:</i>		
Net realized and unrealized gains/(losses).....	(3,873,872)	3,411,729
Interest and dividends.....	1,460,841	1,464,788
Less investment expense.....	<u>(940,819)</u>	<u>(834,318)</u>
 Total additions.....	 <u>6,483,863</u>	 <u>11,851,392</u>
 <b>Deductions</b>		
Retirement benefits and refunds.....	5,479,399	5,351,395
Reimbursements and transfers to other systems.....	234,706	148,926
Administration.....	<u>363,754</u>	<u>347,317</u>
 Total deductions.....	 <u>6,077,859</u>	 <u>5,847,638</u>
 Change in plan net position.....	 406,004	 6,003,754
 Plan net position - beginning of year.....	 <u>113,875,239</u>	 <u>107,871,485</u>
 Plan net position - end of year.....	 <u>\$ 114,281,243</u>	 <u>\$ 113,875,239</u>

**Additions to Fiduciary Net Position**

The amount needed to finance benefits is accumulated through the collection of employer and employee contributions, earnings on investments and reimbursements and transfers from other systems. These additions resulted in an increase to net position totaling \$6,483,863. Employer contributions and plan member contributions increased by approximately \$2,119,000 and \$43,000, respectively, in 2015 while reimbursements and transfers from other systems decreased by approximately \$134,000 when compared to the prior year. The employer contribution increased as a result of the annual actuarially determined contribution to meet the System's funding schedule. The System had net investment losses of approximately \$3,354,000 in 2015 due to market conditions; compared to a gain of approximately \$4,042,000 in 2014.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
DECEMBER 31, 2015

**Deductions from Fiduciary Net Position**

The primary deductions of the System include the payment of pension benefits to participants and beneficiaries, refunds of contributions, and the costs of administering the System. Total deductions to net position totaled \$6,077,859 during the current year versus \$5,847,638 in the previous year. The payment of pension benefits increased by \$128,004, or 2.39%, over the previous year. The increase in these expenses resulted from an increase in benefit payments to newer retirees with higher average compensation and an increase of 10 retirees.

**Requests for Information**

This financial report is designed to provide the Board, our membership, taxpayers, investors, and creditors with a general overview of the System's financial results and to demonstrate the System's accountability for the funding it receives. If you have any questions about this report or need additional financial information, contact the Executive Secretary at One Beacon Street, 6<sup>th</sup> floor, Boston, Massachusetts 02108.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
STATEMENT OF FIDUCIARY NET POSITION  
DECEMBER 31, 2015

**ASSETS**

Cash and cash equivalents.....	\$	554,607
<b>Investments:</b>		
Fixed income.....		19,134,542
Pooled equities.....		60,837,289
Pooled fixed income.....		13,258,169
Real estate.....		9,296,927
Alternative.....		11,205,654
<b>Total investments.....</b>		<b>113,732,581</b>
Accrued interest and dividends.....		100,435
<b>Receivables:</b>		
Other.....		87,624
<b>Total assets.....</b>		<b>114,475,247</b>

**LIABILITIES**

Accounts payable.....		46,924
Due to MassHousing.....		147,080
<b>Total liabilities.....</b>		<b>194,004</b>

**FIDUCIARY NET POSITION**

Restricted for pensions.....	\$	114,281,243
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The accompanying notes are an integral part of the financial statements.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED DECEMBER 31, 2015

<b>ADDITIONS</b>	
Contributions:	
Employer.....	\$ 6,064,900
Plan members.....	3,219,256
Reimbursements and transfers from other systems.....	<u>553,557</u>
 Total contributions.....	 <u>9,837,713</u>
Net investment income:	
Net appreciation in fair value of investments.....	(3,873,872)
Interest.....	1,460,841
Less: investment fees.....	<u>(940,819)</u>
 Net investment income.....	 <u>(3,353,850)</u>
 Total additions.....	 <u>6,483,863</u>
<b>DEDUCTIONS</b>	
Retirement benefits and refunds.....	5,479,399
Reimbursements and transfers to other systems.....	234,706
Administration.....	<u>363,754</u>
 Total deductions.....	 <u>6,077,859</u>
 CHANGE IN NET POSITION.....	 406,004
 Net position restricted for pensions - beginning of year.....	 <u>113,875,239</u>
 NET POSITION RESTRICTED FOR PENSIONS - END OF YEAR.....	 <u>\$ 114,281,243</u>

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

MHFA EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015

**NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

*A. General*

The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The Governmental Accounting Standards Board (GASB) is the standard-setting body for establishing governmental accounting and financial reporting principles. The significant accounting policies are described herein.

*B. Reporting Entity*

The Massachusetts Housing Finance Agency Employees' Retirement System (System) was established to provide retirement benefits to MassHousing employees and their beneficiaries. The System is governed by a five-member board comprised of MassHousing's Treasurer (ex-officio), two members elected by the System's participants, one member appointed by MassHousing's Board and one member appointed by the System's Board members.

*C. Measurement Focus and Basis of Accounting*

The System's financial statements are presented using the flow of economic resources measurement focus and use the accrual basis of accounting.

*D. Cash and Investments*

Cash and cash equivalents are considered to be cash on hand, demand deposits and short-term investments with an original maturity of three months or less from the date of acquisition.

Investments are reported at fair value. Fair value is based on quotations from a national securities exchange except for pooled funds, alternative investments and real estate investments, for which fair values are estimated as detailed below.

Pooled Funds

The fair value of shares in managed investment pools is based on unit value reported by the funds.

Alternative (Private Equity and Natural Resources) and Real Estate

The fair values of these types of investments have been determined by the third party investment managers using the Net Asset Value (NAV) per share (or its equivalent) on the System's ownership interest in partner's capital.

*E. Basis of Investment Transactions*

Purchases and sales of investments are recorded on the trade date. Transactions remaining unsettled as of year-end are recorded as payables for securities purchased and as a receivable for securities sold.

*F. Revenue Recognition*

Contributions are recognized as additions in the period when they become due pursuant to formal commitments, statutory or contractual requirements. Investment income is recognized when earned.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
 NOTES TO FINANCIAL STATEMENTS  
 DECEMBER 31, 2015

*G. Benefits and Refunds*

Benefits and refunds are recognized as deductions when incurred.

*H. Administrative Expenses*

Administrative expenses are financed by investment income.

*I. Due to MassHousing*

MassHousing pays the System's employees' weekly payroll. In addition, MassHousing charges the System for payroll related benefits, rent and other operating expenses. At December 31, 2015, \$147,080 is owed to MassHousing from the System for these costs.

*J. Use of Estimates*

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Fair values of real estate funds and alternative investments have been estimated in the absence of readily available market values, and these estimates may be materially different than values that would have been used had a ready market existed.

**NOTE 2 - PLAN DESCRIPTION**

*A. General*

The System is a single employer public employee retirement system established by MassHousing on June 12, 1974, under Massachusetts General Laws (MGL), Chapter 32, and is regulated by the Massachusetts Public Employee Retirement Administration Commission (PERAC). The System is a defined benefit pension plan that covers eligible employees of MassHousing.

Membership in the System is mandatory immediately upon the commencement of employment for all permanent full-time employees working at least 18 ¾ hours weekly. The System has one classification of members (general).

Membership in the System was as follows at December 31, 2015:

Active members.....	342
Inactive members.....	47
Retirees and beneficiaries currently receiving benefits.....	139
Total.....	528

*B. Significant Plan Provisions and Requirements*

Pursuant to MGL, Chapter 32, the System provides retirement, disability and death benefits to plan members and their beneficiaries up to a maximum of 80% of a member's final three-year or five-year average salary. In addition to compensation, benefits are based upon a member's age and length of creditable service.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015

Members of the System become vested after 10 years of creditable service. Normal retirement occurs at age 65 or age 67 (if hired on or after April 2, 2012).

For employees hired prior to April 2, 2012, the annual amount of the retirement allowance is based on the member's final three-year average salary multiplied by (1) the number of years and full months of creditable service at the time of retirement and (2) a percentage based on age at retirement in accordance with a schedule provided by state law. Assuming normal retirement at age 65, this percentage is 2.5%, which is reduced for individuals who retire prior to age 65 to reflect the longer pay out period. A member's final three-year average salary is defined as the greater of the highest consecutive three-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last three years of creditable service prior to retirement.

For employees hired on or after April 2, 2012, the annual amount of the retirement allowance is based on the member's final five-year average salary multiplied by (1) the number of years and full months of creditable service at the time of retirement and (2) a percentage based on age at retirement in accordance with a schedule provided by state law. Assuming normal retirement at age 67, this percentage is 2.5%. A member's final five-year average salary is defined as the greater of the highest consecutive five-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last five years of creditable service prior to retirement.

Employees may elect early retirement after 20 years of service or at any time after attaining age 55 or age 60 with 10 years of eligible service. Plan members who become permanently and totally disabled may be eligible to receive a disability retirement allowance. The amount of benefits to be received depends on several factors, including the member's age, compensation, veteran status, years of service and whether or not the disability is work-related. In addition, certain death benefits exist for beneficiaries of employees who die in active service.

Pursuant to MGL, Chapter 32, Section 3(8)(c), for members leaving the System's employment to work for other Massachusetts governmental units, the System transfers their accumulated account balances and creditable service to the retirement system of their new employer. Other such retirement systems are in turn required to make comparable transfers to the System for employees coming to work for a participating employer. Liability for the service transfer is not calculated until the member's actual retirement date. Per statute, the actuary considers length of service as well as acceptance of military service credit and salary cap provisions (if applicable) in calculating the liability.

**NOTE 3 - DEPOSITS AND INVESTMENTS**

Deposits and investments made by the System are governed by Chapter 32 of the MGL. The System has the ability to invest in equity securities, corporate bonds, real estate and other specified investments in accordance with state laws and regulations.

The Board has the authority for establishing and amending investment policy decisions. Based on the investment objectives and constraints of the System, and based on an annual review of the asset allocation and asset classes, the Board will specify a long-term target allocation for each class of permissible assets. These targets will be expressed as a percentage of the total portfolio, and will have ranges surrounding them, allowing for the portfolio to maintain policy through market fluctuations.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015

The long-term target allocations are intended as strategic goals. Thus, it is permissible for the overall System's asset allocation to deviate from the long-term target, as would likely occur during manager transitions, asset class restructurings, and other temporary changes in the System. Surplus cash flows are utilized to maintain the asset management structure. Should these cash flows not be sufficient to reallocate the plan according to policy, the transfer of assets may occur between managers. At least annually, the Board reevaluates the portfolio weightings by asset class and adjustments are made accordingly. The following identifies the asset allocation policy as of December 31, 2015:

Asset Class	Target	Range
Pooled Domestic equity.....	25%	20-30%
Public Foreign Equity (Large Dev.).....	7%	4-10%
Public Foreign Equity (Small Dev.).....	3%	2-4%
Public Emerging Market Equity.....	10%	6-14%
Investment Grade Bonds.....	15%	12-18%
High Yield Bonds.....	6%	3-9%
TIPS.....	6%	4-8%
Emerging Market Debt.....	5%	3-7%
Real estate.....	10%	7-13%
Private equity.....	8%	5-11%
Natural Resources and Commodities.....	5%	3-7%

Rate of Return

For the year ended December 31, 2015, the annual money-weighted rate of return on investments, net of investment expense, was -4.04%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Deposits - Custodial Credit Risk

Custodial credit risk for deposits is the risk that, in the event of a bank failure, the System's deposits may not be recovered. The System's policy for custodial credit risk of deposits is to rely on FDIC insurance coverage. As of December 31, 2015, the System was not exposed to custodial credit risk.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015

Investments Summary

The System's investments at December 31, 2015 are presented below. All investments are presented by investment type, with debt securities presented by maturity (using segmented-time distribution).

Investment Type	Fair Value	Investment Maturities (in Years)			
		Less Than 1	1 - 5	6 - 10	More Than 10
<u>Debt Securities:</u>					
U.S. Treasuries.....	\$ 4,865,396	\$ 1,300,188	\$ 1,585,110	\$ 552,807	\$ 1,427,291
U.S. Agencies.....	6,330,531	-	679,296	177,197	5,474,038
Corporate bonds.....	7,938,615	192,396	3,240,975	3,106,156	1,399,088
Money market mutual funds.....	523,773	523,773	-	-	-
Pooled fixed income.....	13,258,169	13,258,169	-	-	-
Total debt securities.....	32,916,484	\$ 15,274,526	\$ 5,505,381	\$ 3,836,160	\$ 8,300,417
<u>Other Investments:</u>					
Pooled equities.....	60,837,289				
Real estate.....	9,296,927				
Alternative (private equity and natural resources).....	11,205,654				
Total other investments.....	81,339,870				
Total investments.....	\$ 114,256,354				

Investments - Interest Rate Risk of Debt Securities

Interest rate risk for debt securities is the risk that changes in interest rates of debt securities will adversely affect the fair value of an investment. The System's policy for interest rate risk of debt securities is to use diversification to minimize the exposure to interest rate risks in the aggregate investment portfolio.

Investments - Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty, the System will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The System does not have a policy for custodial credit risk of investments. As of December 31, 2015, the System was not exposed to custodial credit risk.

Investments - Credit Risk of Debt Securities

Credit risk for debt securities is the risk that an issuer or other counterparty to a debt security will not fulfill its obligations. The System's policy for credit risk of debt securities is to use diversification to minimize the exposure to credit risks in the aggregate investment portfolio. As of December 31, 2015, the credit quality ratings of the System's debt securities are as follows:

MHFA EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015

Quality Ratings*	Investment Type				
	Fair Value	US Agency Securities	Corporate Bonds	Money Market Mutual Funds	Pooled Fixed Income
AAA.....	\$ 1,442,981	\$ -	\$ 1,442,981	\$ -	\$ -
AA+.....	998,073	724,956	273,117	-	-
AA.....	182,086	-	182,086	-	-
AA-.....	418,611	-	418,611	-	-
A+.....	628,580	-	628,580	-	-
A.....	1,250,861	-	1,250,861	-	-
A-.....	871,592	-	871,592	-	-
BBB+.....	1,996,847	-	1,996,847	-	-
BBB.....	582,862	-	582,862	-	-
BBB-.....	153,643	-	153,643	-	-
Unrated.....	19,524,952	5,605,575	137,435	523,773	13,258,169
<b>Total.....</b>	<b>\$ 28,051,088</b>	<b>\$ 6,330,531</b>	<b>\$ 7,938,615</b>	<b>\$ 523,773</b>	<b>\$ 13,258,169</b>

\* Per the rating scale of Standard and Poor's (a national credit rating organization)

Deposits and Investments – Foreign Currency Risk

Foreign currency risk is the risk that fluctuations in exchange rates will adversely affect the fair value of an investment or a deposit. The System's policy for foreign currency risk is to diversify the foreign countries and currencies within its international investment portfolio. As of December 31, 2015, the System had indirect exposure to foreign currency risk for certain equity investments in the amount of approximately \$22,485,000.

Investments – Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. The System's policy for concentration of credit risk is to use extensive diversification to minimize exposure to company and industry specific risks in the aggregate investment portfolio. As of December 31, 2015, the System was not exposed to concentration of credit risk.

**NOTE 4 - FUNDING POLICY**

Plan members are required to contribute to the System at rates ranging from 5% to 9% of annual compensation, depending on their employment date. Members hired after December 31, 1978 must contribute an additional 2% of regular compensation in excess of \$30,000. These deductions earn interest at a rate determined by PERAC that vest based upon years of service. MassHousing is required to pay into the System 100% of the actuarially determined contribution. For the year ended December 31, 2015, employer contributions totaled \$6,064,900 and plan member contributions totaled \$3,219,256.

Cost-of-living adjustments (COLA) must be granted by the Board and are the responsibility of the System. COLA cannot exceed 3% of the first \$13,000 in benefits, unless the System elects to increase the maximum base retirement allowance in multiples of \$1,000.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
 NOTES TO FINANCIAL STATEMENTS  
 DECEMBER 31, 2015

**NOTE 5 - NET PENSION LIABILITY**

The components of the net pension liability of the System at December 31, 2015, were as follows:

Total pension liability.....	\$	149,708,708
Plan fiduciary net position.....		<u>(114,281,243)</u>
Net pension liability.....	\$	<u>35,427,465</u>
Plan fiduciary net position as a percentage of the total pension liability.....		<u>76.34%</u>

Actuarial Methods and Assumptions

The total pension liability was determined by performing update procedures to roll the liability forward from the January 1, 2015, actuarial valuation to the December 31, 2015 measurement date. The following actuarial methods and assumptions apply to all periods included in the measurement:

Methods:

Actuarial cost method	Entry Age Normal
Amortization method	Closed - Approximate level percent of payroll
Remaining amortization period	7 years for the fresh start base
Asset valuation method	Market Value of Assets (adjusted by accounts payable and receivable)

Assumptions:

Inflation	3.00%
Salary increases	5.0% per year grading down to 3.5% per year after 8 years of service
Investment rate of return	7.75% per year
Cost of living adjustment	3% of the first \$13,000 of retirement income granted annually
Mortality	RP-2000 table projected with scale BB and Generational Mortality. For members retired under an accidental disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality is the healthy retiree table ages set forward 2 years.
Retirement rates	Ages 55 -70
Overall disability	75% ordinary disability; 25% accidental disability

The actuarial assumptions used in the January 1, 2015 valuation were based on the results of an actuarial experience study for the period January 1, 2014 through December 31, 2014.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015

The long-term expected real rate of return reflects the expected rate of return on plan assets minus the expected rate of inflation. Note that the discount rate includes the effect of inflation. The long-term real rate of return removes the effect of inflation on the return amounts. It is a long-term assumption and is meant to reflect a best estimate of future experience, based on the expected asset allocation. Best estimates of rates of return for each major asset class included in the System's target asset allocation as of December 31, 2015 are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return (%)
Pooled Domestic equity.....	5.3
Public Foreign Equity (Large Dev.).....	5.6
Public Foreign Equity (Small Dev.).....	4.5
Public Emerging Market Equity.....	8.0
Investment Grade Bonds.....	1.1
High Yield Bonds.....	4.3
TIPS.....	0.8
Emerging Market Debt.....	3.8
Real estate.....	4.6
Private equity.....	6.9
Natural Resources and Commodities.....	5.3

Discount Rate

The discount rate used to measure the total pension liability was 7.75 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 MassHousing's contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of MassHousing calculated using the discount rate of 7.75 percent, as well as what MassHousing's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.75 percent) or 1-percentage-point higher (8.75 percent) than the current rate:

	1% Decrease (6.75%)	Current Discount Rate (7.75%)	1% Increase (8.75%)
Net pension liability.....	\$ 50,160,096	\$ 35,427,465	\$ 23,533,025

MHFA EMPLOYEES' RETIREMENT SYSTEM  
 NOTES TO FINANCIAL STATEMENTS  
 DECEMBER 31, 2015

**NOTE 6 - LEGALLY REQUIRED RESERVE ACCOUNTS**

The balance in the System's legally required reserves as of December 31, 2015 are as follows:

Description	Amount	Purpose
Annuity Savings Fund.....	\$ 37,501,604	Active members' contribution balance
Annuity Reserve Fund.....	7,759,617	Retired members' contribution account
Pension Reserve Fund.....	8,119,324	Amounts appropriated to fund future retirement
Pension Fund.....	<u>60,900,698</u>	Remaining net position
Total.....	<u>\$ 114,281,243</u>	

All reserve accounts are funded at levels required by state law.

**NOTE 7 - COMMITMENTS**

As of December 31, 2015, the System had commitments totaling approximately \$7,700,000 to 6 real estate and private equity market funds.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
 REQUIRED SUPPLEMENTARY INFORMATION  
 DECEMBER 31, 2015

**Schedule of Changes in Employer Net Pension Liability and Related Ratios (1)**  
 (In Thousands)

	2015	2014
<u>Total pension liability</u>		
Service cost.....	\$ 3,129	2,695
Interest.....	10,444	9,984
Differences between expected and actual experience.....	(265)	-
Changes of assumptions.....	7,362	-
Benefit payments, including refunds of member contributions.....	(5,161)	(5,134)
Net change in total pension liability.....	15,509	7,545
Total pension liability - beginning.....	134,200	126,655
Total pension liability - ending (a).....	\$ 149,709	134,200
<u>Plan fiduciary net position</u>		
Contributions - employer.....	\$ 6,065	3,946
Contributions - member.....	3,219	3,176
Net investment income.....	(3,354)	4,042
Benefit payments, including refunds of member contributions.....	(5,479)	(5,351)
Reimbursements and transfers from other systems, net.....	319	538
Administrative expense.....	(364)	(347)
Net change in plan fiduciary net position.....	406	6,004
Plan fiduciary net position - beginning.....	113,875	107,871
Plan fiduciary net position - ending (b).....	\$ 114,281	113,875
Net pension liability - ending (a) - (b).....	\$ 35,428	20,325
Plan fiduciary net position as a percentage of the total pension liability.....	76.3%	84.9%
Covered-employee payroll.....	\$ 32,430	28,044
Net pension liability as a percentage of covered-employee payroll.....	109.2%	72.5%

(1) Data is being accumulated annually to present 10 years of the reported information.

See Accompanying Independent Auditor's Report

MHFA EMPLOYEES' RETIREMENT SYSTEM  
REQUIRED SUPPLEMENTARY INFORMATION  
DECEMBER 31, 2015

**Schedule of Employer Contributions**  
(In Thousands)

	2015	2014	2013	2012	2011
Actuarially determined contribution.....	\$ 6,065	3,946	3,927	3,169	3,156
Contributions in relation to the actuarially determined contribution.....	<u>6,065</u>	<u>3,946</u>	<u>3,927</u>	<u>3,169</u>	<u>3,156</u>
Contribution deficiency (excess).....	<u>\$ -</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Covered-employee payroll.....	\$ 32,430	28,044	28,044	29,800	29,800
Contributions as a percentage of covered-employee payroll.....	18.7%	14.07%	14.00%	10.63%	10.59%
					(continued)
	2010	2009	2008	2007	2006
Actuarially determined contribution.....	\$ 3,322	3,297	1,632	1,883	903
Contributions in relation to the actuarially determined contribution.....	<u>3,322</u>	<u>3,297</u>	<u>1,632</u>	<u>1,883</u>	<u>903</u>
Contribution deficiency (excess).....	<u>\$ -</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Covered-employee payroll.....	\$ 28,475	28,475	25,600	25,600	22,669
Contributions as a percentage of covered-employee payroll.....	11.67%	11.58%	6.38%	7.36%	3.98%
					(concluded)

**Schedule of Investment Returns (1)**

	2015	2014
Annual money-weighted rate of return, net of investment expense.....	-4.04%	3.48%

(1) Data is being accumulated annually to present 10 years of the reported information.

See Accompanying Independent Auditor's Report

MHFA EMPLOYEES' RETIREMENT SYSTEM  
 NOTES TO REQUIRED SUPPLEMENTARY INFORMATION  
 DECEMBER 31, 2015

**NOTE 1 - ACTUARIALLY DETERMINED CONTRIBUTION - METHODS AND ASSUMPTIONS**

The following actuarial methods and assumptions apply to the 2015 actuarially determined contributions:

Methods:

Actuarial cost method	Entry Age Normal
Amortization method	Closed - Approximate level percent of payroll
Remaining amortization period	7 years for the fresh start base
Asset valuation method	Market Value of Assets (adjusted by accounts payable and receivable)

Assumptions:

Inflation	3.00%
Salary increases	5.0% per year grading down to 3.5% per year after 8 years of service
Investment rate of return	7.75% per year
Cost of living adjustment	3% of the first \$13,000 of retirement income granted annually
Mortality	RP-2000 table projected with scale BB and Generational Mortality. For members retired under an accidental disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality is the healthy retiree table ages set forward 2 years.
Retirement rates	Ages 55 -70
Overall disability	75% ordinary disability; 25% accidental disability

**MASSACHUSETTS HOUSING FINANCE AGENCY  
EMPLOYEES' RETIREMENT SYSTEM**

**INDEPENDENT AUDITORS' REPORT ON  
FINANCIAL STATEMENTS AND  
REQUIRED SUPPLEMENTARY INFORMATION**

**YEAR ENDED DECEMBER 31, 2014**



MASSACHUSETTS HOUSING FINANCE AGENCY  
EMPLOYEES' RETIREMENT SYSTEM

INDEPENDENT AUDITORS' REPORT ON  
FINANCIAL STATEMENTS AND  
REQUIRED SUPPLEMENTARY INFORMATION

YEAR ENDED DECEMBER 31, 2014

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## Independent Auditors' Report

To the Honorable Retirement Board  
Massachusetts Housing Finance Agency Employees' Retirement System  
Boston, Massachusetts 02108

### Report on the Financial Statements

We have audited the accompanying financial statements of the Massachusetts Housing Finance Agency Employees' Retirement System (the System), as of and for the year ended December 31, 2014, and the related notes to the financial statements, as listed in the table of contents.

### *Management's Responsibility for the Financial Statements*

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

### *Auditors' Responsibility*

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America 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 from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the 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 financial position of the System as of December 31, 2014, and the respective change in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

*Other Matters*

*Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis (located on pages 3 through 6), schedule of changes in employer net pension liability and related ratios, schedule of employer contributions and schedule of investment returns (located on pages 18 and 19) be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the 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 financial statements, and other knowledge we obtained during our audit of the 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 September 1, 2015 on our consideration of the System'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 the System's internal control over financial reporting and compliance.

*CliftonLarsonAllen LLP*

Boston, Massachusetts  
September 1, 2015

MHFA EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
DECEMBER 31, 2014

As management of the Massachusetts Housing Finance Agency Employees' Retirement System (System), we offer readers of these financial statements this narrative overview and analysis of the System's financial activities for the year ended December 31, 2014.

The management's discussion and analysis (MD&A) is presented in the following sections:

1. Financial Highlights
2. Overview of the Financial Statements
3. Financial Statement Analysis

Please refer to the audited *Financial Statements* when reading the MD&A.

***Financial Highlights***

The System's funding objective is to meet long-term benefit obligations through contributions and investment income. As of January 1, 2013, the latest actuarial valuation, the funded ratio was 79.7% based on the actuarial value of assets at that date. As of December 31, 2014, the plan fiduciary net position was 84.9% of the total pension liability.

The System's net position increased by \$6,003,754, or 5.6%, when compared to the prior year's net position. Net position is the residual of the System's assets in excess of the System's liabilities as of the statement date. The System's assets are restricted to meet future benefit payments.

***Overview of the Financial Statements***

The financial statements are comprised of a Statement of Fiduciary Net Position, Statement of Changes in Fiduciary Net Position, Notes to Financial Statements and Required Supplementary Information.

The **statement of fiduciary net position** presents information on the System's assets and liabilities and the resulting net position restricted for pensions. This is calculated using the following formula: Assets - Liabilities = Net Position restricted for pensions. This statement reflects the System's investments at fair value, as well as cash, receivables and other assets and liabilities. The Statement of Fiduciary Net Position reports the financial position of the System at December 31, 2014. Over time, the increase or decrease in net position serves as a useful indicator of the System's financial health.

The **statement of changes in fiduciary net position** presents information showing how the System's net position changed during the year ended December 31, 2014. It reflects contributions by its individual members and participating employer along with deductions for retirement benefits, refunds, withdrawals, and administrative expenses. Investment income during the period is also presented showing income from investing activities.

The **notes to financial statements** provide additional information that is essential for the reader to gain a full understanding of the data provided in the financial statements.

The **required supplementary information** includes a schedule of changes in employer net pension liability and related ratios, a schedule of employer contributions and a schedule of investment returns.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
DECEMBER 31, 2014

**Financial Statement Analysis**

The System's total assets as of December 31, 2014 were \$114,064,806 and were comprised of cash and cash equivalents, investments, accrued interest and dividends, and receivables.

Total liabilities as of December 31, 2014 were \$189,567 and represent amounts owed for accounts payable and accrued expenses and to MassHousing for reimbursement of the System's payroll, payroll related costs, rent and other operating costs for the period July 1, 2014 through December 31, 2014.

The following tables present current and prior year data on the System's financial statements.

**Fiduciary Net Position**

As noted earlier, net position may serve over time as a useful indicator of a government's financial position. The System's net position was \$113,875,239 at the close of the year and is summarized as follows:

	<u>2014</u>	<u>2013</u>
<b>Assets</b>		
Cash and cash equivalents.....	\$ 941,802	\$ 1,161,925
Investments.....	107,058,916	107,216,144
Receivables, accrued interest and dividends.....	<u>6,064,088</u>	<u>113,179</u>
Total assets.....	<u>114,064,806</u>	<u>108,491,248</u>
<b>Liabilities</b>		
Accounts payable and accrued expenses.....	49,187	490,848
Due to MassHousing.....	<u>140,380</u>	<u>128,915</u>
Total liabilities.....	<u>189,567</u>	<u>619,763</u>
<b>Net Position</b>		
Net position restricted for pensions.....	<u>\$ 113,875,239</u>	<u>\$ 107,871,485</u>

MHFA EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
DECEMBER 31, 2014

Changes in Fiduciary Net Position

For the year ended December 31, 2014, the System's total fiduciary net position increased by \$6,003,754. In the prior year, fiduciary net position increased by \$12,881,394. These amounts are summarized as follows:

	<u>2014</u>	<u>2013</u>
<b>Additions</b>		
<i>Contributions:</i>		
Employer.....	\$ 3,945,695	\$ 3,927,135
Plan members.....	3,176,102	2,851,284
Reimbursements and transfers from other systems.....	687,396	424,224
<i>Net investment income:</i>		
Net realized and unrealized gains.....	3,411,729	10,226,064
Interest and dividends.....	1,464,788	1,339,803
Less investment expense.....	(834,318)	(753,508)
Intergovernmental.....	-	4,816
<b>Total additions.....</b>	<b><u>11,851,392</u></b>	<b><u>18,019,818</u></b>
<b>Deductions</b>		
Retirement benefits and refunds.....	5,351,395	4,604,593
Reimbursements and transfers to other systems.....	148,926	190,974
Administration.....	347,317	342,857
<b>Total deductions.....</b>	<b><u>5,847,638</u></b>	<b><u>5,138,424</u></b>
Change in plan net position.....	6,003,754	12,881,394
Plan net position - beginning of year.....	<u>107,871,485</u>	<u>94,990,091</u>
Plan net position - end of year.....	<b><u>\$ 113,875,239</u></b>	<b><u>\$ 107,871,485</u></b>

**Additions to Fiduciary Net Position**

The amount needed to finance benefits is accumulated through the collection of employer and employee contributions, earnings on investments and reimbursements and transfers from other systems. These additions resulted in an increase to net position totaling \$11,851,392. Employer contributions, plan member contributions and reimbursements and transfers from other systems increased by approximately \$19,000, \$325,000 and \$263,000, respectively, in 2014 when compared to the prior year. The System had net investment income of approximately \$4,042,000 in 2014 compared to a gain of approximately \$10,812,000 in 2013.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
DECEMBER 31, 2014

**Deductions from Fiduciary Net Position**

The primary deductions of the System include the payment of pension benefits to participants and beneficiaries, refunds of contributions, and the costs of administering the System. Total deductions to net position totaled \$5,847,638 during the current year versus \$5,138,424 in the previous year. The payment of pension benefits increased by \$746,802, or 16.2%, over the previous year. The increase in these expenses resulted from an increase in benefit payments to newer retirees with higher average compensation and an increase of 7 retirees.

**Requests for Information**

This financial report is designed to provide the Board, our membership, taxpayers, investors, and creditors with a general overview of the System's financial results and to demonstrate the System's accountability for the funding it receives. If you have any questions about this report or need additional financial information, contact the Executive Secretary at One Beacon Street, 6<sup>th</sup> floor, Boston, Massachusetts 02108.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
STATEMENT OF FIDUCIARY NET POSITION  
DECEMBER 31, 2014

**ASSETS**

Cash and cash equivalents.....	\$	941,802
Investments:		
Fixed income.....		16,965,682
Pooled equities.....		58,896,030
Pooled fixed income.....		12,879,908
Real estate.....		8,502,492
Alternative.....		9,814,804
Total investments.....		107,058,916
Accrued interest and dividends.....		94,654
Receivables:		
Other.....		5,969,434
Total assets.....		114,064,806

**LIABILITIES**

Accounts payable.....		49,187
Due to MassHousing.....		140,380
Total liabilities.....		189,567

**FIDUCIARY NET POSITION**

Net position restricted for pensions.....	\$	113,875,239
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The accompanying notes are an integral part of the financial statements.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION  
FOR THE YEAR ENDED DECEMBER 31, 2014

<b>ADDITIONS</b>	
Contributions:	
Employer.....	\$ 3,945,695
Plan members.....	3,176,102
Reimbursements and transfers from other systems.....	<u>687,396</u>
Total contributions.....	<u>7,809,193</u>
Net investment income:	
Net appreciation in fair value of investments.....	3,411,729
Interest.....	1,464,788
Less: investment fees.....	<u>(834,318)</u>
Net investment income.....	<u>4,042,199</u>
Total additions.....	<u>11,851,392</u>
<b>DEDUCTIONS</b>	
Retirement benefits and refunds.....	5,351,395
Reimbursements and transfers to other systems.....	148,926
Administration.....	<u>347,317</u>
Total deductions.....	<u>5,847,638</u>
<b>CHANGE IN NET POSITION</b>	6,003,754
Net position restricted for pensions - beginning of year.....	<u>107,871,485</u>
<b>NET POSITION RESTRICTED FOR PENSIONS - END OF YEAR.....</b>	<b><u>\$ 113,875,239</u></b>

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

MHFA EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2014

**NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

***A. General***

The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The Governmental Accounting Standards Board (GASB) is the standard-setting body for establishing governmental accounting and financial reporting principles. The significant accounting policies are described herein.

***B. Reporting Entity***

The Massachusetts Housing Finance Agency Employees' Retirement System (System) was established to provide retirement benefits to MassHousing employees and their beneficiaries. The System is governed by a five-member board comprised of MassHousing's Treasurer (ex-officio), two members elected by the System's participants, one member appointed by MassHousing's Board and one member appointed by the System's Board members.

***C. Measurement Focus and Basis of Accounting***

The System's financial statements are presented using the flow of economic resources measurement focus and use the accrual basis of accounting.

***D. Cash and Investments***

Cash and cash equivalents are considered to be cash on hand, demand deposits and short-term investments with an original maturity of three months or less from the date of acquisition.

Investments are reported at fair value. Fair value is based on quotations from a national securities exchange except for pooled funds, alternative investments and real estate investments, for which fair values are estimated as detailed below.

Pooled Funds

The fair value of shares in managed investment pools is based on unit value reported by the funds.

Alternative Investments

Alternative investments are recorded at fair value as determined in good faith by the investment firms (such as general partners of the venture capital firms) after consideration of pertinent information, including current financial position and operating results, price-earnings multiples and available market prices of similar companies' securities, the nature of securities, marketability, restrictions on disposition and other appropriation and do not necessarily represent amounts which might ultimately be realized, since such amounts depend on future circumstances and cannot reasonably be determined until individual securities are liquidated.

Real Estate

The fair value of real estate funds is based on independent third-party appraisals. The investment managers of the funds are responsible for the reported value of those investments. However, the structure, risk profile, return potential and marketability of those investments differ from traditional equity and fixed income investments. Determination of the value of these investments involves subjective judgment because the actual market value can be determined only by negotiation between the parties to a sales transaction. As a result, the estimated values

MHFA EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2014

may differ significantly from the values that would have been used had a ready market for the real estate existed, and the differences could be material.

**E. Basis of Investment Transactions**

Purchases and sales of investments are recorded on the trade date. Transactions remaining unsettled as of year-end are recorded as payables for securities purchased and as a receivable for securities sold.

**F. Revenue Recognition**

Contributions are recognized as additions in the period when they become due pursuant to formal commitments, statutory or contractual requirements. Investment income is recognized when earned.

**G. Benefits and Refunds**

Benefits and refunds are recognized as deductions when incurred.

**H. Administrative Expenses**

Administrative expenses are financed by investment income.

**I. Due to MassHousing**

MassHousing pays the System's employees' weekly payroll. In addition, MassHousing charges the System for payroll related benefits, rent and other operating expenses. At December 31, 2014, \$140,380 is owed to MassHousing from the System for these costs.

**J. Implementation of GASB Pronouncements**

During 2014, the System implemented GASB Statement No. 67, *Financial Reporting for Pension Plans – an amendment of GASB Statement No. 25*, which enhanced financial reporting of pension plans primarily through additional note disclosures and schedules of required supplementary information.

**K. Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Fair values of real estate funds and alternative investments have been estimated in the absence of readily available market values, and these estimates may be materially different than values that would have been used had a ready market existed.

**NOTE 2 – PLAN DESCRIPTION**

**A. General**

The System is a single employer public employee retirement system established by MassHousing on June 12, 1974, under Massachusetts General Laws (MGL), Chapter 32, and is regulated by the Massachusetts Public Employee Retirement Administration Commission (PERAC). The System is a defined benefit pension plan that covers eligible employees of MassHousing.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2014

Membership in the System is mandatory immediately upon the commencement of employment for all permanent full-time employees working at least 18 ¾ hours weekly. The System has one classification of members (general).

Membership in the System was as follows at December 31, 2014:

Active members.....	337
Inactive members.....	44
Retirees and beneficiaries currently receiving benefits.....	<u>130</u>
Total.....	<u><u>511</u></u>

**B. Significant Plan Provisions and Requirements**

Pursuant to MGL, Chapter 32, the System provides retirement, disability and death benefits to plan members and their beneficiaries up to a maximum of 80% of a member's final three-year or five-year average salary. In addition to compensation, benefits are based upon a member's age and length of creditable service.

Members of the System become vested after 10 years of creditable service. Normal retirement occurs at age 65 or age 67. Employees may elect early retirement after 20 years of service or at any time after attaining age 55 or age 60 with 10 years of eligible service. Plan members who become permanently and totally disabled may be eligible to receive a disability retirement allowance. The amount of benefits to be received depends on several factors, including the member's age, compensation, veteran status, years of service and whether or not the disability is work-related. In addition, certain death benefits exist for beneficiaries of employees who die in active service.

Pursuant to MGL, Chapter 32, Section 3(8)(c), for members leaving MassHousing's employment to work for other Massachusetts governmental units, the System transfers their accumulated account balances and creditable service to the retirement system of their new employer. Other such retirement systems are in turn required to make comparable transfers to the System for employees coming to work for MassHousing. Liability for the service transfer is not calculated until the member's actual retirement date. Per statute, the PERAC actuary considers length of service as well as acceptance of military service credit and salary cap provisions (if applicable) in calculating the liability.

**NOTE 3 - DEPOSITS AND INVESTMENTS**

Deposits and investments made by the System are governed by Chapter 32 of the MGL. The System has the ability to invest in equity securities, corporate bonds, real estate and other specified investments in accordance with state laws and regulations.

The Board has the authority for establishing and amending investment policy decisions. Based on the investment objectives and constraints of the System, and based on an annual review of the asset allocation and asset classes, the Board will specify a long-term target allocation for each class of permissible assets. These targets will be expressed as a percentage of the total portfolio, and will have ranges surrounding them, allowing for the portfolio to maintain policy through market fluctuations.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2014

The long-term target allocations are intended as strategic goals. Thus, it is permissible for the overall System's asset allocation to deviate from the long-term target, as would likely occur during manager transitions, asset class restructurings, and other temporary changes in the System. Surplus cash flows are utilized to maintain the asset management structure. Should these cash flows not be sufficient to reallocate the plan according to policy, the transfer of assets may occur between managers. At least annually, the Board reevaluates the portfolio weightings by asset class and adjustments are made accordingly. The following identifies the asset allocation policy as of December 31, 2014:

Asset Class	Target	Range
Pooled Domestic equity.....	25%	20-30%
Public Foreign Equity (Large Dev.).....	7%	4-10%
Public Foreign Equity (Small Dev.).....	3%	2-4%
Public Emerging Market Equity.....	10%	6-14%
Investment Grade Bonds.....	15%	12-18%
High Yield Bonds.....	6%	3-9%
TIPS.....	6%	4-8%
Emerging Market Debt.....	5%	3-7%
Real estate.....	10%	7-13%
Private equity.....	8%	5-11%
Natural Resources and Commodities.....	5%	3-7%

Rate of Return

For the year ended December 31, 2014, the annual money-weighted rate of return on investments, net of investment expense, was 3.48%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Deposits - Custodial Credit Risk

Custodial credit risk for deposits is the risk that, in the event of a bank failure, the System's deposits may not be recovered. The System's policy for custodial credit risk of deposits is to rely on FDIC insurance coverage. As of December 31, 2014, the System was not exposed to custodial credit risk.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2014

Investments Summary

The System's investments at December 31, 2014 are presented below. All investments are presented by investment type, with debt securities presented by maturity (using segmented-time distribution).

Investment Type	Fair Value	Investment Maturities (in Years)			
		Less Than 1	1 - 5	6 - 10	More Than 10
<u>Debt Securities:</u>					
U.S. Treasuries.....	\$ 2,843,109	\$ 125,167	\$ 1,181,870	\$ 252,950	\$ 1,283,122
U.S. Agencies.....	6,827,935	101,241	618,836	98,226	6,009,632
Corporate bonds.....	7,294,638	101,039	3,065,077	3,104,650	1,023,872
Money market mutual funds.....	922,846	922,846	-	-	-
Pooled fixed income.....	12,879,908	12,879,908	-	-	-
Total debt securities.....	30,768,436	\$ 14,130,201	\$ 4,865,783	\$ 3,455,826	\$ 8,316,626
<u>Other Investments:</u>					
Pooled equities.....	58,896,030				
Real estate.....	8,502,492				
Alternative.....	9,814,804				
Total other investments.....	77,213,326				
Total investments.....	\$ 107,981,762				

Investments - Interest Rate Risk of Debt Securities

Interest rate risk for debt securities is the risk that changes in interest rates of debt securities will adversely affect the fair value of an investment. The System's policy for interest rate risk of debt securities is to use diversification to minimize the exposure to interest rate risks in the aggregate investment portfolio.

Investments - Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty, the System will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The System does not have a policy for custodial credit risk of investments. As of December 31, 2014, the System was not exposed to custodial credit risk.

Investments - Credit Risk of Debt Securities

Credit risk for debt securities is the risk that an issuer or other counterparty to a debt security will not fulfill its obligations. The System's policy for credit risk of debt securities is to use diversification to minimize the exposure to credit risks in the aggregate investment portfolio. As of December 31, 2014, the credit quality ratings of the System's debt securities are as follows:

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NOTES TO FINANCIAL STATEMENTS  
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Quality Ratings*	Investment Type				
	Fair Value	US Agency Securities	Corporate Bonds	Money Market Mutual Funds	Pooled Fixed Income
AAA.....	\$ 920,331	\$ -	\$ 920,331	\$ -	\$ -
AA+.....	7,046,836	6,827,935	218,901	-	-
AA.....	184,370	-	184,370	-	-
AA-.....	567,826	-	567,826	-	-
A+.....	893,593	-	893,593	-	-
A.....	995,544	-	995,544	-	-
A-.....	1,111,519	-	1,111,519	-	-
BBB+.....	1,141,135	-	1,141,135	-	-
BBB.....	800,635	-	800,635	-	-
BBB-.....	272,103	-	272,103	-	-
Unrated.....	13,991,435	-	188,681	922,846	12,879,908
Total.....	\$ 27,925,327	\$ 6,827,935	\$ 7,294,638	\$ 922,846	\$ 12,879,908

\* Per the rating scale of Standard and Poor's (a national credit rating organization)

Deposits and Investments – Foreign Currency Risk

Foreign currency risk is the risk that fluctuations in exchange rates will adversely affect the fair value of an investment or a deposit. The System's policy for foreign currency risk is to diversify the foreign countries and currencies within its international investment portfolio. As of December 31, 2014, the System had indirect exposure to foreign currency risk for certain equity investments in the amount of approximately \$20,600,000.

Investments – Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. The System's policy for concentration of credit risk is to use extensive diversification to minimize exposure to company and industry specific risks in the aggregate investment portfolio. As of December 31, 2014, the System was not exposed to concentration of credit risk.

**NOTE 4 - FUNDING POLICY**

Plan members are required to contribute to the System at rates ranging from 5% to 9% of annual compensation, depending on their employment date. Members hired after December 31, 1978 must contribute an additional 2% of regular compensation in excess of \$30,000. These deductions earn interest at a rate determined by PERAC that vest based upon years of service. MassHousing is required to pay into the System 100% of the actuarially determined contribution. For the year ended December 31, 2014, employer contributions totaled \$3,945,695 and plan member contributions totaled \$3,176,102.

Cost-of-living adjustments (COLA) must be granted by the Board and are the responsibility of the System. COLA cannot exceed 3% of the first \$13,000 in benefits, unless the System elects to increase the maximum base retirement allowance in multiples of \$1,000.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
 NOTES TO FINANCIAL STATEMENTS  
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**NOTE 5 - NET PENSION LIABILITY**

The components of the net pension liability of the System at December 31, 2014, were as follows:

Total pension liability.....	\$ 134,199,782
Plan fiduciary net position.....	<u>(113,875,239)</u>
Net pension liability.....	<u>\$ 20,324,543</u>
Plan fiduciary net position as a percentage of the total pension liability.....	<u>84.86%</u>

Actuarial Methods and Assumptions

The total pension liability was determined by performing update procedures to roll the liability forward from the January 1, 2013, actuarial valuation to the December 31, 2014 measurement date. The following actuarial methods and assumptions apply to all periods included in the measurement:

Methods:

Actuarial cost method	Entry Age Normal
Amortization method	Level payment closed
Remaining amortization period	9 years for the fresh start retirement benefits schedule
Asset valuation method	Market value adjusted by accounts payable and receivables

Assumptions:

Inflation	3.00%
Salary increases	5.0% per year grading down to 3.5% per year after 8 years of service
Investment rate of return	7.875%
Cost of living adjustment	3% of the first \$13,000 of retirement income granted annually
Mortality	RP-2000 table projected forward 18 years using Scale AA. For members retired under an Accidental Disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality RP-2000 table projected forward 18 years, ages set forward 2 years.
Retirement rates	Ages 55 -70
Overall disability	75% ordinary disability; 25% accidental disability

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The actuarial assumptions used in the January 1, 2013 valuation were based on the results of an actuarial experience study for the period January 1, 2011 through December 31, 2013.

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 weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2014 are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return (%)
Pooled Domestic equity.....	5.1
Public Foreign Equity (Large Dev.).....	5.7
Public Foreign Equity (Small Dev.).....	5.0
Public Emerging Market Equity.....	8.5
Investment Grade Bonds.....	0.4
High Yield Bonds.....	3.3
TIPS.....	0.1
Emerging Market Debt.....	3.3
Real estate.....	4.6
Private equity.....	6.9
Natural Resources and Commodities.....	6.1

Discount Rate

The discount rate used to measure the total pension liability was 7.875 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 MassHousing's contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of MassHousing calculated using the discount rate of 7.875 percent, as well as what MassHousing's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.875 percent) or 1-percentage-point higher (8.875 percent) than the current rate:

	1% Decrease (6.875%)	Current Discount Rate (7.875%)	1% Increase (8.875%)
Net pension liability.....	\$ 34,480,869	\$ 20,324,543	\$ 8,565,123

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**NOTE 6 - LEGALLY REQUIRED RESERVE ACCOUNTS**

The balance in the System's legally required reserves as of December 31, 2014 are as follows:

Description	Amount	Purpose
Annuity Savings Fund.....	\$ 35,964,079	Active members' contribution balance
Annuity Reserve Fund.....	7,308,660	Retired members' contribution account
Pension Reserve Fund.....	64,891,039	Amounts appropriated to fund future retirement
Pension Fund.....	<u>5,711,461</u>	Remaining net position
Total.....	<u>\$ 113,875,239</u>	

All reserve accounts are funded at levels required by state law.

**NOTE 7 - COMMITMENTS**

As of December 31, 2014, the System had commitments totaling approximately \$9,100,000 to 7 real estate and private equity market funds.

MHFA EMPLOYEES' RETIREMENT SYSTEM  
 REQUIRED SUPPLEMENTARY INFORMATION  
 FOR THE YEAR ENDED DECEMBER 31, 2014

**Schedule of Changes in Employer Net Pension Liability and Related Ratios**  
 (In Thousands)

	2014
<u>Total pension liability</u>	
Service cost.....	\$ 2,695
Interest.....	9,984
Benefit payments, including refunds of member contributions.....	(5,134)
Net change in total pension liability.....	7,545
Total pension liability - beginning.....	126,655
Total pension liability - ending (a).....	\$ 134,200
<u>Plan fiduciary net position</u>	
Contributions - employer.....	\$ 3,946
Contributions - member.....	3,176
Net investment income.....	4,042
Benefit payments, including refunds of member contributions.....	(5,351)
Reimbursements and transfers from other systems, net.....	538
Administrative expense.....	(347)
Net change in plan fiduciary net position.....	6,004
Plan fiduciary net position - beginning.....	107,871
Plan fiduciary net position - ending (b).....	\$ 113,875
Net pension liability - ending (a) - (b).....	\$ 20,325
Plan fiduciary net position as a percentage of the total pension liability.....	84.9%
Covered-employee payroll.....	\$ 28,044
Net pension liability as a percentage of covered-employee payroll.....	72.5%

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 FOR THE YEAR ENDED DECEMBER 31, 2014

**Schedule of Employer Contributions**  
 (In Thousands)

	2014	2013	2012	2011	2010
Actuarially determined contribution.....	\$ 3,946	3,927	3,169	3,156	3,322
Contributions in relation to the actuarially determined contribution.....	3,946	3,927	3,169	3,156	3,322
Contribution deficiency (excess).....	\$ -	-	-	-	-
Covered-employee payroll.....	\$ 28,044	28,044	29,800	29,800	28,475
Contributions as a percentage of covered-employee payroll.....	14.1%	14.00%	10.63%	10.59%	11.67%

(continued)

	2009	2008	2007	2006	2005
Actuarially determined contribution.....	\$ 3,297	1,632	1,883	903	812
Contributions in relation to the actuarially determined contribution.....	3,297	1,632	1,883	903	-
Contribution deficiency (excess).....	\$ -	-	-	-	812
Covered-employee payroll.....	\$ 28,475	25,600	25,600	22,669	22,669
Contributions as a percentage of covered-employee payroll.....	11.58%	6.38%	7.36%	3.98%	0.00%

(concluded)

**Schedule of Investment Returns**

	2014
Annual money-weighted rate of return, net of investment expense.....	3.48%

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 NOTES TO REQUIRED SUPPLEMENTARY INFORMATION  
 DECEMBER 31, 2014

**NOTE 1 - ACTUARIALLY DETERMINED CONTRIBUTION - METHODS AND ASSUMPTIONS**

The following actuarial methods and assumptions apply to the 2013 and 2014 actuarially determined contributions:

Methods:

Actuarial cost method	Entry Age Normal
Amortization method	Level payment closed
Remaining amortization period	9 years for the fresh start retirement benefits schedule
Asset valuation method	Market value adjusted by accounts payable and receivables

Assumptions:

Inflation	3.00%
Salary increases	5.0% per year grading down to 3.5% per year after 8 years of service
Investment rate of return	7.875%
Cost of living adjustment	3% of the first \$13,000 of retirement income granted annually
Mortality	RP-2000 table projected forward 18 years using Scale AA. For members retired under an Accidental Disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality RP-2000 table projected forward 18 years, ages set forward 2 years.
Retirement rates	Ages 55 -70
Overall disability	75% ordinary disability; 25% accidental disability





**COMMONWEALTH OF MASSACHUSETTS**

**Public Employee Retirement Administration Commission**

Five Middlesex Avenue, Suite 304 | Somerville, MA 02145

Phone: 617-666-4446 | Fax: 617-628-4002

TTY: 617-591-8917 | Web: [www.mass.gov/perac](http://www.mass.gov/perac)